

INTERNATIONAL MEETING
OF AUTISM RESEARCH

INSAR
Regional Meeting
2019
Chile



Learning To Grow!

ABSTRACT AND PROGRAM BOOK



INSAR
Regional Meeting
2019
Chile

Learning To Grow!

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MEETING CHAIR'S WELCOME

Welcome to the Chilean Patagonia and Puerto Varas for the first International Society for Autism Research (INSAR) Regional Meeting in South America. Puerto Varas is well known for being a beautiful and picturesque city set in the middle of a gorgeous region that is continually innovating itself and embraces diversity.

The scientific program of the current meeting is again diverse and splendid thanks to HCSBA and our chairs Dr Monica Troncoso, Dr Gabriel Gatica and Dr Alejandra Mendez. Without their support this would not have been possible. Also thank you to Dr Claudia Lopez and Dr Carolina Yanez for their help and providing support since the early stages of this venture. Thank you as well to all the members of the scientific committee and specially to Dr Ricardo Garcia for helping us with scientific committee and the pre-conference and parent care event. When you are submitting your abstract, awaiting the “verdict”, and attending an INSAR meeting, you are probably not aware of how much energy, effort, and time has been spent by a large group of people to ensure that the program is scientifically strong and that during the meeting everything runs smoothly. I am impressed by the joint efforts of all members that volunteered to review and organize the abstracts, the INSAR crew that helped us with the luncheon events, the awards and much more, and the unmissable Jennifer Gentry. Without her help this wouldn't be happening. So thanks to all of them, and also my congratulations to this year's award recipients that are honored today. I also want to thank you to our key notes for taking the time and effort to come to the end of the world! When we started organising this we wanted this to be a sign of what we wanted to do in regards to taking the conversation to the corners of the globe where this is needed. So a special thank you to the people who join us as key note speakers. I also wanted to thank the Prof Peter Mundy for his invaluable support and consideration and overall his kindness. In representation to all the chairs I must say thank you. All of you thank you very much and humbly accept my gratitude as a sign of how much we appreciate your dedication to extending the research community to the four corners of the world...

Autism awareness has grown worldwide in recent years with a major focus in those countries of the developed north. Much is left to do across those countries that are poor, far, small and that have conflict and chaos. For the United Nations, the rights of persons with disabilities, including persons with autism, is enshrined in the Convention on the Rights of Persons with Disabilities (CRPD), are an integral part of its mandate. Latin America has followed this mandate, but there is still much more to do in research, inclusion and policy. When world leaders adopted the 2030 Agenda for Sustainable Development in 2015, the international community reaffirmed its strong commitment to inclusive, accessible and sustainable development, and pledged that no one would be left behind, that commitment has been partial and we observe that across the global south there are many pending challenges to implement this mandate. The Convention on the Rights of Persons with Disabilities also acknowledges the instrumental role of the research community across the globe in enabling autistic people to exercise their rights and freedoms. It obliges States that are party to the Convention to promote wellbeing and healthcare at an affordable cost, to facilitate access to education, and to undertake or promote research and development into new such technologies. In this context, the participation of persons with autism as both agents and participants of this process is essential for the realization of the Sustainable Development Goals (SDGs). We think this commitment should be endorsed and claimed as a fundamental right across Latin America for all autistic people and I am glad to say that INSAR Regional Meeting Chile 2019 is part of this process of primary and basic revindications.

Example of the many challenges that many people on the autism spectrum face in the region is unfair access to affordable care and or education which we believe is a prerequisite to being able to exercise their basic human rights and participate fully in the life of their communities. Access to prompt diagnosis and support through school can reduce or eliminate the barriers to their participation on an equal basis with others and should include more complex issues such as gender and race in its primary base. We are proud to announce for this reason that we have made an active effort in INSAR Regional Meeting 2019 to have gender parity on all key note speakers and we have given the baton to those women working on advancing autism research and making

invaluable contributions to the community. Names like Catherine Lord, Rosa Hoekstra, Dr Monica Troncoso and her team at the HCSBA, Carla Mazefsky, Katarzyna Chawarska, Mayada Elsabagh and the list might still go on... We need to do more on race and ethnicity globally and in the region...that is our next challenge...and lets move from cultural diversity to real open discussions about our lifes as researchers, parents, autistic people and health workers...we are a global community, lets endorse this.

There is much to do still and the region has serious challenges to face in all these issues specially in regard to developing research agendas for those new researchers coming from developing countries and trying to find a voice among the complexity of the research community. To them I dedicate this conference...I hope you have a great time...thank you for everything...

Andrés Román-Urrestarazu MD PhD



INSAR PRESIDENT'S WELCOME

Hola y bienvenidos a la tercera reunión regional de la Sociedad Internacional para la Investigación del Autismo o INSAR. My name is Peter Mundy and I am the President of the International Society of Autism Research (INSAR). It is great pleasure and honor to be here today to inaugurate this conference. I would like to begin by thanking the members of the Regional Meeting Executive Committee, Dr. Andres Roman Urrestarazu, Dr. Monica Troncoso Schifferlii, Dr. Alejandra Mendez Fadol and Dr. Gabriel Gatica Bahamonde and many others for developing an outstanding proposal to bring this conference to Chile. They have put together a truly outstanding and comprehensive conference that I am sure will be enlightening for all of who are fortunate enough to attend. The conference program reflects the current multidisciplinary science of autism. The talks over the next two days will cover range of topics including sleep disorders, early intervention, epidemiology, diagnostics, emotional development and regulation, advances in genetics, neurosciences and education, and many more.

INSAR is a scientific and professional organization that started in 2001 and our mission is “TO IMPROVE THE LIVES OF PEOPLE AFFECTED BY AUTISM BY PROMOTING THE HIGHEST QUALITY RESEARCH.” Of course, what defines the best quality of life is different for every individual. Many people have autism complicated by intellectual disability, or seizures or other comorbid conditions that create profound developmental challenges. It is possible to support better qualities of life than are currently available for many. However, the development of supports for a better quality of life will require a much deeper understanding of what may be called profound autism. We also know that there are numerous possible outcomes for the many autistic people without intellectual or neurological comorbidity. However, all too often our understanding or implementation of the supports, education, or treatments is also insufficient to allow these individuals to realize their full potential.

We have come a long way since the beginning of the science of autism and we seem to be on the cusp of many new insights into the nature of autism. In 1980 autism was described as “a pervasive lack of responsiveness to others” (DSM-III). However, that was never the case. People with autism are responsive to other people and research on treatments indicates that many preschool and school-aged children are responsive to interventions that improve or modify the behavioral and neurodevelopmental course of autism. To date these treatments are primarily behavioral and educational that are provided over extended periods of time at considerable cost. Hence, large-scale implementation is difficult. We need to understand the active ingredients of these treatments to distill them down to their most efficient forms. We also must push forward with progress in understanding the genetic and neurodevelopment processes involved in autism, because this holds the promise of an emergent translational science in which medical, behavioral and educational methods may be combined to yield much more targeted, effective, and efficiently implemented treatments.

However, we still have a long way to go before the goal of providing equal opportunities of all individuals with autism with the appropriate opportunities for health, happiness and the best quality of life. The challenges are many, some of which are well known.

One challenge is that autism involves many interactive genetic, neurodevelopmental, neurocognitive and environmental processes. No single cause is on the horizon and no single treatment is likely to be possible because of the heterogeneous nature of the neurodevelopment of autism.

A second challenge is that it is unlikely that the development of autism is not a static process. Rather it may be one that impacts neurodevelopment across ages. Consequently, we currently need to offer developmentally sustained interventions from the early years of life through the early years of adulthood to achieve the best possible adult outcomes of people with autism. This requires a *systems level* of intervention across ages.

Third, autism is a world-wide health concern that can only be equitably and effectively be addressed through a collaborative global effort. Based on the World Health Organization estimates (1 in 160) there are approximate-

ly 49 million people with autism in the world. Based on the Autism and Developmental Disabilities Monitoring network (ADDM) in the United States (1 in 68) there are 128 million people with autism in the world. These estimates illustrate something of the magnitude of the effort that will be required as well as the imprecision of the current information on autism. They also allude to another challenge.

One of the most fundamental challenges is that we need to cultivate and integrate more clinical and basic scientific information much more rapidly than we have in the past. The science of autism needs the input and insights from researchers in Chile and countries all around the world in order to address and advance more rapidly. Encouraging a larger world-wide generation to take on the challenges of the clinical and basic science of autism is one of the main goals of the INSAR Regional Meetings. The insights essential to significantly advancing the fundamental understanding of the nature and treatment of autism will come most rapidly from a world-wide research collaboration. Autism is a global problem that demands a global science to solve it. However, in conclusion I would like to offer a simple illustration of the current gap in the workforce for the science of autism versus other areas of research.

There has been a recent tendency to look to the science of cancer treatment as a model for the future of autism research. The translational science that has been brought to bear on oncology has begun to lead to stunning breakthroughs in more effective targeted personalized medicine approaches to cancer treatment. So many have suggested the same approach in the field of autism. This is a worthy ambition. However, the breakthroughs in cancer research have come from a voluminous scientific workforce. For example, the American Association for Cancer Research (AACR) is the world's oldest and largest professional association related to cancer research. It currently has more than 42,000 members in over 120 countries. By comparison INSAR is a bit smaller with 2135 members from over 50 countries. Of course, INSAR membership does not reflect the all the scientists involved in autism research. However, it is clear to me that we need all the help that researchers in Chile and Peru, Brazil, Argentina and all of South America can provide. Therefore, I am very glad to see so many of you in the audience today, and I would like to sincerely thank you for your attendance.

Prof Peter Mundy
INSAR President (2019–2021)
University of California, Davis



SCIENTIFIC PROGRAM

Extending and promoting the study of Autism Spectrum Disorders in medium and low-income countries is crucial, especially considering how underrepresented these countries are in Autism research globally.

In that sense, we are pleased to have received a considerable number of scientific articles for presentation at this meeting, of which we have selected 123 for presentation in the Oral and Poster modalities.

The call to authors included a wide range of thematic categories, ranging from biological sciences, medical sciences, public health, education, neurosciences and studies in psychology.

The selection process of each of the studies received was carried out by the members of the scientific committee from Chile, Argentina, Uruguay, Brazil, Venezuela, and the United States, who participated as peer reviewers of the abstracts. Without their participation, our goal would not have been met.

For that, we are very grateful.

We thank the Chilean universities that have contributed to the formation of this academic committee: Universidad de la Frontera, Universidad de Chile, Pontificia Universidad Católica de Chile, Universidad de Concepción and Universidad Austral.

Finally, it is a privilege for us to be able to count on the participation of the central Speakers of this conference, which will enrich the meeting with their research and clinical experience in Autism. Its presence in Chile and Latin America constitutes an unprecedented event and a milestone in the development of the theme in our region. To all of them, we thank you for your willingness and commitment to this meeting.

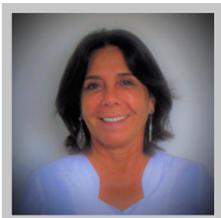
It has been an honor and a privilege for us to have participated in this process and we hope that the INSAR Chile 2019 Regional Meeting will serve to continue developing the study of Autism in Chile and Latin America.

Gabriel Gatica Bahamonde MD.



Dr. Andrés Román Urrestarazu | Regional Meeting INSAR Chile 2019 Scientific Program Co-Chair

Dr. Andrés Román Urrestarazu is Gillings Fellow in Autism Research and Global Public Health at the Autism Research Center (ARC) of the University of Cambridge, UK and Assistant Professor at Maastricht University. His clinical work is based in psychiatry and public health medicine. He obtained his MD degree at the University of Santiago de Chile and his PhD degree in Psychiatry at the University of Cambridge. In addition, he holds a Master's Degree in International Health Policy/ in Health Economics from the London School of Economics and Political Science. His research interests include the neuroscience of neurodevelopmental conditions such as autism, mental health and social policy and the links between epidemiology and genetical and behavioral population traits. During his doctorate in the Department of Psychiatry and the Brain Mapping Unit of the University of Cambridge his work was based on the 1986 Northern Finnish Birth Cohort where he worked in early traits and endophenotypes in psychosis and ADHD. After this he was appointed Research Officer in Health Economics and Health Policy at LSE and, with Professor Elias Mossialos, was the technical lead responsible for the first National Health Survey of Qatar. He has held positions as Director of Studies in Psychology and Behavioral Sciences (PBS) at Trinity Hall, Cambridge and is a Visiting Fellow at Institut Louis Pasteur where he collaborates with Prof Thomas Bourgeron. His current research projects include Autism Spectrum Conditions (ASC) and STEM Prevalence in UK and USA where he is calculating if prevalence rates of ASC are linked to high systemizing regions and STEM occupations in the UK. His work is also working on an *ASC Household expenditure questionnaire in China*, and is the lead of the *EDUCAUS consortium* which is a policy mapping project across the EU's 28 Member States. In Chile he is working on how conditional cash transfers might be used for early detection of ASC in Chile while validating the Q-Chat for early detection in South America.



Dra. Mónica Troncoso Schifferlli | Regional Meeting INSAR Chile 2019 Scientific Program Co-Chair

Dra. Mónica Troncoso Schifferlli is a Paediatric Neurology Senior Consultant and is Director of the Children's Neuropsychiatry Service of the Hospital Clínico San Borja Arriarán and Assistant Professor of the Faculty of Medicine of the University of Chile which is the largest paediatric neurology centre in Chile. She obtained her medical degree at the Austral University of Chile and her Residence Training in Child Neurology at the University of Chile. She also holds a Diploma in Health Institutions Management and in Health Sciences Education from Universidad de Chile. Her clinical and research interests are based on a broad range of different aspects of paediatric neurology, such as for example Neurodevelopmental Disorders and autism. She has extensive experience in the training and instruction of specialists in paediatric neurology, in her role as head of the Children's Neuropsychiatry Service of the San Borja Arriarán Clinical Hospital, a national referral center in the specialty and autism. She is the author and co-author of various publications and key notes in national and international conferences and research journals. She has also attended different post residence training Fellowships at the Service Neuropediatria Hospital Sant Joan de Deu, Barcelona, Spain and at the Robert Debré Hospital, Service de Neurologie Maladies Métabolique Assistance Publique Hospitalux de Paris, France.



Dra. Alejandra Méndez Fadol | Regional Meeting INSAR Chile 2019 Scientific Program Co-Chair

Dra. Alejandra Méndez Fadol is a paediatric neurologist at the Hospital de Villarrica and a Assistant Professor in the Department of Pediatrics at the University of La Frontera in Temuco, Chile. She obtained her MD Degree at the University of Santiago de Chile and her Residence Specialty training in Paediatric Neurologist at the University of Chile, San Borja Arriarán Clinical Hospital. In addition, she holds a Diploma in Sleep Medicine, from Pontificia Universidad Católica de Chile. Her clinical and research interests cover various aspects of paediatric neurology, including clinical electroencephalography and neurodevelopmental disorders and more specifically autism. She is the author and co-author of a series of publications in this area. She also leads a team of early diagnosis offering interventions to children and adolescents with various Neurodevelopmental Disorders, including autism spectrum disorders. She has participated in the implementation of an early detection program in primary health care, using the Q-CHAT instrument and is part of the team of researchers who are carrying out the validation study of the Q-CHAT in Chile. She has made training stays in the Medical Investigation of Neurodevelopmental Disorders, MIND Institute, UC Davis, USA and in clinical electroencephalography in the San Borja Arriarán Clinical Hospital, University of Chile.



Dr. Gabriel Gatica Bahamonde | Regional Meeting INSAR Chile 2019 Scientific Program Co-Chair

Dr. Gabriel Gatica Bahamonde is a Child and Adolescent Psychiatrist at the Hospital de Villarrica, an Associate Professor at the Department of Mental Health, Universidad de La Frontera. He is also mental health advisor at the Araucanía Sur Health Service in Chile. He obtained his MD degree at the University of Santiago de Chile and his postgraduate specialization in Child and Adolescent Psychiatry at the University Psychiatric Clinic of the University of Chile. He is currently attending the Master's Degree in Psychology from the University of La Frontera. His clinical research interests include aspects of mental health and neurodevelopmental disorders, as well as the study of evaluation tools. He is part of a newly created team in early diagnosis and intervention for children and adolescents with neurodevelopmental disorders while he also leads the implementation of a public program for the early detection of Autism Spectrum Disorders (ASD) in primary health care in the Araucanía region. He is a Principal Investigator of the project that seeks to adapt and validate Q-CHAT in the Chilean population. He also is working in a project at the University of La Frontera that seeks to determine the impact of an early intervention for children with ASD.



Alexia Rattazzi, MD. Child Psychiatrist PANAA-CEA, Argentina



Analía Rosoli Murillo, Psychopedagogue Organization of Ibero-American States for Education, Science and Culture (OEI), Dominican Republic.



Jorge Barros Beck, MD. Psychiatrist. Fellow in Schizophrenia. Dept. of Psychiatry, Pontificia Universidad Católica de Chile.



Álvaro Retamales Moreno, MD. Paediatric Neurologist. Department of Pediatrics, Hernán Henríquez Aravena Hospital, University of La Frontera.



Esteban Gutiérrez Gutiérrez, MD, PhD ©. Child and Adolescent Psychiatrist, Institute of Clinical Neurosciences, Universidad Austral de Chile.



Mario Valdivia Peralta, MD, PhD. Psychiatrist. Full Professor, Dept. of Psychiatry and Mental Health, Universidad de Concepción.



Ricardo García Sepúlveda, MD. Child and Adolescent Psychiatrist, Associate Professor, Department of Psychiatry, University Psychiatric Clinic, University of Chile.



Scarlet Witting Enríquez, MD. Paediatric Neurologist, Department of Paediatrics and Paediatric Surgery, San Borja Arriarán Hospital, University of Chile.



Adriana Olivos Miranda, MD. Paediatric Neurologist, Associate Professor, Arauco Hospital, University of development.



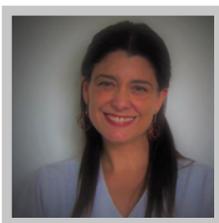
Christianne Zulic Agramunt, MD, MSc. Child and Adolescent Psychiatrist, Associate Professor, Department of Mental Health, Hernán Henríquez Aravena Hospital, University of La Frontera.



Carolina Heresi Venegas, MD. Paediatric Neurologist, Assistant Professor, Department of Paediatrics and Paediatric Surgery, Roberto del Río Hospital, University of Chile.



Claudia López Garí, MD. Paediatric Neurologist, Department of Paediatrics and Paediatric Surgery, San Borja Arriarán Hospital, University of Chile.



Carolina Yáñez Alvarado, MD. Paediatric Neurologist, Associate Professor, Department of Paediatrics and Paediatric Surgery, San Borja Arriarán Hospital, University of Chile.



Cristiane Silvestre de Paula, PhD, MSc. Psychologist Postgraduate Program in Developmental Conditions, Mackenzie Presbyterian University. Department of Psychiatry, Federal University of São Paulo, Brazil.



Cecilia Montiel Nava, PhD, MSc. Psychologist, Associate Professor, University of Texas Rio Grande Valley, USA.



Elisa Coelho Medeiros, MD. Child and Adolescent Psychiatrist, Assistant Professor, Dept. of Psychiatry, Pontificia Universidad Católica de Chile.



Flery Fonseca Salamanca, PhD, MSc. Medical Technologist. Department of Preclinical Sciences. Postgraduate and Research Director, Faculty of Medicine, University of La Frontera.



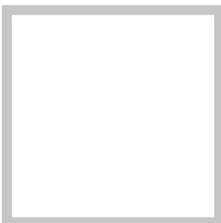
Gabriela Garrido, MD. Child and Adolescent Psychiatrist, Associate Professor, Pereira Rossell Hospital, University of La República, Uruguay.



Paula Alarcón Bañares, PhD, MSc. Psychologist Assistant Professor, Dept. of Psychology, University of La Frontera



Ximena Carrasco Chaparro, MD. Paediatric Neurologist, Assistant Professor, Department of Paediatrics and Paediatric Surgery, Luis Calvo Mackenna Hospital, University of Chile.



Amanda Navarrete Sauterel, MD, MSc. Child and Adolescent Psychiatrist, Osorno Hospital, Austral University of Chile.

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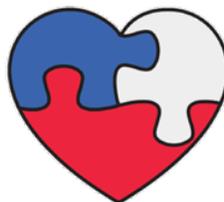


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AMAsperger



OCTOBER 17		
MEETING FOR PARENTS		
Hotel Terrace (Enjoy Hotel)		
8:00 - 8:30	Registration	
8:30 - 8:40	Dr. Ricardo García, Universidad de Chile	Welcome
8:40 - 9:15	Leonardo Farfán, AMASPERGER	Autism and being parents, a diverse parental process
9:15 - 9:50	Pamela Dixon, Autism Speaks	Parent Programs for ASD and Autism Speaks
9:50 - 10:30	Dr Gabriela Garrido, Universidad de la República, Uruguay	Survey of caregivers of people with ASD in Latin America
10:30 - 11:00	Coffee Break	
11:00 - 11:30	Prof Heidi M Feldman , Stanford University	Language and ASD
11:30 - 12:00	Prof David Amaral, UC Davis	Autism throughout life
12:00 - 12:30	Dr Sandy Magaña, University of Texas at Austin	Parents in Action: Parent education program in the US and Colombia
12:30 - 13:30	Dr Tamara Rivera, Universidad de Chile	What will happen to our children when we are not there?
13:30 - 14:30	Box Lunch	
14:30 - 16:00	PARENT WORKSHOP	Speaking to researchers: We want to say what we think. What we would like autism researchers to answer us.
16:00 - 16:30	Coffee Break	
16:30 - 17:10	CONCLUSIONS PLENARY	
17:10 - 18:00	Dr Alexia Rattazzi, PANACEA	The role of parents in the intervention of children with autism spectrum conditions
AUTISM AND PUBLIC POLICY SYMPOSIUM		
Auditorium 1		
8:00-9:00	Registration	
9:00-11:00	Dr Gabriel Gatica, Universidad de la Frontera	Welcome
	Dr Andres Roman-Urrestarazu, University of Cambridge	Autism and the right to education in the EU: Policy mapping
	Dr Mayada Elsabbagh, McGill University	Common Ground for Autism: Where do we go from here
	María Paz Araya, Mental Health Department, Ministry of Health, Chile	Towards a public health plan for autism in Chile and the Americas
11:00-11:30	Coffee Break	
11:30 - 13:40	Dr Lauren Franz, Duke University	Identifying national policy relevant to autism spectrum disorder in South Africa
	Prof Eric Fombonne, Oregon Health & Science University	Critical components of a national policy for autism
	Round Table	



MEETING OF YOUNG RESEARCHERS		
Auditorium 2		
	8:00 - 9:00	Registration
Meet the Experts		
09:00-9:25	Dr Roberto Toro, Institut Pasteur	
09:25-9:50	Dr Varun Warriar, University of Cambridge	
09:50-10:15	Dr Guillaume Dumas, Institut Pasteur	
10:15-10:30	Questions	
10:30 - 11:00	Coffee Break	
Research Networks in Neuro Development in Chile and Latin America		
11:00-12:30	Dr Margarita Peña/Evelyn Astete	Students Residency Program in Child Neurology, Universidad de Chile
	Dr Francisca Valdés	Student Residency Program in Child Psychiatry, Pontificia Universidad Católica de Chile
	Dr Patricia Soto-Icaza	Neuro CICS, Universidad del Desarrollo
	Dr Jaime Pereira	Doctoral Student BMI and Neuromodulation Lab, Pontificia Universidad Católica de Chile
	Macarena Krefft	Master in Autism-ABA, Universidad Autónoma de Chile
	To be defined	Residency Program in Child and Adolescent Psychiatry, Universidad de la República, Uruguay
	Dr Magdalena Montalva	Residency Program in Child and Adolescent Psychiatry, University of Chile
12:30-13:30	Box Lunch	
WORKSHOPS		
13:30-14:00	Dr Guillaume Dumas, Institut Pasteur	Hack your PhD
14:00-14:30	Prof David Amaral, UC Davis	Writing and submitting (Autism Research Journal)
14:30-15:00	Dr Rosa Hoekstra, Kings College London	Plotting your academic career
15:00-15:30	Dr Tomás Ossandón, Pontifical Catholic University of Chile	Competitive funds and Grants: Chilean Reality
15:30-15:50		Round Table
15:50-16:20	Coffee Break	
Network of Young Researchers in Latin America		
16:20-16:40	“Marika Coffman, Clinical Psychology Doctoral Student, Virginia Tech Tawny Tsang, Doctoral Student, Yale University”	Experience of the INSAR Student and Trainee Committee
16:40-16:50	Dr Jaime Pereira, Doctoral Student , Pontificia Universidad Católica de Chile	Network of Young Researchers of Latin America
16:50-17:30		Working Group
20:00	WELCOME COCKTAIL Hotel Terrace (Enjoy Hotel)	

OCTOBER 18		
08:00 - 08:30	Registration	
PLENARY CONFERENCES		
Los Volcanes Auditorium		
08:30-08:40	Greetings from Chair Dr Andres Roman-Urrestarazu	
08:40 - 09:10	Prof Peter Mundy, UC Davis. INSAR President	Inaugural Speech and Awards Ceremony
09:10- 9:50	Prof Simon Baron-Cohen, University of Cambridge	Autism and Vulnerability [VIDEOCONFERENCE]
09:50-10:30	Prof Eric Fombonne, Oregon Health & Science University	Epidemiology of autism: rates, trends, and links with immunizations
10:30 - 11:00	Coffee Break	
PARALLEL CONFERENCES		
Auditorium 1		
11:00 - 11:40	Dr Mayada Elsabbagh, McGill University	Getting Answers from Babies about Autism
11:40 - 12:20	Dr Rosa Hoekstra, Kings College London	Mind the gap: increasing global representation in autism research
12:20 - 13:00	Dr Lauren Franz, Duke University	Autism spectrum disorder research in low-resource settings: A South African early intervention study
Auditorium 2		
11:00 - 11:40	Dr Varun Warriar, University of Cambridge	Leveraging genetics to understand heterogeneity in autism: progress and challenges
11:40 - 12:20	Dr Gonzalo Cancino, Universidad Mayor	Understanding the functions of the gene associated with autism PTPRD in the development of the cerebral cortex
12:20 - 13:00	Dr Hernán Amartino, Universidad Austral, Argentina	Autism as the clinical presentation of inborn errors of metabolism
13:-14:00	Box Lunch	
POSTER SESSION 1		
13:30-15:00	Mapy Chavez Askins	TLI – 1: Developing A Research - Scientific Based Intervention Program In Peru
	Joana Portolese	TLI – 2: Classification Of The Severity Of Autistic Spectrum Disorder Based On The Eye Tracking Pattern
	Verónica Vidal	TLI – 5: Effectiveness Of A Supports-based Approach In Facilitating Peer Interactions In The Classroom Including Students On The Autism Spectrum
	Claudia Huaquián Billeke	TLI – 6: Narratives Of Mothers With Children With Autism Spectrum Disorder And Down Syndrome
	Paula Araya Herrera	TLI – 7: Gross Motor Skills Training Program In Preschool Children With Autism Spectrum Disorder: Four Cases Study Report
	Cynthia Inés D'Agostino	TLI-113: Strengths and restricted interest in girls with ASC : a game changer for all?
	Cynthia Inés D'Agostino	TLI-114: Working with special interest and passions for social competence : an ongoing pilot protocol.



Vitale MP	TLI – 9 : Functional Evaluation Of Children Using The Coding System Of The WHO – ICF (International Classification Of Functioning, Disability And Health) Pediatric Version. First Project Of ICF Integral Application On ASD (Autism Spectrum Disorder) Patients In Latin America
Antonia Olivari Luengo	TLI – 13: Knowledge Of Chile's Early Childhood Educators On Early Warning Signals Of Autism Spectrum Disorder.
Alejandro Dioses	TLI – 14: Effects Of A Communication And Language Program Based On Behavioral Analysis Applied In Children From 2 To 5 Years Old With The Autistic Spectrum Disorder
Carolina Carvallo Russo	TLI – 17: Annual Trend In Diagnostic Age Of Autism Spectrum Disorder (ASD) In The ASD Specialized Unit (SU-ASD) Of The Pereira Rossell Hospital Center (CHPR) In The Last 12 Years And Its Association With Different Variables
Hagit Nagar Shimoni	TLI – 20: Calling Attention To Children Who Are Not Diagnosed With ASD Who Exhibit Social Difficulties, Excessive Interest In Specific Topics Or Repetitive Behaviors
Ana Carina Tamanaha	TLI – 23: Impact Of Picture Exchange Communication System – PECS In The Instruction Comprehension Of Children With Autism Spectrum Disorders.
Maria Cristina Triguero Veloz Teixeira	TLI – 26: Autistic Signs In Early Childhood In Individuals With Williams Syndrome.
Marcelo Valle	TLI – 27: Interdisciplinary Behavioral Management For Special Dental Care: Approach Model Of Sensory Adaptation And Communication
Rodrigo Andrés Trujillo Manríquez	TLI – 28: Intervention In Adults With Autistic Spectrum Disorders Based On Therapeutic Art Approach
Susanne Krämer	TLI – 30: Successful Orthopedic And Orthodontic Interventions Of Malocclusions In Patients With Autism Spectrum Disorder
Anibal Gutierrez	TLI – 32: Imitation Mastery As A Predictor Of Skill Mastery During Intervention
Valeria Rojas	TLI – 34: Stress Level Assessment among Parents of Children with Autism Spectrum Disorder, beneficiaries of Valparaiso `s Public Health and Education Systems
Natalia Astudillo	TLI – 36: Autism Spectrum Disorder (ASD) And Hazard Mitigation Plans In Chilean Schools (Plan Integral De Seguridad Escolar, PISE): Analysis About Action Plans Aimed At Inclusive Prevention From A Geological Perspective. Case Studies: Santiago And The Los Lagos Region
Rosario Aguirre Martínez	TLI – 37: Mediated Educational Intervention To The Development Of Mentalist Skills And The Transference To Social Context From Home And School On Children With Autist Spectrum Disorder, Inserted In Formal Education In Chile

Mariana De Miranda Seize	TLI – 38: Content Validity Evidence Of The Autism Spectrum Disorder Screening Scale
Natalia Orrico	TLI – 39: Characterization Of Schooling Of A Sample Of Preschoolers Diagnosed With ASD In Uruguay And Its Association With Different Variables
Alejandra Pemjean Castro	TLI – 40: Rescuing Parent Voices Of Adolescents With Autism Spectrum Disorders: Use Of The Narrative Technique “The Tree Of Life” In A Brief Psychotherapy Group For Parents
Adriana Araújo Pereira Borges	TLI – 42: Autism And Social Vulnerability In Higher Education
María Luisa Nogueira	TLI – 43: Social Support And Intensity In ASD Early Intervention: A Case Study In Brazil
Daniela Araya González	TLI – 44: Early Attention In Children With ASD: Interdisciplinary Intervention Proposal In Chile
David General Segura	TLI – 45: Identifying Barriers Associated To The Quality Of Life In School-related Settings Of Students With Autism Spectrum Disorder, Belonging To The School Integration Program Of The Municipal Council Of Quilpué, 5th Region, Chile
Graciela Iturrioz	TLI – 46: Many Hands Scribble: Tensions In Inclusive Education
Natalia Galetta	TLI – 48: Development Of Information Technology Courses For Young Adults And Adults With Autism Spectrum Disorder
Sebastian Zenteno Osorio	TLI – 49: School Inclusion Of Students With Autism In Chile: A Review Of Regulations, Manuals And Research
Carolina González Araneda	TLI – 52: Implementation Of A Multidisciplinary Evaluation Program For Patients With Autism Spectrum Disorder. Chilean Experience In A Public Hospital, Preliminary Results

	Juan Irigoyen	TLI – 56: Magnetic Resonance Imaging Findings In An Uruguayan Adolescent With Autism Spectrum Disorder
	Carolina Briones Salazar	TLI – 57: Perception In The Efficiency Of The Intervention Of Different Educational Agents In Children With Autism Spectrum Disorder (ASD) In A Common Classroom On 3rd Grade
	Nora E. Grañana	TLI – 58: Communication And Social Personal Screening For Toddlers In Daycare Centers With ASQ-3
	Evelyn Astete	TLI – 103: Robotics Based Therapy: An Emerging Therapeutic Alternative In Autism Spectrum Disorder (ASD)
	Leonardo Arrieta Aranda	TLI – 78: Echolalia And Sound Mirror In Autism Clinical Practice

ORAL SESSIONS 1

Auditorium 1

15:15-16:15	Early detection, comorbidities, screening and evaluation methods	
	Sofía Contanza Mena Marin	Sleep Disorders Neurobiology In Attentional Deficit And Autism Children: An Up-To-Date Review.
	Gabriel Gatica Bahamonde	Quantitative Checklist for Autism in Toddlers (Q-CHAT), Chilean Version: Preliminary Results of its Psychometric Properties
	Margarita Peña Zamudio	Screening for Autism Spectrum Disorder in infants born preterm and association with gestational age

	Gabriel Gatica Bahamonde	Cross-cultural measurement invariance of the Childhood Autism Rating Scale (CARS): A preliminary report by the Autism Spectrum Disorder International Consortium (ASDIC)
Auditorium 2	Diagnostic evaluation: standardized methods	
	Isabel López Saffie	Chilean Adaptation and Validation of the Autism Mental Status Exam (AMSE)
	Maria Cristina Triguero Veloz Teixeira	How to improve teachers' accuracy in identifying signs of autism? The application of a computer system for decision making in basic education
	Gabriel Olate	Communicative and Linguistic profiles reported by parents of children with Highly functional autism, through the 'Children's Communication Checklist-2'
	Sebastian Cukier	The Autism Mental Status Exam. Validation of a Spanish version in Argentina
Auditorium 3	Education and inclusion	
	Valeria Rojas Osorio	Autism Spectrum Disorder Knowledge Assessment Among Workers Of "Programa De Integración Escolar (Pie) (School Integration Program)" In The City Of Valparaíso.
	Daniela Wachholtz	Perception of professionals about the "Get Ready To Learn" yoga program to be implemented in schoolchildren with ASD in Chile.
	Ricardo García Sepúlveda	Perceived Impact of a Training Program on Autism Spectrum Disorders in Chile.
	Sebastian Zenteno Osorio	Teaching Competences For Work With Students With Autism: An Analysis From Teachers Of Chile And Peru.
Auditorium 4	Epidemiology and population based studies	
	Constanza Elgueta González	Autism Spectrum Disorders Prevalence In Two Boroughs Of Santiago, Chile
	Magdalena Montalva Redón	Breastfeeding and its relationship with autism spectrum disorder
	Mohammad Rahbar	Correlation between concentrations of six heavy metals in cord- blood and postnatal blood of Jamaican children
	Valeria Rojas Osorio	Prevalence Estimation Of Autism Spectrum Disorder Amongst Children Beneficiary Of Public Health Care In Viña Del Mar.
16:15-16:45	Coffee Break	

PLENARY CONFERENCES

Los Volcanes Auditorium



16:45-17:25	Prof Heidi M Feldman , Stanford University	Language Nutrition for Language Health in Children with Autism
17:25-18:10	Prof Jay McClelland , Stanford University	The Connectionist Model of Autism: Discussion with Jay Mclelland
18:30	SOCIAL MEETING Hotel Terrace Enjoy Hotel	

OCTOBER 19

08:00 - 08:30	Registry
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PLENARY CONFERENCES

Los Volcanes Auditorium		
08:30 - 9:10	Prof Catherine Lord, UCLA	Autism from 2 to 26
9:10-9:50	Prof Peter Mundy, UC Davis	Autism and Learning Problems from Infancy to Adolescence.
9:50-10:30	Prof Francesca Happé, King's College London	Looking back to look forward: changes in the concept of autism, and implications for research and practice.
10:30 - 11:00	Coffee Break	

PARALLEL CONFERENCES

Auditorium 1		
11:00 - 11:40	Dr Roberto Toro, Institut Pasteur	Magnetic resonance imaging, data sharing and distributed collaboration may be our best tools to study the neuronal bases of autism spectrum disorder
11:40 - 12:20	Dr Tanya Procyshyn, University of Cambridge	Clinical potential of oxytocin in autism: Insights from individualised neuroimaging
Auditorium 2		
11:00 - 11:40	Dr Guillaume Dumas, Institut Pasteur	Building stairs through scales of social cognition in autism: from brains in interaction to genes in evolution
11:40 - 12:20	Dr Carla Mazefsky, University of Pittsburgh	Assessment and Treatment of Emotion Dysregulation in Autism Spectrum Disorder
12:30-13:30	Box Lunch	

POSTER SESSION 2

13:00-14:30	Sebastian Zenteno Osorio	TLI – 50: Characteristics Of Early Diagnosis In Tacna, A Southern Region Of Perú
	Maria Luisa M. Nogueira	TLI – 64: Looking For Alternatives To ASD Public Health Policies In Brazil: A Case Study Of Parental Training
	Susana Cubillos	TLI – 66: Caring For The Mind Of Extreme Premature Newborns (EPNB): Route Of An Early Intervention In Prevention Of Autism Spectrum Disorder (ASD) In A Neonatology Unit Of A Public Hospital, Santiago, Chile
	Eva Tapia	TLI – 67: Early Detection Of Autism Spectrum Disorder (ASD) Through Diagnostic And Therapeutic Scheme In Children Admitted To The Children's Rehabilitation Center Of The Army (CRIE)
	María Soledad Burron	TLI – 68: Caregiver Skills Training Program: Pre-pilot Assessment

Paola Lagos	TLI – 69: Pilot Study In Autism Spectrum Disorder Children With Food Selectivity: Implementing A Hands On Caregivers Training Therapeutic Program To Improve Food Intake At Home
Cynthia Inés D'Agostino	TLI-111: ¿A Female Subtype Or Subtypes Of Females With Autism Spectrum Disorders? An Exploratory Study
Sebastián Gallegos	TLI – 70: Effectiveness Of Strategies Used By Occupational Therapy In The Autism Spectrum Disorder, Literature Review
Marcela Paredes	TLI – 72: Hospital Classroom Model, Alternative For Patients With Autism Spectrum Disorders
Camila Álvarez	TLI – 76: Eye Tracking Technology Applied To Facial Expressions Recognition In High Functioning Autism Spectrum Disorder Children
Daniela Palma Coronado	TLI – 77: Community Occupational Therapy Intervention: Funny Recess
Leonardo Arrieta Aranda	TLI – 81: Bergès' Therapeutic Relaxation For ASD Adolescents
Gabriela Garrido	TLI – 82: Use Of Services In Adolescents And Adults With Autism Spectrum Disorders In Latin-american Countries
Marina Gainza-Lein	TLI – 85: Abnormal Electroencephalograms In Children With Autism Spectrum Disorder And Association With Anti-seizure Medications
Felipe Hernandez González	TLI – 86: Characterization Of Child And Adolescent Population With Autism Spectrum Disorder In Control In The Child And Adolescent Psychiatry Unit Of The University Psychiatric Clinic Of The University Of Chile During The First Semester Of 2018
Karina Torres Ocampo	TLI – 88: Embodied Social Cognition: Perception Of Social Exclusion In Autism Spectrum Disorder
Marcela Castillo	TLI – 89: How To Teach A Teenager With Autism To Ride A Bike: Clinical Case
Andrea Moyano	TLI – 91: Age Of First Concerns And Diagnosis Of ASD In Chile: Evolution In The Last 20 Years
Karen Guajardo	TLI – 93: Gender Differences Between Children With Suspected ASD In Public Attention
Cecilia Amigo	TLI – 94: Use Of Electronic Devices And Screen Exposure In A Population Of Preschoolers With And Without Autism Spectrum Disorder
Stefany Garretón Marín	TLI – 95: Early Childhood Imitation In Children With Autism Spectrum Diagnosis (ASD)
Sofía Mena Marín	TLI – 97: A Review Of The Association Of The Use Of Valproic Acid In Women Pregnant With The Risk Of Child Autism
Cesar Trigo Vilches	TLI – 98: Develop Resilience In Families With Autistic Children

Javiera Farias Valdebenito	TLI – 99: Words Create Realities: Abedul Model. Early Intervention In Preschool Children With Autistic Spectrum Disorder
Inés Podestá	TLI – 102: First Key Experiences Implementing Caregiver Skills Training In Uruguay, Moving Towards Expansion
Monica Sanchez	TLI – 65: Association Between Sleeping Problems And Behaviour Disorders In Children With Autistic Spectrum Disorders
Evelyn Astete	TLI – 104: Robotics Based Therapy In Chilean Children With Autism Spectrum Disorder
Valentina Navarro Ovando	TLI – 105: Intellectual Assessment In Children With Autism Spectrum Disorders (ASD): Preliminary Results Of WISC-V Cognitive Profile In A Chilean Sample
Carola Sivonei Lara Lara	TLI – 106: Autism Spectrum Disorder: Parents And The Path To Diagnosis Acceptance
Mirla Arcos Polanco	TLI – 108: Approach To Behavior In Students Presenting Disorders Of The Autistic Spectrum As A Determining Element Of The Inclusive Process
Lucila Echeñique	TLI – 109: University Education For Professionals Working With Girls And Women On The Autism Spectrum In Latin America
Diego Pablo González Lagos	TLI – 110: Effects Of The First Early Start Denver Model (ESDM) Based Interventions On Young Children With Autism In Chile
Caren Paola Rodríguez Rangel	TLI – 115: Being Able To Look Into The Eyes And Participate In A Conversation Delays The Diagnosis Of Autism In Women With High Cognitive Functioning
Tally Lichtensztein Tafla	TLI – 117: Emotional And Behavioral Problems In Children With Autism Spectrum Disorder: Differences By Age Group
Sandra Frischenbruder Sulzbach	TLI – 123: Maternal Burden On Care Of Children With Autism In The Brazilian Public Health System



	Marlene Vogel	TLI – 59: Delay In The Development Of Visual Fixation, As An Early Clinical Marker Of Autism Spectrum Disorder, In Children Between 0 And 17 Years Of Age In An Ophthalmology- diatric Unit, Chile
ORAL SESSIONS 2		
Auditorium 1		
14:30 - 15:30	Families and family systems	
	Sebastián Silva Soto	Quantitative Measurement Of Autistic Traits In Parents And Siblings Of Patients With Autistic Spectrum Disorder.
	Sebastian Gallegos Berrios	Daily experiences of families of young children with Spectrum Disorder Autism
	Sarah Hampton	Mothers' wellbeing and infant regional brain volumes in infants with and without an autistic family member
	Sandra Vanessa Kreisel Vera	Elaboration of a guideline for the approach of sexuality in adolescents with Autism Spectrum Disorder, directed to relatives and professionals

Auditorium 2	Non pharmacological interventions	
	Andrea Rivera	Adaptations of the Early Start Denver Model for Young Children with Autism Spectrum Disorder in different contexts and settings: A literature review.
	Valeria Rojas Osorio	Variation Of Parental Stress After Visioning Tutorial Videos In Early Stimulation In Autism
	Noemi Takiuchi	Early intervention in autism spectrum disorder: an integrative review about Brazilian scientific production
	Juan Contreras Vera	A virtual reality environment for training executive functioning skills in children with ASD
Auditorium 3	Animal models and neuroscience	
	Esteban Aliaga Rojas	Motor Peculiarities And Hypermemory In The Valproate-Model Of Autism: Relation To Hippocampal Neurotrophic Factors And Glutamatergic Neurotransmission
	Angelina Palacios-Muñoz	Drosophila Mutants Of Autism Candidate Gene Trpc6 Exhibit Impaired Sleep Homeostasis, Disrupted Social Behavior, And Altered Cognitive Functions
	Jaime Pereira Quezada	Study Of The Face Processing Network In Autism Spectrum By A Brain-Computer Interface System Based-On Functional Magnetic Resonance
	Patricia Soto Icaza	Alteration in cortical processing of facial emotions in broader autism phenotype
Auditorium 4	Autism across the lifespan and society	
	Rosane Lowenthal	Preliminary Validation study of the Brazilian Portuguese version of the Attitudes toward Autism Questionnaire (ATT-AUT)
	Paulina Buffle	Perception of autism screening tools in paediatric contexts: An exploratory study in an Ecuadorian sample
	Maria Cristina Trigueiro Veloz Teixeira	Brazilian teachers facing autistic children without diagnosis at school: a model for intersectoriality between education and health
	Eric Fombonne	Medical and psychiatric problems among dependent adults with autism in the SPARK cohort

ORAL SESSIONS 3

Auditorium 1		
15:30- 16:30	Genomics and cognition	
	Lina Ruiz	High mitochondrial DNA levels in Autism Spectrum Disorder is suggestive of alterations in the mitochondrial DNA replication: analysis of the mitochondrial Transcription Factor A
	Tally Lichtensztein Tafla	Salivary cortisol profile in mothers of children with autism: a case control study
	Sandra Venegas Gonzalez	Reading Comprehension In Students With Autism And Basic And Executive Cognitive Functions

	Gabriel Gatica Bahamonde	Evaluation Of Social Cognition In Children With Autism Spectrum Disorders: Instruments In The Clinical Context. A Systematic Review
Auditorium 2	Syndromic autism	
	Ilka Betancourt Nuñez	Fragile X Syndrome: Correlation between genotype and behavioral phenotype
	Ariana Henríquez	First approximation in the application of Tuberous Sclerosis-Associated Neuropsychiatric Disorders checklist in a series of Chilean patients with Tuberous Sclerosis Complex, a model of Syndromic Autism Disorder
	María Francisca Miranda Brandt	Demographic and genetic modifiers of Fragile X Syndrome: Analysis of a Chilean cohort.
	Angela Pugin	Behavioral Differences in Patients with Fragile X Syndrome with and without Autism Spectrum Disorder
Auditorium 3	Diagnostics and comorbidities	
	Catalina Llanos Concha	Food Selectivity and Autism Spectrum Disorder. An in-depth review.
	Elizabeth Weir	Noncommunicable Diseases Among Autistic Adults: Sex Differences and Increased Health Burden
	Jose Gaete	Experiencia de 10 años de hospitalización de niños y adolescentes con Trastorno del Espectro Autista en Unidad Psiquiátrica Infantil de Corta Estada Hospital Clínico San Borja Arriaran
	Monica Natalia Sanchez	Association Between Sleeping Problems And Behaviour Disorders In Children With Autistic Spectrum Disorders
Auditorium 4	Communication and language	
	Claudia Marimón Rigollet	Effects of the Use of an Speech Generating Device in Children and Adolescents with Minimally Verbal Autism Spectrum Disorders
	Verónica Gabriela Vidal Velasco	Narratives in Autism Journals: A Critical Discourse Analysis.
	Alejandro Dioses Chocano	Oral Comprehensive Language Of Children From 6 To 11 Years Old With Autistic Spectrum Disorder (Asd) Included In Regular Basic Educational Institutions Of Lima Metropolitan And Callao
	Daniela Rivas	Face Scanning And Emotions Recognition In Patients With Autism Spectrum Disorder
PLENARY CONFERENCES		
16:30-17:00	Coffee Break	
17:00-17:40	Prof David Amaral, UC Davis	A multidisciplinary, longitudinal analysis of children with autism spectrum disorder: The Ups and the Downs
17:40-18:20	Prof. Katarzyna Chawarska, Yale University	Early development of infants and toddlers with Autism
18:30	CLOSURE	



PROF SIMON BARON-COHEN, UNIVERSITY OF CAMBRIDGE

AUTISM AND VULNERABILITY

The Vulnerability Experiences Quotient (VEQ): A study of vulnerability, mental health and life satisfaction in autistic adults

*Sarah Griffiths, Carrie Allison, Rebecca Kenny, Rosemary Holt, Paula Smith, & Simon Baron-Cohen
Autism Research Centre, Department of Psychiatry, University of Cambridge, Cambridge, UK*

Co-morbid mental health conditions such as anxiety and depression are extremely common in autistic adults. Vulnerability to negative life experiences such as victimisation and unemployment may be partially responsible for the development of these conditions. In this talk we present a new measure of the frequency of negative life experiences in autistic adults and explore how these are associated with current anxiety and depression symptoms, and life satisfaction. We developed the Vulnerability Experiences Quotient (VEQ) through stakeholder consultation. The VEQ includes 60 items across 10 domains. Autistic adults with a clinical diagnosis and non-autistic controls completed the VEQ, screening measures for anxiety and depression, and a life-satisfaction scale in an online survey. Likelihood of experiencing each VEQ event was compared between groups, using binary logistic regression. Mediation analysis was used to test whether total VEQ score mediated the relationship between autism and (1) depression (2) anxiety and (3) life satisfaction. Autistic adults (N=426) reported higher rates of the majority of events in the VEQ than controls (N = 268). They also reported more anxiety and depression symptoms and lower life satisfaction. Group differences in anxiety, depression and life satisfaction were partially mediated by total score on the VEQ. This study highlights several important understudied areas of social vulnerability for autistic adults, including domestic abuse, contact with social services (as parents) and financial exploitation and hardship. Improved support, advice and advocacy services are needed to reduce the vulnerability of autistic adults to negative life experiences, which may in turn improve mental health and life satisfaction in this population.



