

of this study was to assess the stress levels of parents of children with autism and to verify its association with the inability of verbal communication and the relationship to quality of life. Participants were parents of 75 children with autism and 100 parents with no complaints about their children development. They were divided in 3 groups. All participants responded to questionnaires regarding: socio-demographic date, stress level and quality of life. Most parents presented medium level of stress. Presence of speech did not yield to significant differences. More parents of children with autism reported high levels of stress. Associations between the stress level and the quality of life were also observed. It can be concluded that the stress level of parents of children with autism not influenced by their lack of verbal communication.

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#### EW0071

### Improvement of autism symptoms after comprehensive intensive early interventions in a clinical setting

N. Haglund<sup>1,\*</sup>, S. Dahlgren<sup>2</sup>, M. Råstam<sup>3</sup>, P. Gustafsson<sup>3</sup>, K. Källén<sup>4</sup>

<sup>1</sup> Lund University, Department of Clinical Sciences, Lund Child and Adolescent Psychiatry, Lund, Sweden

<sup>2</sup> University of Gothenburg, Department of Psychology, Gothenburg, Sweden

<sup>3</sup> Lund University, Department of Clinical Sciences Lund, Child and Adolescent Psychiatry, Lund, Sweden

<sup>4</sup> University of Lund, Department of Clinical Sciences Lund, Obstetrics and Gynecology, Center of Reproduction Epidemiology, Lund, Sweden  
\* Corresponding author.

**Introduction** The last two decades increase in early detection and diagnosing children with autism spectrum disorders (ASD) has challenged child and youth habilitation centers to offer the best and most appropriate treatment and support.

**Objectives and aims** To evaluate an ongoing Comprehensive Intensive Early Intervention (CIEI) program for children with ASD based on principles of behaviour learning and developmental science, implemented in the child's natural setting.

**Method** The change in autism symptoms among children participating in CIEI (intervention group,  $n=67$ ) was compared with children who received traditional habilitation services only (comparison group,  $n=27$ ). Symptom changes were measured as evaluation-ADOS-R-scores, total-, severity-, and module-adjusted-scores (ADOS-MAS), minus the corresponding baseline-scores, divided by the time between baseline and evaluation, and estimated using ANOVA adjusting for confounders. The ADOS-MAS were developed to allow improved communicative functions to be counted in the overall symptom improvement.

**Results** Children in both study groups improved their autism symptoms as measured with the ADOS-MAS, and the improvement was statistically significantly larger among children without any developmental delay ( $P<.001$ ). When adjustments were made for developmental delay, there was a statistically significant larger improvement of ADOS-MAS among children in the intervention group than in the comparison group ( $P=0.047$ ). Similar results were found for ADOS-R-total and ADOS-severity scores ( $P=0.023$  and  $P=0.060$ , respectively).

**Conclusion** The results of the current study indicate that the CIEI program significantly improve social and communicative skills among children with autism, and that children with developmental delay could benefit to a similar degree as other children.

**Disclosure of interest** The authors have not supplied their declaration of competing interest.

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#### EW0072

### Emotional and behavioral problems in early adolescents and association with socio-demographic risk factors

L. Dostovic Hamidovic

University Clinical Center Tuzla, Department of Pediatrics, Tuzla, Bosnia and Herzegovina

**Aim** The aim is to analyse the frequency emotional and behavioural problems early adolescents and association with socio-demographic risk factors.

**Subject and methods** We analysed a group of 240 early adolescents (11–15 years) from the area of Tuzla Canton, Bosnia and Herzegovina, in the general population. For the assessment of children's emotional and behavioural problems, the Strength and Difficulties Questionnaire – SDQ is used. Data were processed by descriptive statistics. For the assessment association between socio-demographic risk factors and emotional and behavioural problems in early adolescents we used Pearson correlation test.

**Results** The result show that the frequency of emotional and behavioural problems are present in 3% of cases, The results of correlation sociodemographic risk factors and emotional and behavioral problems, showed that unemployed mothers have a significant increased risk of developing behavioral disorders in early adolescents ( $P<0.05$ ). Low family economic status leads to a significantly higher frequency of emotional symptoms in early adolescents, poor attitude towards society and significantly higher overall difficulties ( $P<0.05$ ). Higher levels of parental education was significantly associated with a higher frequency of behavioral problems and illness in the family leads to a much more emotional problems ( $P<0.05$ ).