PROF PETER MUNDY, UC DAVIS

AUTISM AND LEARNING PROBLEMS FROM INFANCY TO ADOLESCENCE.

Social communication impairments are fundamental characteristic of Autism Spectrum Disorder (ASD). However, these social communication problems do not only impact the social interactions of children with ASD, but that also affect how children with ASD learn with and from parents, teachers and other people. So understanding the connections between social impairments and learning problems in ASD is essential for improved preschool and school aged interventions. One of the major connections between the social and learning impairments has been described in the Joint Attention theory of autism. This talk will define what joint attention is and how research and measurement of this type of social-attention behavior has played a major role in advancing diagnosis and early intervention for learning and social development in preschool children. The talk will also describe how joint attention theory and research is beginning to inform how we think about the development of classroom interventions for school-aged children with ASD.



PROF FRANCESCA HAPPE

LOOKING BACK TO LOOK FORWARD: CHANGES IN THE CONCEPT OF AUTISM, AND IMPLICATIONS FOR RESEARCH & PRACTICE

The concept of autism has changed enormously, from narrow to wide, rare to common, from discrete to dimensional, from unitary to 'fractionated', and from 'pure' to complex and comorbid. Taking a rather personal timeline, looking back over the past 30 years of autism research, I will discuss these changes in our understanding of autism, and their implications for future research and practice.



PROF DAVID AMARAL, UC DAVIS

A MULTIDISCIPLINARY, LONGITUDINAL ANALYSIS OF CHILDREN WITH AUTISM SPECTRUM DISORDER: THE UPS AND THE DOWNS

We are attempting to subdivide autism spectrum disorder into more homogeneous subtypes by recruiting a very large cohort of young children (2 - 3 1/2 years of age) into a comprehensive, multidisciplinary and longitudinal analysis of the features of autism. We have also enrolled age-matched typically developing children for comparison. To date, we have enrolled over 500 families into the Autism Phenome Project. In this talk, I will highlight some of the differences in brain development that we have discovered and the behavioral consequences of the different developmental trajectories. I will also provide an overview of data that demonstrates difference in cognitive development in subsets of children with autism. I will also summarize findings on the trajectories of autism severity from early to middle childhood. Finally, I will briefly summarize data demonstrating brain changes in children at risk for autism as early as 6 months of age. These studies are based on the finding that children at risk for autism have increased levels of extra-axial fluid surrounding their brains. The goal of all of our studies is to understand the biological etiologies of different forms of autism which will hopefully lead to more targeted and effective treatments of their debilitating features.



PROF ERIC FOMBONNE, OREGON HEALTH & SCIENCE UNIVERSITY

EPIDEMIOLOGY OF AUTISM: RATES, TRENDS, AND LINKS WITH IMMUNIZATIONS

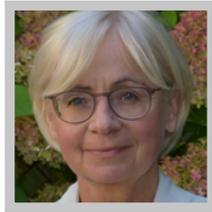
We review recent epidemiological surveys of ASD and discuss methodological issues in designing, conducting and interpreting surveys. The secular increase in prevalence is sometimes viewed as evidence of an ‘epidemic’ but robust data are lacking to support this interpretation. Upward trends in prevalence were also used to argue for a link between autism and childhood immunizations. However, carefully controlled epidemiological studies have consistently failed to support a causal relationship. Yet, public confidence in vaccines has decreased leading to a resurgence of preventable infectious diseases. The public and parents of children with ASD should know that MMR and other childhood vaccines do not increase the risk of autism.



PROF CATHERINE LORD, UCLA

AUTISM FROM 2 TO 26

Our research group has been privileged to follow a sample that began with 192 children referred for possible autism under age 3 and another 21 children with developmental disorders, not suspected of autism, for the last 25 years. We are currently in touch with 143 families and adults who are still active participating. This is a purely observational study in which children and adults with autism and their families report to us in person or through paper and online questionnaires how they are doing and about the factors that may have affected their life trajectories. Findings have included the validity of diagnoses of autism made at age 2 and the relative stability of severity of autism symptoms from early childhood through adolescence, a strong effect of parent participation in early intervention (between ages 2 and 3) even at minimal levels (20 hours over 12 months), the importance of early changes in language trajectories, particularly between age 2 and 4, with much more linear progress following early gains; the existence of a significant minority of adults who seem to no longer have any observable symptoms of autism and are doing well in work and relationships, as well as a smaller group of adults with clear autism who also show good outcomes and a greater proportion of adults, even those with IQs in the average range, who continue to face significant challenges. The goal of the talk will be to present these and other findings in a way that we can use them to predict changes when we need to anticipate changes, better select treatment goals, and recognize the heterogeneous and diverse pathways that the lives of people follow across different areas of skill and achievement.



PROF. KATARZYNA CHAWARSKA, YALE UNIVERSITY

EARLY DEVELOPMENT OF INFANTS AND TODDLERS WITH AUTISM

Symptoms of ASD typically emerge in the second year of life. The presentation will address the emergence core symptoms, stability of early diagnosis, and factors affecting early detection of ASD. By the time they reach school-age, children with ASD are also likely to exhibit a range of co-existing conditions, including behavioral problems, inattention, and anxiety. The presentation will discuss the search of early predictors of co-morbid symptoms on young children with ASD. We will also review current evidence on prodromal characteristics of autism in the first year of life based on studies in younger siblings of children with autism with a focus on both challenges and opportunities related to this work.



PROF. HEIDI M FELDMAN , STANFORD UNIVERSITY

LANGUAGE NUTRITION FOR LANGUAGE HEALTH IN CHILDREN WITH AUTISM

Language nutrition refers to speech input and accompanying gestures directed to children within social interactions during language learning. Language nutrition is characterized in terms of quantity and quality of linguistic and non-linguistic input and the nature of adult-child interactions. Basic and intervention studies suggest that caregiver child-directed speech serves as primary and secondary prevention of language impairment in typically developing children. I will review the evidence about child-directed speech in children with autism to evaluate whether improvements in language nutrition can serve as secondary and tertiary prevention of language impairments. I will contrast child-directed speech to typically developing and autistic children, discuss the strength of associations between parent-input and child language outcomes, and evaluate intervention studies designed to improve language nutrition in order to increase child language skills. Based on the existing literature, I will suggest future studies and offer evidence-based recommendations for children with autism.



PROF. JAY MCCLELLAND, STANFORD UNIVERSITY

THE CONNECTIONIST MODEL OF AUTISM: DISCUSSION WITH JAY MCCLELLAND



DR ROSA HOEKSTRA, KINGS COLLEGE LONDON

MIND THE GAP: INCREASING GLOBAL REPRESENTATION IN AUTISM RESEARCH

Most autism research is conducted in high-income western countries, and within these countries ethnic minority and low socioeconomic status groups tend to be underrepresented in autism research. This lack of global representation means our current knowledge and understanding of autism is incomplete and possibly biased. The gap also leads to a growing inequity in services across the globe. Most autism interventions are developed in high-income settings and require specialist facilitators and high-intensity intervention models, making these programmes unsuitable for low-resource contexts. This talk will draw on previous global autism research as well as a wider literature to map out how culture and context may affect the expression, recognition, interpretation and reporting of autism symptoms. Moreover, current initiatives to test interventions suitable for low-resource contexts will be discussed. Through concrete examples it will be demonstrated why collaboration with local stakeholders and researchers is crucial if we want to increase global representation in autism research and make a long-term difference in the lives of autistic people worldwide.



DR ANDRES ROMAN-URRESTARAZU, UNIVERSITY OF CAMBRIDGE

AUTISM AND THE RIGHT TO EDUCATION IN THE EU: POLICY MAPPING

Autistic people may have different educational needs that need to be met to allow them to develop their full potential. Education and disability policies remain within the competence of EU Member States, with current educational standards and provisions for autistic people implemented locally. This scoping review aims to map EU and national special education policies with the goal of scoping the level of fulfilment of the right to education of autistic people. Results showed that policy-making across Europe in the field of education has been changing through the years in favour of autistic people. Today their rights are noticed and considered, but there is still room for improvement. That approaches and policies vastly differ between countries, more Member States should be analysed in a similar manner to gain a broader and clearer view with a special focus on disability rights in Central and Eastern Europe.



DR LAUREN FRANZ, DUKE UNIVERSITY

IDENTIFYING NATIONAL POLICY RELEVANT TO AUTISM SPECTRUM DISORDER IN SOUTH AFRICA

In 2014, the World Health Organization adopted a resolution calling for “comprehensive and coordinated effort for the management of ASD”. This resolution, supported by all member states, including South Africa, calls for the development, strengthening and implementation of national policies which align with the needs of persons with ASD and with evidence and best practice. Policies are important because they reflect commitment from government, provide a mandate to support funding and help identify those who are accountable to provide services. As a priority step towards understanding relevant national policies and developing a sustainable model of early ASD detection and intervention in South Africa, we engaged with key stakeholders in Health, Education, Social Development, and the non-profit sector in the Western Cape province to explore: (1) the policy environment relevant to young children with developmental disabilities such as ASD; (2) the practicality of providing early ASD detection and intervention; (3) whether early intervention could be integrated into existing platforms of care; and (4) how early ASD intervention could become a sustainable approach. The domains of inquiry were informed by three implementation research outcome categories described by Proctor et al. (2011), including appropriateness, feasibility, and sustainability of early detection and intervention approaches.

AUTISM SPECTRUM DISORDER RESEARCH IN LOW-RESOURCE SETTINGS: A SOUTH AFRICAN EARLY INTERVENTION STUDY

South Africa is a multi-cultural, multi-lingual, upper middle income nation. It is also the world’s most unequal. The needs of the vast majority of the population needing early intervention for autism spectrum disorder (ASD) go unmet. This is true across the country, including in the Western Cape Province which is thought of as one of the better-resourced in terms of healthcare and education. Having a disability, living in poverty, and the legacy of apartheid continue to act as barriers to accessing education and health services. Importantly, the unmet need for early ASD intervention is increasing. There has been a 276% rise in the number of children with ASD on the waiting list for special education services in the Western Cape Province, 70% of whom are under 7 years of age. Early ASD intervention research is beginning at the Center for Autism Research in Africa at the University of Cape Town. This talk will outline an approach in one of these ongoing studies. Pilot work is underway to adapt and implement non-specialist delivered caregiver coaching, informed by the principles of the Early Start Denver Model (ESDM), sensitized to the South African context, and integrated into an existing systems of care. This talk will also outline strategies whereby academic institutions from high income countries can partner for change with academic institutions in low and middle income countries, and develop bidirectional, mutually-beneficial relationships focused on addressing health inequities.



DR MAYADA ELSABBAGH, MCGILL UNIVERSITY
GLOBAL EPIDEMIOLOGY OF AUTISM SPECTRUM DISORDERS

A Common Ground for Autism: Where do we go from here

Mayada Elsabbagh Ph.D., Montreal Neurological Institute, McGill University, Canada

An emerging global policy agenda has achieved success in raising awareness, enhancing advocacy, and more recently in building community capacity. This agenda falls at the intersection of human rights and research evidence. Scholarly communities continue to play a major role in shaping and implementing this agenda. First, high quality research offers capacity building opportunities through training and knowledge translation. Second, a truly global research agenda can accelerate discovery everywhere, benefiting all world citizens. Finally, interactions between research and decision-makers can support evidence informed health and social policies. Future global efforts are needed to effectively engage local communities in setting the research agenda so that benefits are attained more rapidly.

Getting Answers from Babies about Autism

Mayada Elsabbagh Ph.D., Montreal Neurological Institute, McGill University, Canada

Autism was once blamed on ‘refrigerator mothers’ who did not show affection towards their children. Since then a biological model has been adopted to further understanding of the etiology of autism - a condition that emerges over development as a result of complex interactions between genes and the external environment. Progress has been made in identifying biological risk factors and some of the mechanisms through which these factors impact early brain development. We also have better knowledge of emerging behavioral and neural risk signs in infancy, as well as supportive strategies delivered through caregivers to mitigate impact of risk. Further research and evidence informed policies are needed to integrate this knowledge into country level systems where there is existing strength, including maternal and child health and early childhood education.



DR VARUN WARRIER, UNIVERSITY OF CAMBRIDGE

LEVERAGING GENETICS TO UNDERSTAND HETEROGENEITY IN AUTISM: PROGRESS AND CHALLENGES

Heterogeneity within the autism spectrum is a significant concern for improving wellbeing of autistic individuals. Using genetic variants, I describe how we can parse heterogeneity. Specifically, I ask if the social and the non-social domains of autism are genetically dissociable using molecular genetics.



DR GUILLIAUME DUMAS, INSTITUT PASTEUR

BUILDING STAIRS THROUGH SCALES OF SOCIAL COGNITION IN AUTISM: FROM BRAINS IN INTERACTION TO GENES IN EVOLUTION

The interdisciplinary effort of cognitive science has encompassed the study of many scales in space, time and different fields. This talk illustrate how the construction of “stairs” between scales provides Heuristic alternatives to understand how we get to understand others: crucial aspect in autism. We will start discussing findings in social neuroscience that have taken a turn recently, discussing how the study of human-man-machine interaction demonstrates how the low level sensorimotor coordination not only shapes our mind individual, but also how we infer high-level intentions. We will end with recent analyzes of the phylogeny of the nervous system of primates, including archaic hominids such as Neanderthal and Denisovan, and we will discuss how genetics on an evolutionary scale questions the uniqueness of the human brain and the emergence of social skills.



DR ROBERTO TORO, INSTITUT PASTEUR

MAGNETIC RESONANCE IMAGING, DATA SHARING AND DISTRIBUTED COLLABORATION MAY BE OUR BEST TOOLS TO STUDY THE NEURONAL BASES OF AUTISM SPECTRUM DISORDER

Magnetic resonance imaging has been extensively used to identify anatomical and functional differences in autism spectrum disorder. However, many of these findings have proven difficult to replicate due to the use of small cohorts and because results build on many complex analytic choices which remain undisclosed. Thanks to open data initiatives, we were able to analyse with an homogeneous methodology a sample comparable in size to all the previous literature together. Our analyses failed to reproduce the differences in brain volume, corpus callosum size, or cerebellar volume described by small sample size studies, and suggest the presence of publication bias for statistically significant results. Does this mean that MRI cannot be used to detect ASD? On the contrary: I will suggest that MRI may become our best tool for studying ASD, but only if the research community is able to organise the collection of large enough open datasets, and to analyse them collaboratively. I will present the results of the first international challenge to test the ability of MRI to predict ASD diagnosis. We found conclusive evidence that MRI can predict ASD diagnosis: the best algorithms reliably predicted diagnostic with a sensitivity of 85% for a specificity of 53% (AUC~0.76). The accuracy achieved by MRI biomarkers is far superior to that obtained using genotyping data in cohorts 20-times larger. Larger cohorts should lead to improved performance and increased spatial localisation, revealing more precise neural correlates of the disorder.



DR CARLA MAZEFSKY, UNIVERSITY OF PITTSBURGH

ASSESSMENT AND TREATMENT OF EMOTION DYSREGULATION IN AUTISM SPECTRUM DISORDER

Emotion dysregulation in autism spectrum disorder (ASD) exacerbates social impairment, increases risk for psychiatric and behavioral problems, and often leads to polypharmacy and crisis interventions. Effective treatment of emotion dysregulation could greatly improve quality of life for individuals with ASD. This talk will summarize the latest emotion regulation research in ASD and describe a new emotion regulation measure and a promising treatment approach. The Emotion Dysregulation Inventory (EDI) is an efficient informant questionnaire that has been validated for screening and treatment monitoring with youth with ASD and any verbal or intellectual ability level. The development and psychometric properties of the EDI will be described. Data comparing EDI scores between samples of over 1000 youth with ASD and 1000 without ASD will be used to illustrate the importance of considering emotion regulation as a treatment target in ASD. A new 16-week individual therapy designed to improve emotion regulation in verbal adolescents and adults with ASD without intellectual disability, called the Emotion Awareness and Skills Enhancement (EASE) Program, will be introduced. The stakeholder-informed process of EASE's development will be described. Results of the open trial of EASE will be shared and the on-going randomized controlled trial comparing EASE to individual supportive therapy will be described. Changes to EASE to support a new version for adolescents and adults with ASD and co-occurring intellectual disability (EASE-ID) will be summarized. Key elements to address during emotion regulation-focused treatment and common modifications to support mindfulness-based therapy with individuals with ASD will be emphasized. Finally, while attention to emotion regulation in ASD has increased rapidly in recent years, there are many important questions that have yet to be addressed; priorities for future emotion regulation research in ASD will be identified.



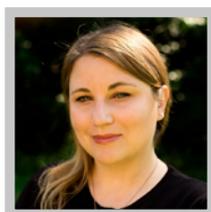
DR GONZALO CANCINO, UNIVERSIDAD MAYOR, CHILE

UNDERSTANDING THE FUNCTIONS OF THE GENE ASSOCIATED WITH AUTISM PTPRD IN THE DEVELOPMENT OF THE CEREBRAL CORTEX

Neurodevelopmental diseases or conditions such as autism spectrum disorder (ASD) are caused by abnormal brain development and are commonly associated with cognitive, motor and communication problems. It is currently accepted that alterations in neural stem cells, which are those that give rise to neurons and glial cells of the nervous system, can cause neurodevelopmental diseases, since genes associated with ASD that are expressed in these cells alter the number and type of neurons that are generated, causing problems in the development of the cortex and generating long-term behavioral alterations. We in my laboratory have focused on studying the PTPRD gene, a tyrosine phosphatase receptor, which has been genetically associated with ASD, studying whether mutations in PTPRD generate alterations in neurogenesis during the development of the



nervous system. To study this, we used neural stem cell cultures of the 12-day embryo cortex and embryonic brains of mice of different embryonic ages, obtained from null wild type and PTPRD mice, and we evaluated whether PTPRD regulates the proliferation and differentiation of precursors Neurons during the process of embryonic and adult neurogenesis. We found that the absence of PTPRD decreases the proliferation of neural precursors and increases neurogenesis. Then, we show that PTPRD mediates these effects by regulating the phosphorylation of TrkB and PDGFRb receptors, two receptors associated with neurogenesis, observing that in the absence of PTPRD, TrkB, PDGFRb and their downstream signaling pathway MEK-ERK are hyperphosphorylated. In addition, inhibition of activation of this rescued the increase in neurogenesis caused by the absence of PTPRD. Finally, we observed that heterozygous mice for PTPRD presented autistic type behaviors in social tests. Therefore, our results demonstrate that PTPRD is important for regulating embryonic neurogenesis through tyrosine kinase receptors, suggesting a molecular mechanism by which PTPRD could be associated with ASD.



TANYA PROCYSHYN, UNIVERSITY OF CAMBRIDGE

CLINICAL POTENTIAL OF OXYTOCIN IN AUTISM: INSIGHTS FROM INDIVIDUALISED NEUROIMAGING

Oxytocin, a hormone with important roles in social bonding, is one of the few compounds that has shown therapeutic potential in autism. However, the results of clinical trials have been mixed, with oxytocin increasing eye contact, social motivation, and empathic accuracy for some autistic individuals, but having no effect for others. This high heterogeneity highlights the need for better understanding of precisely what behavioural systems oxytocin influences and the further need for biomarkers to predict who might benefit from oxytocin. Using neuroimaging and bioassay methods, we explored the effects of a single dose of oxytocin vs. placebo on brain activity in 45 adult women, 16 of who are autistic. In addition, we assessed interactions between oxytocin and other hormonal systems known to affect its efficacy. This talk presents evidence that oxytocin has distinct effects on fMRI brain activation of autistic women relative to neurotypical women during 'resting state' and during a competitive task involving social and monetary rewards. Motivated by previous studies, we also found that a single dose of oxytocin increased testosterone levels in most autistic women, but not in most neurotypical women, which may help to explain individual variation in response to oxytocin in different contexts.



DR HERNÁN AMARTINO, UNIVERSIDAD AUSTRAL ARGENTINA

AUTISM AS THE CLINICAL PRESENTATION OF INBORN ERRORS OF METABOLISM

It is well known that many genetic disorders can be the underlying cause of autism spectrum disorder (ASD) but there are some rare progressive congenital metabolic disorders where early developmental manifestations leads to misdiagnosis. In patients suffering of certain types of metabolic diseases, difficulties within speech, language and communication, as well as repetitive and restricted behaviours, are sometimes consistent with the clinical diagnosis of ASD, besides other neurological or extraneurological features of the disease that are often overlooked. The presence of ASD-like symptoms can result in late diagnosis or misdiagnosis of congenital metabolic disorders and lost opportunities for genetic counselling and the provision of specific treatments.



INSAR REGIONAL MEETING AWARDEES

The scientific committee is pleased to present below the three best research papers presented at INSAR REGIONAL MEETING CHILE 2019:

First place award for best summary oral presentation option INSAR Regional Meeting Puerto Varas 2019: Lina Ruiz - "High levels of mitochondrial DNA in autism spectrum disorder suggest alterations in mitochondrial DNA replisome: analysis of mitochondrial transcription factor A"

Second place prize for the best summary of the oral oral presentation INSAR Regional Meeting Puerto Varas 2019: Tally Lichtensztejn Tafla - "Profile of salivary cortisol in mothers of children with autism: a case-control study"

Third place award for best annual summary oral presentation INSAR Regional Meeting Puerto Varas 2019: Angelina Palacios-Muñoz - "Drosophila mutants of the autism candidate gene TRPC6 exhibit altered sleep homeostasis, altered social behavior and altered cognitive functions".

ORAL SESSIONS

EARLY DETECTION, COMORBIDITIES, SCREENING AND EVALUATION METHODS

TLI – 96 : SLEEP DISORDERS NEUROBIOLOGY IN ATTENTIONAL DEFICIT AND AUTISM CHILDREN: AN UP-TO-DATE REVIEW

Sofía Mena Marín¹, Pablo Vergara², Nicol Salas¹ and Romina Aguayo¹

¹ Programa de Especialidad en Psiquiatría Del Niño Y Adolescente, Universidad De Concepción, Concepción, Chile ² Departamento Psiquiatría Y Salud Mental, Universidad De Concepción, Concepción, Chile

INTRODUCTION: Sleep disorders (SD) have a high prevalence in children with Autism Spectrum Disorder (ASD) and attention deficit / hyperactivity disorder (ADHD), generating alterations in quality of life and family level. Prevalence of ASD or ADHD and SD is about 44-83% and 25-70% respectively and it has been observed that the symptoms of both disorders would worsen when presenting SD. Therefore it is important to understand the neurophysiology relationship that exists between these disorders for better management.

OBJECTIVE: To review the scientific literature to find the most current data regarding the association and neurophysiological factors associated with SD in children with ASD and ADHD.

METHODS: Updated review (since 2015 to date) of the literature (using advanced search with keywords) in databases such as Pubmed, Elsevier and Scielo.

RESULTS: The association of several endogenous SD factors in children with ASD and ADHD was evidenced, with scientific evidence. SD in children with ASD are frequent, with prevalences of approximately 50 to 80%. Insomnia is the most frequent SD in children with ASD, where the causes are multifactorial (including exogenous and endogenous factors). It has been reported that some of the most frequent alterations in the sleep pattern is its low efficiency and the prolongation of total sleep latency. The greatest evidence of the endogenous factors that cause SD in ASD are alterations in nocturnal melatonin secretion (and with less evidence of cortisol). It has been observed that managing these children only with oral melatonin is effective (improves sleep latency), but it generates greater impact on improving the sleep pattern by associating the administration of the exogenous hormone to interventions in the behavior of sleep habits ("sleep hygiene") and to parental education and intervention. In ADHD, the most frequent sleep disorders have been reported to be parasomnias and insomnia. In SD in children with ADHD, there would be strong evidence of epigenetic alterations that would generate changes in the circadian cycle (with silencing of some "clock genes") and in some cases the side ef-

fects of the drugs that ADHD treats would also be present.

CONCLUSIONS: The endogenous factors to present SD in children with ASD and ADHD have a high association and the genetic / epigenetic base and some hormones are more important, however, it is clear that there is also associated environmental influence to explain sleep disturbances. There is still a lack of research that deepens the factors already studied and can support the new findings that have been postulating all this in order to achieve a better management of the patients that present these alterations.

Keywords: neurophysiology, autism, attentional deficit, sleep disorders, mental health

TLI-121: QUANTITATIVE CHECKLIST FOR AUTISM IN TODDLERS (Q-CHAT), CHILEAN VERSION: PRELIMINARY RESULTS OF ITS PSYCHOMETRIC PROPERTIES

Gabriel Gatica-Bahamonde¹, Paula Alarcón Bañares²

¹ Mental Health Department, Universidad de la Frontera, Temuco, Chile ² Department of Psychology, Universidad de la Frontera, Temuco, Chile

INTRODUCTION: Screening tools for early detection in Autism Spectrum Disorder (ASD) reduce diagnostic and reference time by up to 70% (Mcpheeters et al.,2016). Most of these screening, for example, the Modified Checklist for Autism in Toddlers Revised with Follow-up (M-CHAT-R / F) (Robins et al.,2012) quantify autistic traits as a categorical variable. In contrast, the Quantitative Checklist for Autism in Toddlers (Q-CHAT) (Allison et al.,2008) is a screening tool which quantifies autistic traits as a continuous-variable. The above is consistent with the conceptualization of ASD as a heterogeneous dimension of traits (Constantino & Charman,2016). The need to have a culturally relevant screening in Chile and quantitatively quantify ASD traits motivate this research. In this communication, preliminary results of the validation study of Q-CHAT/adapted in Chile are reported.

OBJECTIVES: 1)Study the psychometric properties of an adapted version of (Q-CHAT); 2)Determine evidence of the reliability of the Q-CHAT/adapted, by internal consistency; 3)Determine evidence of concurrent validity of the Q-CHAT/adapted, with the M-CHAT.

METHODS: Participants: An intentional non-probabilistic sampling was used, selecting 145 children between 18 and 24 months of age. Design: Study of descriptive-correlational scope. Procedures: The transcultural adaptation of the Q-CHAT was performed, following an analytical-rational procedure (Elosua et al.,2014). All mothers and /or fathers and/or primary caregivers of children between 18-24 months attending child health checks were offered to participate, responding to a printed version of the Q-CHAT / adapted, the M-CHAT-R/F-Chilean-version (Coelho-Medeiros et al.,2017) and a sociodemographic questionnaire. Statistical analyses were performed with the statistical program SPSS-V25.

RESULTS: Table 1 summarizes the sociodemographic variables studied. The mean score in the sample was 32.83 (range:6-63; SD=9.43). Total scores are distributed normally in the sample. The internal consistency of the Q-CHAT/adapted according to the Cronbach's alpha coefficient was shown to be adequate for the test in general ($\alpha=0.68$). For items that evaluate social communication, consistency was Good ($\alpha=0.80$) and for items that measure repetitive and restrictive behavior, it was adequate ($\alpha=0.71$). Regarding the concurrent validity, the correlation between the Q-CHAT and the M-CHAT scores was positive and statistically significant ($r =0.581$, $p <0.0001$). As a measure of the discriminating ability of the test, item-total correlations were analyzed (Table 2).

CONCLUSIONS: This study reports preliminary results of a tool that can be used in Chile as a culturally relevant screening and with preliminary evidence of reliability and validity. Regarding the total Q-CHAT scores in our sample, these are similar to those reported by others authors (Magiati et al.,2015 and Wong et al.,2014). Regarding internal consistency, the Cronbach's alpha coefficient of the test as a whole is identical to that reported by Ruuta et al.(2019), but unlike these authors, our sample shows higher α coefficients in the items that are grouped, evaluate the socio-cognitive skills. Regarding the concurrent validity, the Q-CHAT/M-CHAT correlation can be considered good ($0.50 <r <0.60$) (Prieto and Muñiz,2000). As an approach to the analysis of the Q-CHAT elements, the total item-test correlation shows an adequate discriminative capacity of the items. The current sample does not allow the confirmatory Factor Analysis that is expected with a sample of at least $N = 200$.



Table 1. Sociodemographic variables in the sample studied (N = 145)

Children		
Child age (months): M (S.D.)		20,54 (2,44)
Child sex	Female	70 (48,3%)
	Male	75 (51,7%)
Child day care center assistance N (%)	Yes	60 (41,4%)
	No	83 (57,2%)
Housing Location: N (%)	Urbano	109 (75,2%)
	Rural	36 (24,8%)
Caregivers		
Caregiver age: M (S.D.)		29,49 (7,09)
Relationship with the child: N (%)	Mother	128 (88,3 %)
	Father	12 (8,3 %)
	Grandma	3 (2,1 %)
	Other type of caregiver	2 (1,4 %)
Caregiver's educational level: N (%)	Incomplete Primary Education	10 (6,9%)
	Complete primary education	8 (5,5%)
	Incomplete secondary education	18 (12,4%)
	Secondary education Complete	71 (49,0%)
	Higher Technical Education	18 (12,4%)
	Higher Professional Education	18 (12,4%)
Family income: N (%)	Less than \$150.000	14 (9,7%)
	\$150.000 - \$300.000	54 (37,2%)
	300.000 - \$500.000	45 (31,0%)
	\$500.000 - \$900.000	20 (13,8%)
	Between 900.000 y 1.200.000	4 (2,8%)
	More than \$1.200.000	4 (2,8%)

Table 2. Item-Total Q-CHAT Correlations in the sample studied (N=145)

Item	Item-Total Correlation
11. Sniff/lick unusual objects	0.512**
4. Understand child's speech	0.511**
6. Protodeclarative pointing	0.478**
1. Look when call name	0.450**
8. Number of words	0.449**
25. Stare at nothing with no purpose	0.444**
19. Gestures	0.443**
15. Offer comfort	0.438**
24. Oversensitive to noise	0.434**
23. Twiddle objects repetitively	0.395**
20. Unusual finger movements	0.389**
5. Protoimperative pointing	0.382**
2. Eye contact	0.373**
10. Follow a look	0.343**
12. Use of hand as tool	0.343**
14. Adapt to change in routine	0.322**
9. Pretend play	0.312**
16. Do same thing over and over again	0.287**
17. Typicality of first words	0.274**
7. Interest maintained by spinning object	0,263**
3. Line objects up	0.262**
22. Maintenance of interest	0.260**
13. Walk on tiptoes	0.221**
18. Echolalia	0.072
21. Check reaction	0.046

*p<0.05; ** p<0.01

TLI – 119 : CROSS-CULTURAL MEASUREMENT INVARIANCE OF THE CHILDHOOD AUTISM RATING SCALE (CARS): A PRELIMINARY REPORT BY THE AUTISM SPECTRUM DISORDER INTERNATIONAL CONSORTIUM (ASDIC)

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INTRODUCTION: Studying autism spectrum disorder (ASD) globally is not only important for estimating prevalence rates, but also for evaluating the whole range of interplay of genetic, neurobiological, and environmental correlates leading to ASD, as well as available treatment options, while targeting the same aspects of the disorder across different settings and regions worldwide. Thus, the research of ASD globally requires sound and sustainable evaluation/diagnostic tools that would be available for use in different research and clinical settings across various high and low-to-middle-income regions. From a psychometrical point of view, the latter is only possible if evaluation methods operate in the same way and underlying constructs have the same theoretical structure across different regional/cultural groups, which implies that measurement invariance is present. This aspect is not readily tested for available ASD instruments.

OBJECTIVES: To evaluate whether the Childhood Autism Rating Scale (CARS) original measures ASD the same way across different language/cultural groups (i.e., the measurement invariance is present).

METHODS: The sample included children 656 with ASD for whom the CARS was completed in English (234), Spanish (171), Turkish (150), or Hindi (101). The ordinal logistic regression was used to assess differential item functioning (DIF), as a mode of testing measurement invariance, controlling for the effects of age, sex, and country income. An item exhibiting DIF is considered non-invariant. The study was organized by the Autism Spectrum Disorder International Consortium (ASDIC).

RESULTS: Overall, 14 out of 15 (93.3%) CARS items were flagged with DIF across all four language samples, while between any two samples, there were 4 (26.7%) to 10 (66.8%) DIF items. Six items (40%; *body use, object use, adaptation to change, taste, smell, and touch response and use, fear or nervousness, and level and consistency of intellectual response*) displayed uniform DIF, indicating that children with ASD from any sample would be rated differently with these items compared to children in the other samples at the same ability level. In addition, item *level and consistency of intellectual response* (6.7%) had non-uniform DIF, indicating that rating intellectual functioning among children with ASD is likely dependent on one's language/cultural group. Items *object use* and *fear or nervous* had the largest DIF. The most evident DIF items were across the Turkish and Hindi and the least across the Spanish and Hindi samples. Table 1. shows DIF summary in four language groups.

CONCLUSIONS: This preliminary analysis revealed that children with ASD are likely evaluated differently by almost all CARS items across language/cultural groups, but there are items which might be more/less non-invariant. To gain a better insight into the measurement of non-invariance pertaining to the CARS for cross-cultural comparisons, further analyses will focus on children with different neurodevelopmental difficulties, typically developing children, and children with ASD across different world regions.



Table1. DIF across four language groups

Items	Uniform DIF		Non-uniform DIF		1:2	1:3	1:4	2:3	2:4	3:4
	p value	ΔR^2	p value	ΔR^2	p value					
1. Relating to People	0.03	0.003	<0.01	0.019	0.26	<0.01	0.02	<0.01	<0.01	0.75
2. Imitation	0.05	0.003	<0.01	0.021	0.99	0.40	<0.01	0.32	0.32	<0.01
3. Emotional Response	<0.01	0.027	0.02	0.004	0.05	0.62	0.94	0.09	0.09	0.72
4. Body Use	<0.01	0.037	0.01	0.005	0.13	0.01	0.31	0.20	0.79	0.19
5. Object Use	<0.01	0.074	<0.01	0.013	0.73	0.01	0.06	0.02	0.01	<0.01
6. Adaptation to Change	<0.01	0.035	0.03	0.005	0.05	0.05	0.19	0.93	0.69	0.66
7. Visual Response	<0.01	0.031	0.15	0.002	<0.01	<0.01	0.17	<0.01	0.61	<0.01
8. Listening Response	0.14	0.002	<0.01	0.008	0.12	0.01	0.79	0.24	0.26	0.04
9. Taste, Smell, and Touch Response and Use	<0.01	0.054	<0.01	0.008	0.1	0.45	0.12	0.49	<0.01	0.01
10. Fear or Nervousness	<0.01	0.123	<0.01	0.007	0.18	0.61	0.01	0.34	0.11	0.02
11. Verbal Communication	0.51	<0.01	<0.01	0.014	<0.01	<0.01	0.89	0.74	<0.01	<0.01
12. Nonverbal Communication	<0.01	0.010	0.12	0.002	<0.01	0.02	<0.01	0.38	0.12	0.01
13. Activity Level	<0.01	0.028	0.02	0.004	0.03	0.15	0.44	0.44	0.24	0.60
14. Level and Consistency of Intellectual Response	<0.01	0.048	<0.01	0.067	<0.01	0.81	<0.01	<0.01	0.34	<0.01
15. General Impressions	<0.01	0.008	<0.01	0.019	0.04	<0.01	0.57	<0.01	0.22	<0.01

1: English; 2: Spanish; 3: Turkish; 4: Hindi

TLI – 87: SCREENING FOR AUTISM SPECTRUM DISORDER IN INFANTS BORN PRETERM AND ASSOCIATION WITH GESTATIONAL AGE

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INTRODUCTION: World prevalence of Autism Spectrum Disorder (ASD) is estimated in 1-2%. The prevalence of ASD in preterm children is 3-4 magnitudes higher, being a recognized environmental risk factor, together with low birth weight. In Chile, this association has not been widely studied.

OBJETIVES: To determine the prevalence of ASD in infants born preterm by using the Modified Checklist for Autism in Toddlers (M-CHAT), and examine the association between M-CHAT and gestational age.

METHODS: Cross-sectional study, approved by the ethics committee. The study population comprised preterm infants (<37 weeks), 18-30 months old at the time of the study, who were receiving care at the preterm outpatient clinic in HCSBA. Of the 117 preterm infants in control, 22 (18.8%) met the required age range. Parents were contacted by phone by a pediatric neurologist to answer M-CHAT. Children who screened positive were assessed for ASD by a trained pediatric neurologist. To evaluate the relationship between gestational age and positive M-CHAT, we used an independent samples t-test with STATA 14.2 software.

RESULTS: Of the 22 children who met the age range, 17 (77.3%) were contacted. The average age was 21.7 months (SD 4.59), 10 (58.8%) were boys and 7 (41.2%) were girls. The average gestational age was 30 weeks (SD 2.67). Two children (11.8%) were extremely preterm (<28 weeks), nine (52.9%) were very preterm (28-31 weeks) and six (35.3%) were moderate to late preterm (32-36 weeks). Of the 17 children who were assessed with M-CHAT, 6 (35.3%) screened positive. The average gestational age of children with positive M-CHAT was 29.67 weeks (SD 3.44), whereas in children with negative M-CHAT it was 30.7 weeks (SD 3.44; averages gap 1.06, CI 95%, -1.86 to 3.98; p-value= 0.451). Five out of the six children who screened positive were clinically assessed, and none of them met the DSM 5 criteria for ASD. One of them

was diagnosed with sensory processing disorder, three with language disorders and one with severe global psychomotor development delay.

CONCLUSIONS: ASD was not diagnosed in this series; nevertheless, 35% of infants screened positive for M-CHAT, and all the children who were clinically assessed were diagnosed with a neurodevelopmental disorder other than ASD. Children with positive M-CHAT had an average gestational age one week younger than children with negative M-CHAT, but this result was not statistically significant. Screening in patients with higher risk of ASD and neurodevelopmental disorders allows early interventions and can improve outcomes, therefore these patients will be monitored. Finally, it is important to highlight that M-CHAT has higher false-positive and false-negative rates in extremely preterm infants, especially in those with sensorimotor and cognitive impairments. Limitations of this study were the small sample size and the absence of a control group.

DIAGNOSTIC EVALUATION: STANDARDISED METHODS

TLI-61: CHILEAN ADAPTATION AND VALIDATION OF THE AUTISM MENTAL STATUS EXAM (AMSE)

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INTRODUCTION: Failure or delay in diagnosis of Autistic Spectrum Disorders (ASD) is a major concern in Chile and Latin America; gold-standard evaluations are costly, time-consuming, and often unavailable in routine clinical practice. This delays treatment opportunities and negatively affects the prognosis of ASDs. The search for diagnostic tools to be used in underserved populations is imperative. The Autism Mental State Examination (AMSE) for diagnosis of ASD (Grodberg 2012, 2014), is a free, brief tool that allows a rapid and structured assessment in a clinical context. Its diagnostic capacity has been evaluated in relation to DSM5, CARS, ADOS, ICD-10 criteria among others, with promising results.

OBJECTIVE: to adapt and validate AMSE for the diagnosis of ASD in a sample of children and adolescents at risk of ASD, obtaining conceptual and empirical evidence of the diagnostic capacity of the questionnaire.

METHOD: *Participants:* Children and adolescents of 15m-18y who consulted spontaneously or were under regular medical surveillance for language problems, communication and/or suspicion of ASD, recruited in Depts. Child and Adolescent Psychiatry, Pediatric Neurology, Clínica Las Condes or Psychiatric Clinic, University of Chile. *Procedure:* AMSE was applied during clinical evaluation by neuropsychiatrist or child psychiatrist. ADOS2 test was administered by an independent evaluator, blind to the clinical diagnosis and AMSE score. *Stages of AMSE Validation:* 1) translation and cultural adaptation 2) training and agreement among evaluators 3) evaluation of psychometric characteristics and diagnostic capacity. ADOS2 was used to determine diagnostic categories Non-ASD, Autism Spectrum (AS), Autism (AUT). All participants or their parents signed the Free and Informed Consent Form.

RESULTS: A total of 64 children and adolescents was included, 8 female (12.5%), 56 male (87.5%), with age that ranged from sixteen months to 16 years (X:77m sd± 42.9). According to ADOS-2 scores: Non-ASD 12(18,8%) (AMSE:X:3,6 sd±1,2), AS 19(29,7%) (AMSE:X:6 sd±1,3), AUT 33(51,6%) (AMSE:X:7,4 sd±2,4). Psychometric characteristics of AMSE: internal consistency, Cronbach's alpha: 0.61. Concurrent validity AMSE/ADOS-2: p<0.001, AMSE scores differed significantly among the three ADOS-2 categories, Mann-Whitney p<0.001. Cut-off point, determined with ROC curve was ≥6 (Sensitivity 0.79 and Specificity 0.92); AUC: 0.91. Youden index gives maximum efficiency ≥5,5; PPV: 0,976.

CONCLUSIONS: In this ASD risk sample, AMSE scores differed significantly between ADOS2 diagnostic categories; the ROC curve analysis showed a cut-off point of 6 (Youden: 5,5) somewhat higher than previously reported, with moderate sensitivity and high specificity; the AUC value showed good diagnostic discriminative capacity. Similar to previous work, the internal consistency of AMSE was moderate. AMSE provides the clinician with a useful and practical structured



mental examination tool that allows the assessment of signs and symptoms of ASD. Its adequate psychometric properties point to the usefulness and potential benefits of its clinical application, when access to more costly tools is limited.

*Study approved by the Human Research Ethics Committee, Faculty of Medicine - University of Chile and Research Ethics Committee, Clínica Las Condes.

*Funded by the Office of Academic Affairs, Clínica Las Condes.

TLI – 12: HOW TO IMPROVE TEACHER’S ACCURACY IN IDENTIFYING SIGNS OF AUTISM? THE APPLICATION OF A COMPUTER SYSTEM FOR DECISION MAKING IN BASIC EDUCATION.

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INTRODUCTION: In the Brazilian public health system, it is recommended that the main agents for the early identification of Autistic Spectrum Disorder (ASD) are pediatricians, educators and the child’s parents. In Brazil, the diagnosis of ASD is still essentially clinical, but there are several validated and standardized screening scales and instruments that have been used predominantly in health services. Teachers do not always have access to these instruments preventing them from fulfilling the role of ASD identification agent, although a significant number of autistic students remain in classrooms, but without a diagnosis that guarantees them access to special educational services. **OBJECTIVES:** To develop a decision making model, with a flowchart detailing tasks and actions, used by teachers of basic education in the public education system with instruments for assessing signs of ASD and Intellectual Disability (ID). **METHODS:** Two instruments were created in a checklist format containing descriptions of the characteristics of the disorders to assist the teacher in assessing students with suspected ASD and verifying the construct validity of each checklist. Two flowcharts were also created (for ASD and for ID), composed of a set of logically organized sequential activities based on Business Process Model and Notation (BPMN). The models also contained the use of neuropsychological assessment (Abbreviated Wechsler Intelligence Scale/WASI) and children’s emotional and behavioral assessment (Brief Problem Monitor-Teacher Form (BPM-T) For Ages 6-18). The models were tested in 20 public elementary schools in Embu das Artes city, Brazil, with a non-probabilistic sample of 60 teachers and 2 psychologists from the special educational service. The study was approved by the Ethics Committee (Plataforma Brasil/CAAE: 56001316.6.0000.0084). **RESULTS:** The results of the analysis of construct validity of the checklists was adequate (average of agreement indexes between experts between 1,70 to 1,95 for objectivity, clarity and precision criteria). The flowcharts were created using the opensource platform Business Process Management System (BPMS). The models were tested, and within 2 months, in approximately 1500 eligible students, the teachers identified 2 suspect students with ASD, 8 students with ID, and 1 students with ASD and ID. The use of BPMN showed the viability of using the platform to survey suspicious cases with the respective reports that allow the visualization of evaluation results, checklist indicators, neuropsychological assessment and emotional and behavioral assessment. With this report the child can be referred to the mental health services of the region. **CONCLUSIONS:** The study presents a process model for teachers and educational managers that uses a computerized system to assist them in data collection and analysis, as well as real-time decision making to identify students with suspected ASD and ID. At the same time the model enables the practice of intersectoriality between education and health services.

KEYWORDS: autistic spectrum disorder, computer system, decision making, basic education

TLI- 33: COMMUNICATIVE AND LINGUISTIC PROFILES REPORTED BY PARENTS OF CHILDREN WITH HIGHLY FUNCTIONAL AUTISM, THROUGH THE CHILDREN’S COMMUNICATION CHECKLIST-2.

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INTRODUCTION: The assessment of highly functional Autistic Children (hASD) is a very challenging task that requires qualified and thoroughly trained professionals. Several clinical guidelines suggest that this procedure should consider the use of the Autism Diagnostic Interview (ADI-R) to collect the history of the child development, and the Autism Diagnostic Observation Schedule-2 (ADOS 2) to determine the diagnostic of the hASD. However, there is no indication to use ecologic procedures to determine profiles of functioning in natural environments, information that is very important in the design of therapeutical approaches and the implementation of technical aids towards a better natural functioning. For this purpose, Dorothy Bishop developed the Children's Communication Checklist-2 (CCC-2), instrument that collects the perception of parents in 10 dimensions in language and communication skills like Speech, Syntax, Semantics, Coherence, Inappropriate Initiation, scripted Language, Use of context, nonverbal communication, Social Relations and Interests. Also, the instrument calculates an Overall communication scores summing seven of these indexes to give a General Communication Composite (GCC) and information about relative strengths/weaknesses in communication profiles called Social interaction difference Index (or SIDI).

OBJECTIVES: The aim of this study is to describe the communication and language profile from the report made by parents with CCC-2 on children between 5 and 9 years 11 months old with hASD.

METHODS: 50 CCC-2 reports from parents of children with hASD who were diagnosed with ADIR/ADOS2 procedures were included in the sample. The children, aged between 5 and 9 years 11 months, were selected through a non-probabilistic sampling, to make a descriptive, non-experimental and cross-sectional study.

RESULTS: There were no reports of formal language alterations, with a percentile 47 of functioning in average considering Speech, Syntax and Semantics. Significant alterations were reported on Inappropriate Initiation, Use of Context, Non verbal communication with a percentile 5 average of functioning. Social Relations and Interests were the most affected abilities reported in a percentile 1 of functioning. The GCC were reported with a percentile 12 of functioning. The SIDI Index was calculated with a -17 score which was compatible with ASD scores. There were no differences between male and female subjects on any index.

CONCLUSIONS: The report made by parents of children with hASD with CCC-2 appears to be a valid data that is sensitive and compatible with de hASD diagnose made with standard procedures. It collects in an ecological way, a profile that it is useful to describe the most frequent affected dimensions of language and communications skills.



TLI – 51: THE AUTISM MENTAL STATUS EXAM. VALIDATION OF A SPANISH VERSION IN ARGENTINA

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INTRODUCTION: In many areas of Argentina, as in other Latin-American countries, physicians and institutions typically do not have the resources to administer comprehensive diagnostic observational assessments for patients suspected of autism spectrum disorder (ASD). This lack of standardized assessment leads to poor diagnostic accuracy and as a result, vast numbers of children with ASD remain underserved. Furthermore, the lack of structured data collection of signs and symptoms of ASD at the point of care prevents researchers from selecting representative samples for clinical and epidemiologic studies. The autism mental status exam (AMSE) is a free and brief eight-item observation tool that addresses this gap. The AMSE, developed at the Seaver Autism Center for Research and Treatment at the Icahn School of Medicine at Mount Sinai, structures the observation and documentation of signs and symptoms of ASD and yields a score. Excellent sensitivity and specificity have been demonstrated in high- risk children and adults and recently, in a population of 71 young children with social and communication concerns in Argentina.

OBJECTIVE: To investigate the inter-rater reliability and test performance of the Spanish translation of the AMSE using ADOS and consensus diagnosis as a reference standard.

METHODS: The AMSE Spanish version was administered to 300 children, adolescents, and adults who received developmental evaluations at 9 different autism centers in Argentina. Each subject was first administered a developmental evaluation, which included the AMSE. This was followed by an independent standardized assessment using the ADOS and consensus diagnosis. Receiver operating characteristic curve analysis was used to determine the AMSE cut point with the highest sensitivity and specificity.

RESULTS: Findings indicate an optimized sensitivity of 91% and a specificity of 89% in this unstratified high prevalence group and an inter-rater reliability >80%.

CONCLUSION: This study indicates that the AMSE Spanish version provides a rapid and reliable observational assessment in a high-risk Argentine population. This could have a direct impact in the care of patients with ASD by providing a free, standardized observational assessment that can help rule in or rule out a clinical diagnosis of ASD. This project also addresses a research priority by reliably standardizing the phenotyping of children in under resourced international populations, since the use of the AMSE will lay the foundation for epidemiologic surveillance in populations that typically do not engage in research. Open-source and open access models also provide a way to facilitate global collaboration and training. Using tools like AMSE, the autism scientific community and clinicians worldwide should be able to deliver cost-effective services to everyone in need.

EDUCATION AND INCLUSION

TLI – 31: AUTISM SPECTRUM DISORDER KNOWLEDGE ASSESSMENT AMONG WORKERS OF “PROGRAMA DE INTEGRACIÓN ESCOLAR (PIE) (SCHOOL INTEGRATION PROGRAM)” IN THE CITY OF VALPARAÍSO.

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INTRODUCTION: Autism Spectrum Disorders (ASD) comprehend clinical manifestations that affect social interaction, behavior and communication skills. The Chilean public educational system is technically regulated by the Ministry of Education and administratively by the Municipal Corporations of Education. With the objective of improving the educational aspects of ASD students and other groups with different conditions, in 2010, by Supreme Decree No. 170, the School Integration Programs (SIP) was created as part of an inclusive strategy of the school system, which has the purpose of contributing to the improvement of educational quality, favoring the achievement of learning objectives of all students, particularly those who present special educational needs. According to the data provided by the Regional Coordination of SIP in Valparaíso, the percentage of variation of the permanent SIP enrollment corresponding to students with ASD diagnosis increased by 783% from 2013 to 2018, which means a change from 119 to 1758 students, becoming the biggest increase of permanent educational need in this program.

OBJECTIVE: To evaluate the knowledge of SIP’s professionals in relation to ASD and their perception, regarding individual and collective resources of their work environment and establishment to work with children with this condition.

METHOD: Descriptive cross section study. During a 6 months training program to SIP’s professionals delivered by Child Neurology members of Hospital Carlos Van Buren, a survey developed by the team was applied to the education’s workers on their first session. Study protocol and informed consent were approved by the institutional review board.

RESULTS: 127 participants answered the survey. 71.65% of them had not received training on ASD after graduation from College. Among the subgroup of professionals who worked directly with children with ASD, only 28.3% received training in the subject and 97% of them consider it was insufficient, while only 3% consider that they have adequate training to work with children with this diagnosis. Only 12% of the participants consider that the school where they work is appropriate and prepared to receive students with ASD.

CONCLUSIONS: According to the increase of ASD student’s enrollment on SIP of Valparaíso, the need of professional training is imperative. To our knowledge, this is the first research that evaluated the perception of the education professionals regarding their schooling and expertise on ASD, and we demonstrated that there is a significant shortage of specific training in ASD among educational workers, making it essential to carry out a new training program in order to improve this gap and optimize networking among health and education workers, in effort to deliver better standards to children benefiting from the public health and education system. This takes more relevance when the only opportunity to receive a multidisciplinary therapy at public school.

TLI – 16: PERCEPTION OF PROFESSIONALS ABOUT THE “GET READY TO LEARN” YOGA PROGRAM TO BE IMPLEMENTED IN SCHOOLCHILDREN WITH ASD IN CHILE.

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INTRODUCTION: The Get Ready to Learn (GRTL) program, is a yoga program created in the USA by Anne Buckley-Reen, to be applied in students with autism who have maladaptive behaviors in the school environment, which restrict their educational inclusion (Maskey, Warnell, et al 2013; Kanne & Mazurek, 2011). The therapeutic alternatives for the management of these children are limited in Chile, therefore yoga emerges as a potentially complementary approach



as it has demonstrated positive effects on autism and other health conditions (Narasimharao, Pradhan, et al 2017; Chou & Huang, (2017)). The GRTL is currently being implemented in schools with children with autism in New York, showing evidence of its benefits (Koenig, Buckley-Reen et al. 2012). In Chile, we lack similar experiences considered as part of the school curriculum. This line of research aims to gather information about inserting Yoga as a complementary strategy for the regulation of maladaptive behaviors in children with autism, attending the Chilean educational system. : Know the perception of Chilean professionals regarding the GRTL program and its use in Chilean students with and without autism. Identify strengths, weaknesses, cultural, and operational barriers for the implementation of the GRTL in children with autism. Describe necessary modifications to apply the GRTL program in Chilean educational establishments.

METHOD: Qualitative study. Focus group with sample selected by convenience, including health and education professionals with different years of experience. First, Spanish translation is carried out according to World Health Organization recommendations and then we conducted a focus group with volunteer professionals. For the data analysis, 8 categories were selected from the narrative, all validated by an external health professional to subsequently perform the textual body coding. **RESULTS:** Positive perceptions regarding the characteristics and potential applicability of GRTL in Chile are described. Strengths related to systematicity, repetition, video modeling and progressive involvement of each child in the program are identified. The particularity of being a program incorporated in the routine is highlighted. Weaknesses are identified in relation to the Spanish version associated with technical and audiovisual elements that must be improved. On the other hand, barriers associated with the infrastructure and types of establishments in which the program in Chilean could be applied are identified. **CONCLUSIONS:** A protocolized yoga program such as the GRTL is visualized as applicable to the Chilean community. Audiovisual changes of the translation in Spanish and a pilot implementation in a representative school of the population for which the program was originally designed must be conducted.

KEYWORDS: Autism Spectrum Disorder, Yoga Program, Adaptive Behavior, Children.

TLI – 60: PERCEIVED IMPACT OF A TRAINING PROGRAM ON AUTISM SPECTRUM DISORDERS IN CHILE

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INTRODUCTION: In Chile, there is a lack of trained professional resources for timely and effective diagnosis and treatment of ASDs. The Diploma “Autism Spectrum Disorders in Children and Adolescents” given through MEDICHI (Online Continuous Education Program, Faculty of Medicine, University of Chile) since 2015, is a 220-h blended-learning Training Program which aims to mitigate these shortcomings and contribute to better care and quality of life of people with ASD. Between 2015-2018, 207 professionals from all over Chile have completed this program. There is no information available on participants perception of repercussions of this training, on acquired skills, daily professional performance and quality of care provided to their patients.

OBJECTIVES: 1) To evaluate the perception of Diploma students 2015-2018, of the impact and transferring of acquired knowledge and skills to professional practice, organization/institution practices and patients/families quality of care. 2) Use this information to reexamine and improve the current program.

METHOD: Based on Kirkpatrick (1967), Steinert (2006) model, a survey was developed with statements to answer in a 4-items agreement Likert scale. Perception of impact and transference were investigated in 3 levels, namely 1) the professional practice itself, 2) the work space, organization/institution 3) the attention of ASD persons/families. At each level, comments and proposals were allowed. The survey was distributed via e-mail to all students.

RESULTS: N respondents: 88 (42.5%); 17% (2015); 18.2% (2016); 27.3% (2017); 37.5% (2018). In relation to the perception of impact and transfer of the acquired knowledge, an average proportion of 90.2% of respondents evaluated

positively the statements referring to their own professional practice, 82.8% evaluated positively those concerning the impact on their workplace and 91.9% evaluated positively the assertions regarding a better work with ASD persons and families/caregivers. The most frequent suggestions referred to having a greater number of clinical cases for discussion of treatment approaches, incorporating issues such as transition to adulthood, ASD in women and Sexuality in ASD people.

CONCLUSIONS: These results mainly point to a positive perception of the impact and transference of this Program, both at the level of individual performance, as well as for the benefit of the organizations and in the attention given to TEA people and their families, thus confirming the fulfillment of the purposes of this educational initiative. These conclusions are partially constrained by a smaller than expected sample size, among others. The comments and suggestions of the students were discussed and are being incorporated into the program.

TLI – 54: TEACHING COMPETENCES FOR WORK WITH STUDENTS WITH AUTISM: AN ANALYSIS FROM TEACHERS OF CHILE AND PERU

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INTRODUCTION: In the school inclusion of students with Autism Spectrum Disorder (ASD) three aspects must be considered. Parents have a high level of stress and concern about their children at school. The policies promoted by the state for the inclusion of students with ASD. And at the center, the experience of the teachers; they have to meet the direct demands of families, implement inclusion policies and educate all their students. In Latin America, school inclusion is a current challenge and networking can be of great help. This research involves teachers from Tacna, region of southern Peru and Tarapacá, region of northern Chile.

OBJECTIVE: To describe the skills that teachers identify as suitable for their work with students with ASD.

METHODOLOGY: Qualitative Methodology was used. The sample was of typical cases and the inclusion criterion was to be teacher, with classroom experience teaching students with ASD. Thirty two individual interviews were conducted; 16 teachers from Tacna schools and 16 teachers from Tarapacá schools. Forty teachers from Tacna schools and 45 from Iquique schools were involved in 5 separate focus groups. The information was examined through thematic content analysis. The supervision of experts, the validation with an independent group and the convergence with other investigations were taken as validation criteria.

RESULTS: The description made by these teachers can be translated into the design of a profile of competences, distinguishing three dimensions: “knowledge”, “being” and “doing”. In relation to “knowledge”, they indicate that it is necessary to have prior knowledge of ASD and psychoeducational techniques for working with these children, that must be provided during their pre-teaching training or in in-work training conducted by psychologists and specialist educators, whom they validate as suitable professionals to do it. On “being” they identify being patient, affective, flexible and persevering, which they associate with a high level of teacher well-being. On the “do” they mention that their students diagnosed with ASD learn best through a teaching methodology based on the concrete and personalized interests of the student, as well as the collaborative work between teachers and teams of support, which should be done considering: educational practices, welfare of students and teachers, and techniques of orientation to families.

CONCLUSIONS: For these teachers, the school inclusion of students with ASD is favored when the school promotes the development of their professional competences in an integral way, considering the “know”, “do” and “be”. Collaborative work is valued from their experiences as the main space for their professional development. Great similarity was observed in teachers from both countries, considering deepening differences in future studies.



EPIDEMIOLOGY AND POPULATION BASED STUDIES

TLI – 112: AUTISM SPECTRUM DISORDERS PREVALENCE IN TWO BOROUGHES OF SANTIAGO, CHILE

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INTRODUCTION: It is believed that the prevalence of Autism Spectrum Disorders (ASD) in the world has increased, currently being 1-2% (Zablostsky et al., 2015). There are not ASD prevalence studies in Chile.

OBJECTIVE: To determine ASD prevalence, through Modified Checklist for Autism in Toddlers (M-CHAT) during regular health control of children between 18-30 months in Estacion Central and Santiago Centro boroughs.

METHOD: Cross-sectional study. Ethics committee approved. Subjects: children between 18-30 months who regularly received health control in two Family Health Centers within the mentioned communes. Nurses and physicians (general, pediatrician, neuro-pediatricians) surveyed children with said characteristics between 2016-2018 through M-CHAT. To calculate the number of children to be surveyed, we used the sample size formula since the population size was known. The size of the known population was obtained from the last Chilean census available, correspondent to 2012. According to said formula, considering a 5% error and a 90% level of confidence, we obtained a population to survey of 264 children. 272 were surveyed. Those with altered M-CHAT were assessed for ASD by a trained pediatric neurologist. Children considered as suspected to have ASD were tested with ADOS-2 (Autism Diagnostic Observation Schedule). We used proportion test for a sample and the prevalence was estimated.

RESULTS: 272 surveyed children. 146 boys / 126 girls. 44 altered M-CHAT. 16 follow up absent and 28 evaluated. Five suspected to have ASD (4 boys / 1 girl), 9 other diagnoses (1 diagnose each: 3 developmental hyperactivity / 3 Language disorder / 2 Sensory integration disorder / 1 Anxiety disorder). 14 healthy children. Of the 5 with clinical suspicion of ASD, considering DSM V criteria, 4 were evaluated with ADOS-2 test. Of them a module 1 was applied, diagnosed as moderate ASD. Three T modules were applied: resulting moderate-severe ASD concern range in all of them. The estimated prevalence was 1:54 children of 18-30 months.

CONCLUSIONS: We found an ASD prevalence similar to others countries, also predominantly male, corroborating that previously has been clinically observed. This study has an important impact, being the first study of ASD prevalence in Chile and a starting point from which to know our reality, with a view to generate public policies to tackle ASD in our country. This study is also important to encourage other countries in our region. Limitations: this study was carried out in an area with a high proportion of immigrants, which may constitute a bias. It is very important to replicate it in a more extensive national area, obtaining a more representative sample, using a Chilean M-CHAT survey recently validated.

TLI – 101: BREASTFEEDING AND ITS RELATIONSHIP WITH AUTISM SPECTRUM DISORDER

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INTRODUCTION: The prevalence of Autism Spectrum Disorder (ASD) is on the rise, and therefore, identifying related environmental factors is crucial in order to design preventive interventions. Breastfeeding (ML) has an inverse relationship with autism, according to current evidence, suspecting that it could have a protective role for ASD. This is the first study carried out in Chile seeking to find a relationship between breastfeeding and the occurrence of ASD, contributing to research and available knowledge.

OBJECTIVE: To compare the duration of ML in a group diagnosed with ASD versus a control group of children and

adolescents residing in Chile.

METHOD: Case-control study, paired, comparing breastfeeding indicators in a group of patients diagnosed with ASD of the Psychiatric University Clinic (CPU) of the University of Chile between the ages of 2 and 16 with a control group made up of students from similar socio-demographic backgrounds. Possible moderating factors that can influence the appearance of ASD are also explored. Logistic regression models will be used and the Odds Ratio (OR) will be estimated and from this estimate, the attributable risk (AR) will be obtained. A final sample of 100 cases and 200 controls is estimated.

RESULTS: The results presented here show a preliminary sampling, with a total of 52 individuals, of which 26 are children with ASD. The duration of exclusive breastfeeding was longer in the control group (16.03 months) than in the group of children diagnosed with ASD (8 months) with statistically significant difference (p-value = 0.00113). Likewise, total breastfeeding does show a significant difference in both groups, 23.8 months compared to 11.7 months, and a p-value equal to 0.0033. From the logistic regression model (OR = 0.95) it is estimated that for each month extra total breastfeeding, the chance of ASD decreases 5.6% (AR).

DISCUSSION: The results are consistent with the latest published meta-analysis (Ping-Tao Tseng et al, 2017), which increases the evidence on breastfeeding as a possible protective factor for ASD, although prospective studies are necessary to confirm what was observed in this research. This line of research between breastfeeding and autism opens an opportunity for prevention strategies, as it could guide clinicians to recommend breastfeeding especially in risk groups.

TLI – 24 : CORRELATION BETWEEN CONCENTRATIONS OF SIX HEAVY METALS IN CORD-BLOOD AND POSTNATAL BLOOD OF JAMAICAN CHILDREN.

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INTRODUCTION: Prenatal and postnatal exposures to heavy metals such as lead are associated with neurodevelopmental issues including autism spectrum disorder (ASD). Some studies found that mercury and lead in particular are risk factors for ASD. However, assessment of both prenatal and postnatal exposures may be cost prohibitive or not possible.

OBJECTIVE: We investigated whether the concentrations of six metals, lead (Pb), mercury (Hg), arsenic (As), cadmium (Cd), manganese (Mn), and aluminum (Al) are correlated in cord-blood and postnatal blood samples from Jamaican children.

METHODS: In collaboration with The University of the West Indies, Mona, Jamaica, we obtained cord-blood from 105 pregnant women who participated in the JA Kids birth cohort study from July 1, 2011 to September 30, 2011. Forty-four mother-child pairs participated in a follow-up study when the children were 4-8 years old, and blood samples were obtained from 21 of these children. The 21 pairs of cord-blood and postnatal blood samples were analyzed for concentrations of the six metals by a CDC-certified laboratory at the Michigan Department of Health and Human Services in Lansing, Michigan. The limits of detection (LoD) for Pb, Hg, As, Cd, Mn, and Al were 0.25µg/dL, 0.25µg/L, 1.3µg/L, 0.13µg/L, 2.5µg/L, and 5µg/L, respectively. Values below their LoDs were found for As, Cd, and Hg and were replaced with their respective LoD/2. The 21 pairs of concentrations provide at least 80% power to detect true correlations of 0.3 or higher. Since only Mn concentrations were normally distributed, we assessed their correlation using the Pearson correla-



tion coefficient, and we determined the Spearman's rank correlation coefficient between log-transformed concentrations for the other five metals. All statistical tests were performed at 5% level of significance.

RESULTS: The mean age of children in our sample was 6.0 years (range 4.2 - 7.3 years), and the mean age of mothers at the child's birth was 31.1 years (range 23.1 - 45.3 years). About 45% of children were male. We found statistically significant correlations between cord-blood and postnatal blood concentrations of Pb (Spearman $r = 0.45$; $P = 0.04$) and Mn (Pearson $r = 0.475$; $P = 0.03$). Spearman correlation coefficients (P -value) for Al, Cd, Hg, and As were 0.291 ($P = 0.20$); 0.21 ($P = 0.36$); 0.082 ($P = 0.72$); and -0.043 ($P = 0.85$), respectively, which were not statistically significant.

CONCLUSIONS: We demonstrated a positive correlation between cord-blood and postnatal blood concentrations for Mn and Pb in Jamaican children. Since blood is considered the best biomarker for

assessment of exposure to Pb while Mn is best assessed using hair, these results may be particularly relevant for designing future studies of early life Pb exposure.

TLI – 84: PREVALENCE ESTIMATION OF AUTISM SPECTRUM DISORDER AMONGST CHILDREN BENEFICIARY OF PUBLIC HEALTH CARE IN VIÑA DEL MAR

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INTRODUCTION: Prevalence of autism spectrum disorders (ASD) has increased in recent decades. Prevalence of ASD worldwide varies from 0.6% reported by the World Health Organization (WHO) in 2018, to 1% according to data from the United Kingdom, and up to 2.5% in the United States in 2016.

OBJECTIVE: To estimate the prevalence of ASD amongst children <15 years that are enrolled in the public health care system in Viña del Mar.

METHODS: A retrospective descriptive study of all living patients <15 years of age enrolled in the Primary Health Care Center (PHCC) of Viña del Mar until May 30, 2019 and diagnosed with ASD by a neurologist or child psychiatrist. Data has been collected through the following available public sources: Hospital archives of Neuropsychiatry Unit of Hospital Gustavo Fricke and the Databases of the Health and Education Agency (HEA) belonging to the Municipal Corporation of Viña del Mar. In accordance with Chilean data protection law, the applied methodology for data collection ensured the confidentiality of each patient by limiting access to the collected data to researchers only. Collected data included demographic variables (date of birth, gender, etc.) as well as information on the Health and Education Centers corresponding to each patient.

RESULTS: 73% of the population of Viña del Mar is enrolled in a PHCC. Amongst these 73%, corresponding to 240,537 individuals, 19% are children <15 years old. According to the database of the Chilean HEA, a count of 374 cases of ASD were detected amongst children <15 years old enrolled in APS in Viña del Mar. A prevalence of 0.81% can be estimated with the following distribution by gender and age: Gender: male = 83.6%, female = 16.4%. Age: 2 - 5 = 36 %, 6 - 9 = 32%, 9 - 15 = 32%.

CONCLUSIONS: The estimated prevalence of ASD in the child population <15 years eligible to PHCC in Viña del Mar (0.81%), as well as the distribution by gender, is similar to those estimated in international studies. The Gustavo Fricke Hospital ASD program is the only reference center for diagnosis and treatment for ASD patients in Viña del Mar. The Autism Communal Committee does not only enable the coordination of the different subsectors (education, health, community, social participation), but also enhance the quality of life of people with autism. The main objective of this study is thus to provide the first reliable prevalence data that can optimize the efforts of the first Autism Communal Committee in Viña del Mar. Having local prevalence figures is essential to plan health and education policies that enable access to timely diagnosis and therapy.

FAMILIES AND FAMILY SYSTEMS

TLI – 90: QUANTITATIVE MEASUREMENT OF AUTISTIC TRAITS IN PARENTS AND SIBLINGS OF PATIENTS WITH AUTISTIC SPECTRUM DISORDER

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INTRODUCTION: in families of patients diagnosed with Autism Spectrum Disorder (ASD) there is a continuum of autistic traits and other subclinical alterations in language, personality, cognition and behavior, as well as greater psychiatric pathology. This broadens the concept of “spectrum” towards the so-called Broad Autism Phenotype.

OBJECTIVES: quantitative measurement of autistic spectrum traits in siblings and parents of patients with ASD.

METHODS: clinical evaluation and application of the Autism Spectrum Quotient (AQ) in siblings and parents of patients with ASD (cases) and a control population, with statistical analysis of the data.

RESULTS: in comparison of 90 siblings evaluated (controls), patients with ASD (cases) showed more antecedents of language impairment, school course repeat, prenatal and relatives with epilepsy, in addition to obtaining a higher score on the AQ scale, with 6 (13%) of them on the cut-off score for high suspicion of ASD versus 1 control. In comparison of a total of 116 controls parents evaluated, parents of patients with ASD (cases) obtained a higher score on the AQ scale than the controls, with 9 (14%) over the cut-off score to be within the Broad Autism Phenotype versus 2 controls.

CONCLUSIONS: there is a greater presence of autistic traits and other alterations in parents and siblings of patients with ASD versus controls. Of the 6 siblings with a high score on the AQ scale, 2 fulfilled with sufficient clinical elements for the diagnosis of ASD. This raises the need of routinely evaluate siblings of patients with ASD, both for autistic traits and for other comorbidities.

TLI – 73: DAILY EXPERIENCES OF FAMILIES OF YOUNG CHILDREN WITH SPECTRUM DISORDER AUTISM (ASD)

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INTRODUCTION: The prevalence of the autism spectrum disorders (ASD) in children has increased alarmingly globally. One in 68 children in the United States is diagnosed with autism spectrum disorders (ASD). In Latin America the statistics are less clear, however a similar number is assumed. Because in most countries the diagnosis of ASD occurs some time after the appearance of the first signs and not immediately, the parents of these children live a period of stress that can last for months or years. During this process, families suffer from uncertainty and stress (Braidon et al., 2010; Moh & Magiati, 2012). At the same time, they make great changes in daily routines to accommodate their children's difficulties. This study examines the first signs and behaviors, many of a sensory nature, and the relatives' responses to these signs and / or diagnosis of ASD, in a sample of 48 Latino parents residing in their country of origin.

OBJECTIVES: The purpose of this study was to explore the experience of families with children with ASD before and immediately after diagnosis.

METHODS: To achieve this objective, an online and publicized survey was conducted through the website of the University of Chile. The questionnaire delivered open and closed questions regarding the first signs of ASD observed (prior to diagnosis), family perceptions and strategies used to deal with the diagnosis. Forty-eight families from Chile, Argentina, Peru and Guatemala answered the survey.



RESULTS: The results indicate that families are aware of the peculiarities in the development of their children before receiving a diagnosis and intervention, many of these peculiarities have sensory characteristics. The results were organized into four themes: first signs and behaviors, diagnosis, family members' responses, effect on family activities and strategies used.

CONCLUSIONS: This study validates the experience of parents and at the same time contributes to the understanding of the first signs of ASD in Latin American families and their effect on family dynamics. Many of these first signs are related to sensory processing. This study also contributes to the literature, demonstrating the lack of early detection in the Latino population and the challenges that families face in finding no answers from primary health care.

TLI – 29 : MOTHERS' WELLBEING AND INFANT REGIONAL BRAIN VOLUMES IN INFANTS WITH AND WITHOUT AN AUTISTIC FAMILY MEMBER.

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INTRODUCTION: Mothers' wellbeing during pregnancy and the postnatal period has been linked to the brain development of their children. For example, maternal pre- and postnatal anxiety has been associated with hippocampus volume in 6 month olds (Qui, 2013) and maternal pre- and postnatal depression scores have been associated with amygdala volume and connectivity in children (Wen, 2017). Research has not yet longitudinally explored the relationship between mothers' pregnancy and postnatal wellbeing and both fetal and infant brain development. Additionally, these relationships have not been explored for infants who are likely to show atypical brain development due to having a high genetic likelihood of being autistic.

OBJECTIVES: This study aims to explore the relationships between mothers' perinatal wellbeing and the regional brain volumes of their fetuses/infants. These relationships are explored for infants with an autistic mother or sibling (high-likelihood group) and infants with no first-degree relative with autism (low-likelihood group).

METHODS: Mothers completed self-report questionnaires measuring depression, anxiety and stress, once during weeks 30-33 of pregnancy and again 8-12 weeks after giving birth. Mothers also underwent an MRI scan between 30-33 weeks of pregnancy in order to obtain fetal MRI data and infant MRI data was collected 8-12 weeks after birth. Usable data was obtained from 27 (13 females, 14 males) low-likelihood fetuses and from 11 (5 females, 6 males) high likelihood fetuses. At the infant stage, usable data was obtained from 19 (9 females, 10 males) low-likelihood infants and from 6 (2 females, 4 males) high-likelihood infants.

RESULTS: Multiple linear regressions were conducted with wellbeing (depression, anxiety, stress) scores as predictors and brain region volumes (amygdala, hippocampus and anterior cingulate) as outcomes. These were conducted for the prenatal and postnatal time points separately. The age of the fetus/infant, gender of the fetus/infant, household income, mother's education, total brain volume and gestational age at birth (for postnatal only) were included as covariates. Group (high/low-likelihood) by wellbeing interactions were also explored. After correcting for multiple comparisons, there were significant interactions at the postnatal stage between depression scores and group for the left and right amygdala and left anterior cingulate. Volume increased as depression increased in the low-likelihood group, while volume decreased as depression increased in the high-likelihood group. A significant main effect of stress on right amygdala volume indicated that as stress increased so did amygdala volume for both groups.

CONCLUSIONS: These results suggest that mothers' postnatal stress may be linked to their infants' amygdala size, though this relationship may not be present prenatally. Our results also indicate that the relationships between maternal postnatal depression and infant regional brain volumes may differ for infants with high and low likelihood of being autistic.

TLI – 15 : ELABORATION OF A GUIDELINE FOR THE APPROACH OF SEXUALITY IN ADO-

LESCENTS WITH AUTISM SPECTRUM DISORDER, DIRECTED TO RELATIVES AND PROFESSIONALS.

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INTRODUCTION: Sexuality must be treated as a right, in a natural and integral way throughout a person's life cycle. However, people with Autism Spectrum Disorder are often overprotected and excluded from the approach to these contents. The development of sexuality depends on communicative and social skills, such as mind theory and pragmatic skills. For People with Autism, the decrease of which hinders their interpersonal relationships.

OBJECTIVES: The objective of the research herein was to co-create a guideline of orientations and suggestions to address sexuality in adolescents with Autism Spectrum Disorder (ASD), together with adults with ASD, family members, and professionals who interact with these people. This was accomplished through semi-structured interviews aimed at identifying the contents that a guide of this nature should include; in order to support the teaching of these topics and favour the quality of life of this population.

METHODS: The research is qualitative in nature, as semi-structured interviews were conducted for the collection of information. This information was studied through content analysis. The present study has an exploratory scope, with an action research design. The study considered four sample groups: the first group was of adults with ASD. The second sample group consisted of relatives of adolescents with ASD. The third sample included professionals linked to adolescents with ASD who had, at least, three years of experience in the area. Finally, the fourth sample group was a panel of experts, which included specialists with at least five years of experience in the treatment of adolescents with autism. All participants were chosen using a non-probability type of sampling.

RESULTS: After reviewing the interviews, the categories obtained were derived from the most relevant information collected from the sample groups of adults with ASD, family members, and professionals. The five general categories that were derived from the topics that more than one sample group had in common were: prevention of abuse and sexual violence, sexuality as part of life, emotionality and theory of mind, step-by-step sexuality, and provision of teaching material. There was one specific category, which was derived exclusively from one sample group: naturalness in the process.

CONCLUSIONS: In conclusion, this research determines the content and support needed to address sexuality in adolescents with ASD. This is achieved by means of a guideline of orientations and suggestions that provides specific information to approach sexuality. This guideline includes specific assistance for adolescents with this disorder, which are adjusted to their neurodiversity.



NON PHARMACOLOGICAL INTERVENTIONS

TLI – 3: ADAPTATIONS OF THE EARLY START DENVER MODEL FOR YOUNG CHILDREN WITH AUTISM SPECTRUM DISORDER IN DIFFERENT CONTEXTS AND SETTINGS: A LITERATURE REVIEW.

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INTRODUCTION: One of the recent findings in Autism Spectrum Disorder (ASD) research field is the evidence that Early Intervention has a positive influence in the natural history of autism outcomes such as interpersonal engagement, decrease symptom severity and accelerate cognitive, socio-emotional and language development. The Early Start Denver Model (ESDM) is an early intervention program that has demonstrated promising results in randomized controlled trials, especially in children between 12 and 60 months with ASD. However, it is hypothesized that those outcomes could be explained by variables dependent by highly resource settings. The scientific community has made efforts to adapt the ESDM in heterogeneous contexts and improve its feasibility and effectiveness in different settings. These experiences are valuable in order to adapt this highly demanding resource intervention to different contexts where children and their caregivers typically have access to, especially in low- and middle-income settings.

OBJECTIVE: To review the literature regarding the adaptations of ESDM in pre-school, community health services and parent mediated training contexts, as well as to assess the strengths and weaknesses of the adaptation proposals.

METHODS: A structured literature review was conducted in Scopus and PubMed databases with the keywords ‘Denver model’ OR ‘ESDM’ AND ‘ASD’ OR ‘Autism’. The inclusion criteria were: application of ESDM as the main intervention strategy, original articles and application of ESDM in the following settings: pre-school, community health service, and parent mediated intervention training.

RESULTS: Eleven articles met inclusion criteria. In terms of intensity of the ESDM, the most extensive application of the model is in pre-school education, with an average of 20 hour per week between 10 to 12 months. The less intensity ones were based on Parent Training (P-ESDM), with an average of 12 weeks and one hour and a half per week sessions. The ESDM has demonstrated applications in both individual (health community service, parent training) and group (pre-school education) contexts. In terms of trained human resources, ESDM could be delivered by parents or professionals. P-ESDM suggests the possibility of positive outcomes with fewer resources, including the option of training parents through virtual platforms. The main challenges encountered were the adoption of the manualized model by health and school communities, which implies a systematic supervision, writing of objectives and review based on observable measures potentially increasing the resource needed to apply this model in low- and middle-income settings.

CONCLUSION: The ESDM is an effective and flexible intervention model that potentially could have the capacity to adapt to different resource contexts, specifically in low and middle income settings.

TLI -83: VARIATION OF PARENTAL STRESS AFTER VISIONING TUTORIAL VIDEOS IN EARLY STIMULATION IN AUTISM

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INTRODUCTION: Autism Spectrum Disorder (ASD) comprehends clinical manifestations that affect communication, social interaction and behavior. Different strategies have been used to manage the cardinal symptoms of this condition, including the Naturalistic Developmental Behavioral Intervention Models, some of which train parents as co-therapists. The Gustavo Fricke Hospital (HGF) autism program in association with the National Disability Service (SENADIS) developed 12 audiovisual tutorials for early stimulation in communication development which includes the following topics: developing attention for communication; promoting social interaction and laughter; food as an opportunity for communication; body language and gestures; imitation; and managing emotions.

OBJECTIVE: To assess whether video tutorials on early stimulation in communication development help manage and reduce stress levels amongst parents of children with ASD condition.

METHODS: Analytical Study. Inclusion criteria: parents of children under 5 years attending workshop, HGF beneficiaries. Exclusion criteria: parents of children over 5 years, other family members, and other professionals attending. In the context of a workshop parents were surveyed by the self-administered Autism Parenting Stress Index (APSI). The internal reliability (Cronbach's Alpha) of surveys, prior to guided audiovisual exhibition and after the end of it was of 0.83. The study was approved by the Scientific Ethics Committee of the Gustavo Fricke Hospital.

RESULTS: From a total of 80 attendees, 52 families met inclusion criteria, 10 of them were parents, so only 42 APSI surveys were considered. Regarding the results, it was observed that changes in the items "concern for the future acceptance of your child by others" presented a decrease of 26% to 19%, "concern for the future of your child, regarding the ability to live in a way independent" changed from 26% to 21%, the item "your child's diet" from 21% to 14%, and in the item "stress with your child's social development" decrease of 30,95 % to 14,29%.

CONCLUSIONS: The Naturalistic Developmental Behavioral Intervention models for children with ASD are expensive and not available in the public health system of Chile. The creation of tutorial videos showed a tendency towards the reduction of parental stress, confirming the importance of training parents as co-therapists, especially in a low-income country.

TLI – 107: EARLY INTERVENTION IN AUTISM SPECTRUM DISORDER: AN INTEGRATIVE REVIEW ABOUT BRAZILIAN SCIENTIFIC PRODUCTION

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INTRODUCTION: Early intervention in Autism Spectrum Disorder (ASD) is a consensus among researchers and practitioners from around the world, based on studies that found better outcomes for children who started treatment under the age of three. Guidelines from institutions such as the World Health Organization and the Center for Disease Control recommend early intervention for children with ASD. Some countries have also established public policies for early identification and intervention. In Brazil, the Ministry of Health also presented documents with guidelines for the rehabilitation care of people with ASD and the presentation of the line of care in the health system. However, there is not yet a position on early intervention for children with ASD, either from government agencies or from scientific and professional associations.

OBJECTIVE: the aim of this study was to conduct an integrative systematic review of the scientific production related to early intervention in Autistic Spectrum Disorder in Brazil.

METHOD: The Scielo database was selected without limiting the year of publication. The descriptors selected in Brazilian Portuguese were "autism" or "autistic", plus the descriptors "intervention" or "therapy" and "early". The inclusion criteria established for this review were: research that performed some intervention in children with ASD in early childhood; research that described the method used in early intervention; research that was conducted in the country with Brazilian children; articles published in Brazilian Portuguese. The exclusion criteria established for this review were: review articles, conceptual articles, comments or responses; papers not available with full text. The selection of papers was performed by manual and automatic searches. From the articles retrieved in the database, the selection was made following three steps: reading of the title and abstract; reading of the method; complete reading of articles and data ex-



traction. Each step was conducted by three reviewers independently.

RESULTS: The automatic search retrieved 16 studies, which were analyzed by the reviewers. Fourteen articles were discarded: 1 focused on parents' knowledge about early intervention, 1 review article, 1 study conducted in Portugal and 11 articles that did not address the theme of this integrative review (focusing on early identification, other diagnoses, conceptual articles, literature reviews). Only 2 articles were selected for full reading and analysis, both published in 2017. One paper consisted of a case study with intervention by musicalization. The other selected paper presented retrospective data of the intervention performed with 9 children, without describing the participants' selection criteria.

CONCLUSION: The Brazilian scientific production on early intervention in children with ASD is still scarce and incipient. The analyzed studies were developed with methodologies that present lower level of evidence. Consistent studies conducted within cultural characteristics and with the Brazilian health network are needed to promote evidence-based early interventions for our children.

Keywords: Early intervention; Brazil; Autism Spectrum Disorder

TLI – 25: A VIRTUAL REALITY ENVIRONMENT FOR TRAINING EXECUTIVE FUNCTIONING SKILLS IN CHILDREN WITH ASD.

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INTRODUCTION: Difficulties in executive functioning are frequently present in children with ASD, affecting their quality of life (Vries & Geurts, 2015). Currently, intervention strategies must be innovative and adapted to children with ADS. Virtual Reality has begun to become an effective tool in the medical and educational field, however, its use in Spanish are very limited and their effectiveness and safety in children with autism is poorly understood.

OBJETIVES: The aim of this study was to explore the use of an Immersive virtual environment adapted for children with ASD, as a tool for training executive functioning skills.

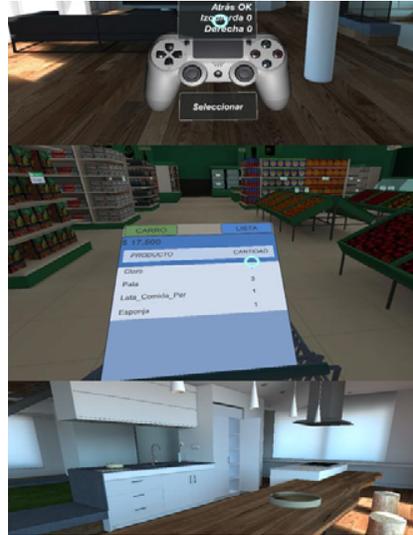
METHODS: For this study, a virtual environment was completely designed in Spanish, using the development platform Unity, and following the principles of the Multiple Errands Test (Shallice & Burgess, 1991). 21 children diagnosed with ASD (M age= 10.7, SD=1.1, WISC-III, CIT, M=110, SD=15) and 21 typically developing children (M age=10.7, SD=11.1, WISC-III, CIT, M=106, SD=20) participated in this study. Prior to first immersive session, All participants were applied the Wechsler Intelligence Scale for Children, (WISC-III v.ch), the Battery of Neuropsychological Assessment for Executive Function in Children (ENFEN) and the Perception of Differences test (CARAS-R). Parent completed the Behavior Rating Inventory of Executive Function 2 (BRIEF-2). During the following six weeks, children participated in a 15-minutes immersive activity in which they had to complete a series of errands at home, in the city and the supermarket. In each session, the children were accompanied by a psychologist who observed on another screen in real time the activities carried out by the child, being able to interact verbally with him. At the end of the activity, a cybersickness questionnaire (Kennedy, 1993) was administered. The ENFEN, CARAS-R and BRIEF-2 were repeated after the six-week.

RESULTS: No significant differences were observed between the ASD and typically developing group regarding intellectual performance and executive functioning before the immersive sessions, except for a poor performance in attentional control (CARAS-R), and planning skills (ENFEN), in the ASD group. Significant differences between groups were observed in daily executive functioning. The ASD group showing more difficulties in behavioral global score $F(1.38)=20,722, p=.001$). After the first immersive session, most participants felt little or no cybersickness (91% ASD group; 95% typically developing group). In addition, cybersickness scores were significantly reduced upon reaching the last session ($MS1=22; MS2=18, t=2,606, p=.013$). After the intervention, the ASD group enhanced performances in attentional control (CARAS-R, $MT1=7; MT2=7.7, t=-2.870, p=.009$), planning (Rings, $MT1=3.5; MT2=5, t=-4.985, p=.001$), ENFEN) and daily cognitive regulation (CRI, BRIEF-2, $MT1=64; MT2=58, t=3,119, p=.005$).

CONCLUSION: This study suggest that VR can be a safe, entertaining and effective strategy to enhance executive functioning in children with ASD. Creating a virtual environment designed entirely in Spanish may also have increased de

immersion experience effective during the activity.

Figure 1:





ANIMAL MODELS AND NEUROSCIENCE

TLI – 22: MOTOR PECULIARITIES AND HYPERMEMORY IN THE VALPROATE-MODEL OF AUTISM: RELATION TO HIPPOCAMPAL NEUROTROPHIC FACTORS AND GLUTAMATERGIC NEUROTRANSMISSION.

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INTRODUCTION: Autism is a neurodevelopmental disorder characterized by a deep deficit in language and social interaction, accompanied by stereotyped and repetitive behaviors. The biological evidence supports a view in which, an altered maturation in neural circuitry produces a misconnected brain, containing some under-connected and others over-connected circuits, explaining deficits and excesses on several brain functions. Synaptic protein synthesis, regulated by class I metabotropic glutamatergic receptors (mGluR5/1a) and Brain Derived Neurotrophic Factor (BDNF) has been involved in genetic model of autism as X-frangible and Rett syndrome. However, the role of these key mediators has been poorly studied in environmentally-induced autism models.

OBJECTIVE: In order to determine the mGluR1a and BDNF contribution in physiopathological mechanism of induced-autism, we have analyzed behavior and mGluR1a/BDNF-immunoreactivity (BDNF-IR, mGluR1a-IR) in cellular and dendritic layers of the hippocampus in juvenile rats prenatally treated with Sodium Valproate, a well-validated model of induced-autism.

METHODS: Pregnant Sprague-Dawley rats were treated with 450 mg/Kg of sodium valproate in embryonic day 12.5. Exploratory (open-field test) and social (three chambers social test) behavior, anxiety (elevated plus-maze), stereotypies (grooming) and spatial memory (Y-maze) were evaluated in the postnatal day 30. After that, brains were processed for BDNF and mGluR1a detection in 50 µm-coronal slices containing dorsal hippocampus by DAB-stained chromogenic immunohistochemistry. All data were analyzed for normality by Shapiro-Wilk's test and, parametric student's t-test, or no-parametric Mann-Witney's test, was used according to normality or no-normality was found, respectively.

RESULTS: Valproate-treated rats (VPA-rats) exhibited autistic-like behavior (social deficit, increased anxiety and repetitive behavior), along with an increased memory index in the Y-maze. In the open field, VPA-rats were hypokinetic in total distance but showed increased velocity of movements, along a particular way of exploration, characterized by corner-concentrated activity and circling behavior. VPA-rats showed increased mGluR1a-IR was found in CA1 oriens/alveus interneurons, the neurons controlling the out-put of hippocampal circuits. While, a reduction in BDNF-IR was detected in the dendritic suprapyramidal and lucidum layers of CA3, both containing mossy-fibers terminals from the dentate gyrus.

CONCLUSION: Molecular changes for BDNF and mGluR1a were opposed in direction and in opposed poles of the hippocampal circuit. Increased of mGluR1a in CA1 may be related to increased motor velocity, as oriens/alveus interneurons has been related to walking speed. Whereas, reduced BDNF CA3 may be related to increased spatial memory, as mossy fibers can be related to memory selectivity. In global, these data may be relevant to understand the misconnected brain in autism and may enlighten new therapeutic targets. Moreover,

our motor findings may be interesting to further investigate new signs for early detection of autism.

TLI – 80: DROSOPHILA MUTANTS OF AUTISM CANDIDATE GENE TRPC6 EXHIBIT IMPAIRED SLEEP HOMEOSTASIS, DISRUPTED SOCIAL BEHAVIOR, AND ALTERED COGNITIVE FUNCTIONS

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INTRODUCTION: Autism Spectrum Disorder (ASD) is a complex neurodevelopmental disorder, characterized by poor social interaction, poor language, and stereotyped and repetitive behavior. In addition, a high number of individuals with ASD exhibit altered sleep regulation, increased anxiety behavior and impaired cognitive functions such as learning and memory. In the last 15 years, genomic studies have revealed the contribution of loss-of-function variants, de novo and inherited genes in the etiology of ASD. Currently, several hundred candidate genes have been implicated in ASD, but the functional relevance of most of them remains unclear. In this line, transient receptor potential 6 channel (TRPC6) gene coding for TRPC6, a voltage-independent, Ca²⁺-permeable cation has been found disrupted in human patients with non-syndromic autism (Griesi-Oliveira et al, 2014). TRPC6 channels are involved in dendritic spine and excitatory synapse formation. To investigate the effect of loss-of-function mutations of this gene, we used the transient receptor gamma (trp-gamma, trpγ) homolog of the mammalian and human TRPC6 using *Drosophila melanogaster* (*Drosophila*) as experimental model. We found that adult trpγ loss-of-function mutant flies exhibit defective sleep homeostasis, disruptions in social behavior, altered cognitive functions and anxiety-like behaviors.

OBJETIVES: We aim to evaluate the activity of the biological clock, the social behavior, cognitive functions and anxiety-like behavior in flies with deficiencies in genes associated with ASD in humans.

METHODS: We used *Drosophila* to evaluate the function of genes associated with ASD in humans by testing their role on several behavioral assays such as: courtship, courtship conditioning, sleep, locomotor activity and the open field test. The experiments were tested using *Drosophila* mutants to trpγ gene (n=15) and in control flies (n=15). This research was approved by the Bioethics and Biosecurity committees of the Universidad de Valparaíso, Chile.

RESULTS: We report that flies bearing mutations in trpγ display normal circadian control of sleep but impaired sleep homeostasis. In addition, flies exhibit disruptions in the timing and execution of the courtship behavioral sequence, alterations in learning and memory, and increased anxiety-like behavior. Restoring trpγ function in sensory trpγ-expressing neurons or treating flies with hyperforin, a TRPC6-specific agonist, rescues the deficits expressed by trpγ mutants.

CONCLUSIONS: Our results demonstrate that trpγ mutants exhibit phenotypic characteristics reminiscent of human ASD, and thus could serve as genetic model for studying the neurobiological bases of the sensory processing abnormalities observed in ASD individuals. These results and others show that *Drosophila* can meaningfully be used to study the role of genes associated with ASD and also provides a simple system for screening drugs for their potential for treating human ASD patients.

TLI – 18: STUDY OF THE FACE PROCESSING NETWORK IN AUTISM SPECTRUM BY A BRAIN-COMPUTER INTERFACE SYSTEM BASED-ON FUNCTIONAL MAGNETIC RESONANCE.

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INTRODUCTION: The difficulty in processing visual information from faces is one of the earliest findings in ASD. This deficit is associated with hypoactivation of the face-oriented fusiform cortex (FFA), one of the main hubs of the face-processing network. fMRI-BCI make it possible to modulate circumscribed brain areas and thus study specialized neural networks. The present study is the first one to use fMRI-BCI to apply endogenous neuromodulation of FFA, to study the neural functioning in ASD.

OBJECTIVES: To evaluate the feasibility to train participants with ASD to achieve up-regulation of FFA using fMRI-BCI, and to investigate the neural effects of FFA up-regulation for a deeper understanding of ASD.

METHODS: Eleven subjects with normal IQ and fluent language participated in an fMRI-BCI protocol (1.5T. scanner; 8 runs). Two groups received contingent information as feedback from FFA activity to achieve FFA self-regulation (AG, 5 subjects with ASD: 14-19yo & CG1, 3 subjects with typical development: 26-39yo). Three participants with typical development (CG2_sham: 26-39yo) participated in the same protocol but receiving instead random information (simple blind). Offline analysis: The smoothed and normalized brain volumes were used to evaluate the up-regulation of the BOLD signal separately in the left and right FFAs (5 mm³). The magnitude of the FFA up-regulation was calculated using the mean BOLD values of regulation and rest blocks of each run per participant as a percentage and then compared against zero (one-sample t-test, p two-tailed, 95% confidence). We verified the normality of the data using the D'Agostino & Pearson (omnibus k2) test, and non-parametric tests were used when appropriate. A Whole brain ($P < 0.001$ & FWE $P < 0.05$; $K=10$) and functional connectivity analysis using each fusiform gyrus as independent seed (P -FDR (seed corrected) < 0.01) was carried out also.

RESULTS: AG and CG1 achieved FFA self-regulation but not CG2sham (left FFA: AG: Mdn = 0.277, $W = 655$, $p < .001$; CG1: Mdn = 0.2058, $W = 292$, $p < .001$ / right FFA: AG: $M = 0.286$, $t(37) = 7.55$, $p < .001$; CG1: $M = 0.191$, $t(23) = 8.10$, $p < .001$). fMRI-BCI training resulted in a reduction of BOLD variability in the FFA, recruitment of brain areas of the reward system (i.e. insula and caudate), and in addition, significant functional connections with insula and inferior frontal gyrus only in the TD subjects. fMRI-BCI in ASD produced more numerous and stronger short-range connections in the temporo-occipital brain areas.

CONCLUSIONS: This result could be explained from a neurodevelopment perspective as the failure to process visual information of faces in real-time leading to the presence of compensatory mechanisms. fMRI-BCI is a potential tool to study the neural development of visual processing in ASD and explore its clinical potential for the diagnostic evaluation.

Keywords: Autism spectrum, Brain-Computer Interfaces, real-time fMRI, Neuromodulation, Fusiform face area, FFA.

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TLI – 47: ALTERATION IN CORTICAL PROCESSING OF FACIAL EMOTIONS IN BROADER AUTISM PHENOTYPE

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INTRODUCTION: Autism Spectrum Disorder (ASD) is a phenotypic heterogeneous condition that affects face perception and recognition. These impairments seem to be associated with problems in the processing of two visual pathways. The magnocellular (M) pathway, involved in the perception of low-resolution imaging without details (low-spatial frequency, LSFs), and the parvocellular (P) pathway, associated with the discrimination of fine details and colors of a scene (high-spatial frequency, HSFs). Since ASD has a strong genetic basis, alterations of visual processing in P and M pathways could be inherited traits, thus the study of broader autism phenotype (BAP) would help to link its biological and psychological aspects.

OBJECTIVES: The aim of our research was to identify neurobiological markers of autism by studying the integration of P and M visual pathways while processing facial emotions in parents of children with ASD (pASD). We tested the hypothesis that pASD would present altered integration of processing of facial emotions information for both M and P pathways as compared to parents of typically developing children (pTD).

METHOD: Participants were 19 pTD (15 women, 34.89 ± 6.43 years) and 28 pASD (19 women, 37.59 ± 5.49 years). We studied electroencephalographic (EEG) brain activity of participants while they had to discriminate pictures of human faces as being happy or angry by pressing a button. We used stimuli built by combining a face picture composed by HSFs with another composed by LSFs (both of the same person). The emotion expressed by each picture (HSF and LSF) was manipulated separately (happy and angry), creating incongruent and congruent emotional faces.

RESULTS: There were no significant differences in the accuracy of the responses between groups. The EEG analysis showed that pTD exhibited a significant brain modulation in a frontoparietal positive potential at around 500ms with the source located at temporo-parietal region and dorsomedial prefrontal cortex. This main difference is associated to the happiness emotion when is presented in both HSF and LSF. By using multiple mixed linear models, we observed that congruent facial emotion of happiness generated the greatest brain response, and that this brain response is selectivity affected in pASD children. Source analysis of this brain modulation showed that pASD had a decreased activity in the right posterior part of the superior temporal region (pSTS) and the left temporal region as compared with pTD.

DISCUSSION: Our findings showed a differential brain processing of emotional facial expressions between the two groups of parents, which could indicate a biological marker of BAP. Specifically, we observed a differential modulation in the pSTS which is in accordance with previous evidence that have described the STS not only as part of the processing network for facial expressions but also as a hub for social perception and cognition.



Figures

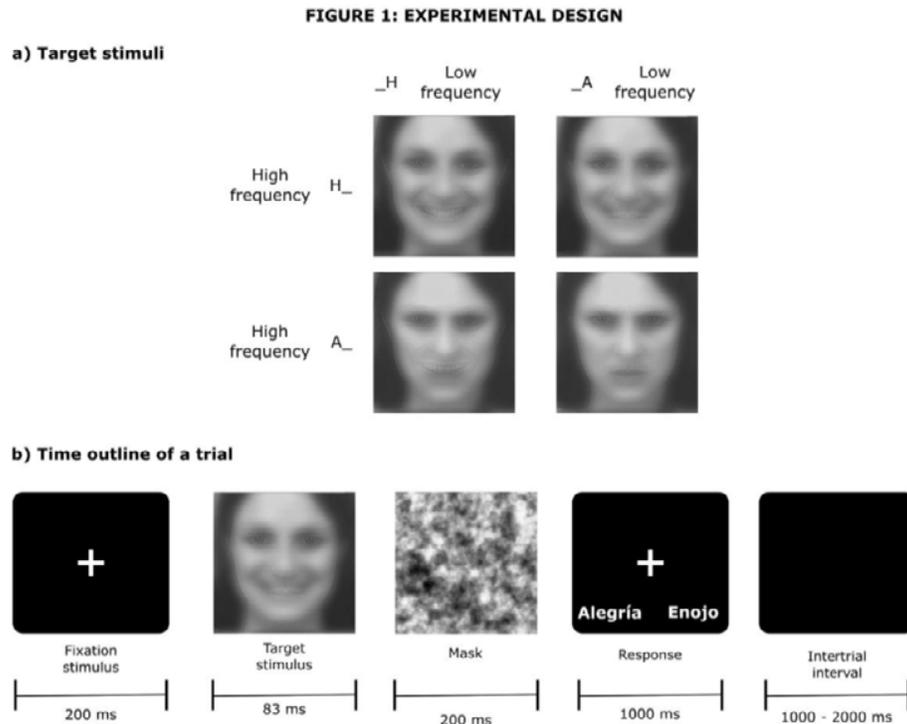
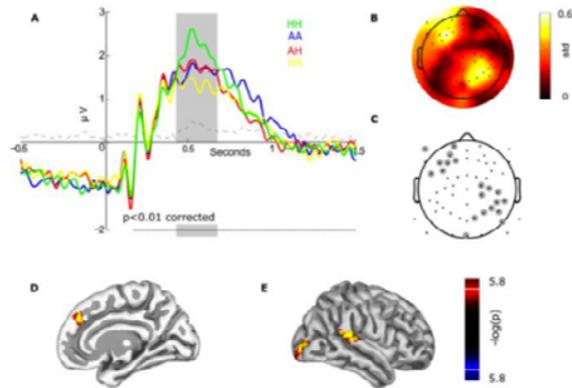


Figure 1: EXPERIMENTAL DESIGN. a) **Target stimuli.** Target stimuli were hybrid images built by combining a face of the same person composed by high spatial frequencies with another composed by low spatial frequencies, expressing congruent or incongruent emotion by combining happy (H) or angry (A) facial expression. b) **Time outline of a trial.** Participants were seated in front of a computer screen while they watched pictures of a woman's or man's face expressing emotions. The experiment consisted of 300 trials divided in two blocks of 150 trials each one. In each trial, a fixation stimulus was displayed for 200 ms. Then, the target stimulus was randomly displayed for 83ms. After which a masked face was presented for 200 ms. Next, a black screen was displayed for 1000 ms with the words "Alegria" ("happy" in Spanish) or "Enojo" ("angry" in Spanish) wrote in white at the bottom of the screen. Participants must choose if the face was expressed happiness or anger by pressing a key in a keyboard. Order of presentation of both the key in the keyboard and hand were counterbalanced. A black screen was displayed by 1000 ms to 2000 ms when the trial was ended.

FIGURE 2: RESULTS

a) Electrical brain activity of the pTD children to contrast all four conditions



b) Scalp distribution and sources of the frequency, frequency interaction and group regressors

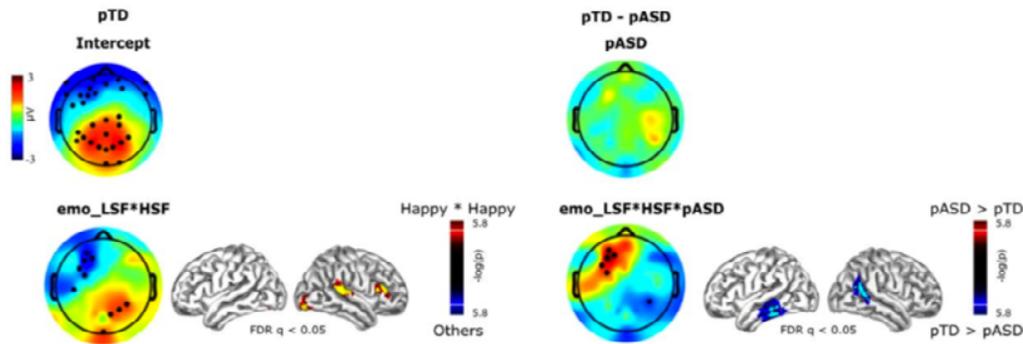


Figure 2: RESULTS. a) Electrical brain activity of the pTD children to contrast all four conditions. A) ERPs of all four conditions of the experiment. The gray region indicates a significant area (Cluster based permutation test) in the significant cluster of electrodes. Light green shows the "HH" condition, which is a congruent stimulus for happiness, as the salient stimulus [In blue "AA"= congruent stimulus for anger; in red "AH"= incongruent stimulus where anger is presented in LSF and happiness in HSF; in yellow "HA"= incongruent stimulus where happiness is presented in LSF and anger in HSF]. B) Topographic distribution of the significant cluster of activity at the ERP peak of 525ms. as shown in (A). C) Topographic distribution of the cluster of electrodes (Cluster based permutation test; $p = 0.018$). D and E) Estimated sources at the peak of 525 ms of the contrast all four conditions in the pTD children, as shown in (A), (B) and (C) (CTD Friedman test $p < 0.01$, CBP test < 0.05 , FDR < 0.05). **b) Scalp distribution and sources of the frequency, frequency interaction and group regressors.** From left to right, first column shows brain activity in pTD and third column shows the difference between both groups of parents. Black circles indicated electrodes that show statistical modulation (FDR $q < 0.05$). Second and fourth columns are also showing the brain sources of the activity observed in the scalp distribution in which there is statistical modulation (FDR $q < 0.05$) in pTD (second column) and between the two groups of parents (fourth column), respectively.



AUTISM ACROSS THE LIFESPAN AND SOCIETY / TRANSCULTURAL AND CULTURAL PERSPECTIVES

TLI – 53: PRELIMINARY VALIDATION STUDY OF THE BRAZILIAN PORTUGUESE VERSION OF THE ATTITUDES TOWARD AUTISM QUESTIONNAIRE (ATT-AUT)

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INTRODUCTION: Behavioral features like poor social skills, disruptive behaviors, and inappropriate affective behaviors combined with the normal physical appearance of people with autism spectrum disorder (ASD) and the general lack of knowledge and understanding the nature of ASD among the general public further increase the stigma for these people. For that reason, it is important to have reliable instruments to understand the stigma against this population, which is still scarce.

OBJECTIVES: To evaluate the psychometric properties of the Brazilian Portuguese version of Attitudes Toward Autism Questionnaire (ATT-AUT) within a sample of health professionals.

METHOD: We conducted a multi-site, cross-sectional criterion validity study in a convenience sample of health professionals of all Brazilian regions. The translation and cultural adaptation were accomplished based on the guidelines proposed by the International Test Commission. The first steps were the guidelines of the study: translation, its two readings, cultural adaptation, pilot test and review producing a final version of the instrument. The AT-ASD was applied at the beginning of an ASD distance-learning training and consists of 80 items based on a Likert-type scale, ranging from 1 (completely agree) to 5 (completely disagree). The questionnaire measures public stigma considering five factors. The affective component tapped into two factors: (1) discomfort (18 items): that related discomfort toward refers to situations that can create some kind of discomfort or discomfort for people who relate to others with ASD and (2) sensitivity/tenderness (6 items): corresponds to the affective component of emotions such as sadness, anger, nervousness and others. The cognitive component was represented by two factors: (3) knowledge of capacity and rights of people with ASD (22 items) and (4) knowledge of causes of ASD (7 items). Finally, the behavioral component emerged as a single factor: (5) interaction (19 items) concerns the relationship with people with ASD. First, we did the Kaiser–Meyer–Olkin index and Bartlett test. Then, an exploratory analysis was carried out to identify the structure of the instrument using factor analysis with varimax rotation as the principal component. The internal consistency of the subscales was also validated using Cronbach's alpha.

RESULTS: The sample was comprised of 2,499 health professionals, most of them female (91.4%). The result indicated KMO = 0.94 which is considered excellent and equality of variances was statistically significant. The proportion of variance accounted for by the five factors was 41.9%. The Cronbach reliability of five subscales reliabilities ranged from 0.70 to 0.92.

CONCLUSION: The Brazilian Portuguese version of ATT-AUT presented satisfactory reliability and constructive validity and can be considered valid for the evaluation of public stigma about people with ASD.

TLI – 35: PERCEPTION OF AUTISM SCREENING TOOLS IN PAEDIATRIC CONTEXTS: AN EXPLORATORY STUDY IN AN ECUADORIAN SAMPLE.

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INTRODUCTION: An important challenge for ASD's early identification in Low-and-middle-income settings is the availability of inexpensive screening tools, with good psychometric qualities that are validated on a group of representative healthy children of a culturally specific population, and that are perceived as adapted to routine practices by final users.

OBJECTIVES: Based on the hypothesis that, as in many parts of the world, Ecuadorian children are not being routinely screened for ASD, we aimed to identify perceptions, preferences and attitudes towards screening tools among paediatric professionals in Ecuador (Study 1). A second objective was to identify a set of tasks that are perceived as adapted to a paediatric setting. An important goal was to lower the likelihood of selecting tasks that would not be in accordance with local practices and needs, and to raise the possibility of selecting items that were meaningful and comfortable for practitioners (study 2). We also intended to observe the facility of implementation of tasks in a semi-experimental context and to validate the responses of neurotypical children (Study 3). Finally, we aimed to verify the adaptability of the tasks in a clinical context (study 4).

METHODS: Thirty-nine paediatric practitioners responded to two open questions intended to assess attitudes and perceptions of screening tools. Based on this information, we submitted a set of 12 tasks to a second group of practitioners, for them to select the most adapted to early routine surveillance. Subsequently, we tested the hypothesis that those selected tasks could be easily elicited in a group of 145 neurotypical children in a semi-experimental setting. Finally, a group of practitioners administered a four-task observational procedure to a group of 39 neurotypical children in a clinical setting and provided their perception on the administration procedure.

RESULTS: Questionnaires' responses indicated that observational procedures were preferred to paper-based questionnaires by practitioners. Application of the selected tasks in an experimental setting, indicated that a majority of neurotypical children responded as expected to four social orientation tasks. However, social referencing tasks did not produce the expected behaviour in a majority of children. Results from clinical settings indicate that even if a majority of children provided the expected responses, some tasks seem to require further training for professionals.

CONCLUSION: Among the five tasks selected by professionals, four were validated with the expected behaviours of neurotypical children. This suggests that, for a variety of reasons, some tasks may not be adapted to observational procedures. Finally, responses to the administration of a four-task procedure in clinical conditions, as well as perceptions subsequently provided by professionals, indicate the interest of testing this procedure in a general population. If validated, these observational tasks could be complementary to existing questionnaire-screenings in paediatric practices in Ecuador.

TLI -11: BRAZILIAN TEACHERS FACING AUTISTIC CHILDREN WITHOUT DIAGNOSIS AT SCHOOL: A MODEL FOR INTERSECTORIALITY BETWEEN EDUCATION AND HEALTH.

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INTRODUCTION: In Brazil the diagnosis of Autistic Spectrum Disorder (ASD) is late in different regions of the country due to the lack of national programs for child development surveillance, failures in training and clinical practice of pediatricians to detect developmental delays and signs of ASD and shortage of specialized public services for ASD diagnosis. Children with ASD often start school without diagnosis. In Brazil there is an obligation to enroll all children in basic education. Assessments for ASD detection, at least in the early years of basic education, represent alternatives for a diagnosis between 6 and 7 years of age. However, basic education teachers also have training gaps to identify signs of ASD.



OBJECTIVES: To instruct teachers of an educational network in the metropolitan region of the city of São Paulo in the use of checklist for screening students with suspected ASD and to verify the accuracy of this checklist compared with the number of false positive cases, based on the Diagnostic and Statistical Manual of Mental Disorders/DSM-5.

METHODS: non-probabilistic sample selection composed of 32 basic education teachers who taught 815 students from 32 classrooms (2nd and 4th grade) of public schools in Barueri city. The study was approved by the Ethics Committee (Plataforma Brasil/CAAE: 56001316.6.0000.0084). Instruments: Checklist for ASD based in the DSM-5 (for teacher use); Abbreviated Wechsler Intelligence Scale (WASI) and Brief Problem Monitor- Teacher Form (BPM-T) For Ages 6-18. The study was conducted in three phases: 1st- teacher training, 2nd- identification of ASD signs in the sample of 815 eligible students, and application of checklist and BPM-T among the students with ASD suspected, 3rd- specialized student assessment with WASI and psychiatric assessment of ASD by the DSM-5.

RESULTS: of 815 children, the teachers raised suspicion of ASD in 9 children (66.66%), of whom the psychiatric evaluation did not confirm ASD in 6 of them, but 3 children were identified with intellectual functioning impairment. In the remaining 3 children, suspicion of ASD was confirmed in the psychiatric evaluation. More than 65% of suspected cases (9 children) had emotional and behavioral problems, according to the BPM-T. The most cited indicators by teachers as signs of ASD were deficits in social approach behaviors or in making friends (83.3%), failure of normal back-and-forth conversation and difficulties in sharing imaginative play (100%). The indicators less cited by teachers as signs of ASD were deficits in ToM (33.3%), failure to initiate or respond to social interactions (33.3%), poorly integrated verbal and nonverbal communication (33.3%). %, and abnormalities in eye contact (33.3%).

CONCLUSIONS: the data show how the classroom teacher can act as an identification agent of ASD signs, validating the need for referral and counter-referral procedures between education and health systems in Brazil.

KEYWORDS: Autistic Spectrum Disorder, School, Diagnosis

TLI – 10: MEDICAL AND PSYCHIATRIC PROBLEMS AMONG DEPENDENT ADULTS WITH AUTISM IN THE SPARK COHORT

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INTRODUCTION: The number of adults with Autism Spectrum Disorder (ASD) has been growing steadily in recent years. Yet, there is a dearth of data on their medical and psychological health.

OBJECTIVES: 1) to provide data on lifetime medical and psychiatric morbidity and service utilization in a large sample of dependent adults with ASD; 2) to evaluate the impact of cohort, gender, cognitive and language levels on prevalence.

METHODS: We examined registration data of adult participants from SPARK (a national research cohort), ages 18 to 78 and with legal dependent status. Data on current clinical status (N=2,917), lifetime prevalence of medical and psychiatric disorders (N=2,917), and service utilization (N=1,626) were reported on-line by their legal guardians.

RESULTS: Participants were 78.4% males, 63.2% were diagnosed before age 6, 47.3% had received an additional diagnosis of intellectual disability (ID) and 32.1% had substantial expressive language impairment. Childhood language disorders (59.7%), speech/articulation problems (32.8%), sleep (39.4%) and eating (29.4%) problems, motor delays (22.8%) and a history of seizure or epilepsy (15.5%) were the most frequently reported problems. Over two thirds (67.2%) had been diagnosed with at least one psychiatric disorder, with the most common being anxiety disorders (41.1%), ADHD (38.7%) and affective disorders (27.6%). In older cohorts, ID and obsessive-compulsive disorder were more frequent and ADHD less frequent. Cohort effects were discernable with respect to service utilization whereby autism specific interventions occurred at lower frequencies among subjects aged 30 and over. Minimally verbal participants had lower reported rates of almost all psychiatric disorders. Women with ASD had a higher burden of medical and psychiatric morbidity.

CONCLUSIONS: Older adults and women with ASD exhibit a heightened burden of overall lifetime morbidity. Despite improved access to autism specific interventions in younger cohorts, the overall burden of medical and especially psychiatric morbidity remains a substantial concern at all ages.

GENOMICS AND COGNITION

TLI – 92: HIGH MITOCHONDRIAL DNA LEVELS IN AUTISM SPECTRUM DISORDER IS SUGGESTIVE OF ALTERATIONS IN THE MITOCHONDRIAL DNA REPLISOME: ANALYSIS OF THE MITOCHONDRIAL TRANSCRIPTION FACTOR A

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INTRODUCTION: Autism Spectrum Disorder (ASD) is a complex neurodevelopmental disorder with a strong genetic basis. Despite this, only a small fraction of the genes that can be the cause of it are known and supported by strong genetic evidence. Recently, our group started the study of the influence of mitochondrial physiology on the development of ASD. In children with ASD, we found a significant increase in mitochondrial DNA (mtDNA) levels. Likewise, in these children, an increase in the protein oxidation and high expression of the MFN2 gene was observed. The increase in mtDNA levels is suggestive of alterations in the mitochondrial DNA replisome where different proteins are involved than those used for the replication of nuclear DNA, such as the mitochondrial Transcription Factor A (TFAM), the TWINKLE helicase, and the DNA polymerase γ , among others. TFAM is an activator of mitochondrial transcription, it also functions as a histone-like in the packaging of mtDNA, and as mtDNA levels follow TFAM levels.

OBJECTIVE: Elucidating the role of TFAM in ASD.

METHODS: In the present study was used the computational tool from the Lewis–Sigler Institute for Integrative Genomics at the University of Princeton for the prediction of TFAM gene association with the genetic bases of ASD. Moreover, we analyze the datasets of TFAM expression in ASD by profiling arrays with the Gene Expression Omnibus (GEO) repository. Datasets GSE49105 and GSE111176 were analyzed with GEO2R. Finally, we performed a review of TFAM and ASD in literature.

RESULTS: The brain-specific functional relationships involving the TFAM gene show the integration with genes that are more likely to be associated with the development of autism is evident. Also, the enrichment of genes shows the involvement in biological processes such as nuclear transport, nucleocytoplasmic transport, and RNA export from the nucleus. Moreover, the enrichment of genes shows some spatiotemporal signatures such as the orbital prefrontal cortex, striatum, and ventrolateral prefrontal cortex in early-mid fetal development; and inferior temporal cortex, amygdala, hippocampus and ventrolateral prefrontal cortex in early fetal development. The analyses of GSE49105 and GSE111176 datasets show that TFAM gene expression in blood is not altered in ASD. In literature, we found the report that there is no significant difference in the levels of TFAM between ASD and control postmortem brain samples. However, the expression of TFAM in the ASD Lymphoblastoid cell lines was reduced at both RNA and protein levels.

CONCLUSION: High mtDNA levels in children with ASD may occur at the TFAM transcriptional level in some specific regions of the brain during fetal development. Further analyses are required to understand the role of TFAM in ASD. Our group continues studying the potential alterations in the mitochondrial DNA replisome in ASD.

TLI – 118: SALIVARY CORTISOL PROFILE IN MOTHERS OF CHILDREN WITH AUTISM: A CASE CONTROL STUDY

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INTRODUCTION: Autistic Spectrum Disorder (ASD) is a developmental disorder for which causal factors may be multiple, and exhibit a combination of symptoms that are outlined in DSM-5, where ASD is a single disorder, characterized by social and communication disabilities and the narrow interests associated with repetitive behaviors. Several studies have found an association between ASD and perinatal environmental factors. In all there is agreement that stress is a factor linked to autism having significant effects on the pituitary-hypothalamus-adrenal axis (HHA) and cortisol synthesis, the mechanism of which mediates the brain changes possibly implicated in the pathogenesis of ASD, leading to the hypothesis of cortisol hypersecretion in mothers of individuals with ASD.

OBJETIVES: To test the hypothesis that autistic mothers have altered salivary cortisol profile when submitted to stress tasks.

METHOD: A case-control study with a convenience sample composed of mothers of children with ASD (cases) and mothers of children without diagnosis of ASD (controls). All with children enrolled in the municipal school system of Embu das Artes - SP. 22 mothers of individuals with confirmed diagnosis of ASD with chronological ages between 28 and 48 years and average age 37.4 years (SD = 6.0) participated, and 20 mothers of individuals without diagnosis of ASD with chronological ages between 21 and 47 years and average age 35.05 years (SD = 7.6). The socioeconomic stratum of cases and controls according to ABEP was C1. Saliva samples were collected from case and control mothers to analyze variations in cortisol levels before, during and after a psychological stress task.

RESULTS: There was no statistical difference between the ages of the cases and controls ($t = 1.394$; $p = 0.26$), nor regarding the socioeconomic stratum. The mean basal salivary cortisol levels in nanograms / ml in case mothers was 18.72 and 25.10 in control mothers ($p = 0.05$); during the stress task the salivary cortisol average was 13.18 in the cases and 19.95 in the controls ($p = 0.05$) and after the stress task the mean cortisol was 19.00 in the cases and 26.75 controls ($p = 0.05$), being the statistically significant relationship in the three dosages.

CONCLUSION: The averages of the 3 cortisol dosages were significantly higher in the controls, leading to the hypothesis that, in addition to unfavorable socioeconomic conditions, case mothers have to deal with the difficulties of caring for a child with developmental disorder, impairing the functioning HHA axis, leading to decreased rather than increased cortisol levels. Such physiological effect could also be explained by the greater resilient capacity of case mothers. This hypothesis will be tested in an ongoing project.

Keywords: Autism; cortisol; stress.

TLI – 55: RELATIONSHIP BETWEEN READING COMPREHENSION SKILLS, BASIC COGNITIVE FUNCTIONS AND EXECUTIVE FUNCTIONS IN STUDENTS WITH AUTISM

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INTRODUCTION: ASD involves a wide variety of cognitive performance profiles that complicate school learning tasks. When defining pedagogical strategies these should consider the specific profile of each student. Existing literature shows evidence of commitment to planning capacity, flexibility, inhibition and the visuospatial component of working memory, which could account for the tendency to perseveration, inability to change criteria and stereotyped behaviors. It seeks to evaluate children with High-Functioning Autism Spectrum Disorder (HFASD) and thus apply in the future effective neurodidactic strategies for the personalized rehabilitation of possible deficits in reading comprehension.

OBJECTIVE: To determine the relationship between reading comprehension skills and basic cognitive functions and executive functions, in students with HFASD of basic education in schools in the Araucanía Region, year 2019.

METHODS: exploratory correlational descriptive study type serie of cases with non-probabilistic sampling of HFASD

individuals with IQ greater than or equal to 70, age range between 7 to 12 years, prior diagnosis by specialist, with approval of the ethics committee of Universidad Mayor. It applies semi-structured interview of sociodemographic variables, Neuropsychological Assessment for Executive Function in Children (ENFEN, by its acronym in Spanish), STROOP color and word test, Wechsler Intelligence Scale for Children - Fifth Edition (WISC V) and application of Reading Comprehension and Text Production Test, known by its acronym in Spanish (CL-PT), to 15 school children with an average age of 10 years, 93% boys, average age of diagnostic confirmation of 6.2 years, who attend between 2nd and 7th grade in both municipal and subsidized and private schools; with families that identify with the Mapuche ethnic group in 33.3%. Descriptive statistical data analysis, measures of central tendency, statistical tests are performed: Pearson's r correlation and Spearman's rho (95%; 0.005).

RESULTS: at the level of processes reading comprehension, a statistically significant correlation is obtained between the variables: literal comprehension and executive functions of planning ($r = 0.749$ and $r_s = 0.772$); between inferential understanding and fluent reasoning ($r = 0.794$, $r_s = 0.734$) and between inferential understanding and verbal cognitive fluency ($r = 0.794$ and $r_s = 0.734$).

CONCLUSIONS: the results suggest a linear and proportional relationship between competence reading comprehension (literal and inferential) and cognitive functions of fluent reasoning, executive functions of verbal fluency and planning. Confirmed this correlational trend in a larger sample of children, we could project that a stimulation plan of these neurocognitive functions could favorably impact the skills of extracting written information. As it is a correlational trend, it could be possible that explicit training in reading comprehension can impact the quality of executive functioning, which would lead to a process with reciprocal advantages, at the educational and therapeutic level.

TLI – 120 : EVALUATION OF SOCIAL COGNITION IN CHILDREN WITH AUTISM SPECTRUM DISORDERS: INSTRUMENTS IN THE CLINICAL CONTEXT. A SYSTEMATIC REVIEW

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INTRODUCTION: Autism spectrum disorders (ASD), characterized as an early disorder of social interactions, stand out as the central feature to define this condition. The understanding of the difficulties in social interaction in ASDs requires a broad and integrating vision of these difficulties, which includes various socio-cognitive skills necessary to achieve satisfactory social interactions. Several authors have proposed this approach is possible from the concept of social cognition (SC). From neurocognitive studies to clinical reality, there are methodological and practical gaps in the application of valid instruments for the systematic evaluation of SC in clinical contexts.

OBJECTIVES: General: Identify, analyze and synthesize the available evidence on tools that can be applied in clinical contexts for the systematic evaluation of SC of children with ASD. Specific: a) describe the main characteristics of the identified instruments; b) describe the subfactors or dimensions of the SC evaluated by each instrument; e) perform an analysis of its applicability in clinical contexts; d) make suggestions or contributions to providers that work with children with ASD regarding these instruments.

METHODS: A search and systematic review of the literature with SC measurement instruments in ASD children was carried out, following the PRISMA guidelines and recommendations (Moher et al., 2015). In the design phase, a systematic review protocol was carried out (not registered). The eligibility criteria were: original studies, published in peer-reviewed journals until 2017, where the participants included children with ASD evaluated with SC instruments. The SC instruments were applied in clinical contexts or are susceptible to be applied in those contexts. In addition, they should have evidence of its validity in children with ASD. The search was made in June 2018 and was carried out in three sources of information: Web of Science (Core Collection), Scopus and PubMed. The data was exported through the bibliographic manager EndNoteX8. The process of selecting the studies followed the PRISMA recommendations (Moher et al., 2015).

RESULTS: 292 articles were identified. After the identification, screening and eligibility procedures, 17 articles were included in the analysis (Figure 1). The sample includes $n = 2024$ participants. The average age of the sample was 9.65 years.



Four of the articles included exclusively TEA children in the sample, without making comparisons with other conditions. The main characteristics of 22 instruments were identified and reported. 16/22 of the identified instruments, evaluate some dimension of Theory of Mind (ToM). The most commonly used SC measurement instrument was the “Reading the Mind in the Eyes” Test -Child Version (RMET-ChildVersion) (Table 1.)

CONCLUSIONS: The present review gives the specialists in child development, evidence for the systematic evaluation of CS in children with ASD. Although the SC includes the interaction of diverse cognitive abilities, most of the instruments studied evaluate the TdM dimension exclusively. Only one of the instruments identified has a validated version in Spanish, which suggests guidelines for future research in Spanish-speaking countries.

Figure 1. PRISMA Flow Chart for the data selection process. Adapted from Moher et al. (2015).

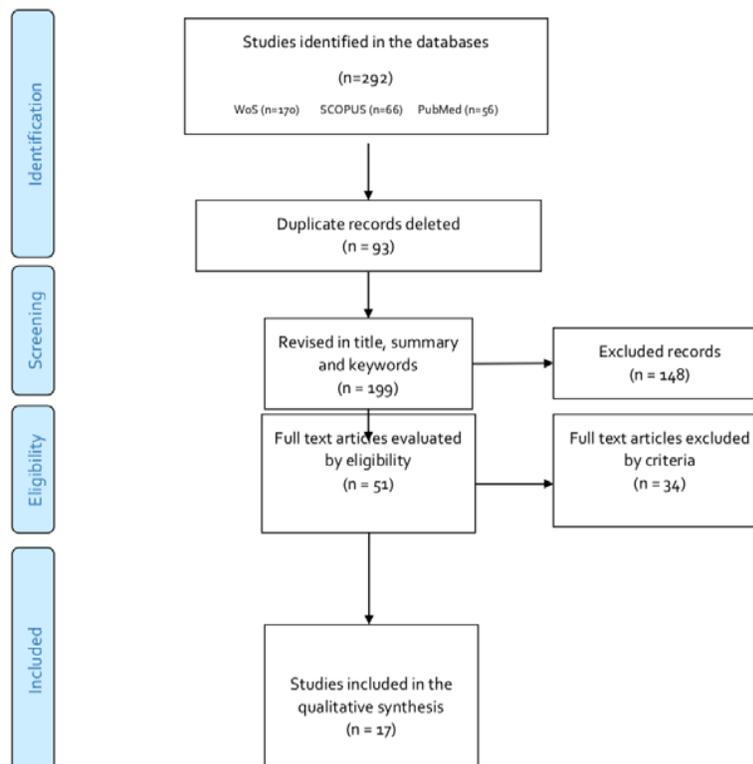


Table 1.
Dimensions of SC evaluated by the identified instruments (n = 22)

Dimension	Instrument	n
Social Cognition	SRS / SRS-2;	2
ToM	RMET-Child Version / BET / Reading Basic Emotions in the Eyes.	3
Emotional recognition	The Emotion Recognition Scales / EVT / UOCT / CT	4
First order ToM	Unexpected Contents First-order False –belief/ False –belief "Sally y Ann"	2
Second order TdM	Belief-desire Reasoning / Unexpected Location Second-order False –belief/ The 'Box of Marbles' task / Minimally verbal false-belief/	4
Advanced ToM	The Strange Stories Task. / ToM Scale / MSST / Theory of Mind Task Battery/ Metaphoric and Sarcastic Scenario Test	5
Applied ToM	Inventario de Teoría de la Mente / The Theory of Mind Inventory /	2

ToM: Theory of Mind; SRS: Social Responsiveness Scale; SRS-2: Social Responsiveness Scale-2; RMET-Child Version: Reading the Mind in the Eyes Test - Child Version; BET: Body-Emotion Test; EVT: The Emotion Vocabulary Test ; UOCT: The Unexpected Outcomes Test ; CT: The Comprehension Test.



SYNDROMIC AUTISM

TLI – 63: FRAGILE X SYNDROME: CORRELATION BETWEEN GENOTYPE AND BEHAVIORAL PHENOTYPE

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INTRODUCTION: Fragile X Syndrome (FXS) is a disease linked to chromosome X, with dominant inheritance and variable penetrance. It is the most frequent cause of inheritable intellectual disability and the most common genetic cause of autism. In the affected gene, FMR1, the CGG triplet of exon 1 is expanded by over 200 repetitions, which translates into a non-coding fragile X mental retardation protein (FMRP). The clinical phenotype is variable and is related to genetic and environmental factors. This raises the following hypothesis: “Patients diagnosed with FXS with greater expansion of the CGG triplet have more severe cognitive and behavioral manifestations, as seen in autism spectrum disorder.”

OBJECTIVES: To study the clinical and behavioral phenotype of patients (men and women) diagnosed with FXS, and to correlate it with genetic data.

METHODS: This is a prevalence study that included patients who had a diagnosis or suspicion of FXS, treated at the Pediatric Neurology Center of Hospital San Borja-Arriarán. These patients received clinical and psychological evaluations, which were then correlated with the genetic data.

RESULTS: One hundred and two molecular DNA genetic studies were carried out, out of them, 51 (50%) had an alteration: 28 had full-mutations and 23 had pre-mutations (the difference was defined based on the number of triplets). There was no correlation between the number of triplets and the clinical presentation in patients with autism spectrum disorder, thus, it could be suggested that there are other factors that affect the cognitive and behavioral manifestations. On a secondary analysis, patients who had a full-mutation had more frequent manifestations of the autism spectrum disorder such as poor eye contact (69% vs. 44.4%), social isolation (23.1% vs. 11.1%) and stereotypies (61% vs. 33%). On the other side, mosaic individuals, presented more hyperactivity (61.5% vs. 77.8%), heteroaggression (46.2% vs. 77.8%) and anxiety (46.2% vs. 66.6%), which is consistent with the literature.

CONCLUSIONS: Although we were not able to verify the initial hypothesis, we detected a high prevalence of autism spectrum disorder in patients with FXS. In addition, patients with FMR1 full-mutation had more severe autism spectrum disorder clinical manifestations as well as more intellectual disability. Finally, mosaic patients had less intellectual disability and autism, but more severe behavioural problems, and thus, required more pharmacological and behavioral management. These clinical manifestations are probably due to a more complex neuropathology, based mainly on two components: the decrease in FMRP protein and the toxicity of mRNA, with consequences at a molecular level.

TLI – 74: FIRST APPROXIMATION IN THE APPLICATION OF TUBEROUS SCLEROSIS-ASSOCIATED NEUROPSYCHIATRIC DISORDERS CHECKLIST IN A SERIES OF CHILEAN PATIENTS WITH TUBEROUS SCLEROSIS COMPLEX, A MODEL OF SYNDROMIC AUTISM DISORDER

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INTRODUCTION: Tuberous sclerosis complex (TSC) is a genetic disorder associated with multiorgan involvement, including the brain, kidneys, heart, eyes, and lungs. TSC is also associated with neuropsychiatric disorders, which are present in ~ 90% of patients. These disorders, often underdiagnosed and undertreated, include autism spectrum disorders (ASD), intellectual disabilities and psychiatric disorders. Tuberous Sclerosis-Associated Neuropsychiatric Disorders

(TAND) refers to a specific group of manifestations of brain dysfunction in TSC. The TAND checklist is a validated tool for the screening of TAND.

OBJECTIVE: To describe TAND checklist results reported by caregivers in a group of patients with TSC and compare neuropsychiatric disorders in patients with and without ASD.

METHODS: Cross-sectional study. Application of the TAND checklist to caregivers in a cohort of patients with TSC and TSC with ASD.

RESULTS: Twenty patients (12 male) with confirmed TSC were included in this study. Mean age was 17 years 2 months \pm 12 years 4 months (SD); (range: 2-50 years). Five had normal psychomotor development, 7 global development delay, 1 with motor delay and 6 presented language delay. One patient was adopted, therefore his data were not available. Seven were dependent, 8 had some self-care skills and 5 were independent. All caregivers reported problematic behaviors, the most common being mood swings (14/20, 70%), inattention (14/20, 70%), anxiety (14/20, 70%), language delay (12/20, 60%), hyperactivity (12/20, 60%) and impulsivity (12/20, 60%). 7/20 (35%) patients had received a diagnosis of ASD, 5/20 (25%) Attention Deficit Hyperactivity Disorder (ADHD), 1/20 (5%) Anxiety Disorder and 1/20 (5%) Depressive Disorder. None had Obsessive Compulsive Disorder or Psychotic Disorder. According to caregivers, 7/20 (35%) had normal Intellectual Ability, 8/20 (40%) Mild-Moderate Intellectual Disability and 5/20 (25%) Severe-Profound Intellectual Disability. 5/20 (25%) had Low self-esteem, 14/20 (70%) had very high levels of stress in families and 13/20 (65%) had very high levels of stress between parents. When evaluating the global impact of TSC in the family, parents report a mean score of 7.15 (on a scale of 1 to 10). Self-injuries were significantly more common in patients with ASD compared to those without ASD (85.71% vs 15.38%, $p=0.0044$). ADHD was also more frequent in ASD patients (57.14% vs 7.69%, $p=0.03$). There were no statistically significant differences for any of the other studied variables.

CONCLUSIONS: The frequency of TAND and the global impact of TSC in the family were very high in our cohort. The ASD was a frequent comorbidity in our cohort, being present in more than a third of the patients. In this group of patients, self-injuries and ADHD were significantly more frequent. These results confirm the relevance of TAND in TSC and the importance of actively searching for neuropsychiatric comorbidity, allowing specific treatment in these patients.

TLI – 8 : DEMOGRAPHIC AND GENETIC MODIFIERS OF FRAGILE X SYNDROME: ANALYSIS OF A CHILEAN COHORT.

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INTRODUCTION: Fragile X Syndrome (FXS) is the first cause of inherited intellectual disability (ID) and comorbid autism (ASD). FXS is caused by the hypermethylation of the FRM1 gene due to the expansion over 200 repeats of the CGG sequence, which prevents the expression of the FMRP protein with subsequent neurodevelopmental impairments. Studies on subjects with FXS and ASD have revealed variability on the presence and intensity of autism features presentation, and had showed improvements when intellectual functioning is increased.

OBJECTIVE: To examine the association between demographic and genetic factors on clinical manifestations of a Chilean FXS sample.

METHOD: Ethics Committees of The Royal Children's Hospital and INTA Human Research approved methods and procedures. A sample of 49 males and females diagnosed with FXS -aged between 3 and 43 years old- were studied. Genetic testing were used to define FMR1 gene mutation type. Wechsler intelligence scales were used to assess intellectual functioning while ADOS 2 was used to evaluate autism features. Maladaptive behaviors were examined with Aberrant Behavior Checklist- Community Fragile X adaption (ABC-CFX). Statistical analysis was performed using the IBM SPSS v25 software. Categorical and continuous variables were analyzed differently using descriptive statistics, correlation and regression methods.



RESULTS: Compared to females, a higher proportion of males presented ID (95.1%; $p=0.004$) and autism features (92.7%; $p=0.009$). Females showed better intellectual functioning and lower severity of autism features than male group. Males were reported to have higher scores on the irritability, hyperactivity, lethargy, stereotypy and inappropriate speech domains (ABC- CFX) compared to females. Further, age was significantly correlated with intellectual functioning (VIQ: $r_s=0.632$, $p=0.001$; PIQ: $r_s=0.466$, $p=0.002$) but no with ASD. Younger participants displayed a more severe behavioral phenotype. In males group, no significant differences were found between Full Mutation (FM) and Mosaic (FM/PM) for Intellectual and ASD measures ($p=1.000$) with severe autism features ($CSS>4$) and floor effect (scores <50) for intellectual measures. All of mosaic males presented comorbidity (ID+ASD).

CONCLUSIONS: Results were consistent with international evidence, where males displayed poorer outcomes than females. The lack of significant differences on the expression of FXS phenotype between FM and mosaic males, which is not entirely explained by mutation type, require further research and a bigger sample size. ID and ASD are commonly related; however co-occurrence in mosaic males (100%) requires further investigation and could be obey to other pathophysiological mechanisms on FXS. Therefore, variables such as age, gender, behavior and comorbidity (ID+ASD) are relevant to consider with regards to FXS developmental trajectories and early intervention as they could positively impact on patients' quality of life.

TLI – 122: BEHAVIORAL DIFFERENCES IN PATIENTS WITH FRAGILE X SYNDROME WITH AND WITHOUT AUTISM SPECTRUM DISORDER

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INTRODUCTION: Fragile X Syndrome (FXS) is the main inherited cause of Intellectual Disability (DI) and Autism Spectrum Disorder (ASD). It is characterized by presenting a behavioral phenotype associated with hyperactivity, attention deficit, impulsivity, anxiety, behavioral disorders, autistic spectrum and global developmental delay. Behavioral disorders associated with the syndrome are the main cause of concern and family burden. There is currently no pharmacological treatment for the underlying genetic disorder and the pharmacological treatments used are aimed at treating behavioral and / or emotional symptoms.

OBJECTIVE: To assess whether there are behavioral differences in patients with FXS who present ASD compared to FXS non-ADS.

METHOD: 40 male patients with diagnosis of FXS were evaluated between 2014 and 2017 in CEDINTA, University of Chile. All of them were measured with the ABC-C behavioral survey, ADOS, and the use of medications (antipsychotics, psychostimulants, and antidepressants) was registered from de medical history. Behavioral symptomatology was measured through the subscales of the ABC survey and the use pharmacological treatment. We compared ABC-C survey an drug use among FXS patients with ASD and without ASD.

RESULTS: The median age was 15.1 (± 9.3) years. Of the total of patients, 42.5% reported drug use, and 75% had comorbidity of ASD according to ADOS. There was no difference in the use of drugs between the ASD and non-ASD group. In the ABC-C survey there were no statistically significant differences in the subscales of irritability, hyperactivity, apathy and inappropriate language. Only differences in the stereotypic subscale among the two groups was observed.

CONCLUSIONS: There are no significant behavioral or drug use differences between FXS patients with and without ASD. In the evaluation, a group with greater behavioral problems and drug use was observed, but was not related to the diagnosis of ASD. Stereotypes could be a marker of ASD in FXS, whose presence could lead to an earlier diagnosis and intervention.

DIAGNOSTICS AND COMORBIDITIES

TLI – 71: FOOD SELECTIVITY AND AUTISM SPECTRUM DISORDER. AN IN-DEPTH REVIEW.

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INTRODUCTION: High food selectivity has been evidenced in children with Autism Spectrum Disorder (ASD), which is why at international level it is sought to know the causes and effects to carry out an early intervention for the management of these problems and their derivatives. However, in Chile, there is little information about it, which is why it is necessary to know state of the art in order to guide the search for possible therapeutic strategies or appropriate management for this population, in pursuit of a better quality of life for the person and his family.

OBJECTIVE: To know, gather and analyze the current scientific evidence regarding the causes, effects and possible interventions about the food selectivity in children with ASD.

METHODS: An in-depth review of existing literature regarding the presence of food selectivity in children with ASD was performed, based on a search conducted in ScienceDirect and PubMed with the following keywords: Autism Spectrum Disorder; Feeding Disorder; Food Selectivity. Forty-one articles in English were selected, published between 2010-2019.

RESULTS: Food selectivity is five times more likely in children with ASD than in those with typical development (TD) and may extend beyond early childhood. About their causes, these are diverse, such as dental, gastrointestinal problems, different sensory processing, motor, cognitive and emotional dysfunctions, restrictive behaviours and interests and the restricted food supply granted by parents and caregivers. Its effects can be obesity, inadequate nutrient intake, high levels of stress in parents and caregivers, and a negative impact on family routines related to food. Regarding the intervention, first of all, there are evaluation guidelines to assess the reluctance of children to eat or avoid new foods (Child Food Neophobia Scale), children's eating styles (Child Eating Behavior Questionnaire) and the perception of parents and caregivers (Parental Feeding Style Questionnaire). Second, it is based on systemic desensitization and operant conditioning, which has more significant evidence of effectiveness.

CONCLUSIONS: The evidence regarding the causes and effects is inconsistent and even incongruous in multiple cases. Because food selectivity is as diverse as ASD, it is, therefore, difficult to explain this phenomenon from a single etiology; therefore, efforts should be focused on elucidating methodologies and interventions that address the needs of each child.

TLI – 41 NONCOMMUNICABLE DISEASES AMONG AUTISTIC ADULTS: SEX DIFFERENCES AND INCREASED HEALTH BURDEN

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INTRODUCTION: Autistic individuals may be at risk of premature mortality (Hirvikoski et al 2016; Pickett et al 2006). Previous research on physical health found a higher health burden among autistic individuals (Croen et al 2015; Davignon et al 2018; Diallo et al 2017; Kohane et al 2012). In addition, autistic females may be at even higher risk for medical comorbidities than autistic males (Croen et al 2015). Unfortunately, nearly all existing studies fail to sample autistic adults over the age of 35 years.

OBJECTIVES: To identify common physical health comorbidities of autistic adults over the age of 35, and autistic females.

METHODS: We developed an anonymous, online physical health survey that inquired about demographics, self-re-



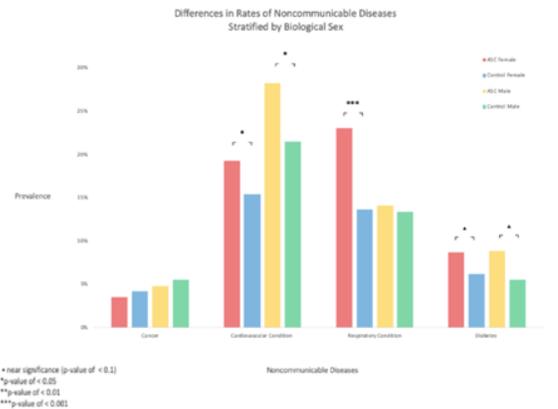
ported autism diagnosis, lifestyle choices, personal medical history, and family medical history for first-degree biological relatives. We excluded individuals with incomplete responses, ‘Other’ for biological sex, self-diagnosis of autism or suspected autism, and duplicate responses. Our final sample included n=1,156 autistic individuals and n=1,212 controls, comprising a total of n=2,368 individuals. Across both groups, the mean age was approximately 41 years and females, UK residents, and white individuals were overrepresented.

RESULTS: We conducted sex-stratified Fisher’s exact tests to determine the prevalence of non-communicable diseases identified by the WHO as accounting for nearly 70% of worldwide mortality (cancer, cardiovascular conditions, respiratory conditions, diabetes). Our results indicate that autistic females have increased rates of cardiovascular (OR: 1.31; 95% CI: 1.04—Inf; p-value: 0.027; FDR: 0.049) and respiratory conditions (OR: 1.90; 95% CI: 1.51—Inf; p-value: 8.821×10^{-7} ; FDR: 4.851×10^{-6}); and that autistic males have increased rates of cardiovascular conditions (OR: 1.44; 95% CI: 1.08—Inf; p-value: 0.017; FDR: 0.049). Further, there is evidence that both autistic males and females may be at greater risk of diabetes, though these results did not survive corrections for multiple testing. Finally, we also found increased rates of low blood pressure, arrhythmia, asthma, and prediabetes among autistic females, as well as increased rates of high cholesterol, arrhythmias, and type II diabetes among autistic males.

CONCLUSIONS: Autistic individuals may be at greater risk of non-communicable diseases than others, and this may depend on their biological sex. Greater health burden among autistic individuals, has been previously reported (Croen et. al 2015), though our results suggest that older autistic adults may have greater and wider-ranging risks. In addition, our results suggest that physical health risks for autistic adults may depend on their biological sex. Future research should aim to recruit larger samples of older autistic adults to confirm these findings; and to understand the biological or lifestyle factors that may contribute to these differences.

Table 1: Health Risks by Condition and Stratified by Biological Sex

Conditions	Control (%)	Autistic (%)	Odds Ratios (95% CI)	Fisher's Exact Test p-value	False Discovery Rate	Signif. Level
Cancer (Overall)						
Female	4.22	3.52	0.83 (0.52—Inf)	0.799	0.882	
Male	5.50	4.79	0.86 (0.48—Inf)	0.732	0.801	
Cardiovascular (Overall)						
Female	15.42	19.24	1.31 (1.04—Inf)	0.027	0.049	*
Male	21.47	28.23	1.44 (1.08—Inf)	0.017	0.049	*
Respiratory (Overall)						
Female	13.61	23.04	1.90 (1.51—Inf)	8.821×10^{-7}	4.851×10^{-6}	***
Male	13.35	14.12	1.07 (0.75—Inf)	0.417	0.573	
Diabetic (Overall)						
Female	6.15	8.67	1.45 (1.03—Inf)	0.035	0.054	▲
Male	5.50	8.85	1.67 (1.01—Inf)	0.045	0.098	▲
Low Blood Pressure						
Female	2.41	6.78	2.94 (1.84—Inf)	2.135×10^{-5}	5.872×10^{-5}	***
High Blood Pressure						
Female	9.64	7.45	0.76 (0.55—Inf)	0.949	0.949	
Male	13.87	16.03	1.18 (0.84—Inf)	0.226	0.414	
High Cholesterol						
Female	5.66	5.56	0.98 (0.67—Inf)	0.579	0.796	
Male	8.12	12.92	1.68 (1.11—Inf)	0.018	0.049	*
Heart Disease						
Male	3.14	4.07	1.31 (0.65—Inf)	0.306	0.481	
Arrhythmia						
Female	3.25	8.81	2.87 (1.91—Inf)	2.091×10^{-6}	7.667×10^{-6}	***
Male	3.40	9.33	2.92 (1.64—Inf)	4.492×10^{-4}	4.942×10^{-3}	**
Asthma						
Female	12.53	22.09	1.98 (1.57—Inf)	3.473×10^{-7}	3.821×10^{-6}	***
Male	12.30	11.48	0.92 (0.63—Inf)	0.680	0.801	
Type II Diabetes						
Female	3.01	2.44	0.81 (0.45—Inf)	0.802	0.882	
Male	1.31	4.31	3.39 (1.37—Inf)	8.764×10^{-3}	0.048	*
Prediabetes						
Female	1.33	4.07	3.15 (1.69—Inf)	5.405×10^{-4}	1.189×10^{-3}	**
Male	3.40	2.63	0.77 (0.35—Inf)	0.801	0.801	



TLI – 79: 10-YEAR HOSPITALIZATION EXPERIENCE OF CHILDREN AND ADOLESCENTS WITH AUTISM SPECTRUM DISORDER IN A SHORT-STAY CHILD PSYCHIATRIC UNIT SAN BORJA ARRIARAN CLINICAL HOSPITAL

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INTRODUCTION: Autism Spectrum Disorder, according to DSM-V classification, consists of a neurodevelopmental disease that transcends the first years of life to remain throughout life. The difficulties of the Disorder include a wide

range of symptoms that affect the activities of the child's daily life and social integration in a functional way. The symptoms can be so severe that in some circumstances require the hospitalization of the patient in short-stay Child Psychiatrist Hospital Units.

OBJECTIVES: To retrospectively describe demographic characteristics and clinical profile of hospitalized patients in the short-stay Unit of the Child Neuropsychiatry Service Of the San Borja Hospital with Autism Spectrum Disorder diagnosis between 2008 and 2018, recording diagnoses, reason for admission, age, gender, psychosocial variables, average days of hospitalization, number of patients who required re-entry.

METHODS: Retrospective descriptive study through review of manual and electronic clinical records of patients diagnosed with Autism Spectrum Disorder, admitted to the short-stay Unit of the San Borja Arriaran Clinical Hospital in the period indicated. Statistical analysis is performed with Excel Program.

RESULTS: The total sample is 16 patients. 81% men, 19% women. Reason for admission: Psychosis 54%, Aggression 38%, suicide attempt 8%. Average age was 12,5 years. Of 12 Psychometric tests performed, 42% were normal IQ, 25% were slight Intellectual Deficit in the IQ, 17% Borderline and 8% were Moderate and Severe Intellectual Deficit. Of the 9 EEG performed 78% are normal and 22% altered. 25% of the patients had a history of sexual abuse, 38% of the patients were exposed to chronic type of IFV. 8% have history of institutionalization in SENAME network. 8% received ECT.

CONCLUSIONS: 1) The mean reason for hospitalization was psychotic symptoms, several associated with behavioral disorders including physical aggression; 2) Stands out that 6,6% of the sample was diagnosed with ASD during hospitalization given its complexity; 3) The prevalence of ID (75%) and altered EEG (22%) are similar to the literature; 4) Highlights the percentage of history of sexual abuse (25%) and an exposure to IFV of 38%; 4) It would be desirable to identify and describe a profile of ASD patients that require hospitalization, which would serve to implement more specific intervention strategies for this group and to optimize their length of stay and suggestions for subsequent outpatient management. Which is especially important for those children and adolescents with ASD who are institutionalized.

TLI – 65: ASSOCIATION BETWEEN SLEEPING PROBLEMS AND BEHAVIOUR DISORDERS IN CHILDREN WITH AUTISTIC SPECTRUM DISORDERS

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INTRODUCTION: Sleeping disorders in people with autism spectrum disorder (ASD) have a prevalence up to 10 times higher than in the control population of children without autism. The types of alterations that occur most frequently are: insomnia, difficulty falling asleep, night awakenings, daytime sleepiness and difficulty falling asleep again. The population of children with ASD also frequently presents behaviour disorders, which are valued for the interference they produce in everyday life.

OBJECTIVE: Analyse the existence of a correlation between sleeping disorders and behaviour disorders in children with autism, and investigate the impact of sleep problems on disruptive behaviours.

METHOD: An observational and descriptive study was carried out. Children diagnosed with ASD with and without sleeping disorders paired by age and sex were included. Adaptive performance measurement scales, sleep and behaviour scales were used.

RESULTS: 59 children were evaluated, with an average age of 5 years (range 3 to 16 years). 7 children had sleep problems and behaviour problems. In the group of 52 children without sleeping disorders 42 had behaviour disorder. Children with low adaptive ratios presented greater difficulties in sleep and behaviour than children with better adaptive performance.

CONCLUSIONS: All children with ASD and sleeping disorder associated behavioural problems. Sleep treatment can favour performance in daily life.



COMMUNICATION AND LANGUAGE

TLI – 21: EFFECTS OF THE USE OF A SPEECH GENERATING DEVICE IN CHILDREN AND ADOLESCENTS WITH MINIMALLY VERBAL AUTISM SPECTRUM DISORDERS.

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INTRODUCTION: Language is a very important aspect of psychomotor development to consider within Autism Spectrum Disorder (ASD), at 9 months, children with ASD have difficulties in language and communication (Davidovitch et al. 2018). On the other hand, communication deficits are considered to be varied, we can find very fluent and minimally verbal children, 25% to 30% of children with ASD are minimally verbal (Brignell A, et al. 2018). In this group of nonverbal children it is necessary the intervention of evidence-based Alternative Augmentative Communication techniques, (De la Peña, 2017). Currently with the advances in technology there are Speech-Generating Device (SGD), allowing ASD children and adolescents to develop linguistic and social skills.

Is the SGD an effective alternative for communication and is it effective for family and school use of children and adolescents with ASD?

OBJECTIVES: Identify the advances obtained in the Special Education and Speech Language Pathologist therapies using the DVGSGD in 16 children with diagnosis of ASD through the “Communicative Profile” (Marimón and Cuesta, 2017); Identify the non-use of the SGD in school and family establishment of the TEA child.

METHODS: Sixteen children (12 men and 4 women) with a diagnosis of minimally verbal ASD, from 4 to 15 years of age and attending the Amancay Rehabilitation Center were evaluated, all were evaluated with the “Communicative Profile” (Marimón and Cuesta, 2017) at the beginning and at the end of the intervention with the SGD “Proloquo2Go”. The categories of the communicative profile are: Pre-intentional, Emergent and Functional Communicator. Each of them is subcategorized in initial and final. An average of 39 sessions of Assisted Language Stimulation with Psychopedagogue and Speech Therapist were conducted.

RESULTS: The validation process of the instrument is evolving, so the results shown are oriented to the progress that this group of children underwent. Of the 16 children, 13 children (81.2%) advanced category. Only 3 (18.7%) remain within their category and in this subgroup 1 advances from subcategory. For the Pre-intentional category, from 6 minors, it decreased to 3. For the Emerging category of 10 minors, they advanced 6. The Functional category was the only one that was not reported in the evaluation prior to the intervention with the SGD and then reported in 10 children. It is also obtained as a result that 6 children (37.5%) occupied the SGD in their school environment and 13 children (81.2%) in their family environment. All this means that 14 (87.5%) of the children involved with the SGD improved their communication skills by allowing them to function better in their family and social environment.

TLI – 4: NARRATIVES IN AUTISM JOURNALS: A CRITICAL DISCOURSE ANALYSIS.

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INTRODUCTION: Disability studies have shown how the use of language mirrors the underlying paradigms that have been utilized to understand disability and its shifts along the years (Davis, 2013, Hernández, 2015). In the recent years, a set of studies have stated that the language use in disability often is discriminatory because terms such as deficit and deviance predominate in the narratives (Baquero, 2015; Yupanqui et al., 2016). Alternative paradigms have opted for using terms that are oriented to the identity and participation of individuals with disabilities (Hernández, 2015; Shakespeare, 2013).

OBJECTIVES: Even when the evolution of language and its correlation with paradigm changes have been documented in disability studies, the exploration of these phenomena has been limited in autism literature. This presentation looks for describing the evolution of language use in two academic autism journals based on disability models and paradigms more utilized in the last 40 decades.

METHODS: Specifically, the present work draws on a qualitative study that utilized a critical discourse analysis to document the preponderant narratives in two recognized academic journals: JADD and Autism. The analysis was focused on two aspects: the documentation of the evolutive perspective of the language in the last 40 decades and the documentation of the current narratives. In each of these aspects, the research team analyzed the macro and microstructure of the articles content. Accordingly, a total of 95 articles were revised. For this presentation, we focus on the evolutive perspective of the language use in JADD and Autism. We center the presentation on the microstructure analysis paying special attention to the terms used to refer to a) the condition (e.g., autism spectrum, ASD), b) individual with the condition and its characteristics (e.g., autistic child, children with autism), c) individual without the condition (e.g., normal child, neurotypical child), and e) therapeutic process (e.g., intervention, accommodation).

RESULTS: Findings show that the language utilized in the analyzed journals has changed over the years. In the '80s and 90 s, the use of language is more oriented to the deficit, remediation, and disorder. In contrast, the 2000s and 2010s decades contain publications with a wider variability of terminology. Even when the deficit view is still strongly present in the literature, it is possible to observe more articles that use language focused on the description of presumed competences, differences, and strengths.

CONCLUSIONS: Changes in the use of language reflect the changes of the perspectives that have experimented autism along the years. In addition to provide documentation of these changes, the present study allows us to be aware of how the language reflects the attitudes to autism issues and the potential impact that the language has in the stigma and inclusion of individuals on the autism spectrum.

TLI – 19: ORAL COMPREHENSIVE LANGUAGE OF CHILDREN FROM 6 TO 11 YEARS OLD WITH AUTISTIC SPECTRUM DISORDER (ASD) INCLUDED IN REGULAR BASIC EDUCATIONAL INSTITUTIONS OF LIMA METROPOLITAN AND CALLAO.

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INTRODUCTION: Teaching in educational institutions (EI) of regular basic education (RBE) is strongly based on the use of oral language; on the other hand, there is evidence that many included students, particularly children with autism spectrum disorder (ASD), they have structural and formal difficulties in comprehensive language, so it is essential to have a characterization of it, in order to take the necessary preventive and remedial measures are taken.

OBJECTIVES: To characterize the comprehensive oral language of children from 6 to 11 years old with ASD included in RBE of Metropolitan Lima (ML) and Callao; and verify if there are significant differences regarding to their peers with neurotypic development.

METHODS: Descriptive, non-experimental and transectional research; variables, neurodevelopment characteristic (neurotypic and ASD), and comprehensive oral language; history, maturation, instrumentation, selection, equalization treatments and test effects were controlled; the sample consisted of 40 boys and girls (20 neurotypic and 20 with ASD) residing in ML and Callao, selected in an unprobabilistically intentional way with inclusion – exclusion criteria based on DSM 5 indicators; between 06 and 11 years old, studying between the 1st and 6th grade of primary school, Spanish as the mother language. As instruments were used, Grammatical Structures Comprehension Test (GSC); and the Test to evaluate the comprehension of Narrative Discourse. For the descriptive analysis, the median (Mdn) was used, and as a measure of dispersion the interquartile range (Ric[']); the statistical significance was established with the Mann-Whitney test (U) and the size assessment using *d* of Cohen.

RESULTS: The syntactic comprehension (95%) and the oral lexical comprehension (90%) of children with ASD ex-



amined is found between the deficit and low levels; the 95% also presents an oral comprehension of nouns, verbs and adjectives at the same levels; in narrative discourse comprehension, the 65% is located at the low level; while the comprehension of literal (70%) and inferential questions (55%) fluctuates between deficit and low levels. Children with ASD, regarding to their neurotypic peers, have lower scores in all the variables analyzed, these differences being moderate to large. In oral syntactic comprehension and oral lexical comprehension (verbs and adjectives), the difference is large; while in nouns it is moderate. In narrative discourse comprehension (literal questions) the difference is also large; being moderated in inferential questions.

CONCLUSIONS: It was confirmed that children with ASD shows moderate to severe deficits in comprehensive oral language, and their performance significantly below than the one presented by their neurotypic peers.

KEYWORDS: Oral comprehensive language; Autistic spectrum disorder

TLI 75: FACE SCANNING AND EMOTIONS RECOGNITION IN PATIENTS WITH AUTISM SPECTRUM DISORDER

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INTRODUCTION: Autism spectrum disorder (ASD) represents a heterogeneous group of neurodevelopmental disorders. The diagnosis is based on social communication difficulties and on restringed and repetitive behaviours. Some authors propose that these patients may present altered face scan patterns, which would make the recognition of facial expressions difficult and, therefore, limit their social performance.

OBJECTIVE: To evaluate the ability of face scanning and the recognition of facial expressions in school-age children with ASD; and to correlate these findings with the severity of the ADOS-2 test, as well as the results in the pediatric empathy and systematization ratio.

METHODS: A sample of 11 children from 6 to 14 years old was obtained. They had a diagnosis of high-functioning ASD and were tested with an ADOS test, empathy and systematization ratio and the Eye Link 1000 eye-tracking system. The stimulus used in the latter was the Baron-Cohen face test. This was an experimental cross-sectional study.

RESULTS: We found a low proportion of face fixations in general. The longest duration and proportion of fixations (25.42%) was on the eyes. The patients had a performance of 67.27% in the recognition of facial expressions, recognizing 59% of simple emotions and 77% of complex emotions. The performance in recognizing basic emotions, such as fear, sadness, anger and joy, was 73.83%. We found a negative correlation between the minimum of looks in the eyes and the performance in recognizing complex emotions ($r(10) = -0.7$, $p = 0.015$). We also found a positive correlation between regressive saccades and the overall performance, this was more evident when evaluating simple emotions. On the other hand, we found a positive correlation between the severity of the ADOS test and the performance in recognizing general emotions; this was more significant in simple emotions. There were no significant correlations regarding the empathy and systematization quotient. However, when considering the empathy index by itself, we found a negative correlation between the empathy index score and the standard deviation of the proportion of looks into the eyes, as well as the maximum of looks at the face, the standard deviation of looks at the face and the minimum duration of face fixations.

CONCLUSION: The prognosis of ASD patients depends largely on early treatment. Hence, there is a constant focus on developing new techniques to allow diagnosis at an early age. Poor social performance is a relevant clinical feature in ASD, with poor eye contact being an early sign. Under this premise, we analyzed face-scanning in ASD patients, and found lower performance in face fixation and in facial expressions recognition. In the future, this could become a tool to support early diagnosis.

POSTER SESSIONS

TLI – 1: DEVELOPING A RESEARCH - SCIENTIFIC BASED INTERVENTION PROGRAM IN PERU

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INTRODUCTION: There is evidence that early intervention is effective in improving skills of young children with Autism Spectrum Disorders (ASD). However, at this time, there is a lack of awareness in Latin America regarding the benefits of early diagnosis and intervention for young children with ASD. As such, there is an urgent need to address this by integrating basic research into clinical practice in the region. The current study was conducted in Lima, Peru. Assessments and interventions were completed in Spanish. Currently, there are few, if any studies that meet the same criteria in the research literature.

OBJECTIVES: This study assessed the progress of an early intervention program based on the principles of applied behavior analysis (ABA) with a group of Spanish speaking young children with ASD in Lima, Peru. Over a period of 1 year, 14 males with ASD, 33 to 71 months (Mean age 46.9 ± 11.8) participated in a center-based early intervention ABA program.

METHODS: All 14 participants were evaluated at intake using the Autism Diagnostic Observation Schedule, Second Edition (ADOS-2), the Assessment of Basic Language and Learning Skills - Revised (ABLLS-R), and the Autism Diagnostic Interview - Revised (ADI-R). The first two instruments were repeated at 12 months for 5 participants (mean age 53.6 ± 10.7 months), and at 6 months for 9 (mean age 55.8 ± 11.9) participants. Given language level and age of the participants, all were administered Module 1 of the ADOS-2. All 14 participants were from Spanish-speaking families, living full-time in either Peru. Intervention for all participants included one-to-one ABA sessions for 24 hours per week.

Results: Results indicated a significant decrease in ADOS-2 Comparison Scores and a significant increase in the number of objectives met as reported by the ABLLS-R protocol for each participant. For the 5 participants whose evaluations were repeated 12 months after intervention was initiated, ADOS-2 Comparison Scores decreased by an average of 3.0 points (± 1.0), and they gained an average of 286.4 (± 146.1) objectives as measured by the ABLLS-R protocol. For the 9 participants whose evaluations were repeated after 6 months of intervention, ADOS-2 Comparison Scores decreased by an average of 1.78 points (± 0.8), and they gained an average of 132.1 (± 79.3) objectives.

CONCLUSIONS: Our data support that children with ASD can benefit from an ABA intervention program, and highlight best practices can be established and implemented in this region. These findings are important as no similar studies have been conducted and reported in Latin America. Furthermore, these data provide a foundation to improve service delivery to individuals with ASD in Latin America.

TLI- 2: CLASSIFICATION OF THE SEVERITY OF AUTISTIC SPECTRUM DISORDER BASED ON THE EYE TRACKING PATTERN

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INTRODUCTION: Autism spectrum disorder presents with early alterations in visual perception, culminating with deficits in social communication and restricted and stereotyping behaviors.

OBJECTIVE: Objective data on the visual pattern of individuals are obtained through the technique of eye tracking. It is known that the technique is effective to identify individuals with ASD in comparison with controls, but there are still no studies that use these data to classify subtypes of the disorder. The purpose of this study is to fill this gap, and to use the



data from the eye tracking associated with machine learning patterns in order to classify subgroups of ASD as the severity. For this, a model based on visual attention maps was used, which uses the captured data without filters. The classifier was tested by the cross-validation method.

RESULTS: The results showed that it is possible to classify in severe and non-severe ASD with an average of 85% accuracy, reaching a maximum of 88% accuracy, 87% sensitivity and 60% specificity.

CONCLUSIONS: It is hoped that new studies, involving larger numbers of individuals and other phenotypic characteristics, could be developed using this technique in order to identify biomarkers for the disorder.

DESCRIPTORS: Autism spectrum disorder; Fixation, ocular; Severity of illness index; Supervised machine learning; Classification; Eye tracking.

TLI – 5: EFFECTIVENESS OF A SUPPORTS-BASED APPROACH IN FACILITATING PEER INTERACTIONS IN THE CLASSROOM INCLUDING STUDENTS ON THE AUTISM SPECTRUM

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INTRODUCTION: Peer interactions is considered a major issue for students on the autism spectrum. They commonly experience challenges in developing friendships, and they have frequently been exposed to negative peer interactions (e.g., APA, 2013; Robertson, 2010). Several intervention programs have been proposed to address this issue. Most of them have taken a skills-based approach, which focuses on working toward normalizing individual skills. Despite reported effectiveness in changing individual behaviors, skills-based programs offer limited evidence for successfully building peer friendships and expose concerns about social-emotional harms (Pellicano & Stears, 2011; Sibley, 2015). These limitations have led to the development of a supports-based approach as an alternative way to facilitate peer interactions involving students on the autism spectrum (Vidal et al., 2018). This supports-based approach prioritizes egalitarian interactions, participation in shared activities, and flexible access to multimodal communicative resources.

OBJECTIVES: Because therapeutic programs that align with a supports-based approach are scarce, the present study uses a single-case experimental design to examine the effectiveness of a supports-based approach in promoting peer interactions in two children on the autism spectrum. For this purpose, the following research question was developed: Is there a functional relation between social supports and the increase of frequency of communicative offers between two children on the autism spectrum and one of their neurotypical classmates?

METHODS: An ABAB design was used to measure the effectiveness on providing classroom-based social supports in increasing communicative offers observed within 2 peer dyads. Specifically, John and Ethan were a dyad of 8-9-yr-old and Max and Reagan were a dyad of 5-6-yr-olds observed within the context art and math class, respectively. Baseline phases (4-7 sessions per phase) consisted of video-recorded observations of peer interaction during classroom activities without any explicit support by the examiner. Support phases (3-7 sessions per phase) consisted in the implementation of 4 clinician strategies (i.e., direct prompt, scaffolding, behavioral interpretation, and environmental arrangement) during classroom activities. Analysis was conducted through visual inspection.

RESULTS: Increased communicative offers were observed during supports phases for both dyads (relative to baseline phases), which indicates a functional relation between the social support provided and the increased frequency of communicative offers. In both dyads, the average number of communicative offers doubled between baseline and social support phases. Additionally, for Max & Reagan dyad, a rise of communicative offers was observed during the second baseline phase compared to the first baseline phase, which might be indicative of a degree of generalization.

CONCLUSIONS: This is one of the first studies to provide experimental evidence for a supports-based approach to peer interaction in students on the autism spectrum. Generalizations results are encouraging in showing how this approach has impact on quality of life indicators such as friendship.

TLI-6: NARRATIVES OF MOTHERS WITH CHILDREN WITH AUTISM SPECTRUM DISORDER AND DOWN SYNDROME

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INTRODUCTION: The study addresses the narratives of mothers with children with Autism Spectrum Disorder (ASD) and Down Syndrome (DS). Epistemologically, it is situated from an interpretive paradigm. The objective is to unveil descriptively the mothers' narratives from the meanings they have constructed from the experience of being mothers of children with ASD and DS.

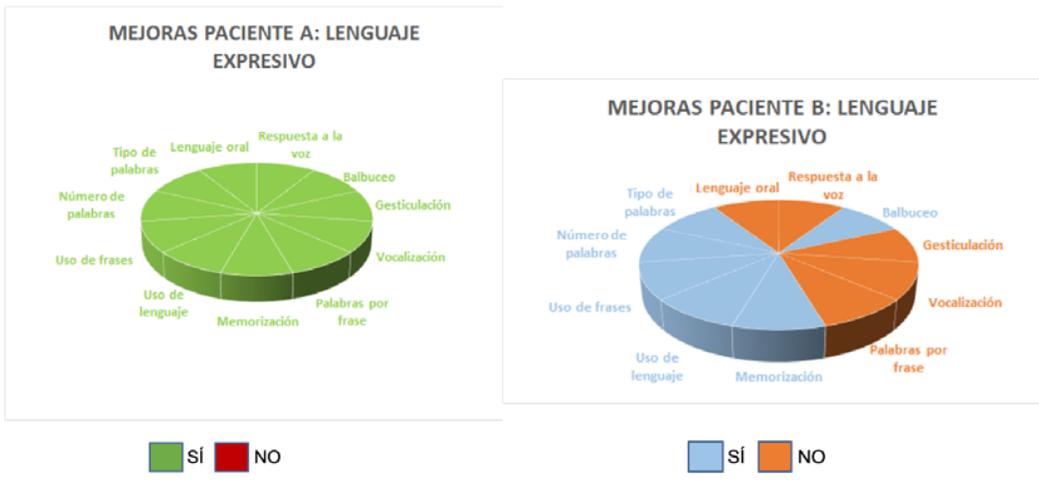
METHOD: This is a qualitative research with dense descriptive scopes, which uses the multiple case study design, since it studies two empirical fields: a special school and a regular one. Focus groups were the instruments used for the collection of data. The analysis of qualitative data was done under open, axial and selective coding, using Atlas ti software, version 8.0.

RESULTS: The categories raised are the following: (1) *pregnancy time*. Mothers with children with autistic spectrum, suffered mainly from hypertension and gestational diabetes. They emphasized that they felt very sensitive and fearful, and that it was a time of solitude and personal questioning; they presented systematic depressive states due to the fact that the conditions were difficult and there was little presence of family support. In turn, mothers with children with DS took care of themselves, they had a good pregnancy, and they kept high expectations of their children. (2) *Moment of child delivery*. Mothers of children with DS manifested that the birth of their child with this condition brought with it the death of their ideal child, leaving behind the imaginary of an "intelligent child", or "professional child". In this phase, expressions such as: mongol child, abnormal child, disabled child, sick child, and hypotonic child arise. On the other hand, mothers with children with ASD said that the moment of delivery was very traumatic since the pregnancy weeks went ahead of time. In this context the distinctive features are the following: presence of cesarean section; they could not be physically close with their child; the child did not suck, so he/she could not be breastfed. These mothers expressed sensitivity and the feeling that the conditions for a good attachment were not given, so they felt guilt, frustration towards themselves and went through depressive states, reflected in deep sadness, and responsibility.

CONCLUSIONS: Mothers with children with ASD express that their children were born healthy; their development milestones were adequate, but in their first months they experienced sleep difficulties. Then, between eight months and one year of age, their children retrogressed in different dimensions that affected the instrumental activities of daily living (IADL); for example, their children began to walk on their toes with stereotyped movements, balancing, encapsulating themselves autonomously, having no initiatives to communicate and empathize with others, focusing on details, and enjoying solitary spaces.

KEYWORDS

Autism Spectrum Disorder, Down Syndrome, qualitative research, mothers, narratives.



TLI- 7: GROSS MOTOR SKILLS TRAINING PROGRAM IN PRESCHOOL CHILDREN WITH AUTISM SPECTRUM DISORDER: FOUR CASES STUDY REPORT

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INTRODUCTION: Children with autism spectrum disorder have difficulties on communication and social skills. The National Clinical Practice guide (NCP guide: “Guía de Práctica Clínica de Detección Precoz y Diagnóstico Oportuno de los Trastornos del Espectro Autista, Ministerio de Salud, Chile, 2011”) focus on these core challenges. However, motor skills are almost not considered on traditional treatment.

OBJECTIVES: The primary objective of this four cases study was to determine whether a twelve week, one hour per week, gross motor skills training program could be feasibly delivered to three to five years old children with autism spectrum disorder. A secondary research objective was to determine whether the gross motor skills training program would improve the social, communication and motor skills proficiency of both study participants.

METHODS: Four latin american participants, two for program group (PG) and two for control group (CG), a male and a female in each group. In the PG, the female was three years old and the male was five years old. In the CG both were 5 years old. the Inclusion criteria included autism diagnosis. Exclusion criteria included the absence of commitment of parents to bring their children to the training program. Both groups were assessed on their motor skills, social behaviour and communication skills before and after the study with NCP guide and TEPSI test (Test de Evaluación Psicomotriz, national standardized and validated test in Chile). PG participants then attended a gross motor skills training program for one hour per week for twelve consecutive weeks. The gross motor skills training program design was based on training programs founded in scientific literature, regional experts on autism spectrum disorder (speech therapist, occupational therapist, physiotherapist) and parents. It included a circuit with psychomotor tools and a picture exchange communication system.

RESULTS: Results indicated that parents were able to take their children to the program and they completed the program for one hour per week for twelve weeks. Individual improvements of PG were identified by NCP guide. Some of them are better home routines and habits, more attention on games and quality on exploratory experience, better verbal expression of basic needs like cold or hungry, fluency improvements, more vocabulary and a change in the utility of the game, from being manipulative to being functional. Improvements in CG were in smaller quantity and less varied. TEPSI test could be taken after twelve weeks only in PG participants.

CONCLUSIONS: Findings from this four cases study indicated that running a gross motor skills training program for children between three and five years old with autism spectrum disorder can be done. Results open the question that if it is possible to do a gross motor skills training program in a larger population.

TLI – 9 : FUNCTIONAL EVALUATION OF CHILDREN USING THE CODING SYSTEM OF THE WHO – ICF (INTERNATIONAL CLASSIFICATION OF FUNCTIONING, DISABILITY AND HEALTH) PEDIATRIC VERSION. FIRST PROJECT OF ICF INTEGRAL APPLICATION ON ASD (AUTISM SPECTRUM DISORDER) PATIENTS IN LATIN AMERICA

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INTRODUCTION: The International Classification of Functioning, Disability and Health (ICF) developed by the WHO to describe health states, takes into account the child/adolescent in its context, from a biopsychosocial perspective. It provides a framework to describe the strengths and difficulties in the activities of daily life. Notably, for the child and his family, problems in functioning are often more important than the diagnosis itself, and are usually the reason for initial referral to services and the focus for interventions and supports. The ICF consists of over 1,600 categories providing a hierarchical system of information about bodily functions and structures, activity and participation and environmental factors. To facilitate the application of the ICF in day-to-day practice, shorter and more user-friendly Core Sets have been developed, which represent shortlists of ICF categories that cover the most relevant areas for a specific condition. In 2018, the core sets for autism spectrum disorders (ASD) were created for the application of the ICF in daily practice.

OBJECTIVES: To select from the Core Set Autism comprehensive, the most representative categories for our population in Argentina; to propose specific tools to evaluate them and to know its clinical applicability.

METHODS: Observational, cross-sectional, descriptive study with prospective data analysis. Patients under 16 years of age with a diagnosis of ASD, from follow-up consultation were included. 27 categories were extracted (9 categories of bodily functions, 13 categories of activity and participation and 5 contextual factors). The specific tools are described in the toolbox (Table 1).

RESULTS: Twenty children, 18 boys and 2 girls were included. Median age 84 months (44- 192). Table 2 shows the outcome in each category.

CONCLUSIONS: This is the first clinical experience that applies the ICF categories proposed in the Core Sets for the comprehensive evaluation of children with ASD in the region. The categories selected on the bases of clinical experience represent the global functioning of our population. The items related to the skills of daily life are very important aspects to work on, to enhance the therapeutic goals within a family centered approach. Some barriers have been found in education and access to treatments that once identified should be solved to improve daily functioning in children with ASD. Using a biopsychosocial perspective and taking into account the parents' perspective was a very enriching experience. The problems found in the evaluation were not always coincident with the goals of the therapeutic teams. This led to exchanging opinions and suggestions with parents and teams. We will continue working on the selected instruments, seeking to standardize the evaluation and to share it with other centers in Latin America.



Table 1. ICF Core sets based -toolbox

Category	Body functions	Tools			
b117	Intellectual Functions	CAT/CLAMS (DC)	WPPSI	Stanford	
b125	Dispositions and Intra-personal functions	CARS (Item 3)		Binet	
b134	Sleep Functions	VAS			
b156	Perceptual Functions	VAS			
b1670	Mental Functions of Language-Receptive	CLAMS (DC)	CELFB (SS)	Gardner (SS)	PLS VABS (v-Scale receptive subdomain)
b1671	Mental Functions of Language-Expressive	CLAMS (DC)	CELFB (SS)	Gardner (SS)	PLS VABS (v-Scale expressive subdomain)
b7602	Control of voluntary movement functions- Coordination	VAS			
b7652	Involuntary movement functions-Tics and Mannerisms	ADI-R (Item 77)			
b7653	Involuntary movement functions-Stereotypies and motor perseveration	ADI-R (Item 78)			
Activities and participation		Tools			
d110	Watching	ADI-R (Item 50)			
d115	Listening	CARS (Item 8)			
d130	Copying	CARS (Item 2)			
d155	Acquiring skills	VABS (SS DLS domain)			
d250	Managing one's own behavior	CARS (Item 6)			
d330	Speaking	Observation/interview			
d335	Producing nonverbal messages	ADI-R (Items 42, 43, 44 y 45)			
d350	Conversation	ADI-R (Item 35)	ADOS (conversation)		
d530	Toileting	VAS			
d550	Eating	VAS			
d710	Basic Interpersonal Interactions	VABS (v-Scale Interpersonal Relationships subdomain)			
d815	Pre school education	VAS			
d820	School education	VAS			
d920	Recreation and leisure	VABS (v-Scale Play and Leisure Time subdomain)			
Environmental Factors					
e125	Products and technology for communication	Interview			
e310	Immediate Family	Interview			
e330	People in position of authority	Interview			
e355	Health professionals	Interview			
e550	Legal services, systems and policies	Interview			

VAS: Visual Analog Scale

Table 2. Relative frequency of children with autism in body functions, activities/participation/environmental factors-categories extracted from the ICF Comprehensive Core Set for ASD

Category	Body function	Qualifier 0 (No problem)	Qualifier 1 (mild problem)	Qualifier 2 (moderate problem)	Qualifier 3 (severe problem)	Qualifier 4 (complete problem)	Qualifier 8 (No specified)	Qualifier 9 (Not applicable)			
b117	Intellectual Functions	10	0	15	25	20	30	-			
b125	Dispositions and Intrapersonal functions	10	25	55	10	0	-	-			
b134	Sleep Functions	75	15	5	5	0	-	-			
b156	Perceptual Functions	25	45	15	10	5	-	-			
b1670	Mental Functions of Language-Receptive	20	30	25	20	5	-	-			
b1671	Mental Functions of Language-Expressive	25	15	30	25	5	-	-			
b7602	Control of voluntary movement functions-Coordination	55	35	10	0	0	-	-			
b7652	Involuntary movement functions-Tics and Mannerisms	40	20	30	10	0	-	-			
b7653	Involuntary movement functions-Stereotypies and motor perseveration	15	25	50	10	0	-	-			
Category	Activities and participation	Qualifier 0 (No problem)	Qualifier 1 (mild problem)	Qualifier 2 (moderate problem)	Qualifier 3 (severe problem)	Qualifier 4 (complete problem)	Qualifier 8 (No specified)	Qualifier 9 (Not applicable)			
d110	Watching	15	50	25	10	0	-	-			
d115	Listening	20	45	25	5	5	-	-			
d130	Copying	30	45	15	10	0	-	-			
d155	Acquiring skills	10	40	35	15	0	-	-			
d250	Managing one's own behavior	20	30	45	5	0	-	-			
d330	Speaking	30	20	15	20	15	-	-			
d335	Producing nonverbal messages	25	30	25	20	0	-	-			
d350	Conversation	0	35	15	20	10	-	20			
d530	Toileting	35	25	10	10	20	-	-			
d550	Eating	15	25	35	10	15	-	-			
d710	Basic Interpersonal Interactions	10	25	55	10	0	-	-			
d815	Preschool education	0	15	0	5	10	-	70			
d820	School Education	45	10	10	5	0	-	30			
d920	Recreation and leisure	0	35	45	15	5	-	-			
Category	Environmental Factors	Mild Barrier (1)	Moderate Barrier (2)	Severe Barrier (3)	Complete Barrier (4)	No facilitator/no barrier (0)	Mild Facilitator (+1)	Moderate Facilitator (+2)	Substantial Facilitator (+3)	Complete Facilitator (+4)	No applicable
e125	Products and technology for communication	0	10	5	10	30	5	0	10	10	20
e310	Immediate Family	5	0	0	0	0	0	15	55	25	-
e330	People in position of authority	0	0	10	5	0	15	25	40	5	-
e355	Health Professionals	0	0	10	5	0	15	25	40	5	-
e550	Legal services, systems and policies	0	0	5	0	0	0	0	95	0	-

TLI – 13: KNOWLEDGE OF CHILE’S EARLY CHILDHOOD EDUCATORS ON EARLY WARN-

ING SIGNALS OF AUTISM SPECTRUM DISORDER.

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INTRODUCTION: The early diagnosis of Autism Spectrum Disorder (ASD) results in initiating a multidisciplinary therapy that allows the child to develop better and integrate better in society. During the last years in Chile, within the Public Policies is promoted the significant increase in the coverage of early childhood education, making possible than many children to be inserted into the educational system from the first years of their lives.

OBJECTIVE: The objective of this study is to evaluate if the Early Childhood Educators (ECE) have knowledge that allows them to suspect an ASD in the children who attend preschool education, so that they can be referred to the health network for diagnostics assessment as soon as possible and appropriate interventions can be initiated early.

METHODS: The present study corresponds to a descriptive, observational, cross-sectional study (quantitative methodological orientation). From November 2013 to January 2014, a survey was applied to 106 ECE who actively work in kindergartens and nurseries in the Metropolitan Region. The survey included warning signs of ASD symptoms and “distractors” corresponding to normal milestones of psychomotor development (at 12, 18, 24 and 36 months). The study was approved by the Ethics Committee of the Clinical Hospital of the University of Chile. The statistical analysis was performed with the software SPSS 21.0.

RESULTS: To assess the levels of knowledge, it was first defined if they recognized the early warning signals and then if they recognized the distractors and then the joint recognition (JR). Regarding JR at 12 months 14% deficient, 68% moderate and 18% adequate, 18 months 17% deficient, 57% moderate and 26% adequate, 24 months 25% deficient, 48% moderate and 27% adequate, and for 36 months, 5% deficient, 54% moderate and 41% deficient.

CONCLUSIONS: It was determined that the level of knowledge of the sample studied is insufficient to adequately suspect the ASD and refer the children in a timely manner. At 36 months the knowledge is much higher than at younger ages. There are more faults in the recognition of distractors, which could lead to “over suspicion” and refer unnecessarily. It appears as necessary to train both teachers in TEA and normal milestones of psychomotor development to ECE, to be able to count on pre-school education as an instance where an external observer to the family nucleus, properly trained, can identify suspected cases of ASD, deriving them from adequate and timely manner to the health system, in order to confirm the diagnosis in the appropriate cases and initiate a multidisciplinary intervention in an early manner.

TLI – 14: EFFECTS OF A COMMUNICATION AND LANGUAGE PROGRAM BASED ON BEHAVIORAL ANALYSIS APPLIED IN CHILDREN FROM 2 TO 5 YEARS OLD WITH THE AUTISTIC SPECTRUM DISORDER

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INTRODUCTION: The linguistic profile of children with Autism Spectrum Disorder (ASD) is very varied, the evidence indicates problems in communication, vocabulary, comprehension, conversational and discursive skills, being the pragmatic the most deteriorated aspect. On the other hand, there is no agreement on the most suitable method of intervention, however, there is a consensus that the development of spontaneous and functional communicative skills must be prioritized, seeming to be, that behavioral-based interventions in structured environments positively affect the acquisition of new language skills. This approach requires organizing background and consequential events that allow a structured teaching, precise intervention strategies and individualized recreational activities, as well as potentials reinforcers. This study is important, because it provides evidence that supports behavioral work strategies, in improving the language and communication of children with ASD.



OBJECTIVES: Improve the communication (instrumental, interactional, personal, heuristic and imaginative functions) and language (pragmatic, lexical-semantic, comprehensive-expressive morphosyntaxis, and expressive phonetics-phonology) of a group of children with ASD from 2 to 5 years old; and test the methodology of the Communication and Language Program based on Applied Behavioral Analysis (CLP-ABA).

METHODS: Exploratory, pre-experimental investigation of a single group with pretest-posttest; independent variable, CLP-ABA, and dependents, communication and language; history, maturation, test effect, instrumentation and equalization treatments were controlled; participants, 14 boys and girls from 2 to 5 years old with ASD grade 2 or 3 in communication and social interaction and in repetitive and stereotyped behaviors, with or without intellectual control and with language management; with or without schooling, and Spanish-speaking parents; instruments, Oral Language Development Exploration (OLDE), Battelle Development Inventory, and Adaptive Behavior Assessment System (ABAS II); for the analysis of results, all the study variables are standardized, so that these are between the values of 0 and 10; mean (M) and standard deviation (DS) were used for descriptive analysis; while the practical significance of the differences in the evaluations was analyzed using the effect size (d); the inferential analysis was performed with the Student's t-test (t) for related samples.

RESULTS: Large size and statistically significant improvements in instrumental, interactional and personal functions; also in the comprehensive-expressive processes of the components, pragmatic, lexical-semantic and morphosyntactic; moderate improvement of the expressive process of the phonetic-phonological component. Heuristic and imaginative functions showed small size and not significant improvements.

CONCLUSIONS: The results achieved allow us to assume that the CLP-ABA is a useful program for the improvement of communication and language in children with ASD from 2 to 5 years old.

TLI – 17: ANNUAL TREND IN DIAGNOSTIC AGE OF AUTISM SPECTRUM DISORDER (ASD) IN THE ASD SPECIALIZED UNIT (SU-ASD) OF THE PEREIRA ROSSELL HOSPITAL CENTER (CHPR) IN THE LAST 12 YEARS AND ITS ASSOCIATION WITH DIFFERENT VARIABLES

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INTRODUCTION: ASD represents a group of neurodevelopmental disorders that have increased their prevalence worldwide. Detection and precocious diagnosis are essential in order to initiate a treatment programmed as early as possible. In Uruguay, based on a survey of family members of patients with ASD, it is estimated that the age of identifying the first symptoms is at 21 months, with an age of establishment of ASD diagnosis at 49. In our country, efforts have been made to shorten this time frame, with a development monitoring guide (GNVD). The SU-ASD of the pediatric hospital of national reference (CHPR) receives patients from all over the country and it is of interest to analyze the age of consultation since its creation.

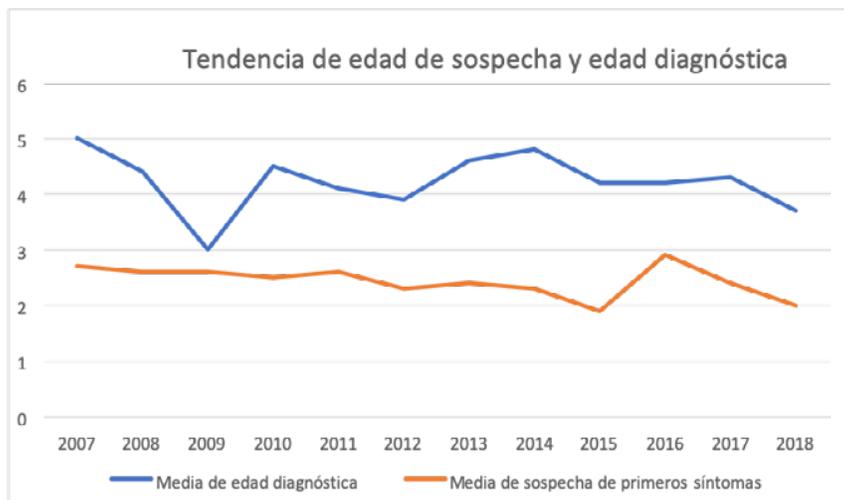
OBJECTIVE: To examine the annual trend in age of identifying the first symptoms, establishment of ASD diagnosis and its association with different clinical-epidemiological variables in children and adolescents who consult in the SU-ASD of CHPR, during the 2005-2018 period.

METHODOLOGY: Observational, descriptive study. Anonymized patient records from the SU-ASD of CHPR are analyzed, that consulted for the first-time during January 2005-July 2018. Data analysis in SPSS. The study is approved by the research ethics committee.

RESULTS: Data was obtained from 406 patients, 45% of the consultations were concentrated in the last 4 years. Greater prevalence in males 5/1, 60% from Montevideo, 18% were not attending school. Age of consultation: mean 5.5 years, mode 3, and range 1-13 years. 83% presented ASD diagnosis. 50% was of mild severity. Age of identifying the first symptoms: 43% had symptoms in the first 3 years. Age of ASD diagnosis: At 5 years 50% already presented the diagnosis. Referrals come from: pediatric psychiatrists (40%) neuropediatricians (31%), pediatricians and family medicine 12%. There are no statistically significant differences in the trend of identifying the first symptoms and ASD diagnostic

age, maintaining stability over time. Significant difference in severity, with a greater frequency of mild ASD since 2013 is shown. Since 2015, the referral by pediatrics and family medicine has increased 8 fold, supporting the use of GNVD.

CONCLUSIONS: In spite of the significant growth of consultations in the unit, there exists stability in the age of identifying the first symptoms and ASD diagnosis, which coincides with international data. A limitation is that the SU-ASD is not first level of care, where the impact of strategies for earlier detection and diagnosis can be shown with greater sensitivity. Extending research to other levels of care is required. The data obtained allows an increase in knowledge about ASD patients in Uruguay.



TLI- 23: IMPACT OF PICTURE EXCHANGE COMMUNICATION SYSTEM – PECS IN THE INSTRUCTION COMPREHENSION OF CHILDREN WITH AUTISM SPECTRUM DISORDERS.

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INTRODUCTION: The Picture Exchange Communication System- PECS is currently one of the alternative communication systems most used worldwide for autistic children. This system is composed of figures/photographs selected in



accordance to a lexical repertoire of each individual and it involves not only the substitution of speech for a picture, but it also inspires an expression for needs and desires.

OBJECTIVE: The objective of this study was to analyze the impact of PECS in the instruction comprehension of children with Autism Spectrum Disorders (ASD).

METHOD: The sample comprised 20 children with ASD: 15 boys and 5 girls; aged between 6 and 12 years old, diagnosed by a multidisciplinary team according to DSM 5 criteria and attended by PECS Implementation Program of Department of Speech Language and Hearing Sciences at Federal University of São Paulo - Brazil. Eight visual instructions and nine oral instructions were applied at two moments of the PECS Implementation Program: at the beginning of phase II and at the end of phase IV. The Program consisted of 24 sessions of individual speech language therapy with the presence of the family member and followed the 6 phases originally proposed by the PECS Training Manual.

RESULTS: There was a significant increase in the comprehension of all instructions in the comparison between the two moments of the study. In five of the oral instructions ($p=0,001$) and five of the visual instructions ($p=0,001$) this increase was statistically significant.

CONCLUSION: It was possible to observe the positive impact of PECS in the instruction comprehension.

TLI – 26: AUTISTIC SIGNS IN EARLY CHILDHOOD IN INDIVIDUALS WITH WILLIAMS SYNDROME.

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INTRODUCTION: Williams Syndrome (WS) is a genetic disorder caused by the deletion of 25 up to 28 genes of the long arm of chromosome 7. People with WS may present socialization and behavior alterations like Autism Spectrum Disorder (ASD). The main features of the social phenotype of WS differ from the typical indicators of ASD. However, studies from the last 10 years show findings with clinical, endophenotypic and genetic evidences that reveal the need to evaluate autistic spectrum indicators in individuals with WS. Studies show that some children with WS have social and emotional difficulties than might be expected according to developmental delay, suggesting comorbidities associated with ASD.

OBJECTIVE: The study aims to verify ASD indicators in a group of individuals with WS when they were 4 to 5 years old.

METHOD: We conducted an observational study with 62 individuals with WS and their respective caregivers. The age of the WS sample was between 6 and 31 years old (mean age=15,73/standard deviation=5,70; 40 male/64,52%); 51 individuals (82.26%) were classified with intellectual disability and 10 individuals (16.13%) scored an intellectual quotient above 70 in the Abbreviated Wechsler Intelligence Scale/WASI). The sample was divided into three subgroups (15 between 6 and 11 years old; 28 between 12 and 18 years old and 19 over 18 years old). The study was approved by the Ethics Committee (Plataforma Brasil/CAAE: 25707514.0.0000.0084). Instruments: Abbreviated Wechsler Intelligence Scale (WASI), Autism Behavior Checklist (ABC) and Autism Screening Questionnaire.

RESULTS: 15 (24,20%) individuals scored into light and moderate probability for autism in the ABC inventory. From the caregivers' report, the skills with the main losses were the qualitative indicators of social interaction, especially difficulties in spontaneous imitation (74%), difficulties to absence of behaviors of sharing of interests (44%), lack of pointing, showing, or bringing objects to share interest with others (42% of the sample showed difficulties), absence of interest in peers (39%), difficulties in social interaction (39%) and difficulties in sharing imaginative play (58%).

CONCLUSION: these impairments are part of a set of skills and behaviors that must be present before 12 months of age as part of expected developmental milestones, such as pointing and spontaneous imitation. The importance of studies with this rare syndrome makes it possible to understand the social and emotional developmental milestones for early intervention. These interventions may adopt evidence-based models that have already been tested in ASD and that may benefit children with WS.

Keywords: Williams Syndrome; Autism Spectrum Disorder; Neurodevelopmental Disorders.

TLI – 27: INTERDISCIPLINARY BEHAVIORAL MANAGEMENT FOR SPECIAL DENTAL CARE: APPROACH MODEL OF SENSORY ADAPTATION AND COMMUNICATION.

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INTRODUCTION: People with Disabilities (PwD) and alterations in sensory and / or communication integration may have difficulties in accessing conventional dental care (without pharmacological and / or physical restrictions). On the other hand, the dentist does not present the necessary tools to develop a process of sensory adaptation and / or communication, for which the interdisciplinary work with the speech therapist in the dental clinic is proposed.

OBJECTIVE: Perform a sensory-behavioral adaptation for PwD with sensory, behavioral and / or communication alterations that facilitate the access to conventional dental care at the Dentistry Faculty of University of Chile.

METHOD: Descriptive study: From the universe of patients treated at the Faculty, all those who do not achieve spontaneous collaboration are included in the model. The application of this methodology should be flexible for each person, taking care of the characteristics, beliefs, habits and needs presented by the user, therefore the indicated therapy is individualized for each patient and their family environment.

Stages: 1) Develop sociography in the clinical file to design a therapeutic approach; 2) Playful and individualized therapeutic approach (sociographic) both in the waiting room and in the dental clinic; 3) Establish a psycho-affective link with the individual and caregivers; 4) Sensory, behavioral and / or communicative adaptation; 5) Spatial exploration and progressive desensitization of the phonoarticulatory organs; 6) Grant time for the integration of information and acquisition of new adaptive behaviors to the environment; 7) Involve caregivers in the construction of tasks to maintain behavioral changes over time.

RESULTS: Total clinical records from January 2017 to January 2019: 324 (Men (M):190; Women (W)134. Total patients who required adaptation: 79 (24%) (M:57 (30%); W:22 (16.4%)). Achieved: 61 (77.2%) (M:43 (75.4%); W:18 (81%)). Not achieved: 18 (22.8%) (M:14; W:4). Autistic Spectrum Disorder (ASD) – Syndromic Autism (SA) – General Developmental Disorder (GDD) : W: ASD: 16; GDD: 4; SA: 2. M: ASD: 92; GDD: 3; SA: 7. Total W: 22. Total M: 102. Proportion: M:W → 1: 4,6. Total ASD: 108. Proportion: M:W → 1:5,7. Total GDD: 7. Total SA: 9

CONCLUSIONS: 1) The order of application of these stages varies according to the characteristics and needs of each patient; 2) There was a higher percentage of male patients requiring sensory adaptation, however the success rate was higher in female patients; 3) Interdisciplinary teamwork favors the sensory-behavioral adaptation process for conventional dental care, decreasing the need for pharmacological and/ or physical restriction, protecting the safety and well-being of the patient and their family and/ or caregivers.

TLI – 28: INTERVENTION IN ADULTS WITH AUTISTIC SPECTRUM DISORDERS BASED ON THERAPEUTIC ART APPROACH.

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INTRODUCTION: Adults with Autism Spectrum Disorders have severe difficulties to participate and integrate collaboratively in social groups. In view of this, approaches derived from Art Therapy that uses the process of creative art to improve the physical, mental and emotional well-being of individuals of different ages becomes a useful tool for these purposes.

OBJECTIVES: Explain how an Art Therapy approach favors the participation of adults with autism spectrum disorders in social groups. To understand the incidence of approaches derived from Art Therapy in adults population with autistic spectrum disorder.



METHODS: This is a qualitative, descriptive and exploratory type of research in that it seeks to explain, in comprehensive manner, how an Art Therapy approach can favour the social participation of adults with autism spectrum disorder. For this purpose, an intervention was carried out in a group of 8 adults, 6 of whom responded a intellectual disability and 2 to autism disorders. Of these 6 were males and 2 females. The group's age ranged from to 47 to 31 years, with an average of 39 years. In the case of users with autism spectrum disorders one was male and the other female and their ages were 31 and 38 respectively. The group participated once a week during the months of march to december 2018, in art sessions with a duration of 2 chronological hours, where they were exposed to various materials and activities in directive, semi-directive and non directive modalities. Each sesión was recorded and expanded record of these sessions was made to identify the behaviors of people with autism spectrum disorders. It should be noted that for health reasons (episode of psychomotor agitation) one of the user with autistic spectrum disorder left the group after five sessions.

RESULTS: There is greater variability in the use of selected art materials, developing the ability to participate in group led collective creations. The development of the capacity for social participation, adapting its participation to the context.

CONCLUSIONS: By delimiting the creative process defined in three distinct instances: 1- Initial interaction, in wich the subject explores the materials; 2- Elaboration of work; 3- Completion of the work. It is found that the creative instance, at group level, favors the process of social interaction, where the dynamics of creation itself frames and delimits social action with meaning.

TLI – 30: SUCCESSFUL ORTHOPEDIC AND ORTHODONTIC INTERVENTIONS OF MALOCCLUSIONS IN PATIENTS WITH AUTISM SPECTRUM DISORDER.

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INTRODUCTION: Patients with severe Autism Spectrum Disorders (ASD) might have challenging behaviors in the dental setting due to difficulties in communication and sensory integration. Studies of malocclusion in children with ASD have shown a higher prevalence of posterior crossbite, increased overjet and severe crowding compared to neurotypical children.

OBJETIVES: To present four cases of orthodontic treatment in children with ASD.

METHODS: Patient 1: 3-year-old girl with severe ASD, presents Class III malocclusion with anterior crossbite and increased overbite. A multidisciplinary treatment plan considered special care dentist, orthodontist and speech and language therapist. A modified retainer with a sagittaly oriented screw was cemented under conscious sedation in 2017. As the parents felt unable to perform weekly turns due to the patients challenging behavior, the family had to visit the special care unit on a weekly basis for 6 months. After retention phase the appliance was removed in the conventional dental chair. Patient 2: 7-year-old boy with severe ASD, presents right side posterior crossbite. After discussing the treatment alternatives with the family, an intravenous sedation was planned to take maxillary and mandibular impressions and occlusal relationship. A modified McNamara appliance was cemented under oral sedation in January 2018. The family struggled to comply with the frequency of screw activations, delaying the treatment from 5 to 11 months. Patient 3: 8-year-old boy with Asperger Syndrome and unilateral right crossbite. After 2 sessions of behavioral management. impressions were taken and a removable expander installed in June 2015. The patient's behavior and compliance were optimal, using the appliance regularly and being able to attend conventional appointments with the orthodontist. The expansion screw was turned once a week by the parents or the orthodontist until august 2016. Patient 4: 10-year-old boy with Asperger Syndrome and moderate crowding in the upper incisors. The orthodontic treatment was challenged due to severe sensory hypersensitivity, especially on the posterior zone of the mouth. After sensory stimulation and behavioral management, fixed orthodontic braces were bonded in March 2019 in the upper incisors (front segment only).

RESULTS: Patient 1: The facial profile showed significant improvement, with facial and dental midlines coincidence and stable class I occlusion. Patients 2 and 3: Patients maintained a stable corrected crossbite. Patient 4: Tooth alignment was achieved after 5 months of treatment.

DISCUSSION: Orthopedic and orthodontic treatment needs can be effectively managed in patients with Autism Spectrum Disorders by a variety of techniques, including removable and fixed appliances, as well as fixed braces. A specialized multidisciplinary team will help defining behavioral management techniques to achieve the treatment goals. Patients and family's difficulties to commit with the instructions will impact on the duration of the treatment, which can take longer if these are not followed thoroughly.

TLI – 32: IMITATION MASTERY AS A PREDICTOR OF SKILL MASTERY DURING INTERVENTION

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INTRODUCTION: It is well established that imitation is essential in social and intellectual skill development as well as in general acquisition of skills throughout the lifespan. There is a substantial increase in a child's ability to imitate sounds, and actions that occurs early in development. The research literature includes several studies that analyze the extent to which the features of an imitative task impact the development of imitation. However, currently there are only a few studies that evaluate the impact that acquiring imitation skills through intervention has on skill mastery on other critical domains such as social and language development.

OBJECTIVES: The purpose of the current study was to investigate the relationship between motor and vocal imitation skills and social and communicative skills.

METHODS: The current study was conducted in a university-based behavioral early intervention program that provides individualized intervention addressing communication, social skills, self-care and daily living skills as well as imitation. The study used a two-level model statistical model; the first part defined each participant trajectory of total skill mastery over time. The second part was a prediction model in which imitation was the explanatory variables and the total skill mastery was the outcome.

RESULTS: Results demonstrate that the amount of imitative responses mastered predicts performance in other skill domains. Specifically, the more imitative skills a child mastered, the more skills were mastered in other domains.

CONCLUSIONS: These results suggest an important relationship between imitation skills and other skills, that may have important and long-lasting implications for overall development and outcomes. These results also have implications regarding how clinicians program for the teaching and overall development of imitation skills, given the relationship to overall outcomes.

TLI – 34: STRESS LEVEL ASSESSMENT AMONG PARENTS OF CHILDREN WITH AUTISM SPECTRUM DISORDER, BENEFICIARIES OF VALPARAÍSO'S PUBLIC HEALTH AND EDUCATION SYSTEMS.

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INTRODUCTION: Autism spectrum disorders (ASD) causes a great level of stress among parents and families. Several instruments have been developed internationally to identify the areas where parents need support. One of them is the Autism Parenting Stress Index (APSI), validated in 2012 in the United States. Its purpose is to analyze the impact of each group of symptoms of Autism in parental stress.

OBJECTIVE: To evaluate the stress level among a group of parents of children with ASD, beneficiaries of the Valparaíso's public health and education services, to generate strategies that help them diminish their stress level.



METHODS: Autism Parenting Stress Index (APSI) translation was validated based on the recommendations of Wild et al, through the translation of 2 bilingual interpreters, and subsequent comparison to prepare the final survey. It was subsequently sent to 3 bilingual physicians, who made translation adjustments, to generate the final version. The reliability of the survey was measured by interpretation of Cronbach's alpha, which resulted in a "good" range (Cronbach's alpha 0.83). Parents of children with ASD were assessed using the self-administered Autism Parenting Stress Index. The study was approved by the Scientific Ethics Committee of the Valparaíso-San Antonio Health Service.

RESULTS: 54 parents were assessed. The main age of ASD's diagnosis was 3.9 years old. The average APSI score was 20,5 of 65 points. The most stressful area for the parents were: the consequences of behavioral alterations (83%), highlighting the concern for acceptance by other children and the possibility of leading an independent life; the symptoms of autism, like few social skills, communication difficulties and repetitive/stereotyped behavior (77%); and medical comorbidity such as sleep disorders, eating difficulties and gastrointestinal disorders (50%).

CONCLUSION: Having a child with ASD represents a big challenge for families, which leads to an increase in parental stress level. The most stressful areas for parents are related to behavioral alterations that influence achieving an independent life and good social adaptation. Because of this, the highest levels of stress are related to the social perception of autism, discrimination and social stigmatization of this condition. For this reason, it's important to develop interventions directed to the most stressful topics to for the parents, with the objective of generating network support strategies focused on their own needs. At this point, the work of health and education teams is essential to improve the quality of life of these children and their families through different strategies, for example, make parents feel understood, and helping to generate new support networks with other families who live their same experience.

TLI – 36: AUTISM SPECTRUM DISORDER (ASD) AND HAZARD MITIGATION PLANS IN CHILEAN SCHOOLS (PLAN INTEGRAL DE SEGURIDAD ESCOLAR, PISE): ANALYSIS ABOUT ACTION PLANS AIMED AT INCLUSIVE PREVENTION FROM A GEOLOGICAL PERSPECTIVE. CASE STUDIES: SANTIAGO AND THE LOS LAGOS REGION

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INTRODUCTION: Chile is considered a "geological laboratory" due to the occurrence of hazardous geological processes. In Chile there are initiatives to alert and educate people about natural disasters and geological hazards, however research related to the generation of procedures aimed at people with disabilities and the people with whom they interact is scarce. This triggers an increased risk in this segment of the population from a disaster management perspective. The elaboration of Hazard Mitigation Plans in Chilean schools (*Plan Integral de Seguridad Escolar, PISE*. MINEDUC and ONEMI, 2001), should incorporate the risks inherent in the geographic locations of the schools, as well as disability and inclusion topics (MINEDUC, 2013). In practice, "inclusive" and "special" schools generally don't consider specifications related to this group in their preparation. By example, the reactions of children with ASD in a natural disaster can be unexpected, given the high stress involved. Therefore, information and proposals for teachers to help these students when a geological event occurs are fundamental, as it increases resilience in the educative community.

OBJECTIVES: We analyzed several lines of action aimed at generating information and methodologies concerning to the construction of a PISE with an inclusive approach to students with ASD which, eventually, can be extrapolated to other disabilities.

METODOLOGY: A study executed on the PISE of the Altamira School, the most recognized inclusive school in Santiago. Previous work on geological hazards allowed identifying the risks inherent in its geographic location. In addition, a critical review of disability treatment was conducted within the current PISE*, with emphasis on the responses of children with ASD in a disaster context. A second study was carried out in "inclusive" and "special" schools in Santiago and the Los Lagos Region, focusing on those students with ASD and other disabilities, as well as on the geological hazards that could affect them (Table 1 & 2).

RESULTS: The PISE of the Altamira school only presents some light instruction concerning floods, windstorms and debris flows (State of Response, Disaster Risk Management Cycle). Moreover, it contains provisions that may not be executed by students with cognitive and social disabilities. An analysis of school geodatabases, provided by MINEDUC (2018), for Santiago and Los Lagos Region allowed to determine the geological hazards in the geographic locations of *inclusive* and *special* schools and, in general, spotlighted the absence of disability topics in their PISE's (when are available) and, therefore, for the ASD condition.

CONCLUSIONS: The absence of provisions concerning students with ASD in the construction of PISE* in *special* and *inclusive* schools indicates the need to establish instances to inform about inclusive prevention and inclusive management of emergencies, as well as the need to instruct these educational communities and governmental authorities on this subject and geological hazards.



Table 1: SANTIAGO

<u>SCHOOLS</u>		<u>LOCATED</u>		<u>WITHOUT LOCATION</u>	
4148		3169		979	
<i>Santiago + San Bernardo y Puente Alto</i>					
<u>LOCATED:</u>		2632			
		<u>ASD</u>			
*PIE	896	739			
SPECIALS	564	19			
HOSPITAL Schools	16	s.i.			
TOTAL	1476	758			
Mass Movement. Antinao et al. (2003)					
<i>Debris Flow</i>		316			
		High risk	Moderate risk	(distal)	Floods
NOT INCLUSIVE		6	40	60	79
*PIE		*	10	12	84
SPECIAL		*	8	6	44
HOSPITAL Schools		*	*	2	
	<u>ASD</u>		10(+4)	12	77
Near to SAN RAMÓN fault trace. Lara (2004)					
		<1km	1-2km	2-3km	
	<i>Total</i>	45	60	83	
NOT INCLUSIVE		27	36	60	
*PIE		10	15	14	
SPECIALS		8	9	9	
	<u>ASD</u>	10	14	14	
Near to SAN RAMÓN fault trace. Rauld (2011)					
		<1km	1-2km	2-3km	
	<i>Total</i>	31	56	82	
NOT INCLUSIVE		20	33	63	
*PIE		7	12	12	
SPECIALS		4	11	7	
	<u>ASD</u>	7	13	11	
Vulnerability related to horizontal acceleration. Pérez – Estay (2016)					
		Break surface	Very high risk	High risk	Moderate risk
	<i>Total</i>	24	41	96	514
NOT INCLUSIVE		15	31	54	278
*PIE		7	6	27	134
SPECIALS		2	4	15	102
	<u>ASD</u>	7	5	26	118

*PIE in spanish: Programa de Integración Escolar

Table 2: LOS LAGOS REGION

<u>SCHOOLS</u> 1455		<u>LOCATED</u> 1179		<u>WITHOUT LOCATION</u> 276	
		<u>TEA</u>			
*PIE	474	245			
SPECIALS	80	3			
HOSPITAL Schools	2	s.i.			
TOTAL	555	248			
Schools under 30 m elevation contour or Tsunami Safety Line En according to ONEMI (2019)		291			
		Total	<u>ASD</u>		
*PIE-SPECIAL		147	54		
RURAL		94	25		
Schools near to Mass Movement. According to Garrido et al. (2018)		153			
	Total	0-50m	50-100m	100-250m	250-500m
NOT INCLUSIVE	54	5	11	64	70
*PIE-SPECIAL	99	2	7	40	49
	<u>ASD</u>	<u>47</u>	<u>1</u>	<u>2</u>	<u>15</u>
Schools in Risk Volcanic Area. According to SERNAGEOMIN (2019)		33			
		Low	Middle to moderate	High to very high	Ash fall
NO INCLUSIVE		6	11	12	4
PIE		1	4	6	3
	<u>ASD</u>	<u>1</u>	<u>3</u>	<u>2</u>	<u>3</u>

*PIE in spanish: Programa de Integración Escolar

TLI – 37: MEDIATED EDUCATIONAL INTERVENTION TO THE DEVELOPMENT OF MENTALIST SKILLS AND THE TRANSFERENCE TO SOCIAL CONTEXT FROM HOME AND SCHOOL ON CHILDREN WITH AUTIST SPECTRUM DISORDER, INSERTED IN FORMAL EDUCATION IN CHILE.

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INTRODUCTION: Children with Autistic Spectrum Disorder (ASD) have difficulties in social relationships, communication and pretence (Wing, 1981). Studies propose that it is possible to teach mentalist skills to children with ASD, however, the effects are not transferred to everyday contexts (Ozonoff & Miller, 1995; Hadwin, Baron-Cohen, Howlin and Hill, 1996). Feuerstein in his theory about Cognitive Modifiability and Mediated Learning Experience (1980, 2006), proposes that the role of the educator is to mediate, give cognitive tools so that the children carry out a process of independent understanding, in a way that they can access to solve problem in other contexts. He proposes criteria or forms of interaction for mediation to produce Cognitive Modification. The Ministry of Health is focused on the detection of ASD on children of 0 to 5-years-old and the Ministry of Education has implemented adaptations and supports, but none of them approach the need to develop the skills to social integration, wasting the role of the educator as mediator.

OBJECTIVE: Understand the role of mediation in learning mentalist skills and the transference to the social context of home and school, in two children with ASD, inserted on formal education.



METHOD: Descriptive study of a multiple case, before and after. The sample was made of a 7-year-old boy and a 9-year-old girl, who attended to a subsidized private school in the suburb of Puente Alto. Emotion recognition evaluations, understanding of belief, understanding of non-literal communicative intentions, semi-structured interview to parents and teachers were applied before the intervention, at the end of the intervention and two months after the intervention. An expert described the criteria used in the measured interaction, in each session. The intervention was based on the studies of Hadwin, Baron-Cohen, Howlin, & Hill (2006), Monfort & Monfort-Juarez (2001), Cornago, Navarro & Collado (2012) and Feuerstein (2006).

RESULTS: After the mediated educational intervention, children improved their performance on tasks that evaluate mentalist skills and both parents and teachers describe progress in social interaction (Table 1). Based on the mediation criteria described by the expert. On average, the most used criterion was transcendence (Graphic 1).

DISCUSSION: The learning achieved by the children were relevant to parents and teachers, and ease the integration in their membership groups. The mentalist skills learned by the children are part of their actual evolutionary level (Vy-gotsky, 1979), facilitating the development of new skills for social cognition. The role of the educator and the quality of the mediation using the criteria of transcendence, is fundamental for the learning to be transferred to everyday contexts. It is necessary to implement public policies which gives orientation to the educators with students with ASD to carry out mediated activities that develop mentalist skills that facilitate social inclusion.

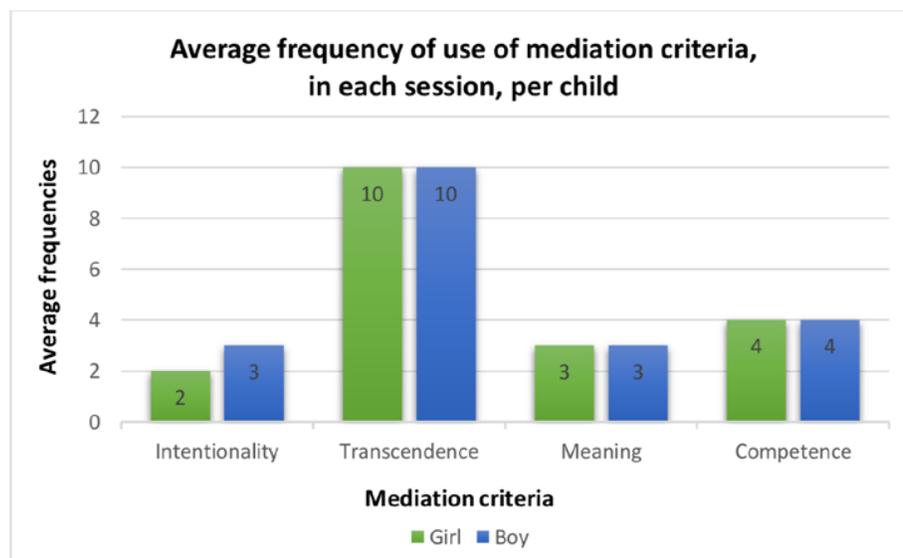
Table 1: Changes described (textual) by parents and teachers, after two months the mediated educational intervention

Sample	Mediated skills on the educational intervention	Observed behaviour by the mother at home	Observed behaviour by the head teacher at school
9-Year-old Girl	Emotion Recognition	<ul style="list-style-type: none"> • She cares about others, she asks how they are. • Understand that people get sad and that has to get closer to them. • She says when she is bored or gives reasons why she is angry. • She has two female friends on the 3eighbourhood. • She does not fight with her classmates. 	<ul style="list-style-type: none"> • She recognizes emotions and she worries. • She expresses emotions. • She does not fight with her classmates. • She integrates, plays, participates in the class. • Girls approach her. • She has developed social skills and respect rules.
	Understanding of beliefs	<ul style="list-style-type: none"> • She speaks spontaneously about her school day. 	<ul style="list-style-type: none"> • Sometimes she understands that other people can think different.
	Fiction game understanding, lies and jokes	<ul style="list-style-type: none"> • She lies. • She understands jokes. 	<ul style="list-style-type: none"> • She lies.
7-Year-old Boy	Emotion recognition	<ul style="list-style-type: none"> • He recognizes when people are sad or happy. • He tells when he is happy, sad and proud of his grades. • He eats and has "once"¹ with his family. • He participates on family reunions. • He cares about serving? 	<ul style="list-style-type: none"> • He recognizes when the teacher is getting mad. • He says he is sad. • He socializes more, he participated on the school anniversary events. • He relates to people, he is one of the group.
	Understanding of beliefs	<ul style="list-style-type: none"> • No changes are described. 	<ul style="list-style-type: none"> • No changes are described.
	Fiction game understanding, lies and jokes	<ul style="list-style-type: none"> • He lies. • He tells jokes. 	<ul style="list-style-type: none"> • He lies. • He does not cry when a teacher makes jokes or use irony.

¹ "Once" a type of meal that is usually eaten between 6 and 8 in the afternoon. Usually it is composed by Tea, Coffee, bread and butter, eggs, marmalade, depends on what a person prefers



Graphic 1: Average frequency of use of mediation criteria, in each session, per child.



TLI – 38: CONTENT VALIDITY EVIDENCE OF THE AUTISM SPECTRUM DISORDER SCREENING SCALE.

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INTRODUCTION: The use of tools for screening Autism Spectrum Disorder (ASD) is more effective in identifying early signs than considering only the clinical judgment of the pediatrician. Given the lack of a gold-standard screening tool, a scale was developed in Brazil to track autistic signs in children aged 24-36 months. Studies indicate that it is around 24 months of age that ASD signs begin to become more evident and that is when the developmental trajectory of a child with ASD would begin to diverge further from a typically developing child. In addition, screening before 24 months of age may exclude children with regressive autism. The scale presented in this study is composed of 36 items (a Likert-type scale with punctuation from one to five considering the frequency of behavior) and was constructed based on the DSM-5 diagnostic criteria. The scale should be completed by healthcare professionals from interviews with parents of children aged 24-36 months. The scale is accompanied by a supplementary manual that describes and exemplifies the five categories of behavior that comprise it: (a) shared attention, (b) social development, (c) communication and language, (d) restrictive and repetitive behaviors, and (e) response behaviors to sensory stimuli.

OBJECTIVE: Investigate evidence of content validity for the Autism Spectrum Disorder Screening Scale.

METHOD: Four specialists (health professionals with clinical experience in ASD) participated in the study. These specialists received: a list with the 36 items of the scale, a table with the constitutive definition and categorization of the items by factor and a table to assess the relevance / representativeness of each item (a Likert-type scale with punctuation from one to four). For the analyzes, the Kappa Index (k), the Intraclass Correlation Coefficient (ICC) and the Item Content Validity Index (i-IVC = number of answers 3 or 4 / total number of answers) were calculated.

RESULTS: Of the 36 items, 20 items had a Content Validity Index of 1.00. The Kappa index ranged from 0.51 to 0.94 ($p < 0.05$). Seven items presented Kappa index without agreement ($k < 0$). The calculation of the Intraclass Correlation Coefficient showed that the agreement between the specialists was excellent ($ICC = 0.90$; $p < 0.05$).

CONCLUSION: The results indicate that the scale adequately represent Autism Spectrum Disorder. This suggest an initial evidence of validity based on the content. However, other validity studies are still recommended.

TLI – 39: CHARACTERIZATION OF SCHOOLING OF A SAMPLE OF PRESCHOOLERS DIAGNOSED WITH ASD IN URUGUAY AND ITS ASSOCIATION WITH DIFFERENT VARIABLES

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INTRODUCTION: In recent years, reflections and debate regarding the right to quality education for everyone, moving from a view based on access to schools from one based in the quality of the learning achievements has deepened. This requires that the educational system and schools achieve equity in access, resources, and quality of educational processes, and therefore in learning outcomes. Moreover, education needs to be relevant and pertinent. UNESCO (2017), defines educational inclusion as “a process that helps overcome obstacles that limit the presence, participation and achievements of every student. Equity consists in ensuring that there is concern for justice, in a way that education for every student is considered equally important “. In Uruguay, legislation meant to guarantee access to quality education to persons with disabilities exists. However, various difficulties in access to schooling is frequently noted in clinical practice. Moreover, teachers lack necessary supports to ensure successful educational inclusions. The increase in early diagnosis of Autism Spectrum Disorders (ASD), together with the aforementioned paradigm changes towards inclusive education, bases the importance of deepening research in this area.

OBJECTIVE: To characterize, according to clinical, socio-demographic and educational variables, the schooling of a sample of preschoolers assessed in the outpatient clinic, specialized in ASD of the Centro Hospitalario Pereira Rossell (Montevideo, Uruguay), in the period August 2018 August 2019. To identify barriers and facilitators for the educational inclusion of this population.

METHOD: a cross-sectional, descriptive and exploratory study, based on review of clinical records. The data will be analyzed, looking for association between different variables.

RESULTS: It is expected to know the frequency of children in school and out of school. Reasons for non-schooling. Average number of hours at school. We expect to know the frequency of the average time reduction and its reasons. Determine the number of children who attend with personal assistant. Determine if there is an association between the severity of autistic symptoms, access to language and the presence or absence of disruptive behaviors and difficulties in accessing education.

CONCLUSIONS: We intend to share the results with actors of the educational system in order to contribute and generate better conditions for educational inclusion.

TLI – 40: RESCUING PARENT VOICES OF ADOLESCENTS WITH AUTISM SPECTRUM DISORDERS: USE OF THE NARRATIVE TECHNIQUE “THE TREE OF LIFE” IN A BRIEF PSYCHOTHERAPY GROUP FOR PARENTS

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INTRODUCTION: Autism Spectrum Disorders (ASD) represent a challenge for health professionals. According to studies in United States, 1 of 68 school-aged children have an ASD, which is equivalent to 14.6 per thousand (CDC, 2016). In Chile, no epidemiological studies have been reported, but as in the rest of the world a significant increase has been observed in recent years. As health professionals working with this population, it is essential to explore the parents “own experiences” parenting a child with ASD. Narrative practices could be a feasible alternative for working with parents, favoring the recognition of strengths from the resources available in the family and in the culture.

OBJECTIVES: This qualitative exploratory study examines the experience of a 6-session parent group intervention using the narrative technique “The Tree of Life” (Ncube, 2006; Denborough, 2008). It aims to describe a document collectively created by participants wherein parenting resources and values are rescued.



METHODS: Parents of adolescents with ASD (n=6), aged 14 to 19 years participated in this study. Six group psychotherapy sessions of two hours and weekly frequency were conducted. Demographic data of the population treated on an outpatient basis in the Psychiatry unit is described. A collective document was created by the parent group to resume the resources and values important for them. This document was created using as a framework the guidelines of collective narrative practices (Denboroguh, 2008). A qualitative analysis of the sessions based on notes and transcriptions was performed. This study has been approved by the Bioethics Committee of the Hospital Naval Almirante Nef.

RESULTS: The intervention reveals the need of this group of parents to share their parenting experiences in raising a child with ASD. For all of them, it was the first time participating in a parent group. It allowed to identify resources and values that parents have developed and maintained parenting a child with ASD from infancy to adolescence. The preparation of a collective document was achieved. The document named by the participants as “A light in our lives: the day-by-day with the ASD” constitutes a collective testimony of parenting experiences, skills and resources. This document will be available in the Psychiatry Unit, to create awareness of ASD and leave a legacy to other parents. This work has enhanced a sense of “Comunitas” (Turner, 1986) between the participants, highlighting the values and the diverse voices of this ASD parent group.

CONCLUSIONS: This study highlights the need to create groups especially designed for parents with ASD youngsters. Our findings suggest that learning from the narratives of resilience, and the experiences of transformation of parents with ASD adolescents, can lead to parents and health professionals to a different perspective on the patients, their families and ASD.

TLI – 42: AUTISM AND SOCIAL VULNERABILITY IN HIGHER EDUCATION.

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INTRODUCTION: Students with autism and other disabilities face several barriers in higher education, such as difficulties in relationships with peers and teachers, difficulties in performing academic activities, especially assessments, as well as low level of perception of social support (Olivati & Leite, 2017; Batista & Nascimento, 2018). In addition to these factors mentioned, some students with autism have socioeconomic vulnerability, that is, they are low-income students who depend on financial support from the university.

OBJECTIVES: The research aimed to understand how autistic students, whose social difficulties are widely discussed in the literature, deal with the pressure related to their condition of double vulnerability in the university – autism and financial difficulties – from the concepts of motivation and resilience.

METHODS: Three students enrolled in different higher education courses at the Federal University of Minas Gerais were selected. All students are diagnosed with autism and receive student assistance through a foundation. Interviews were conducted with the students to verify the motivational and resilience aspects that contribute to their remaining in the university, despite the adversities. The software DSC Soft was used for the analysis of the results, which allows the verification of collective categories through key expressions, central ideas and anchorages of speech. In addition to the interviews, the students’ transcripts were consulted.

RESULTS: The results showed that relationships with colleagues and teachers are barriers that make it difficult for the subjects to stay in university. The subjects also pointed out that the financial support of the university is fundamental for continuing their studies, while considering that it is still necessary to advance in other aspects, such as the reception of differences in the collective space. The motivation to stay in university comes from the possibility of having a better life with the achievement of the diploma.

CONCLUSION: The research demonstrated the urgent need to develop public policies that decrease the probability of students with autism dropout. Since 2018, Brazil has reserved part of the vacancies in public universities for students with disabilities. Guaranteeing access is important, however, it is necessary to establish internal policies that guarantee the permanence of these students.

TLI – 43: SOCIAL SUPPORT AND INTENSITY IN ASD EARLY INTERVENTION: A CASE STUDY IN BRAZIL.

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INTRODUCTION: Early intervention can be deeply beneficial for autism spectrum disorder (ASD). According to literature, good prognosis is related to early, specialized and intensive intervention. However, response to programs is variable. Besides that, it is important to understand the impacts of interventions models across and within cultures. We intend to present a case study discussing Brazilian social and cultural aspects, which has appeared during the implementation of an Intervention program based on the principles of Early Start Denver Model (ESDM). For this process, culture adaptation were needed in many aspects. For example: it was impossible for the team to offer therapy sessions at the family residence, thus, the therapy took place at a school clinic, situated within a Psychology Department of an important Brazilian university (Universidade Federal de Minas Gerais); the children had to do occupational therapy and speech therapy by side. **OBJECTIVES:** Evaluate Brazilian social and cultural aspects that interfered in implementation of an early Intervention program. The most important aspect, which we aim to discuss here, is the difficulty to implement the recommended intensity of the therapy proposed, and the consequences of failing to do so.

METHODS: The child started the intervention at the age of 28 months old and continued the treatment for 9 months long. We provided access to 9 to 12 hours of therapy weekly plus parental coaching (one hour per week). We evaluated the daily progress data and ESDM checklists curriculum. By evaluating the data collected, in a daily progress record, it was possible to identify variables that interfered in the better progress of the intervention. In the beginning of the treatment, the child attended 90% of the sessions. During this period, 94% of the objectives were reached. However, subsequently, with a slight reduction in the attendance rate, the objectives achievement dropped down to 34%. In the last quarter, with the lowest attendance throughout the intervention (only 58% in the sessions), the child acquired less than 1% of the objectives (1 out of 19 objectives).

RESULTS: Therefore, there is a direct relationship between the number of objectives reached and the intensity of the intervention. The low attendance was due to an increase of family vulnerability, as they are socioeconomically underprivileged. In Brazilian's public health system, there is an omission on therapeutic support benefits. Besides that, due to the child's parent divorce, plus an ASD diagnosis of their second child, parental stress got higher. Macrossocial aspects (high social vulnerability) that can affect the micro- social context of the family (divorce). We suggest the relevance of intervention intensity, which can only be achieved through public policies that could guarantee the necessary support to families.

CONCLUSIONS: More extensive studies on the importance of the social support for families are needed, especially considering the role of the state in this scenario. New studies, with better analyses of macro- microsocial variables and considering parental needs, will be needed to figure out the issue.

TLI – 44: EARLY ATTENTION IN CHILDREN WITH ASD: INTERDISCIPLINARY INTERVENTION PROPOSAL IN CHILE.

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INTRODUCTION: In Chile there is a comprehensive Early Childhood Protection System named "Chile Crece Contigo" (ChCC), which aims to provide social and health support for all children from pregnancy to 9 years old. Within this system there is a health component named "Biopsychosocial Development Support Program", a complete follow-up of motor and cognitive skills. In addition, since 2011, there are Clinical Guidelines with recommendations regarding early care of children with Autism Spectrum Disorder (ASD). However, due to the limited time in primary attention centers and that the application of the ASD warning signs checklist is not mandatory, many children are not diagnosed early and only get access to support when they are older.

OBJECTIVE: To propose an early detection, diagnosis and intervention protocol for children with ASD, within the setting of the ChCC.



METHOD: From the existing Clinical Guide, in the frame of the ChCC program, an early detection, diagnosis and intervention flowchart is proposed for children who show warning signs of ASD. Also, it is considered that the necessary supports should be made within the NANEAS benefits (Boys and Girls with Special Healthcare Needs, by its acronym in Spanish), since children with ASD meet the characteristics of the “low complexity” category, in which the attention’s emphasis is accompaniment, connection with local resources and promotion and prevention of health, in order to avoid complications and sequelae due to late diagnoses.

RESULTS: The short-term results, after the implementation of this guide, are expected to be: equal access to the ASD detection and diagnosis process, without socioeconomic level interference; creation of a consolidated statistical data on the prevalence of ASD in Chile; and a decrease in interprofessional pilgrimage of families, among many others. In the long term the benefits can be summed up in an increase in autonomy of people with ASD and their families, more and better social inclusion, as well as a decrease in medications and hospitalizations in adult life.

CONCLUSIONS: It is important to begin prematurely with the process of early detection, diagnosis and intervention in Chile’s public health system. Nonetheless, since ASD is a lifelong condition, the reorganization of care should be even more profound, modifying the current health approach from the welfare of the patient, to the active participation of users and their families in their empowerment and rehabilitation, and, in the long term, to promote real inclusion in Chilean society at the educational, labor, leisure, civic, social and emotional activities.

TLI – 45: IDENTIFYING BARRIERS ASSOCIATED TO THE QUALITY OF LIFE IN SCHOOL-RELATED SETTINGS OF STUDENTS WITH AUTISM SPECTRUM DISORDER, BELONGING TO THE SCHOOL INTEGRATION PROGRAM OF THE MUNICIPAL COUNCIL OF QUILPUÉ, 5TH REGION, CHILE

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INTRODUCTION: The areas of development affected by Autism Spectrum Disorder (ASD) have a significant impact on the quality of life of individuals with this condition. Moreover, the characteristics of ASD that were observed often make it difficult to perform a subjective assessment of the insight of each person’s level of satisfaction with life in different contexts. Therefore, it is essential to have studies that provide access to information about the barriers imposed by surroundings on the quality of life of people with ASD, especially in schools —where these students spend most of their time— in order to offer an academic environment that is in line with their neurodiversity.

OBJECTIVES: Identify the barriers pertaining to the quality of life in school-related settings of students with ASD attending institutions that offer Programa de Integración Escolar (PIE) [School Integration Program] of the Municipal Council of Quilpué, 5th Region, Chile.

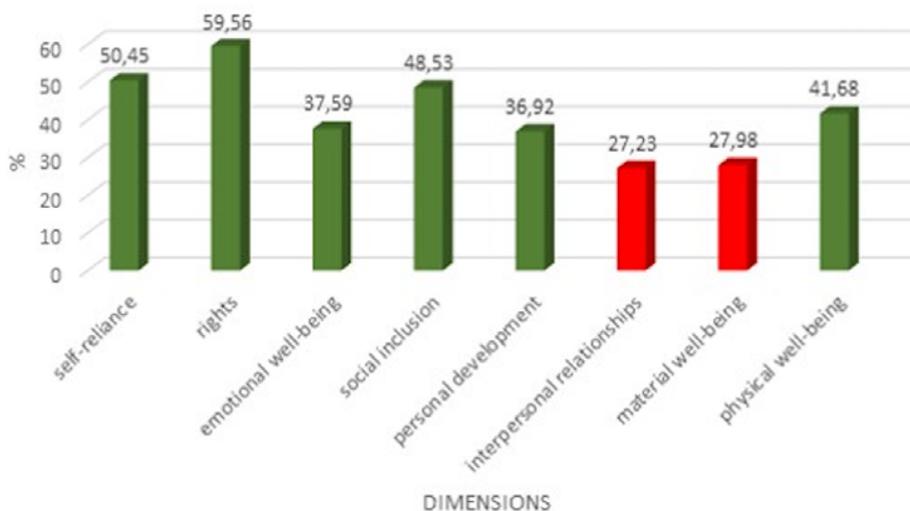
METHODS: The study included 133 professionals, whom are members of PIE in 16 municipal schools across the commune of Quilpué, providing help to students with ASD. These participants were given a scale by which they could identify barriers pertaining to the quality of life of ASD students in school-related settings. The instrument used was a modified version of the INICO-FEAPS (Verdugo, et al., 2013) and KIDS-LIFE (Gómez, et al., 2016) scales for assessing quality of life, which consists of 72 items, equally distributed among the 8 quality of life dimensions described by Schalock and Verdugo (2003). The answer alternatives follow a Likert format, including the following 4 points: never, sometimes, frequently and always. Firstly, content validity was carried out using expert judgement for the final application of the scale. Subsequently, a pilot application was implemented on 30 participants in order to determine the internal validity of the instrument by means of statistical analysis of reliability, which showed a Cronbach’s alpha of 0.966. Lastly, a printed scale was used by the 133 participants.

RESULTS: There are barriers in all the dimensions of quality of life analyzed in school-related settings of students with ASD. None of the 8 dimensions (self-reliance, rights, emotional well-being, social inclusion, personal development, in-

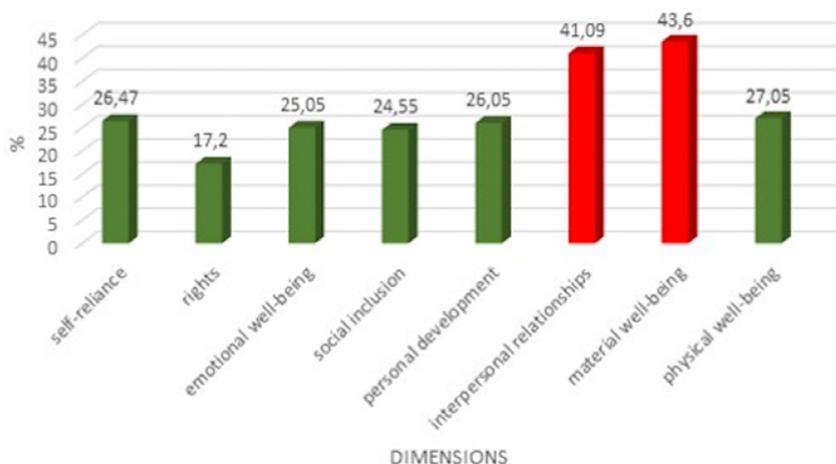
terpersonal relationships, material well-being and physical well-being) achieved a score of a 100% and, thus, underlining that the dimensions with the most barriers are always interpersonal relationships and material well-being.

CONCLUSIONS: The discussion focuses on the need to have evaluation instruments that can demonstrate the conditions and actions taken to provide an adequate quality of life of students with ASD in school-related settings. In this regard, implementing public policies that ensure a suitable environment and delivering specialized assistance for individuals with this condition are essential for achieving genuine educational and social inclusion.

ANSWER "ALWAYS"



ANSWER NEVER AND SOMETIMES



TLI – 46: MANY HANDS SCRIBBLE: TENSIONS IN INCLUSIVE EDUCATION

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INTRODUCTION: Within the framework of an exploratory approach to a research project, immersions have been made in the institutional sphere that allow a first meta-analysis to be carried out. Very new elements emerge in the constitution of the institutional team that intervenes in the inclusion of a child with ASD in the public schools of initial level, which integrates the teacher, a teacher of support for inclusion that comes from a school of “special” modality, a stable



teaching assistant that helps in all the rooms that have children with disabilities and a personal therapeutic companion of the autistic child included, provided by the parents and whose work support comes from the social work of the family.

OBJETIVES: 1) Analyze possible implications of the cross-linking of roles and functions of the actors involved in the inclusion of a child with ASD in an educational institution; 2) Make contributions to the field of inclusive teaching practices of children with ASD from the grades acquired by the constitution of intervention teams.

METHODS: The presentation is a first expression of a qualitative investigation that adheres to a conceptual generation approach (Sirvent, 2009) in which partial constructions matter as a reflexive contribution to the object being investigated. It comes from empirical data collected from an in-depth interview with a school supervisor, a workshop with teachers involved in the experiences and visits to initial level schools with ASD children included. Hence the meta-analytical reflection that interests to put forward.

RESULTS: The strength of the parents' decision to have a therapeutic companion for their autistic child is very noticeable, including an alleged distrust in the service of the special teacher who acts to support inclusion. This presence runs the child from the natural scenario by self-aggression or tantrums, which deviates the conceptual axis of the inclusion experience to the integrationist vision that preceded the present. The classroom teacher admits this artificiality because she attends demanding groups (25 children per room) that does not allow her to attend the included child as it is expected to happen. It is also difficult for the manager to generate criteria and proper pedagogical devices for the evaluation of the therapeutic companion's work in the room, because he is not a pedagogical agent designated by the State. The MAI, for its part, observes overlaps with its work, with the companion, and in some points with the teaching assistant.

CONCLUSIONS: It is important to note that this overlap without agreements represents a problem in strengthening the inclusive experience; In this vacancy, the intervention of an agent, the therapeutic companion, whose work is not pedagogically framed since entering school, could be strong.

Keywords: inclusion - new practices - disability - agents - educational function

TLI – 48: DEVELOPMENT OF INFORMATION TECHNOLOGY COURSES FOR YOUNG ADULTS AND ADULTS WITH AUTISM SPECTRUM DISORDER

Natalia Galetta¹

INTRODUCTION: This project prepares people with autism spectrum disorder through different courses of studies in order to be able to get a job related to information technology. It provides them with the opportunity to be part of the companies which are interested in taking advantage of their talents. When people have the right job, feel comfortable with the work environment and receive the right support, they can develop their skills. They succeed in being attentive for long periods of time and enjoy doing repetitive tasks. They easily detect visual patterns. They can focus on the details and find mistakes rapidly. They follow the rules, and when communicating they are honest and direct. What is more, they do not comprehend lies. Their process of thinking is both logical and analytical, and they are able to memorize data and statistics. They can be self-demanded and perfectionists. Their tasks are methodically done and the results are precise and of high quality. At present in Argentina, due to the lack of opportunities adapted for them, these talents are not even taken into account. On these facts, we consider it is necessary to begin the development of this initiative. **OBJECTIVES:** 1) To prepare and train through adapted courses of information technology to young adults and adults with autism spectrum disorder; 2) To create projects that will help people with autism find jobs in companies that have inclusion and neurodiversity policies. **METHODS:** In the course of five months, research has been done interdisciplinary with information technology personnel. Nowadays, there are four members of the project called "Vulcanea." It counts with a software testing specialist who collaborated with her knowledge to give shape to the courses. There are also two software engineers who are currently designing courses on basic programming and software development for advanced profiles. Last of all, a psychologist with experience on autism participating on the adaptation of the contents and who will attend every course. The first course on software testing has already been designed. For the neurotypical population it takes nine hours a day. In order to reduce stress and increase the attention span, the content was divided into three lessons of three hours each. It consists of test cases generation, report bugs, peer review and exploratory testing. The material was adapted adding examples with visual backups to facilitate comprehension, and the activities are done individually.

CONCLUSION: People with autism disorder have only been characterized or defined by their disabilities. The project joins the paradigm change: it proposes developing and giving an opportunity to the talents they have with the purpose of achieving a larger effectiveness transition into work and into society.

Keywords: Autism spectrum disorder, job, talents, courses of information technology, inclusión, neurodiversity

TLI – 49: SCHOOL INCLUSION OF STUDENTS WITH AUTISM IN CHILE: A REVIEW OF REGULATIONS, MANUALS AND RESEARCH

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INTRODUCTION: In Chile, inclusion of students with autism was explained for the first time in the Law on subsidies to educational institutions N ° 20.201 / 2007. Subsequently, the decree that set the standards to characterize students with Special Educational Needs (SEN) Decree No. 170/2010, which addresses the diagnostic process for ASD and the guidelines for implementing school supports, was formulated. The Ministry of Education (Mineduc) has published and disseminated two educational support manuals for working with ASD students (Mineduc, 2008, 2010). Currently, the School Inclusion Law Regulating the Admission of Students No. 20,845 / 2015 and Decree No. 83/2015, which provides guidance for the diversification of education and guidelines for the curricular adaptation of students with SEN in which ASDs are included. After 12 years, a review is needed and to inquiry about Chilean scientific research on the subject.

OBJECTIVE: To analyze the regulations, support manuals and research on education and autism in Chile.

METHODOLOGY: Systematic review of regulations, manuals and scientific research on autism and education in Chile. For research, a search was conducted in six databases with indexed journals. The selection criteria were: year of publication between 2000 and 2018; and articles with a Chilean sample associated with the educational context and autism. Six items were selected. Triangulation was conducted with other researchers on search and analysis.

RESULTS: After twelve years, no updates on manuals or regulations have been published in Chile. The regulations focus on diagnostic processes and criteria to allocate monetary subsidies to schools with a School Integration Program that include students with SEN. Meanwhile, the manuals provide guidance for early detection and information on ASD, but do not include references of Chilean research. The researches analyzed are diverse in subjects and objectives. They are qualitative methodology researchs, study samples ranging from 1 to 14 participants. In relation to the authors, only one are foreign, the other are Chilean. They register a publication on autism and education in Chilean shows. Only one of the magazines is Chilean and of low visibility index, while the rest published in foreign magazines with higher visibility indexes.

CONCLUSION: International literature emphasizes updates on the work and study of the education of people with autism, giving relevance to: consideration of the context, constitution of lines of research and the active participation of the population studied in the processes that involve them. In Chile, an update of the regulations, a reflection and proposal on methodologies of inclusion and a promotion of research of excellence that contribute to these needs is necessary.

Keywords: School inclusion, autism spectrum disorder, review



TLI – 50: CHARACTERISTICS OF EARLY DIAGNOSIS IN TACNA, A SOUTHERN REGION OF PERÚ

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INTRODUCTION: Early diagnosis improves the prognosis of most children with Autism Spectrum Disorder (ASD) and reduces family stress. In Peru, Law No. 30,150 was approved in 2014, for the protection of people with ASD, which includes, among other measures, promoting early diagnosis in public and private care centers, emphasizing rural and extreme areas of the country. Statistics on people with ASD in Peru are unclear, since, according to the CONADIS national disability registry, in 2018 0.1% of the population had a diagnostic of ASD and according to the Ministry of Health (in press) in 2019 on 0.4% of the population has a diagnostic of ASD. In both cases no details are given about the diagnostic processes. To strengthen the detection in health centers, it is important to know the characteristics of the people who consult for suspected ASD, such as age, reason for consultation, warning signs, etc. This study focuses on the Tacna region, in southern Peru, where according to the CONADIS 2018 registry, there are 30 people registered with ASD, which would correspond to 0.01% of the population.

OBJECTIVES: To identify characteristics and warning signs in families that consult for suspected ASD in a specialized center in the Tacna region, Peru

METHODS: Mixed Methodology. Descriptive design. Non-probabilistic sample of type subjects. Data from 102 medical records of children and adolescents between 1 and 15 years old, diagnosed with ASD, using ADOS-2 by certified professionals were analyzed. For reliability, blind analysis and triangulation by experts were used. The data is analyzed in two categories, data of the evaluated and warning signs identified by the families. Written authorization was requested from families to review their records.

RESULTS: At the time of the evaluation, 52% of those evaluated were between 1 and 4 years old, 26% from 5 to 9 years old and 22% from 10 to 15 years old. All attended with their parents, 53% requested diagnostic confirmation; 8.3% derived by the school for behavioral problems and the rest went to get development guidance. The warning signs were observed on average at 2 years, 71% by parents, 20% by teachers and 9% by public health professionals. The most visible signs for families were: delay in communication and language, stereotyped behaviors and behavioral problems.

CONCLUSIONS: Is important that the government educate Tacna families and schools about early detection of ASD. And to increase early diagnosis in health centers is important to train health professionals on standardized diagnostic methods.

TLI – 52: IMPLEMENTATION OF A MULTIDISCIPLINARY EVALUATION PROGRAM FOR PATIENTS WITH AUTISM SPECTRUM DISORDER. CHILEAN EXPERIENCE IN A PUBLIC HOSPITAL, PRELIMINARY RESULTS

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³ Centro Matices, Santiago, Chile

INTRODUCTION: Due to increased public awareness of Autism Spectrum Disorder (ASD) and routine screening in primary care have contributed to the increase in requests for diagnostic evaluations at the tertiary level, highlighting the need for effective implementation of health services for children and adolescents with ASD. In this effort, secondary and tertiary health institutions play a crucial role and require trained experience teams, as well as competent professionals in the skills needed to make the diagnosis and therapy. In our country, health care for ASD patients still has great deficiencies due to the lack of resources and the high demand for services. In this context and in pursuit of this goal, in 2019 arise

the Multidisciplinary Intervention Pilot Program for patients with ASD at Exequiel González Cortés Hospital (HEGC), whose purpose is to welcome patients and their families, carry out a comprehensive diagnostic evaluation and offer a multidisciplinary intervention plan, as well as collaborate with professional development and training in educational practices for psychiatry residents.

OBJECTIVES: 1) Determine the prevalence of ASD in patients referred to a diagnostic evaluation of autism through a multidisciplinary tertiary care model; 2) Determine the clinical and demographic characteristics of the patients referred to a multidisciplinary evaluation in the ambulatory mental health unit of the HEGC.

METHODS: descriptive, retrospective, cross-sectional and observational study. Inclusion criteria: patients with clinical suspicion of ASD between 2 and 14 years. Instruments: clinical evaluation carried out by a multidisciplinary team composed of child and psychiatrist, occupational therapists, speech therapist and residents of child and adolescent psychiatry.

RESULTS: a total of 15 patients completed the diagnostic evaluation, with an age range of 6-10 years, of all the patients evaluated, only 30% received a diagnosis of ASD. Of the patients who were not diagnosed, the most frequent alternative diagnoses were: Global Developmental Delay, Social communication disorder and Emotional disorders. 13% received an inconclusive diagnosis.

CONCLUSIONS: In the first stage of implementation of this pilot plan, 30% were diagnosed with an ASD, 57% were discarded and 13% had an inconclusive result. These results confirm that the need for the establishment of an integrated mental health care model for children with ASD and poses significant challenges in the organization and operation of health services, as well as to health professionals as a heterogeneous pathology and with great comorbidity. In our service there is a significant number of patients who do not have an opportune diagnosis, which complicates both interventions and prognosis.

TLI – 56: MAGNETIC RESONANCE IMAGING FINDINGS IN AN URUGUAYAN ADOLESCENT WITH AUTISM SPECTRUM DISORDER

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INTRODUCTION : Autism spectrum disorder (ASD) refers to a neurodevelopmental disorder characterized by impairment in social communication and restricted repetitive behaviors and interests. In ASD children and adolescents, multiple structural and functional variations have been identified in sMRI as well as in fMRI, compared to neurotypically developed population. Nevertheless, the growing neuroimaging literature in ASD has not identified yet neuroanatomical or functional markers that specifically and consistently accompany an ASD diagnosis. Also, the amount of evidence that comes from South American population is scarce; this situation makes necessary more studies.

OBJECTIVES : We report the case of a 14-year-old Uruguayan boy with ASD, that attends our Child Psychiatry Department, in order to establish to what extent the variations in sMRI and fMRI described in the international literature are also identified in our patients. If this is the case, we could contribute to define more consistently the neuroanatomical features of ASD in children and adolescents.

METHODS: A structural and functional Resting State MRI was done and DTI with 64 directions. The encephalic volumetry was calculated. The ASD diagnosis was done based in DSM-V criteria and confirmed by doctoral-level clinicians based on the Autism Diagnostic Observation Schedule, Module 3 (ADOS), the Autism Diagnostic Interview-Revised (ADI-R), and clinical judgment. The Wechsler Intelligence Scale for Children (WISC-IV) provided IQ estimates.

RESULTS: It was identified an asymmetry between right and left white matter in the temporo-occipital region and a distortion in the nervous tracts in this region too. We then analyzed this finding with the clinical manifestations of the patient, and established a possible correlation between them.

CONCLUSIONS : Encephalic volumetric asymmetry and nervous tracts distortions are described in ASD, and our results support this, contributing to a better delimitation of them. Our results also contribute to comprehend these variations in relation to the clinical manifestations of ASD and to the neural processes beneath. To advance in the knowledge



of these possible associations, research with a bigger number of patients is required. This is the first of a group of patients that will be studied.

TLI – 57: PERCEPTION IN THE EFFICIENCY OF THE INTERVENTION OF DIFFERENT EDUCATIONAL AGENTS IN CHILDREN WITH AUTISM SPECTRUM DISORDER (ASD) IN A COMMON CLASSROOM ON 3RD GRADE

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INTRODUCTION: Children with autism spectrum disorder (ASD) have difficulties in areas of development, have routines, alterations in speech, and visio-spatial, in addition to problems of social interaction and communication, everything that influences their training, communication of Ideas and feelings. The number of students with ASD who receive education in schools has increased in the last 5 years. The educational agents face challenges that must guarantee the inclusion of students with ASD. This research explores the perceptions of the teacher, the education assistant and the specialist to have an efficient pedagogical relationship with autistic children in common classrooms.

OBJECTIVES: 1) Know the individual perception, and collaborative work of educational agents in the inclusion of autistic children; 2) Know the meaning of pedagogical relationship for educational agents; 3) Analyze facilitators and barriers that exist between educators and autistic students; 4) Explore the value attributed to the existence of autistic children in the common classroom

METHODOLOGY: The research is framed under the qualitative paradigm with phenomenological descriptive and interpretative study, where the analysis is carried out under the subjective experience of people. In this research 9 educational agents (key informants) distributed in three courses which have 2 students with ASD per course. The information was collected using an in-depth interview, which was built based on the objectives of the study, establishing the dimensions of analysis and categories.

RESULTS: The results show that there is no collaborative work but an individual and little inclusive intervention where the efficient pedagogical relationship is carried out by the education assistant, which has an essential role in the communication and cognitive development of these children. There are more difficulties than facilitators for the pedagogical management of educational agents, in addition the assistant develops social inclusion in children with ASD.

CONCLUSION: The pedagogical relationship for teachers and specialists is the transfer of knowledge, which is essential, less for the assistant who manages to develop communication and the transfer of bidirectional information, being more efficient than the other two agents. Collaborative work does not exist which implies the risk of falling into assistance, and where differential educators as teachers are unaware of the work of key assistants to educate children with ASD. Although these people do not have higher education they manage to interpret behaviors and ways of learning from these children and are a link between educators and teachers, but do not make pedagogical decisions. Being a key agent is not considered in the system as a need for inclusion for this condition.

TLI – 58: COMMUNICATION AND SOCIAL PERSONAL SCREENING FOR TODDLERS IN DAY-CARE CENTERS WITH ASQ-3

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INTRODUCTION: Social -communication delays can be an early sign for autism in young children. Although autism may be equally frequent in children from different economic status, those at low income communities tend to be under-represented in autism research. There is an increasing interest for early intervention programs in community settings, that may help reduce the gap in early detection of developmental disorders in adverse population. Daycare centers are a potential setting where screening of at-risk children can be conducted.

OBJECTIVES: To analyze the frequency of deficits in communication and social personal skills in toddlers with ASQ-3 Screening in a low-income community sample.

METHODS: we analyzed scores on ASQ-3 surveys completed on children in day care centers for low income communities at the city of Buenos Aires, from 0 to 3 years of age. Surveys were administered to parents by allied health professionals from the day care centers, to ensure understanding of the questions.

RESULTS: from 5019 children screened, 73.5% scored above the risk cutoff on communication domain and 74% at social personal domain. Around a quarter of children were at-risk on communication, social-personal or both domains, and 12% at language and 10% were below social personal cut-offs.

CONCLUSIONS: universal developmental screening is feasible in adverse populations at daycare centers with ASQ-3. Children identified as at-risk can be followed and effectively addressed to early assessment and intervention.

TLI – 59: DELAY IN THE DEVELOPMENT OF VISUAL FIXATION, AS AN EARLY CLINICAL MARKER OF AUTISM SPECTRUM DISORDER, IN CHILDREN BETWEEN 0 AND 17 YEARS OF AGE IN AN OPHTHALMOPEDIATRIC UNIT, CHILE

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INTRODUCTION: The clinical criteria commonly used and widely accepted by the scientific community for the diagnosis of autism spectrum disorder (ASD), does not include ophthalmological signs such as delayed fixation development, which can be detected early by specialized health professionals related to the ophthalmological area, even before a year of age. Studies on ASD have demonstrated the importance of early childhood intervention to optimize the development and well-being of children, improving educational achievements, as well as opportunities for individual's social development. For this reason, identifying early clinical markers, low cost and easy to diagnose, that do not cause harm or discomfort to patients, will improve the opportunity for diagnosis and intervention by teams of multidisciplinary professionals focused on this work. These clinical tools could be a contribution to current clinical guidelines for early detection and diagnosis, anticipating the treatment in years.

OBJECTIVE: To describe the most frequent visual maturation alterations, found in boys and girls between 0 and 17 years of age, as early clinical markers of ASD.

METHODOLOGY: a cross-sectional, retrospective and descriptive study was conducted. An anonymous secondary database of boys and girls between 0 and 17 years old was analyzed, who were treated in the ophthalmopaediatrics and strabismus units of the Department of Ophthalmology of the U. of Chile, from October 2018 to July 2019 and that they presented alterations of the visual maturation, leaving the sample constituted by 48 boys and girls.

RESULTS: Of the 48 boys and girls, 37 were male (77%), the average age was 5 years, with a deviation of 3.4 years. The most frequent ophthalmologic abnormalities were 31% strabismus, 31% ametropias and 19% anisometropia. The fundus was normal in 93.7% and the anterior pole without alterations in 96% of the cases. On the other hand, the absence or delay of language occurred in 35.4% of cases, followed by 12.5% with intolerance to exam, and 6.3% with megalencephaly. Among the alterations of visual maturation, an atypical fixation pattern was observed in 31% of cases, while 19% did not establish eye contact, 15% did not follow objects and 8% avoided eye contact.



CONCLUSIONS: This study is a first approach to propose early ophthalmic clinical markers of ASD, related to visual maturation alterations, such as the pattern of atypical follow-up found. These markers could permit a derivation timely to specialized teams, thus improving the opportunity for diagnosis, intervention and management of the disease.

TLI – 64: LOOKING FOR ALTERNATIVES TO ASD PUBLIC HEALTH POLICIES IN BRAZIL: A CASE STUDY OF PARENTAL TRAINING

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INTRODUCTION: Given the increasing early diagnosis of Autism Spectrum Disorder (ASD) and the importance of early and intensive intervention told by the scientific community, much has been done to expand the possibilities of treatment for children in this condition. In addition to discussing the importance of early intervention, several studies have evaluated stimulation programs implemented by caregivers in their daily lives, demonstrating positive effects on both children and families. Considering that in Brazil the access to quality treatment is still limited to those in a situation of socioeconomic vulnerability, generating high rates of parental stress and compromising the prognosis of children, the development of a parenting model appropriate for our population and capable of implementation in the public health system appears as the most viable alternative. **OBJECTIVES:** Develop a parental training program for Brazilian families of autistic children, evaluating the effects of the intervention not only on the children but also on the participating caregivers.

METHODS: Already ongoing for 18 months, the project consists of mentoring parents of children with autism, under 4 years old, through 10 weekly meetings (1hour30min per week) with groups of 2 to 4 caregivers. Following a methodological design similar to the one suggested by the Early Starter Denver Model, we used the book *An Early Start for Your Child with Autism: Using Everyday Activities to Help Kids Connect, Communicate, and Learn* (Rogers; Dawson; Vismara, 2015) as its main basis, plus other themes that were perceived as demands from our coexistence with the families of children with ASD in the Brazilian context. Pre and post-test assessments are performed through the application of the ESDM Checklist curriculum made with children; and Parental Self-Efficacy Scale in the Management of Asperger's Syndrome (Sofronoff and Farbotko, 2002), Family Involvement Questionnaire (Fantuzzo, Tighe & Chids, 2000), Parental Stress Scale (Berry and Jones, 1995; Mixão, Leal and Maroco, 2007), directly with the caregivers. The meetings, facilitated by a senior psychology student, include presentation of theoretical content, discussion of videos with examples, role play, analysis of videos brought by caregivers and self-care guidelines. This paper is a case study, discussing the participation of mother K. and her son B. in our intervention program. **RESULTS:** The evaluations pointed out that, after participating in the guidance for parents, K. had a significant reduction in the score for the parental stress scale. Besides that, the child reached 25 objectives from the ESDM Curriculum. Although, no other intervention were added in his daily life.

CONCLUSIONS: Our guidance model appears as an interesting way for the implementation of parental training within the scope of public policies, aiming to mitigate the challenges that, deeply aggravated by the Brazilian social scenario, are faced by the families of children with ASD.

TLI – 65: ASSOCIATION BETWEEN SLEEPING PROBLEMS AND BEHAVIOUR DISORDERS IN CHILDREN WITH AUTISTIC SPECTRUM DISORDERS

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INTRODUCTION: Sleeping disorders in people with autism spectrum disorder (ASD) have a prevalence up to 10 times higher than in the control population of children without autism. The types of alterations that occur most frequently are: insomnia, difficulty falling asleep, night awakenings, daytime sleepiness and difficulty falling asleep again. The population of children with ASD also frequently presents behaviour disorders, which are valued for the interference they produce in everyday life.

OBJECTIVE: Analyse the existence of a correlation between sleeping disorders and behaviour disorders in children with autism, and investigate the impact of sleep problems on disruptive behaviours.

METHOD: An observational and descriptive study was carried out. Children diagnosed with ASD with and without sleeping disorders paired by age and sex were included. Adaptive performance measurement scales, sleep and behaviour scales were used.

RESULTS: 59 children were evaluated, with an average age of 5 years (range 3 to 16 years). 7 children had sleep problems and behaviour problems. In the group of 52 children without sleeping disorders 42 had behaviour disorder. Children with low adaptive ratios presented greater difficulties in sleep and behaviour than children with better adaptive performance.

CONCLUSIONS: All children with ASD and sleeping disorder associated behavioural problems. Sleep treatment can favour performance in daily life.

TLI – 66: CARING FOR THE MIND OF EXTREME PREMATURE NEWBORNS (EPNB): ROUTE OF AN EARLY INTERVENTION IN PREVENTION OF AUTISM SPECTRUM DISORDER (ASD) IN A NEONATOLOGY UNIT OF A PUBLIC HOSPITAL, SANTIAGO, CHILE.

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INTRODUCTION: The risk of developing ASD is significantly higher in very low birth weight infants (<1500 grs) compared to the general population (Buskho, 2008; Barclay, 2009; Huhtala, 2012). This could be explained epigenetically by overload of psychoneurophysiological stressors, whose cascade action affects processes of interconnectivity of sensory, cognitive and emotional pathways. The allostatic load contained in a threatening neonatal environment, with primary maternal deprivation and vital risk, generates deep primitive anxieties of disintegration, affecting the mental organization of the newborn (Negri, 1994; Waterhouse, 2013; Singletary, 2015; Rhode, 2018). On the contrary, mental, affective, and relational co-resuscitation interventions⁴ provide comfort and support for the achievement of neuroregulation (Vanier, 2015), allowing the development of a relational mind, with prosocial neural circuits.

OBJECTIVES: Prevent and detect early relational withdrawal behaviors, through the intervention in mental co-resuscitation of hospitalized EPNB. 1) Design, implement and evaluate pilot plan for co-resuscitation of babies; 2) Identify global burden of biopsychosocial risks; 3) Identify relational withdrawal behaviors; 4) Develop mentalizing interventions with babies, families and staff.

METHODS: exploratory naturalistic action research. 1) Identification of relational risk factors with the “Risk Detection Interview”; 2) Baby Observation / Esther Bick Methodology; 3) Intervention in Co-resuscitation of babies with clinical record; 4) Implementation Balint Groups for staff (Group intervention focused on the emotion and subjectivity of the therapeutic potential present in a clinical relationship); 5) Application of validated ADBB (Alarm Distress Baby Scale); 6) Measurement and analysis of results through mixed methodology: qualitative and quantitative.

RESULTS: First part of the study: identification of relational risk factors in a sample of 96 of 101 RNPE 2016, 37 are small for gestational age. All hospitalized in ICU, 77 more than 20 days. 13 died. Of 24 unwanted pregnancies 17 are born by caesarean section. 70 mothers suffer from emotional disorder, 45 moderate, severe or chronic. Three babies were observed with Bick Methodology, resulting in different maternal affective availability. It allowed to identify in baby’s mental expression, developmental moments that verify neuronal plasticity and resilience. Development of co-resuscitation of babies in exploratory form since 2018, with clinical record for content analysis, shows favorable results in the caregiver-baby bond. Implementation of Balint Groups was discontinuous requiring further training. The second part of the study is in implementation process and will evaluate relational withdrawal from two months of age with the ADBB Scale.

CONCLUSIONS: The qualitative results allow us to infer that the Pilot Project for Co-resuscitation of babies will generate evidence for prevention and early detection of ASD linked to prematurity. Quantitative data requires measurement and analysis. A randomized control study would give greater validity to the study results.



TLI – 67: EARLY DETECTION OF AUTISM SPECTRUM DISORDER (ASD) THROUGH DIAGNOSTIC AND THERAPEUTIC SCHEME IN CHILDREN ADMITTED TO THE CHILDREN'S REHABILITATION CENTER OF THE ARMY (CRIE)

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INTRODUCTION: The Children 's Rehabilitation Center of Army has been carried out since 2009, a specific protocol for handling children with ASD signology with diagnostic, interventions therapeutic in different areas after obtaining a definitive diagnosis. The autistic spectrum disorder condition or must meet clinically as DSM 5 with ABCD criteria. The evaluations are performed by external shunt for suspected diagnostic or internal detection of children who have evolved specifics.

OBJECTIVE: Analyse the effectiveness of the evaluation scheme in early ASD research for early intervention for future school integration.

METHODOLOGY: Descriptive-retrospective-cross study. Inclusion criteria: ASD criteria according to DSM V. Exclusion criteria: auditory and genetic pathology. N: 83. Meets criteria: 79 cases. 2009 - 2019. Age: from 6 months. Variables: sex-gestational age-age admission and diagnosis-diagnosis of referral, psychomotor and speech diagnosis-evaluation scales-treatment granted-treatment time and permanence-schooling-center discharge-comorbidity. Clinical record review. All cases applies protocol consisting in: Occupational Therapy: PEP-R, Bayley III, sensory profile Winnie Dun. Speech therapy: language development scales, VBMAPP, IDEAS, Pragmatic evaluation protocol. Psychopedagogy scales ADOS 2-ADI -R (2015).

RESULTS: Sex: 86.1% male. Gestational age: 38 weeks 43%. Age of admission: 1 year 19%, 2 years: 35.4%. Age of diagnosis: 2 years: 39.2%, 3 years: 30.4%. Referral diagnosis: delayed psychomotor development 35.4%, ASD observation: 83.5%. Psychomotor diagnosis: developmental delay: 46.8%, ASD: 98.7%. Phonoaudiological diagnosis: communication and language disorder: 51.8%. Evaluation scales: ADOS 2-ADI-R: 55.7%. Treatment granted: occupational therapy 92.4%, speech therapy: 98.7%, psychopedagogy 37.9%. Treatment time: less 2 years 48.1%. Permanence in treatment: 69.6%. Center discharge: 30.4%. Schooling: 87.3%. Special language school with integration program (PIE): 46.7%. Comorbidity: psychomotor development delay: 35.4%- 46.8%, language disorders: 22.7%- 56.9%. Sensory integration dysfunction: 82.2%. Statistical analysis: percentage relative frequency - Cronbach's alpha reliability analysis. Analysis of the internal and external diagnoses of RDSM (intraclass correlation coefficient), 95% confidence interval, s ICC = 0.406 (moderate degree of agreement) was obtained. ASD diagnoses, ICC = -0.050 (poor degree of agreement) was obtained (the variety of referral diagnoses according to both DSM).

CONCLUSIONS: 1) The ASD was diagnosed in high percentage and the age of admission less than 2 years, optimized the early diagnosis. 2)The scheme with applied evaluation scales allowed early diagnosis. 3)ASD diagnosis and degree of commitment is objective by means of ADOS 2-ADI R scale. 4)The diagnosis of referral in a percentage was due to delayed psychomotor development. 5)The cases of early diagnosis ASD allowed specific school insertion in a considerable percentage. 6)Cronbach's alpha statistical analysis of intraclass reliability reveals poor agreement -.057 given by the variety of referral diagnoses according to DSM. Reliability analysis of all variables was 0.411 moderate grade. 7)Results stimulates the research team to strengthen the proposed scheme.

TLI – 68: CAREGIVER SKILLS TRAINING PROGRAM: PRE-PILOT ASSESSMENT

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INTRODUCTION: Well-being is reduced in children with autism and their families. The World Health Organization

developed the Caregiver Skills Training Program (CST) to improve skills and quality of life in caregivers of children with autism.

OBJECTIVES: Assess the feasibility and acceptability of CST in the central commune of Santiago, Chile. **METHODS:** We conducted a pre-pilot study of CST in caregivers of children with autism in the central commune of Santiago, Chile, in 2017-2018. CST was implemented by two facilitators and included 9 group training sessions and 3 in-home visits. Feasibility and acceptability of CST was assessed by an external team and included: 1. analysis of study records (i.e., 1a. assessment of caregiver skills and self-confidence pre- and post-CST, 1b. participation of caregivers in training sessions using a 1 (inadequate) to 5 (excellent) scale, 1c. feedback from facilitators after each session using a 1 (inadequate) to 5 (excellent) scale, 1d. caregivers' diaries), and 2. focus groups with caregivers and in-depth interviews with facilitators.

RESULTS: Overall, 6 caregivers (5 females, mean age 43.3 (SD 12.9) years) accepted to participate of the study. At baseline, 5 caregivers reported having received information about autism, 1 caregiver reported having received prior training, and 1 caregiver reported having participated in peer groups. Only 4 caregivers completed the CST program. Overall, caregiver skills and self-confidence improved after the CST, although differences were not statistically significant given the small number of participants. Participation of caregivers in training sessions was rated very good in three domains: comfort (mean 4.05, SD 0.89), confidence (mean 4.13, SD 0.98) and enthusiasm (mean 4.49, SD 0.79). Facilitators rated excellent the overall acceptability of the CST (mean 5.00, SD 0.0), very good the amount of content provided (mean 3.98, SD 0.78), and adequate the complexity of the content provided (mean 3.00, SD 0.0). In their diaries, caregivers described improvements in their skills which were noticed by other people and positive changes in their children. In focal groups, caregivers reported that liked the in-home visits, the content of the group training sessions and the interaction with other caregivers. They did not report negative experiences, however, women mentioned that it was difficult for them to transmit the skills that they learned to their male partners. In the in-depth interviews, facilitators reported that CST has good acceptability and that the quality of the content was good. Facilitators did not report negative experiences, however, they indicated that the content to provide in each session was long.

CONCLUSION: CST appears to be a feasible and acceptable intervention for caregivers of children with autism in Chile. CST should be implemented in a larger scale, including a randomized clinical trial, to prove benefits for children with autism and their caregivers.

TLI – 69: PILOT STUDY IN AUTISM SPECTRUM DISORDER CHILDREN WITH FOOD SELECTIVITY: IMPLEMENTING A HANDS ON CAREGIVERS TRAINING THERAPEUTIC PROGRAM TO IMPROVE FOOD INTAKE AT HOME

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INTRODUCTION: The prevalence of eating disorders (food selectivity) in Autism Spectrum Disorder (ASD) children is near 80%, while in the general population is 20%, affecting their environment and relationships (Nadon G. et al, 2011). Different techniques shown improvement in desirable eating behaviors referred to the increase in volume but not necessarily the variety (Marshall J et al, 2014). On the other hand, food therapies are made by specialized professionals to whom children and their families have limited access.

OBJECTIVES: To determine if ASD children caregivers food therapy training results in an increase in the amount of food intake by ASD children.

METHODS: Retrospective experimental study designed with the analysis of the results of a theoretical-practical workshop implemented to caregivers of children with ASD and eating disorders, patients of the Neuropsychiatry Service of the Arriaran Clinical Hospital of San Borja. the intervention was directed by a speech and an occupational therapist member of the mentioned service. Inclusion criteria: Caregivers who daily accompany the child's feeding at least in 2 meals and be able to complete the logbook of the behaviors observed when eating. Children between 5-7 years who are diagnosed with ASD. Who have Autism Diagnosis Observational Scale (ADOS-2) in categories mild-moderate and level one of the Denver curriculum. The intervention lasted 8 weeks, the first and second week the caregivers attended to two workshops where feeding difficulties and work strategies were discussed, then they developed their own plan for each



children and then they were supervised weekly to improve the strategies implemented at home

RESULTS: Three children and their caregivers accomplished the inclusión criteria The three caregivers were their mothers. Were reviewed the books of records filled by the caregivers, comparing the total amount of food ingested at the beginning of the program and at the end of it. Food was compared according your consistency. Among the children, an average increase of: Solid foods increased from 7.3 to 9.6 (units). Semi-solid foods increased 4.0 to 6.0 (units). Liquids variety increased 3.3 to 4.

CONCLUSIONS: Our results show tendency to discrete increases in food intake. The limitations are a small sample and daily intervention requirements. Low cost program can be developed in different contexts optimizing professional resource Intervention is an innovative method focused on the family as a therapeutic agent and It allows you to learn skills to continue developing the program at home.

TLI – 70: EFFECTIVENESS OF STRATEGIES USED BY OCCUPATIONAL THERAPY IN THE AUTISM SPECTRUM DISORDER, LITERATURE REVIEW

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INTRODUCTION: In Chile there are no official epidemiological studies that accurately indicate the number of people diagnosed with Autism Spectrum Disorder (ASD) (Siebert, 2018), however, it has been estimated there are approximate 50 thousand children and adolescents (under 18 years old) (Center for Disease Control and Prevention, 2017). Currently there has been a steady increase in the diagnosis of ASD in the world and in our country. Over time there have been developed a wide variety of approaches from different health disciplines, in this literature review we will analyze the strategies that can be used by associated Occupational Therapists to improve interaction and to promote the functionality of these people.

OBJECTIVES: This literature review aims to learn about strategies used by Occupational Therapy and compare its effectiveness in ASD, to contribute to the dissemination of evidence of different possibilities of non-pharmacological treatment and an evidence-based practice.

METHODS: The literature review was extracted from bases such as SCIELO, SPRINGER, Academic Journal of the University of Chile, SAGE Journals, Neurology Journal and Intechopen, which were consulted between March and July of the year 2019. The selection criteria were: (i) that were bibliography updated from 2003 onwards, giving greater emphasis to articles closest to the current date. Second, (ii) that they were reliable sources based on studies and (iii), that it have the subject of research in detail

RESULTS: 66 articles were found. In them it was possible to identify the benefits in common between programs that are related with gainings in the development of skills such as communication, receptive language, adaptive skills and emotional regulation. It should be considered that some strategies were not only aimed to people with ASD but also at their environment such as; family members and teachers. In these it was possible to show, the reduction of stress, the promotion of responsible behaviors and greater understanding of ASD

CONCLUSIONS: Among the results were the existence of inconsistencies between different authors evaluating the same technique, which could be due to the type of sample and selection criteria of the investigations, it is also relevant to remember that the population in study has a lot of factors that affect their behavior, so there can be great variability in the performance of each one of the strategies. On the other hand, we consider that there is a lack of evidence of the strategies and a considerable inequality in the amount of research between them, for example; there are a greater research availability on sensory integration compared to other strategies. For this reason, there are challenges and problems that must be solved in order to carry out an intervention that benefits as a user.

TLI – 72: HOSPITAL CLASSROOM MODEL, ALTERNATIVE FOR PATIENTS WITH AUTISM SPECTRUM DISORDERS

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INTRODUCTION: Autism spectrum disorders that end with a definitive diagnosis after 8 years, represent an important social burden, both for the State and for the family, especially if it is associated with cognitive disability and psychiatric comorbidity. Hospital education has been the solution in some cases, given the lack of other effective educational modalities that allow these patients to advance their education and empowerment for socio-labor autonomy.

OBJETIVES: To assess the perception of the impact of hospital education and quality of life in 2 patients with ASD, intellectual disability and psychiatric comorbidity, which were left out of existing education programs at the regional level.

METHODS: Case study. Cross. A semi-structured telephone and audio interview is conducted with two patients in the hospital classroom, with the support of parents as facilitators in understanding questions. Send a brief questionnaire to parents via email.

Qualitative analysis.

RESULTS: Both patients value the classroom experience as positive, improve the quality of life perception of happiness, both in them and in their families, and are inserted satisfactorily in the workplace. The proposed improvements to the program are related to the physical space and the incorporation of technologies. Parents also value the classroom experience as positive.

CONCLUSION: An adequate educational strategy, which does not include large investments, but rather adequacy of existing resources, can make a difference in the lives of patients with ASD and intellectual disability, improving their quality of life, avoiding school dropout and reducing the burden Emotional and economic of their families.

TLI – 76: EYE TRACKING TECHNOLOGY APPLIED TO FACIAL EXPRESSIONS RECOGNITION IN HIGH FUNCTIONING AUTISM SPECTRUM DISORDER CHILDREN

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INTRODUCTION: Autism spectrum disorder (ASD) is a developmental disorder that affects social interaction, communication, repetitive behavior, and restrict topics of interest. In its treatment a fundamental component is early social abilities intervention; which can be achieved by joint attention stimulation in toddlers or emotion recognition in children. In the last decade there has been numerous studies in ocular movements that were centered in scanning patterns of facial expression, the results are controversial and varied.

OBJECTIVE: Address the associated limitations for traditional approach of facial expression recognition based on areas of interest, incorporating different factors that interfere in the process in high-functioning ASD children.

METHODS: This was an experimental cross-sectional study. High-functioning ASD children's faces were scanned under emotion recognition tasks using eye-tracking technology. The results were analysed under three variants: descriptive analysis, correlation, and logistic regression.

RESULTS: Eleven high-functioning ASD children were included. The area that registered the highest proportion of fixations and reverse saccades corresponded to the eyes, however children with severe ASD made longer fixation around the mouth area. There was a statistically significant negative correlation between Scanpath's minimal velocity and severity according to ADOS test, and a positive correlation also statistically significant between Baron-Cohen faces test and mean of regressive saccades both at correct word as incorrect.

CONCLUSION: This study shows modest experimental evidence in face scan patterns of ASD children and the difficulties they experienced trying to assign emotions to others facial expressions. This shows that ocular area represents a more informative area than others at the moment of recognising facial expression of emotions, nonetheless severe ASD



children gaze around mouth area. Another finding was the difficulty to identify anguish associated facial expression. These results agree with the ones found in literature. The limitations in this study were the small population, images with static facial expression which are associated with worse performance in facial recognition than dynamic images or audio associated images, and eye tracking modality that presented difficulties in the evaluation of younger subjects.

TLI – 77: COMMUNITY OCCUPATIONAL THERAPY INTERVENTION: FUNNY RECESS

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INTRODUCTION: Funny Recess are a community intervention aimed at all children and adolescents with Autism Spectrum Disorder (ASD) who present difficulties of social inclusion in their schools. Children and adolescents belong to schools in the city of Talcahuano. The first has a regular school with integration project school integration project (EPIE) and the second corresponds to a special school (EE) where only people with disabilities attend. Initially, the specific needs of the participants are detected, in the E.P.I.E, we find situations of school violence, impulse control, poor emotional regulation capacity and teachers difficulties in handling crisis situations. In the E.E. we can observe: impulse control, high levels of aggressiveness, invisibility among the students of the establishments and from the teachers to the students and mistreatment among the students. Faced with this diagnosis, it is decided to implement an intervention during school recess, called “Funny Recess”, in order to include the target group and all students interested in participating.

OBJETIVES: 1) Promote the development of social skills of children and adolescents, focused on respecting their interests and individuality; 2) Generate therapeutic instances for children and adolescents who are being treated in the Hospital; 3) Promote the exercise of children’s rights among the participants.

METHODS: The intervention begins in 2016, with an exploratory approach, without bibliographic evidence of similar activities in other parts of the country. An intervention adapted to the needs and realities of E.E. is carried out during the 2017 - 2018 year. In the three years in which the intervention was performed, 313 children and adolescents participated, from 7 to 15 years old, of both sexes participate. In the establishment of E.E., during 2017, 2 teachers participated. The funny recess, were therapeutic activities, with free participation, where students could join at any time. In each session three types of activities were carried out. The first activity is of a motivational nature, the focus is the link between the participants and the session objectives are explained. In the second activity the focus is the therapeutic and in the third activity the focus is the self-regulation of the participants.

RESULTS: The adolescents of the special schools achieve advances in their interventions in the hospital, manage to improve social interaction, reduce disruptive behaviors and achieve greater emotional regulation. The themes of children’s rights and the affective student-teacher relationship are stressed and sensitized, as these influence the performance of the participants. The participants of EPIE, managed to be able to express preferences, improve the links between them and greater tolerance to frustration.

CONCLUSIONS: Both interventions have positive results associated with social interaction. Its replication would be interesting as a preventive and inclusive in the different educational scenarios.

TLI – 78: ECHOLALIA AND SOUND MIRROR IN AUTISM CLINICAL PRACTICE

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INTRODUCTION: Within the Autism Spectrum Disorder (ASD), the lowest level cases, which correspond to subjects diagnosed with Kanner’s classic autism and childhood disintegrative disorders, regularly present symptoms associated with language acquisition, with warning signs related to language precursors (absence of communicative intention, paradoxical deafness, echolalic language, among others). In the evaluation of language development, the processing of intersubjectivity as well as the pre-verbal stages are clearly affected. The Sound Mirror clinical device has been designed

from evidence-based on experience related to emotional development, sensory, cognitive processes and the type of response that a child with ASD may have under specific conditions. It is a clinical tool that intervenes from the echolalic productions that are presented in the lowest ASD, to insert them into a process of subjectivation in which the basic elements for speaking and the constitution of the self begin to develop. The theoretical bases and clinical developments from which this device has been created are related to psychoanalytic studies about early childhood (Winnicott, Anzieu, Lacan, Bergès, Haag), as well as to theorizations oriented on the conformation of intersubjectivity and on the construction and emergence of speech (PILE research program-International Program for the Language of the Child, introduced at Necker Hospital, Paris, by B. Golse and V. Desjardins).

OBJECTIVES: We will seek to study the effects of this clinical device in ASD children with high difficulties in language acquisition. We will also evaluate the effects that may occur at a symptomatic level based on the new subjective positioning which this treatment permits.

METHODS: The sample will be composed of children under 5 years of age, with level 1 or 2 according to the Autism Spectrum Disorder Inventory (IDEA) designed by A. Rivière and presenting a level of language equal to or less than 10 months of development, according to the Receptive-Expressive Emergent Language Test (REEL). The research will be based on interviews with caregivers and evaluations of experts in ASD. This exploratory research will be conducted within the ASD Program of the UC Christus Health Network, with inclusion/exclusion criteria relating to diagnosis establishment, age and level of difficulty in language acquisition. An intervention protocol will be established with a minimum/maximum number of sessions with pre- and post- evaluations.

RESULTS: We have been able to recognize observable trends in the development of language precursors in children with a high degree of difficulty in language acquisition, such as eye contact, social smile, basic forms in symbolic action and babbling.

CONCLUSIONS: We have seen that to the extent that the child taking distance from his sound production, he can position himself in intersubjectivity by gradually acquiring precursors of language that were previously absent.

TLI – 81: BERGÈS' THERAPEUTIC RELAXATION FOR ASD ADOLESCENTS

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INTRODUCTION: This exploratory research aims, through a case study, to show the effects of Bergès' Therapeutic Relaxation in adolescent subjects with Autism Spectrum Disorders. ASDs comprise a series of serious alterations that affect development in general, throughout the person's life cycle (Frith, 2003). The probabilities that adolescents with ASD continue their studies after finishing compulsory education are significantly lower (Hatfeld, Falkmer, Falkmer and Ciccarelli, 2016). There are relational difficulties related with ASD associated with tense states that hinder access to adult life, where it seems clear that barriers to employment access begin at the end of the educational stage (United Nations, 2012). It is necessary to study the incidence of physical symptomatology proper to ASD in the process of insertion into adult life: anxiety, hypersensitivity, hyperactivity, attention deficit, etc. This study is highly relevant and original, being the first one that seeks to investigate the effects of Therapeutic Relaxation in ASD teenagers. This method intervenes in critical stages of development in relation to adult life, in which there are currently few specific therapeutic interventions.

OBJECTIVES: Through this case study we aim to identify how therapeutic relaxation helps to adolescents subjects on the Autistic Spectrum who present difficulties in the identification and regulation of tense states. In relation to the above, we pretend to describe how therapeutic relaxation has effects on the control of impulses, and the handling of emotions and attentional processes in adolescents with ASD. We will also seek to establish relationships between the results of individual and group treatments.

METHODS: The methodological approach that will be proposed will be qualitative, based on a phenomenological approach, seeking to account for a dimension of the reality experienced by patients within the framework of a therapeutic process (Jeong & Othman, 2016). The research will be based on in-depth and directed interviews, integrating parents and participating subjects. Two samples will be established (individual treatment and group treatment), the results of



which will be compared. Patients will be selected within the UC Christus Health Network ASD Program, with inclusion/exclusion criteria relating to diagnosis establishment and age. An intervention protocol will be determined with a pre-established minimum/maximum number of sessions.

RESULTS: Regarding ASD adolescents, we have been able to verify that Therapeutic Relaxation has direct effects on the control of impulses, the handling of emotions and attentional processes, its practice also contributes to the self-esteem of the person, as well as to an awareness of different physical states.

CONCLUSIONS: Our preliminary results raise the importance of orienting the Therapeutic Relaxation towards an evidence-based treatment. Having effects on symptomatology that directly affects the access to adult life of ASD subjects, it is a tool that needs scientific validity.

TLI – 82: USE OF SERVICES IN ADOLESCENTS AND ADULTS WITH AUTISM SPECTRUM DISORDERS IN LATIN-AMERICAN COUNTRIES

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INTRODUCTION: Core symptoms of ASD continue their impact in everyday life as children grow and transition into adulthood, which translates in different service use needs in the various stages of their lifetime. The limited research in the use of services of individuals with ASD across lifetime complicates fully understanding whether individuals with ASD are not receiving services because what they need is not available or because they require different or more services. This is particularly relevant for the adolescent and adults with ASD, and from those living in LMIC countries.

OBJECTIVES: This study aims to describe the use of services of adolescents and adults with ASD in Latin-American countries in comparison with younger age groups.

METHODS: Data was obtained from an online survey adapted by Red Espectro Autista Latinoamérica (REAL) (Latin-American Autism Spectrum Network). This multisite study was carried out in Argentina, Brazil, Chile, Dominican Republic, Uruguay, and Venezuela. 2817 caregivers completed the survey: 1008 (35.8%) in the preschool group (<6 y/o); 1217 (43.2%) elementary school group (7-12 y/o), 295 (10.5%) in the adolescent group (13-17y/o), and 297 (10.5%) in the adult group (>18 years).

RESULTS: The use of services was calculated by asking caregivers if the affected family member had received any of the services listed in the survey. Overall 18.5% had not received any services during their lifetime by the time of the survey. [age groups and services number]. The top five services used across age groups were Speech Therapy (64.7%), Occupational Therapy (45.6%), Behavior Therapy (40.1%), Physical Therapy (31.0%) and Medication (39.7%). Speech Therapy was the top used service for all ages but adults. On the contrary, medication was highly frequent for the elementary

school (46.4%), adolescent (53%) and adult (59.5%) groups. Occupational therapy was in second place for the preschool (44.7%) and elementary school (48.5%) groups, but not for adolescents and adult groups. In third place was behavior therapy for all the age groups but Elementary School and Adolescent groups. The least used services reported by caregivers were relational therapy (10.4%), biomedical treatments (14.5%) and psychodynamic therapy (18.81%). They were in the same order of frequency for all age groups.

CONCLUSIONS: Our results pinpoint to the fact that adults with ASD use fewer services than the rest of the age groups in the sample. We found that an important number of individuals have never received any treatment during their lifetime. Significantly, the adult population presented the highest proportion of individual with no use of services in their lifetime. We address a gap in the existing research literature by both describing and comparing the use of services across age groups and in reporting such data in a population of Latinos living in LMIC.

TLI – 85: ABNORMAL ELECTROENCEPHALOGRAMS IN CHILDREN WITH AUTISM SPECTRUM DISORDER AND ASSOCIATION WITH ANTI-SEIZURE MEDICATIONS

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INTRODUCTION: Interictal epileptiform activity has been reported in up to 50% of patients with autism spectrum disorder (ASD). The impact of this epileptiform activity on cognition, behavior, psychiatric comorbidity, as well as on the indication of anti-seizure medications (ASM), is currently a matter of discussion.

OBJECTIVES: To analyze the EEG abnormalities found in patients with ASD, and evaluate their association with the indication of ASM.

METHODS: Analytic retrospective study of patients with ASD treated at Hospital San Borja Arriarán. The inclusion criteria were pediatric patients with ASD who had an abnormal EEG. We obtained a small sample of patients and thus the data was not normally distributed. Therefore, we used nonparametric analyses. The continuous variables were expressed as median (p25-p75), and categorical variables with N (%). To analyze the association between EEG patterns and ASM we used Fisher Exact Test. The 2-sided α value was set at 0.05. All statistical analyses were performed with Stata, version 14.2 (StataCorp LLC).

RESULTS: Out of 133 patients with ASD, 18 (13.5%) had abnormal EEG. Patients had a median (p25-p75) age of 14.5 (12-16) years. Sixteen (88.9%) were male and 2 (11.1%) were female. Fifteen (83.3%) patients had epileptiform activity, and four (22.2%) had EEG slowing. The interictal epileptiform activity was focal in 10 (66.7%) patients and generalized in 5 (33.3%) patients. The maximum negativity widely varied between patients, but in 6 (33.3%) patients the maximum negativity was frontal, 3 (16.7%) frontal combined with either central or temporal maximum negativity, and 2 (11.1%) centroparietal. Maximum negativity was also described in 1 (5.6%) patient as occipital, parietal, temporal and centrottemporal respectively. Out of the 4 patients with EEG slowing, 3 (75%) patients had posterior slowing and 1 (25%) frontotemporal. Seven (38.9%) patients were on ASM, 3 (16.7%) were on ASM in the past and 8 (44.4%) never received ASM. Seven out of 10 (70%) patients with focal interictal epileptiform activity were receiving ASM, while none (0%) of the five patients with generalized interictal epileptiform activity were on ASM ($p=0.026$). Out of 15 patients who had interictal epileptiform activity, 10 (66.7%) received ASM at some point, and none (0%) of the patients with EEG slowing ($p=0.069$). Only one (5.6%) patient had family history of epilepsy. Fourteen (77.8%) patients had normal sleep, and 4 (22.2%) patients had some type of sleep abnormality. Only one (5.6%) patient had a seizure, however, without recurrence.

CONCLUSIONS: Fourteen percent of patients with ASD had an abnormal EEG. Most of them had interictal epileptiform activity, which was more frequently focal, with a maximum negativity that was more frequently frontal. Fewer patients had EEG slowing, and this was more frequently posterior. Focal interictal epileptiform activity was significantly associated with ASM indication.

TLI – 86: CHARACTERIZATION OF CHILD AND ADOLESCENT POPULATION WITH AUTISM SPECTRUM DISORDER IN CONTROL IN THE CHILD AND ADOLESCENT PSYCHIATRY UNIT



OF THE UNIVERSITY PSYCHIATRIC CLINIC OF THE UNIVERSITY OF CHILE DURING THE FIRST SEMESTER OF 2018

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INTRODUCTION: Autism Spectrum Disorder (ASD) is a complex and heterogeneous neurodevelopmental disorder, with high medical and psychiatric comorbidity, with a significant individual, family and community impact. The Child and Adolescent Psychiatry Unit of the University Psychiatric Clinic of the University of Chile (CPU), in its challenge of optimizing this therapeutic work, needs updated general information on this population.

OBJECTIVES: Describe characteristics of child and adolescent population with ASD diagnosis, in control during the first semester of 2018 in the Child and Adolescent Psychiatry Unit of CPU

METHODOLOGY: Descriptive, observational, retrospective study. Review of clinical records of ASD patients, 0-19 years old, monitored during the first semester 2018 in the Child and Adolescent Psychiatry Unit of CPU. Sociodemographic, clinical, school and community variables are analyzed.

RESULTS: 73 ASD patients in control in CPU (68 male, average age: 11 years old). 92% from the metropolitan region, 67% attached to FONASA, 52% live with both parents. Upon admission, 77% with prior evaluation by Neurologist and 32% by Psychiatrist, in the extra-system. 45% with ASD diagnosis previously confirmed. Currently, 70% with some psychiatric comorbidity (mainly ADHD), 19% with Intellectual Disability and 55% with some medical comorbidity. 67% attend traditional education (56% of them in a school integration program). 46% have been victim of bullying. 79% receive some therapeutic support (speech therapy, occupational therapy and/or psychotherapy) and 76% with pharmacotherapy. 21% of caregivers and 33% of patients participate in some community or extracurricular activity respectively.

CONCLUSION: Population with significant comorbidity and multiple therapeutic support, with low participation in community activities. Current scenario and relevance of interdisciplinary and intersectoral empowerment are discussed.

TLI – 88: EMBODIED SOCIAL COGNITION: PERCEPTION OF SOCIAL EXCLUSION IN AUTISM SPECTRUM DISORDER

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INTRODUCTION: This research focused on the perception of social exclusion in adolescents with and without the condition of Autism Spectrum Disorder (ASD). The idea that the same brain areas that process physical pain would be involved in the processing of social pain was the central thesis. For this, an experimental test was carried out in adolescents with and without the condition.

OBJETIVES: The main aim was to evaluate the incidence of a linguistic inclusion/exclusion priming on the viewing of pain/non-pain images; expecting to find an effect of interaction between the variables and differences between the performance of the groups.

METHODS: This was an exploratory and experimental study. The design was factorial with 2 groups (with/without ASD), 3 primings (visual/exclusion/inclusion) and 3 actions (functional/pain/non-pain). The sample was composed by 65 adolescents between 12 and 16 years old, who participate with parental consent. A computer experiment was applied with 18 images and 8 sentences combined (De Vega, Urrutia and Pascual-Leone, 2014), in nine conditions. The participants had to identify if the images were painful or not, answering “yes” or “no” on the keypad. To demonstrate these phenomena, reaction times and success rates were measured. On the other hand, empathy and self-esteem were measured as covariates through two self-administered questionnaires.

RESULTS: A significant difference was observed between groups, with lower percentages of success in the recognition of functional and non-painful images for the ASD group. On a general level, a main effect of priming and a main effect of actions was observed. That is, when the semantics of the sentence were associated with concepts of inclusion or exclusion, or, the images presented painful stimuli, the reaction times, for the recognition of the images, decreased and the successes increased. Finally, when the self-esteem variable was introduced, an interaction between priming and action appeared with less reaction times and higher success rates when the stimuli were concordant, while when these were discordant the opposite effect was saw.

CONCLUSION: Individual differences in empathy generate differences between groups, with higher interference in the ASD group. This shows that these adolescents would present difficulties in the perception and recognition of non-painful and functional actions, confusing harmless with harmful stimuli. The perception deficits could be explained by the difficulties they present in the intentionality recognition in which different actions are carried out. On the other hand, in general, interaction between the variables was observed when self-esteem and empathy were introduced, evidencing facilitation and interference when the variables interacted. This supports the hypothesis that pain stimuli and social exclusion would be experienced as threats, which implies the possibly that the same brain areas process both types of stimuli.

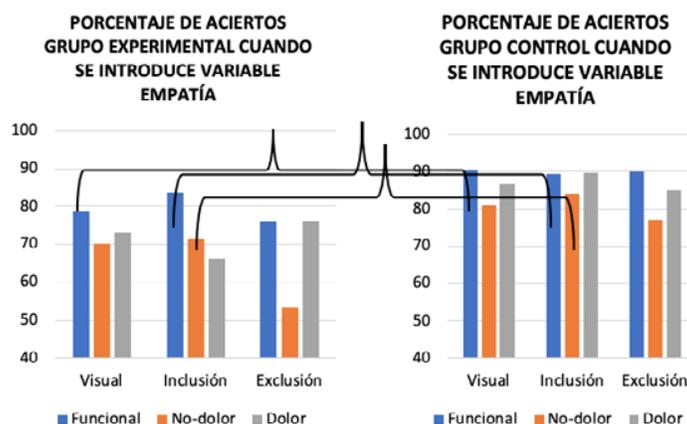


Gráfico 4: Porcentaje de aciertos del grupo experimental para diferentes primings.

Gráfico 5: Porcentaje de aciertos del grupo control para diferentes primings.

TLI – 89: HOW TO TEACH A TEENAGER WITH AUTISM TO RIDE A BIKE: CLINICAL CASE

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INTRODUCTION: Getting a bike ride is challenging for every child and its family. Difficulties in coordination, instruction follow-up and tolerance to frustration makes it even more difficult for a teenager with autism.

OBJECTIVES: To share the experience of applying a stepped ABA method on a teenager with severe autism to get him to use his bike independently.

METHOD: Description of stages, videos and progress curves are presented.

RESULTS: The process started in March 2019. Coaching sessions were scheduled 2-times a week (45 minutes) for 3 months. The experience with this severe autistic boy is shown in a didactic manner, step-by-step, with the goal of accomplishing an independent bike ride. ABA registration charts, initial tests of severity and videos of every stage using different motor approaches and their aids are presented.



CONCLUSION: This successful case gives hope to children with autism and its families in terms of take part in a pleasant and healthy activity.

TLI – 91: AGE OF FIRST CONCERNS AND DIAGNOSIS OF ASD IN CHILE: EVOLUTION IN THE LAST 20 YEARS

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INTRODUCTION: We recently conducted a survey of 291 caregivers of Autism Spectrum persons (ASD) yielding relevant results in relation to Age of parent's First Concerns and Age of Diagnosis. The wide age range of the sample, between 1-40 years, was a limiting factor for conclusions, since they would be averaging different situations, without capturing the changes that have occurred and the current situation.

OBJECTIVES: to evaluate the evolution of parents' first concerns and age of diagnosis by comparing different age groups of people with ASD, as an approximation to possible changes in access to information, diagnosis and quality of care in the last 20 years.

METHODS: Descriptive study based on the analysis of data from the ASD Caregiver Survey, collected in a non-probabilistic convenience sample. The sample was divided into the following age groups: Infants and Preschoolers (IP) (n: 60), Schoolchildren (S) (n: 115), Adolescents (ADO) (n:87), Adults (ADU) (n: 24); the comparative analysis used chi-square test and multiple comparison tests: ANOVA, Scheffé test, Tukey HSD test.

RESULTS: the comparison between age groups of people with ASD showed a significant decrease ($p < 0.05$) in the age of Parents' First Concerns, being on average in ADU 43.3m, in ADO 34.6m, in S 27.7m and in IP 18.9m. As for signs that motivated first worries, in the IP group the most mentioned was "lack of response to sounds or to being called", whereas in S and ADO were "fine motor difficulties and learning new skills such as dressing and acquiring bowel control". The mean Age at Diagnosis showed a significant decrease ($p < 0.05$) from 111.9m in ADU, 71m in ADO, 57m in S and 35.4m in IP. The diagnosis was made more frequently by neuropsychiatrists in the IP (56.8%), S (46.1%) and ADO (41.9%) groups; in the ADU group the highest frequency was for child psychiatrists (45.8%). In both IP and S, the second frequency was for multidisciplinary teams: 22.6% and 18.6% respectively. Pediatricians diagnosed a 4.2% of total cases and there was no trend indicating change.

CONCLUSIONS: The significant decrease in the age of First Concerns and the appearance of more specific ASD concerns, suggest better access and level of knowledge of parents in relation to child development and its possible disorders. The significant anticipation in Age of Diagnosis, would reflect a more timely attention, as well as greater knowledge and alert of the professionals. The sustained increase in the diagnosis carried out by a multidisciplinary team stands out positively; at the same time, the very low contribution of pediatricians is a cause for concern. These results indicate a better situation of recognition and timely diagnosis of ASD, however there is a huge task to be accomplished in the training of pediatricians.

TLI – 93: GENDER DIFFERENCES BETWEEN CHILDREN WITH SUSPECTED ASD IN PUBLIC ATTENTION

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INTRODUCTION: The diagnosis of Autism Spectrum Disorder (ASD) has increased in prevalence, according to the WHO (World Health Organization), it is estimated that in the world that 1 in 160 children (0.625%) has an ASD, while CDC (Center for Disease Control and Prevention) describes it in 1: 59 children. ASD is a clinical diagnosis (DSM 5), however, having objective measuring instruments such as ADOS-2 (Observation scale for the diagnosis of Autism) would complement this process in order to recognize clinical profiles among children and girls with ASD, recognizing their clinical and performance differences to the test. In addition, the test provides a level of severity, which allows activating the appropriate management according to this

OBJECTIVE: Compare gender differences between girls and boys with suspected ASD.

METHODS: 100 participants (50 boys and 50 girls) between 1 and 20 years were evaluated. Average age 6.28 girls (SD 4.01) and 6.75 boys (SD 3.93). The clinical criteria of DSM 5 and the ADOS 2 test were applied, module chosen according to age and language level. Hypothesis tests were performed to compare the means (Mann-Whitney) and proportions (Chi-squared).

RESULTS: The girls obtained an average of 6.15 in the severity score (range 1 to 10), and the boys 5.47. 8% of girls classified in severity no TEA, 18% mild 40% and moderate 26% severe. In contrast, children obtained 12% non-ASD, 22% mild, 38% moderate and 18% severe. The mean severity scores of both groups were similar ($p = 0.251$). According to the degree of classification obtained in the ADOS-2 test for ASD (non-ASD, mild, moderate and severe), both genders do not differ in terms of proportions ($p = 0.719$). Se applied 9 modules T, 4 in girls and 5 in boys, in which they were obtained according to degree of concern; the total of boys is in the category moderate to severe concern of presenting ASD, while in girls, a case appears in a range of little or no concern and the remaining 3 in a moderate to severe range of presenting ASD.

CONCLUSIONS: There were no statistically significant differences by gender in the degree of severity and classification obtained through the ADOS-2 test. A clinical / multidisciplinary approach is required in the diagnosis and recognition of possible gender differences, becoming a challenge for future research.

TLI – 94: USE OF ELECTRONIC DEVICES AND SCREEN EXPOSURE IN A POPULATION OF PRESCHOOLERS WITH AND WITHOUT AUTISM SPECTRUM DISORDER

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INTRODUCTION: Given the massive use of electronic devices, there is special concern for its effects in young children. Preschoolers with Autism Spectrum Disorders (ASD), constitute a special population among which, to date, the literature addressing screen exposure is limited. Studies point out that early exposure to screens has a negative impact in different areas of development, including language and social interaction. Given that the first years of life constitute a period of great neuroplasticity, the hypothesis that intensive exposure to screens has a negative impact in development and that could modify developmental trajectories, having more impact in vulnerable individuals is considered for this study.

OBJECTIVE: To describe the use of electronic devices in a population of preschoolers with diagnosis of ASD and compare it with a control group.

METHODS: Case control study. The clinical sample consists of 27 children under six years of age who were referred to the outpatient clinic, specialized in ASD at the Pereira Rossell Hospital (Montevideo, Uruguay) in the period July 2017 - July 2018 and received a diagnosis. The diagnosis was clinical and complemented by ADOS 2. CBCL 1 ½-5 was administered to all participants, as well as a questionnaire designed for this study. Control sample, constituted of 54 subjects matched by age and gender, but have no neurodevelopmental disorder diagnosed is currently being studied.



RESULTS: Results in the clinical sample indicate that all participants were exposed to more than electronic device. The most used were TV followed by cellular phone. Age at first exposure to screen was prior to six months in 29 %, and 29 % between six months and one year of age. Daily time of exposure varies between one hour and more than six, with a 37 % of the studied children that have a time of exposure that exceeds five hours/day. 17 families had recently reduced screen exposure in their children. From these 7 cases reported changes in child behavior coinciding with decrease in exposure, including better social interaction and more interest in the social world. We expect to compare these results with the ones obtained from the ongoing research in the control sample, and analyze differences in the variables studied, and discuss possible explanations.

CONCLUSIONS: 1) There is an early exposure to screens in crucial periods of social and language development in most studied subjects; 2) Special care should be taken in screen exposure in children aged younger than six months; 3) Most cases exceed the recommended time of use; 4) We highlight the importance of addressing the subject of screen use and giving advice in child visits.

TLI – 95: EARLY CHILDHOOD IMITATION IN CHILDREN WITH AUTISM SPECTRUM DIAGNOSIS (ASD)

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INTRODUCTION: Imitation is an integral part of children's development in social, communication and cognitive skills. In children with ASD there are many difficulties in early acquisition of this competence. These difficulties affect developments that are established through imitation, such as language and social skills. The international guideline called MVIA, describing categories of imitation has not been yet validated in Spanish. This guideline includes punctuation for different skills, as imitation with objects, pointing out specific parts of the body, as well facial and vocal movement reproductions.

OBJECTIVES: Planning of early intervention is a key point for imitative skills development. Since there is no validated Spanish guideline in Chile for imitation in ASD population, we aimed to describe imitation's skills in children with ASD in a Chilean cohort based on the MVIA guideline. The proposed guideline, in Spanish language, may be applied for initial clinical diagnosis and treatment.

METHODS: This non-experimental, descriptive, cross-sectional study was performed on 12 children with clinical diagnosis of ASD in early childhood (2-6 years) who presented at least a 1.0 score in the VP-MAPP scale. We registered complete clinical histories and tests with the MVIA guideline in every dimension. Informed consent was signed by all participating families.

RESULTS: The results obtained showed an imitative profile of each participant, showing their deficits and strengths in this skill, which generated a possible projection of intervention objectives that will allow the development of future skills.

CONCLUSIONS: We conclude that the application of this guide in our country may help to understand the crucial importance of imitation in early treatment planning.

TLI – 97: A REVIEW OF THE ASSOCIATION OF THE USE OF VALPROIC ACID IN WOMEN PREGNANT WITH THE RISK OF CHILD AUTISM

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INTRODUCTION: The development of the nervous system begins approximately 18 days after fertilization. There are "vulnerable periods" for normal brain development, the main ones being intrauterine life and the first year of life. Expo-

sure to noxas in the prenatal period, mostly in the first trimester predispose to brain lesions that can alter their proper development. Within these noxas is the use of drugs such as Valproic Acid (antiepileptic and mood stabilizer). Among the known adverse effects of Valproic Acid (VAc) is the risk of teratogenicity, however, other little-known effects have been proposed such as neurodevelopmental disorders as autism spectrum disorder (ASD).

OBJECTIVE: To review the scientific literature to find if there is an increase in the incidence of autism in children of women who used VAc in their pregnancy compared to those who did not use it.

METHODS: Updated review (since 2010 to date) of the literature (using advanced search with keywords) in databases such as NICE, Cochrane database, Trip Medical, Up-to-date, EBSCO, ScienceDirect, Pubmed, Elsevier and Scielo.

RESULTS: From the search carried out two works were found where it is explicitly evidenced that there is an increase in the incidence of autism in children of women who used VAc in their pregnancy compared to those who did not use it. A first Retrospective Population Cohort Study that included 655,615 children born in Denmark between 1996 and 2006, where 2,644 were exposed to antiepileptic drugs (AED) during pregnancy and 508 exposed to valproate. These children were followed up. Among the results it was found that, of the 655,615 children, 5437 were identified with ASD. The 508 children exposed to valproate had an absolute risk of 4.42% (95% CI: 2.59% to 7.46%) for ASD (adjusted HR 2.9 (95% CI: 1.7 to 4.9)) and an absolute risk of 2.50% (95% CI: 1.30% to 4.81%) for childhood autism (adjusted HR, 5.2 (95% CI: 2.7 to 10.0)). The second publication is a Systematic Review and Meta-analysis where the safety of AEDs in the neurological development of children exposed in utero or during lactation was compared. 29 cohort studies (5100 babies / children) were selected where interventions were performed with antiepileptic drugs in monotherapy / polytherapy and a control group. Autism meta-analysis suggested that valproate (OR 17.29, 95% CrI 2.40 to 217.60), lamotrigine (OR 8.88, CrI 1.28 to 112.00) and lamotrigine + valproate (OR 132.70, CrI 7.41 to 3851.00) were associated with significantly higher probabilities of developing autism compared to control.

CONCLUSIONS: Within the search conducted in the literature it is shown that there is an increase in the incidence of autism in children of women who used VAc (in mono or in polytherapy) in their pregnancy compared to those who did not use it.

Keywords: “valproate”, “valproic acid”, “autism”, “pregnancy”.

TLI – 98: DEVELOP RESILIENCE IN FAMILIES WITH AUTISTIC CHILDREN

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INTRODUCTION: Some studies indicate that the experience of having a child with autism involves many difficulties, due to the communicative problems of the child, their particular social behaviors and the generally late diagnosis in these cases. There are theoretical references such as resilience, which can guide the guidance given to families in these cases. In this study, the resilience construction model known as “La Casita”, by Stephan Vanistendael, was used. Vanistendael’s model indicates that resilience is built analogously to how a house is built, indicating increasing levels that are built from the ground up to more complex and demanding skills.

OBJETIVE: The objective was to understand how resilience develops in fathers or mothers of autistic children who attend special education, and who managed to build a high level of resilience.

METHODS: It was a qualitative study, in which in-depth interviews were applied to parents of children with autism who had a high level of resilience. These parents were selected according to the SV RES Scale (Saavedra and Villalta, 2008). The results of this scale also allowed us to give a first approximation to its characteristics. The study was conducted in two special schools in the commune of La Florida that serve children with this condition.

RESULTS: Among the results, the importance that parents have in their abilities to face the challenges of having an autistic child, based on their self-learning skills and their sense of self-efficacy, can be highlighted first. It also describes



the construction of a “house of resilience”, based on pointing out different strategies and processes that fathers / mothers carry out to face problematic behaviors. Among these behaviors are the organization of time, seeking professional support, economic ventures, activating to support the child, setting limits to others (including the child), having personal self-care spaces, among others. Finally, it is concluded that this construction process has two fundamental characteristics: it is cyclic and synergistic. The first indicates that resilience begins by building with the support of a group to the person, to finally return from the person to groups; the father achieves skills to strengthen others. On the other hand, the synergistic character indicates that the development of each level of resilience construction, influences the evolution of the other levels: any strength achieved, implies a general advance in each house.

CONCLUSIONS: In conclusion, the need to create in the services that serve this population is indicated; different instances that empower parents, that may have instances of learning, and that give rise to the creation of groups of fathers and mothers of children with autism.

TLI – 99: WORDS CREATE REALITIES: ABEDUL MODEL. EARLY INTERVENTION IN PRE-SCHOOL CHILDREN WITH AUSTISTIC ESPECTRUM DISORDER

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INTRODUCTION: Early intervention in children diagnosed with Autism Spectrum Disorder is directly related to the prognosis and the modifications that will be necessary throughout their life. Currently there are models and approaches used to address the challenges of children who are within this condition, however, it is difficult to replicate them and each one alone does not respond efficiently to their demands. Thus, valuing interventions that are empirically validated is not an easy task. The professional community expects rigorous and structured research, often undervaluing the relevance of professional practice and the possible findings found through it. The “Abedul” model focuses on three axes: decrease in dysrruptive behaviors and catastrophic reactions, increase in the repertoire of restricted interests and increase in independence in carrying out activities of daily living (hygiene, food and clothing), aspects fundamental to introduce adaptive behaviors and finally incorporate it into a traditional school-group space, with or without a school integration program.

OBJECTIVE: The objective of this article is to show the “Abedul” model, built on the basis of multidisciplinary- systematic work in preschool children (24 months to 48 months) for a period of 12 months, diagnosed with Mild and Moderate Autism Spectrum Disorder.

METHOD: A clinical follow-up is carried out on a group of 10 children with suspected ASD and with ADOS-2 evaluation . At the time of initiating the intervention in the “Abedul” Center, a specialist neurologist confirms the diagnosis.

RESULTS: From the findings obtained, significant changes are identified in: decrease in duration and frequency catastrophic reactions. Increased repertoire of restricted interests (up to 4 different categories) positively impacting the type and quality of the game. Increase in independence in menor hygiene, food and clothing activities. All of the above measurable through the incorporation and permanence of children in traditional school-group spaces (kindergarten-school) with and without inclusion program.

CONCLUSIONS: A clinical follow-up is carried out on a group of 10 children with suspected ASD and with ADOS-2 evaluation . At the time of initiating the intervention in the “Abedul” Center, a specialist neurologist confirms the diagnosis. Early intervention (specialized, multi-disciplinary and systematic) in children with ASD has a direct impact on the quality of life and their family environment. It is essential that to begin this process, the medical diagnosis is made early and with the specific referral to professionals (speech therapists and occupational therapists) specialized in working with children and with the ASD condition.

TLI – 102: FIRST KEY EXPERIENCES IMPLEMENTING CAREGIVER SKILLS TRAINING IN URUGUAY, MOVING TOWARDS EXPANSION

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INTRODUCTION: In spite of advances in knowledge for early detection of autism spectrum disorders (ASD), access to early intervention continues to be a challenge. Worldwide, the majority of children with ASD and their families have difficulties accessing services. Limited trained professionals, especially in primary care is recognized as a barrier to increment services for children with ASD and other developmental disorders. Evidence suggests that early intervention has a positive impact on symptomatology which is superior when parents participate actively. Given limitations in access to the services it is essential that parents learn necessary skills to intervene with their children with developmental disorders. Also, non-specialized professionals in community settings can deliver effective training to caretakers. The World Health Organization (WHO), along with international non-profit organizations such as Autism Speaks and others, are committed to collaborate in providing the population with evidence-based, caregiver training programs, that are accessible and have significant impact in low income communities, and have developed the CST program (caregiver skills training). The validation and adaptation of the program started in Uruguay in 2016 and currently evaluation and dissemination is ongoing.

OBJECTIVES: To carry out a pre pilot study with the CST program in Uruguay by collecting data from a group of parents and their children before and after participating in the program.

METHODS: A test group of 8 low- middle income families, with children aged between 2-6 years with ASD, was selected. The group was led by two validated master trainers. Participants' opinion was asked before and after using focus group with a specialized professional. The following topics were explored: 1. Motivation for participating, 2. Opinion about the program, 3. Methodological proposal of the program, 4 identification of barriers for participation. Home visits and group meetings were carried out.

RESULTS: 6 families integrate the group. It is conformed of mothers, fathers and grandparents. So far, home visits have been completed, and 50% of group sessions have been carried out with attendance of all of the families. The first focus group shows consensus in the fact that the main motivation for participating is the interest in acquiring tools and developing skills to improve the relationship with their children and respond to their needs in a better way. The program is considered a novel and useful proposal. Families understand that objectives, contents and methodology give answers to daily situations. They find it difficult for both parents to participate given other commitments.

CONCLUSIONS: At the current stage, quali and quantitative assessment is positive. Barriers detected so far can be overcome. Once this stage is concluded the program could move forward to a national scale under responsibility and financed by the government.

TLI – 103: ROBOTICS BASED THERAPY: AN EMERGING THERAPEUTIC ALTERNATIVE IN AUTISM SPECTRUM DISORDER (ASD)

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INTRODUCTION: Robotics has allowed to create controlled social and educational environments that improve aspects of imitation, joint attention, taking turns, communication and interactional skills (David et al., 2019; Scasellatti et al, 2012; Liu et al, 2008). In addition, special interest of ASD children has been observed for constructive games with blocks which are assembled together (Sun & Winoto, 2019; Lindsay, 2017), which could also improve other difficulties such as visuomotoricity. The use of this technology to improve social skills and visuomotoricity in ASD children has not been widely studied in Chile.

OBJETIVES: To determine if robotic therapy improve social and visuomotoricity skills in chilean ASD children through



structured and controlled workshops.

METODOLOGY: longitudinal prospective study. Approved by ethics committee of Central Metropolitan health Service. Inclusion criteria: ten ASD children, confirmed by ADOS (Autism Diagnostic Observation Schedule), between 9 and 13 years old with normal/borderline intelligence quotient by WISC (Wechsler Intelligence Scale for Children). They took part in 8 sessions of robotics. The 10 children worked in five pairs which were staying for 8 sessions. The time of each workshop was 2 hours with sequences of activities and well delimited times, supported by images and workshop methodology over time, changing just the proposed objective in each session. Measured results: assistance, SCOPE interview to teachers (initial/final), Gilliam autism scale (GARS) (initial/final), visomotor integration scale (VMI) (initial/final).

RESULTS: *Sample characteristics:* 10/10 men. Mean age: 11 years old. Severity: Mild to severe Autism by ADOS. Medication use: 8/10 (6 methylphenidate, 4 antipsychotics). Daily life activities (DLA): 4/10 remarkable help, 3/10 little help, 3/10 no help. 5/10 had previous occupational/conductual therapy. *Outcomes:* Workshop assistance: 10/10 greater or equal to 50% of workshops. *Comparison initial/final surveys:* **SCOPE:** Obtained in 5/10: statistically significant improvement in volition ($p0,051$), habituation ($p0,053$), communication ($p0,005$) and total score ($p0,003$). **GARS:** slight numerical tendency to improve social interaction and emotional responses, without statistical significance ($p0.343$). **VMI:** 2/10 VMI improvement, 2/10 visual improvement, 4/10 motor improvement; although without statistical significance (VMI $p0.416$; visual $p0.886$; motor $p0.431$).

CONCLUSIONS: Significant behavioral improvement in teacher reports. Good perception, adherence and motivation of patients, parents and therapeutic team. Vanguardistic intervention in Chilean public health system that find to model behavior taking advantage of the interests of ASD children, in a group of children that by their age have limited intervention alternatives. Important participation of an expanded multidisciplinary team, including engineers. Limitations: difficult to increase the number of patients included considering the cost of the technology.

TLI – 104: ROBOTICS BASED THERAPY IN CHILEAN CHILDREN WITH AUTISM SPECTRUM DISORDER

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INTRODUCTION: Technology appeals Autism Spectrum Disorder (ASD) children. The use of this interest to help them improve socialization skills has received increasing research attention in the last decade (Huijnen et al., 2016). Furthermore, special interest of ASD children for LEGO toys has been observed because they are highly structured, systematic and predictable. Studies have shown their usefulness when applied in the appropriate therapeutic context; decreasing disruptive behaviors and improving social skills in ASD children, in a spontaneous and entertaining way. However no data or results about ASD children robotic therapy has been reported in Chilean context.

OBJECTIVES: To determine whether robotics based therapy improves social skills, through structured and controlled workshops, in a group of Chilean ASD children.

METHODS: Cases and controls, prospective longitudinal study. Three groups of 4 children with ASD, confirmed with Autism Diagnostic Observation Schedule (ADOS-2); age higher than 9 years, normal intellectual coefficient with WISC (Wechsler intelligence scale for children). One group participated in workshops of LEGO Robotics (LEGO-r-w), the second in workshops of social skills (SS-w) and the last one was not intervened. Both workshops lasted 10 sessions, and were performed once every two weeks.

RESULTS: 4 children of male sex in each group, average age: 11 years. Comparable groups. Vineland: significant differences in categories: socialization ($p=0.002$) and communication ($p=0.039$) comparing initial/final average scores of the 3 groups. No differences between groups ($p>0.05$, confidence level of 95%). Video coding: Children that joined LEGO-r-w improved the following behaviors: initiation of meaningful conversation, autonomy for resolution of problems, less dis-

ruption to other, less echolalia, fewer episodes of discouragement or abandonment of the activity; however, these changes did not have statistical significance. Surveys: Statistically non-significant difference between scores of satisfaction surveys comparing initial/final assessments of parents and children in both workshops. Workshop attendance: Statistically significant difference in the attendance between the LEGOr-w and the SS-w ($p=0.009$), being the LEGO robotics group the one with better participation.

CONCLUSIONS: Better adherence to LEGOr-w, no differences in Vineland between groups, while the three improved. Novel intervention oriented towards users of Chilean public health system with restricted access to technology and limited offer of therapeutic interventions, specially to attractive ones. Further research could measure social behavior using an specific ASD scale, such as the Gilliam Autism Rating Scale-2 in Spanish version and increase the total number of sessions and participants to observe the likelihood of improved socialization. Maternal interviews in LEGOr-w final session reported improvement in fine motor skills of children; this could be measured in further robotics-based therapy research.

TLI – 105: INTELLECTUAL ASSESSMENT IN CHILDREN WITH AUTISM SPECTRUM DISORDERS (ASD): PRELIMINARY RESULTS OF WISC-V COGNITIVE PROFILE IN A CHILEAN SAMPLE

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INTRODUCTION: Autism Spectrum disorder (ASD) is a neurodevelopmental disorder characterized by heterogeneous cognitive profiles. The assessment of the intellectual development is crucial, considering different intellectual abilities have been described within the spectrum (Charman et al., 2011). The Wechsler Intelligence Scales for Children (WISC) is one of the most widely used tests within the assessment in children with ASD (ASD-Children). Some research described an uneven intellectual profile characterized by higher verbal and non-verbal reasoning and weakness on working memory and processing speed (e.g. Oliveras-rentas, Kenworthy, Medical, Roberson, & Wallace, 2012). Nevertheless, mixed findings are reported, particularly considering substantial changes in the subtests and indices of the recent versions (Kuehnel, Castro, & Furey, 2018; Nader, Jelenic, & Souli, 2015). In this context, the latest WISC was standardized in Chile (WISC-V), underscoring the relevance of exploring its utility to assess intellectual development of ASD- Children.

OBJECTIVES: This study aimed to explore the utility of WISC-V to assess cognitive functioning in Chilean ASD- Children compared with typically developing children (TD).

METHODS: Twenty-five ASD-Children (23 males) aged 6-16 years ($M = 11.3$; $SD = 3.1$) were recruited from a public hospital of Santiago de Chile. All children had previous assessment with an $IQ > 70$ and did not have significant language difficulties. Control group were TD of the standardization sample matched by age and socioeconomic status (SES) based on type of school administration, considering the strong relationship between school type and SES described in Chile. Informed consent from parents was provided for all study participants and then tested individually by professionals psychologists trained in WISC-V. Nonparametric comparisons were carried out among FSIQ, principal and secondary index for ASD-Children and TD-group. Additionally, exploratory comparisons within the ASD-group were carried out between the FSIQ-GAI and GAI- CPI using critical values of the normative sample.

RESULTS: Overall, ASD-children performed within the average range on the FSQI ($M=93.6$, $SD=14.9$) and on most WISC-V principal indices with the exception of the PSI ($M=76.5$, $SD=14.6$). Compared with TD-children, ASD-children showed a significantly lower performance in PSI ($p < 0.01$). Similarly, a significant difference was found on the performance on the CPI ($p < 0.01$). No further significant differences were found in the FSIQ or other indices between groups. Exploratory analyses within the ASD-group revealed significant differences within secondary indices suggesting $GAI > FSIQ$ and $GAI > CPI$.

CONCLUSION: This is the first study that administered the WISC-V to explore cognitive performance in Chilean



ASD-children. Although these are preliminary results and further research is needed, findings lend support toward the usefulness of the WISC-V to assess intellectual development of ASD-children. Results replicated some previous work suggesting processing speed difficulties. Also, underscored the cautions that need to be taken considering differences between the FSIQ and GAI, especially for future comparisons guiding treatment planning in clinical settings.

TLI – 106: AUTISM SPECTRUM DISORDER: PARENTS AND THE PATH TO DIAGNOSIS ACCEPTANCE

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INTRODUCTION: The birth of a child is a long awaited moment on the part of the parents, expectations and illusions are raised that lead them to wait happily for the new member, however, this is affected when they learn that their expected child has a disability. As Vallejos points out (2001) The arrival of a disabled child generates an unexpected crisis, not normative, of mismatch, which requires instantaneous adaptation of the parents. The balance of the family is generally decompensated, both in its internal functioning and in its relations with the outside world. For Nuñez (2007) the duel is not elaborated once and for all, but, before each new situation of growth of the child, there is a update of the same. Having a child with a decrease implies for the family to live with chronic pain.

OBJECTIVE: Know the grieving process experienced by parents of children with autism spectrum disorder.

METHOD: This research is descriptive, since it aims to collect information about emotions and the grieving process experienced by parents of children with Autism Spectrum Disorder, knowing the diagnosis.

RESULTS: Mothers of children with ASD, upon knowing their child's diagnosis, experience emotions of fear, sadness, and a lower percentage of shame. Instead, parents show shame, however, they don't show sadness, guilt and happiness. The mothers of children with ASD, knowing their child's diagnosis, experience the feeling of love, hope and anxiety, point to less happiness. Instead, parents show hope and love, however, they don't show happiness and anxiety.

CONCLUSIONS: Emotions serve to motivate us towards action and to adapt to situations. The father usually feels the son as a wound in his virility to the extent that the offspring, which is the bearer of the paternal surname, has remained truncated, even more so when it comes to the first male child (Nuñez 2003). Every moment of crisis brings with it situations of loss that entail the need to elaborate duels. In the case of the confrontation of the child's disability, there is a need for an indispensable duel job, the duel for the unborn child must be processed in order to connect and give the real son a place, with his deficit. It is not a unique feeling, but rather a complex succession of feelings that require some time to be overcome. Therefore, it is relevant to consider that the earlier the diagnosis is made, the earlier support will be made to families, especially considering that this diagnosis is researched and diagnosed in the process of preschool education or primary school process, which makes that families begin supports and accompaniments after two or three years of age of their child.

TLI – 108: APPROACH TO BEHAVIOR IN STUDENTS PRESENTING DISORDERS OF THE AUTISTIC SPECTRUM AS A DETERMINING ELEMENT OF THE INCLUSIVE PROCESS

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INTRODUCTION: Aisncow (2012) defines inclusive education as the specific attention to the population that presents a disability situation in regular environments and specifically in the school, it has been recognized as the best way to provide education for everyone, Amaro and Navarro (2013), being the model towards which educational systems should be directed. In Chile for two decades with current regulations the aim is to guarantee the necessary support to access, maintain and progress during the school career, Echeita (2017). The need to provide specialized support that addresses behavior in school settings is evidenced, in order to avoid the generation of barriers to inclusion.

OBJECTIVE: To facilitate the process of educational inclusion of students who present Autism Spectrum Disorders, through the incorporation of strategies that allow the approach of behavior in school and family environments.

METHOD: The paradigmatic approach of this research responds to the qualitative exploratory type (Ferreira, 2014, p. 94). The methodology is based on action research, in which the researcher is part of the direct intervention process, joining the field of study, both in homes and educational establishments, ensuring the implementation of the guidelines incorporated in the different environments in which Students participate

RESULTS: The behavior is undervalued by the educational entities, being considered any negative manifestation of it, as part of the diagnostic chart that accompanies the Autism Spectrum Disorder, the same way for families prior to the intervention, was not considered a boarding priority, I had the belief that it was part of the expression of the ASD. The presence of students presenting ASD to educational systems requires a teacher to grant specific support, which today constitutes an important problem, since it is not a subject that is currently addressed. These problems do not arise explicitly or are considered as such, until students begin the school stage, as the initial source of the social inclusion process, due to other factors that are focused on clinical issues, families begin to lose their social life gradually, having passed some years since the diagnostic confirmation.

DISCUSSION: The importance of changing the training to family members and educators is established since consistency in management is the guarantee in the success of the process. The importance of raising the sensory profile and the indications of sensory diet, as an important part of direct modifications, with focus on implementation in different contexts, is highlighted. The incorporation of communicative systems, the concretion of time, favor anticipation. The development of a behavioral approach protocol by educational organizations provides a regulatory framework that responds to the needs of this student population.

TLI – 109: UNIVERSITY EDUCATION FOR PROFESSIONALS WORKING WITH GIRLS AND WOMEN ON THE AUTISM SPECTRUM IN LATIN AMERICA

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INTRODUCTION: The ratio for male/female in ASC is today 3/1, miss diagnosis and lack of specialized support is still frequent across the spectrum and life span of girls and women. The improvement in identification, diagnosis and appropriate support relies on the education of professionals of the multiple presentations of ASC females across the life span, an unmet need for many non-English speaking countries and their communities and specially countries in Latin América.

METHOD: The project started in 2014 with an online community based in Argentina with professionals and ASC women from different countries collaborating such as Chile, México and Spain. The first objective was to address the un-



der-diagnose, under-representation in research, practice and advocate and make online support networks. The second objective was to provide brief trainings with specialist from Spain and local and international ASC women conferences to involve the academic community in research update and personal perspectives. The third and ongoing objective is to provide an in depth University Course for professionals (100hs) with a focus in research, clinical, families and women experiences that could bring a new group of specialized professionals whom can also replicate, create and generate new services and questions since a short training seems to be not enough to address so many issues in different profiles and across the life span.

RESULTS: During 4 years almost 400 professionals attended to 1/2 day training courses, 1000 professionals attended to short conferences, 100 attended to short trainings (2-4hs) in 4 different countries, attendants include 7 countries and 20 cities in Argentina. We also participated lecturing in most postgraduate courses in ASC in our country. 15 woman from 5 countries participated in 2 women conferences. New independent projects and services emerged in different countries and cities in our country. A private local university accepted a proposal of a year long postgraduate intensive program that started in may 2019, with 35 professionals from different regions of Argentina, Uruguay and Chile, and lectures from different colleagues from Argentina and Spain, as well as women with ASC from different countries with an in depth program for girls and women across the life span.

DISCUSSION: Although our knowledge of autism in females is just beginning and being constructed simultaneously around the world, more efforts should be done to educate and train professionals to be able to diagnose treat and design services and projects for females with ASC. The involvement of women with ASC in this project and this process is critical. Replication of in depth training and wider university involvement might be the future direction towards equity in ASC education and making long trainings available online.

TLI – 110: EFFECTS OF THE FIRST EARLY START DENVER MODEL (ESDM) BASED INTERVENTIONS ON YOUNG CHILDREN WITH AUTISM IN CHILE

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INTRODUCTION: The Early Start Denver Model (ESDM) is an evidence-based intervention specifically developed for very young children with Autism Spectrum Disorder (ASD) between the ages of 12-48 months. Is a play-based intervention that fuses behavioural and developmental principles for an integrated approach and can be implemented in different natural settings such as the home or the daycare/preschool by trained therapists as well as by parents within play and daily routines. ESDM aims to reduce the symptoms of autism and target all developmental areas. Currently, there is only one certified ESDM therapist in Chile, being a pioneer in the implementation of the model in the country. The present study shows the ESDM effects on the first five Chilean children who receiving intervention over a period of 12 weeks.

OBJECTIVE: To describe the results of a 12-week ESDM based intervention on young children with autism in Chile.

METHOD: Case series of five children (four boys and one girl), between the ages of 18-36 months, diagnosed with ASD according to DSM V and ADOS-2, who receiving 12 weeks of ESDM therapy, with heterogeneous intervention times from 3 to 6 hours peer week. The results are measured at the beginning and immediately after the intervention using the ESDM Curriculum Checklist for Young Children with Autism, a tool that assess developmental level and skills in the domains of Receptive Communication, Expressive Communication, Social Skills, Play Skills, Cognitive Skills, Fine Motor Skills, Gross Motor Skills, and Adaptive Behaviour Skills.

RESULTS: All children showed improvements in all development domains, independent of the age, sex, and the intervention times they received weekly. The most notorious advances are evidenced in the acquired abilities in the domains of receptive communication, social skills and game skills, in all cases.

CONCLUSIONS: ESDM has arrived in Chile. Pilot study to demonstrate the effects of the ESDM-based intervention on Chilean children. The implementation and study of ESDM in Chile poses the challenge of visibilize the impact of early intervention in young children with ASD, as well as increasing their rigor and systematization.

TLI -111: ¿A FEMALE SUBTYPE OR SUBTYPES OF FEMALES WITH AUTISM SPECTRUM DISORDERS? AN EXPLORATORY STUDY

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INTRODUCTION: There is an amount of growing research with varied focus to understand the multiple profiles of ASC girls. Professionals reports on ASC girls have been studied in very few cases.

OBJECTIVE: This pilot exploratory study was aimed to collect preliminary information from professionals who work in the autism field about the girls they treat or treated in the past and observations on diagnosis, comorbidities, doubts and presentation

METHOD: A paper survey was designed to address key issues and was completed in paper by N:160 professionals working with ASC in training settings and collected over 3 years. A multiple choice format was used as a part of a larger research. Key issues were actual or former treatment of girls, amount of girls, age range, diagnosis, comorbidities, doubts about the diagnosis, and perceived resources to support them. The information was statistically processed to obtain the descriptive data.

RESULTS: The sample was mostly women (95%) the age range was 21 to 62 years. Less than 10% of the sample diagnosed girls, though more than half (62%) was currently treating girls (330 girls) and most (82%) had treated girls in the past (542 girls). Age range of girls were 2/30 years. Most frequent diagnosis was PDD/NOS (57%), Autism (30%) and ASD (26%) and Asperger Syndrome (13%). Most frequent comorbidities were anxiety (56%) ID (46,6%) ADHD (30%) epilepsy (20%) and OCD (19,1%) and eating disorders (3,3%). When professionals had to report if they have had doubts about the diagnosis, half of the sample reported they did not, while the other half reported they did. When professionals had to report perceived resources in a Likert 1 - 5 scale (1 no resources) the majority of professional (84%) pointed 3.

DISCUSSION: Despite limitations and multiple implications with previous findings, preliminary analysis suggests professional reports are very valuable to obtain information of a new area of research. A very big part of professionals is actually treating girls are being suggest subtypes in their presentation instead of a female subtype previously proposed by some clinical literature. The high PDD-NOS diagnosis suggests that for some girls meeting criteria is complex. The high prevalence of ID and low prevalence of AS might suggest that some girls might still get under diagnosed. Comorbidities should be considered and studied apart, specially anxiety and ADHD. The diagnostics doubts are also present a red flag to improve the understanding presentations. Perceived resources might be also a factor, considering that most of our knowledge is gender bias, still there is a need to address that we still don't know what we don't know about ASC girls and how to support them and more research is needed.

TLI-113: STRENGTHS AND RESTRICTED INTEREST IN GIRLS WITH ASC : A GAME CHANGER FOR ALL?

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INTRODUCTION: Core deficit areas has been studied in ASC deeply. Highly restricted and fixated interests (RI) are part of diagnostic criteria as RRBS. Special interest has been encouraged but not deeply researched. There is more understanding of the shortfalls of ASC than on strengths.

OBJECTIVES: The aim of this study is to trigger the subject trough some preliminary research findings in a larger pilot study that address professional reports of ASC girls on RI and strengths.



METHOD: An open answer survey in paper was completed by 120 professionals that treated 850 girls. They were asked to write what RI and strengths they had observed in them. Semantic categories and clusters were made. Statistical data was analyzed.

RESULTS: Most of the sample (84%) was able to identify strengths in 20 different clusters regrouped in 3 different categories: cognitive style (focus to detail, memory, visual processing, hyperfocus, systematization among others), interpersonal (interaction, imitation, affectivity, tolerance, empathy) and action related such as arts and music. Interaction was the one more salient for a subgroup (25%). In RI 15 very varied clusters were identified, similar to their peers (dolls, tv shows, animals, music, nature, arts. Interaction was significant for another subgroup (9%) Three clusters of both variables were overlapped and also the most reported. In RI music (14,2%) art (15,1%) and interaction (12%) and strengths (music 10%) art (10%) interaction (23%).

DISCUSSION: Though data is still preliminary and in process, girls seem to have varied interests and similar to their typical peers as reported in previously. Some strengths and RI in interaction suggest the profile for some subgroup of girls could challenge the expected presentation as reported previously. Strengths related to cognitive style are apparent for most of professionals, and maybe not related with sex or gender differences. Art and music as strengths and RI overlapping could suggest that there could be a link in strengths and RI, that we fully don not understand yet. More effort need to be made to understand how to detect measure and promote strengths from an early age in any gender ASC even when they overlap with RI. Maybe the game changer could be to question the way we understand RI and strengths and develop more research, instruments and intervention and address their possible role in prognosis.

TLI 114: WORKING WITH SPECIAL INTEREST AND PASSIONS FOR SOCIAL COMPETENCE : AN ONGOING PILOT PROTOCOL

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INTRODUCTION: The core features of ASD continue to be understood as social. Many interventions are used to teach individuals with autism spectrum disorder (ASD) how to socialize in instructional and relational ways with limited evidence in skills generalizations and fluctuant social motivation.

OBJECTIVE: This experience reports a preliminar exploratory year workshop for developing abilities and interests, and social and relational skills in groups with peers with mutual interests and passions through different activities with art and technology that was replicated in different years and users, and different versions for the final design of a protocol

METHOD: The first intervention was delivered for a year in 40 workshops of 1,5hs weekly for 17 for children and adolescents from 10 to 18 years with ASD in groups of 4/5 children sorted by receptive language, IQ, and shared interests and passions. Different modules were used to explore these interests: Videogames in consoles and apps, Lego and Robotics, Documental and Video, Photography, Music, and Digital Art, Self-awareness, Mind and Body and Sexual Education. Key features of the workshops include matching subjects with similar special interests in groups, structured teaching approaches with TEACCH methodology, instructional activity and creative activity. After one-year work parents, individuals and therapists coachs rated the benefits and more workshops were developed. A survey was completed by parents post intervention online, and all participants were interviewed individually and with adaptations to asses their perspectives on their own benefits. Descriptive and statistics data was studied for different variables, from both perspectives, children and parents and clinical judgement.

RESULTS: Most parents and children reported constant motivation for assisting to the workshop (76% 65% 73%). Improvements in peer relationships was also reported by parents, by individuals themselves and therapists (64%, 82% 64) Improvement in social interaction was also reported by therapists, parents and children(59%, 64% 64%). These results were similar in later workshops of different duration. Most attractive and successful activities were selected for the future protocol, some of them required small team work, individual creative work and group work. The final protocol after 4 years of implementation is its final phase.

CONCLUSIONS: Although many limitations, preliminar results suggest that it could be possible to improve social motivation, social interaction, and peer relationship trough the development of abilities and skills related to their shared interest and passions using autism friendly ways technology, and art and highly motivation activities and reverting the traditional way we use to teach people with ASD. Future directions include improvement of measures pre-post intervention, control groups, and writing a final protocol that could be used and tested by other therapists with different activities and experiences

TLI – 115: BEING ABLE TO LOOK INTO THE EYES AND PARTICIPATE IN A CONVERSATION DELAYS THE DIAGNOSIS OF AUTISM IN WOMEN WITH HIGH COGNITIVE FUNCTIONING

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INTRODUCTION: In this paper, different aspects of diagnosis are addressed in women with autism spectrum disorder (ASD) without associated intellectual disability (ID) that would explain one of the reasons why women with high cognitive abilities, able to look into the eyes and participate in a conversation, can go unnoticed and obtain a late diagnosis of autism by the apparent invisibility of their deficit in communication and social cognition typical of autism. The perspective of researchers and clinicians has been reoriented towards the investigation of the phenomenon of subdiagnosis of ASD due to the contribution of autobiographical descriptions of women with ASD without concordance with ID, and the record of previous and recent clinical observations on the prevalence of autism diagnosis according to each sex. Currently there is a greater prevalence of ASD diagnosis in men, in a ratio of every 3 or 4 men for each woman according to some authors (Loomes, Hull & Mandy, 2017) and 4 to 1 (Cheslack-Postava & Jordan-Young, 2012 ; Gould & Ashton-Smith, 2011) and in High-Functioning Autism (HFA), previously called Asperger's Syndrome (Brugha et al., 2011) (Gillberg, Cederlund, Lamberg & Zeijlon, 2006) the estimate is 1 woman for every nine men diagnosed.

OBJETIVES: 1) Develop a state of the art in the existing literature to explore whether theoretical models, research, screening and diagnostic tests have considered gender differences within the autistic spectrum; 2) Explore if the symptoms of autism can go unnoticed in people with high cognitive ability during early development and in particular among women; 3) Inquire if within the existing autobiographies women within the spectrum of autism without associated ID feel represented by the current and consensual conceptualization of ASD; 4) Describe the skills referred to in the literature present in women with ASD without ID to mask / camouflage the symptoms of autism.

METHOD: Literature review, state of the art about women with ASD without associated ID.

RESULTS: In the literature review, few gender differences were found in the diagnosis, conceptualization, treatment and intervention between men and women with ASD without ID. It is reported that women with ASD without associated ID have a different complexity, the symptoms do not manifest in the way in which classical conceptualizations describe them. The bibliography, diagnostic materials and intervention models on autism have been based mainly on childs or men.

CONCLUSIONS: The delay in diagnosis or subdiagnosis could be more specifically related to the biases reported in the conceptualization of autism and women who have high intellectual capacity. Because of this they go unnoticed, receive a late diagnosis and / or may receive other diagnoses.

Keywords: autism spectrum disorder (ASD), high cognitive functioning autism, high-functioning autism (HFA) underdiagnosis in women, bias, gender, communication deficit and social cognition.

TLI – 117: EMOTIONAL AND BEHAVIORAL PROBLEMS IN CHILDREN WITH AUTISM SPECTRUM DISORDER: DIFFERENCES BY AGE GROUP

Luiza Serri Zaffarani¹, Angela Di Paolo Mota¹, Maria Cristina Triguero Veloz Teixeira¹, Milena Pereira Pondé¹, Tally Lichtensztein Tafla¹ and Marina Monzani da Rocha¹



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INTRODUCTION: Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder that mainly affects communication and social interaction skills, presenting a prevalence of approximately 150/10,000, and whose treatment is more impactful when started early on. The literature suggests that there are behavioral differences according to age: children up to 3 years diagnosed with ASD exhibit more noticeable impairments in basic social skills, greater verbal delay and more stereotyped behaviors.

OBJETIVES: The study seeks to verify the emotional/behavioral profile of Brazilian children with ASD and analyzes if there are differences according to age group.

METHOD: The children were evaluated with the standardized instrument Child Behavior Checklist for ages 1.5 to 5 (CBCL/1,5-5). The sample consisted of 126 children diagnosed with ASD, of which 24 (19%) were girls and 102 (81%) boys, and the children were between 1.5 and 5 years old (mean = 50 months old, SD = 14.89). For the statistical analysis, Univariate Variance Analysis (ANOVA) and Student's t-test were performed using the software Statistical Package for Social Sciences (SPSS 22.0), with $p \leq 0.05$ as significance level.

RESULTS: The scales with the lowest score in the clinical range of the instrument were Anxiety/Depression Problems, with 21.4% in the clinical range, Somatic Complaints (23.8%), Sleep Problems (19.8 %) and Aggressive Behavior (15.9%). In the problem-based symptom scales based on DSM-5, only the ASD Problem-scale had a score in the clinical range. Children with ASD had higher rates of Internalizing Problems, as well as Anxious/Depressed, Oppositional Defiant Problems (ODD), and Attention Deficit Hyperactivity Problems (ADHD).

CONCLUSION: Behavioral differences were found between the age groups of 1 to 3-year-old and 4 to 5-year-old: the older children showed more aggressive behaviors, as well as more behaviors related to ODD and ADHD, scores that contribute to the overall score of the Externalizing Problem Scale.

Keywords: Autism Spectrum Disorder; behavioral profiles; age group; toddlers

TLI – 123: MATERNAL BURDEN ON CARE OF CHILDREN WITH AUTISM IN THE BRAZILIAN PUBLIC HEALTH SYSTEM

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INTRODUCTION: Autistic Spectrum is a Developmental Disorder and is characterized by the delay in the development of social and communicative skills that results in a great dependence of the child on caregivers. They face the challenge of adjusting their plans to the limitations of this condition, which can lead to the emergence of health problems resulting from stress and emotional overload.

OBJECTIVE: To evaluate the relationship between maternal overload and the degree of severity of symptoms in children with Autism Spectrum Disorder (ASD).

METHODOLOGY: Cross-sectional study involving 96 mothers of children aged 2 to 10 years, of both sexes, and diagnosed with ASD. The mothers were invited from a call for clinical research at the Neuropediatric Outpatient Clinic of the Hospital de Clínicas de Porto Alegre and at the Psychological Care Clinic of the Federal University of Rio Grande do Sul. Data were collected through the following instruments: Sociodemographic Data Sheet participants, Zarit Caregiver Overload Scale, Self-Report Questionnaire (SRQ-20) and Aberrant Behavior Checklist (ABC) and Vineland Adaptive Behavior (VABS).

RESULTS: More than half of the sample - approximately 74% - of mothers have moderate to severe overload and are

at the cutoff point for Common Mental Disorders ($n = 61$). Caregiver burden was related to almost all variables of the study: maternal age ($r = -.46$ $p < 0.001$), child age ($r = -.47$ $p < 0.001$), number of children at home ($r = -.44$ $p < 0.001$), adaptive behavior ($r = -.64$ $p < 0.001$), aberrant behavior ($r = -.73$ $p < 0.001$) and social support ($r = -.41$ $p < 0.001$). The results of this study suggest that symptomatology manifested by children within the spectrum has an influence on maternal perception of burden.

CONCLUSIONS: The results of this study indicate that more attention should be paid to overload symptoms in mothers of children with autism whose behavioral symptoms are more severe, as these parents are more likely to develop the consequences of overload and mental disorders.

Keywords: autism, maternal burden, child; caregivers; family



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