**Conclusion** The obtained results of this study indicate that early adolescents showed low levels of emotional and behavioral problems. There is a significant correlation between socio-demographic risk factors and emotional and behavioral problems early adolescents.

**Keywords** Emotional problems; Behavioral problems; Children; Early adolescents; Sociodemographic factors.

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#### EW0073

### What are the mental health impacts on adults coming from childhood bullying?

A. Hashorva, T. Pengili\*, M. Lici, I. Prifti

University Hospital Center "Mother Teresa", Psychiatric department, Tirana, Albania

\* Corresponding author.

Though there is no universal definition of childhood bullying, the term is often used to describe when a child repeatedly and deliberately says or does things that causes distress to another child. Research shows that persistent bullying can cause depression and anxiety and contribute to suicidal behaviour.

This paper will bring into focus some studies done by the Department of Mental Health that show that the impact of bullying in childhood can cause depression, anxiety and especially OCD in adult. Also strongly contributes to bullying in suicidal behaviour. The study involved 177 children aged 9–15 years old and were followed until they were 19–25 years old. The study ended in 2013. The subjects in this group were found to be 6 times more likely to have a serious physical illness, or develop a psychiatric disorder in adulthood than those who were not involved in bullying.

Another study in 2014 found that the negative effects at social, physical and mental health of childhood bullying are still evident up to 40 years later. Victims of bullying are 6 times more likely to

have a physical nature of infectious diseases, to burn regularly or develop a mental disorder in adulthood more than those not exposed to bullying, 11 times more likely to develop anxiety disorder but especially obsessive-compulsive disorder.

Some experts think that bullying results in a kind of “toxic stress” that affects children’s physiological responses, possibly explaining why some victims of bullying go on to develop health problems.

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#### EW0074

### Growth and sexual maturation in a 2-year, open-label clinical study of lisdexamfetamine dimesylate in children and adolescents with ADHD

I. Hernández Otero<sup>1,\*</sup>, T. Banaschewski<sup>2</sup>, M. Johnson<sup>3</sup>, P. Nagy<sup>4</sup>, C.A. Soutullo<sup>5</sup>, A. Zuddas<sup>6</sup>, B. Yan<sup>7</sup>, D.R. Coghill<sup>8</sup>

<sup>1</sup> Hospital Virgen de la Victoria, Unit of Child and Adolescent Mental Health USMIJ, Malaga, Spain

<sup>2</sup> Central Institute of Mental Health, Medical Faculty Mannheim, University of Heidelberg, Department of Child and Adolescent Psychiatry and Psychotherapy, Mannheim, Germany

<sup>3</sup> Gillberg Neuropsychiatry Centre, Sahlgrenska Academy, Gothenburg University, Gothenburg, Sweden

<sup>4</sup> Vadaskert Child and Adolescent Psychiatry Hospital and Outpatient Clinic, Vadaskert Child and Adolescent Psychiatry Hospital and Outpatient Clinic, Budapest, Hungary

<sup>5</sup> University of Navarra Clinic, Child and Adolescent Psychiatry Unit, Department of Psychiatry and Medical Psychology, Pamplona, Spain

<sup>6</sup> University of Cagliari, Department of Biomedical Science, Child and Adolescent Neuropsychiatry Unit, Cagliari, Italy

<sup>7</sup> Shire, Lexington, MA, USA

<sup>8</sup> University of Dundee, Division of Neuroscience, Dundee, United Kingdom

\* Corresponding author.

*Introduction* Individuals with attention-deficit/hyperactivity disorder (ADHD) may require long-term medication.

*Objectives* To measure growth and sexual maturation of children and adolescents with ADHD receiving lisdexamfetamine dimesylate (LDX) in a 2-year trial (SPD489-404).

*Aims* To investigate the impact of long-term LDX treatment on growth and maturation.

*Methods* Participants (6–17 years) received dose-optimized, open-label LDX (30–70 mg/day) for 104 weeks. Weight, height and BMI z-scores were derived using the Centers for Disease Control and Prevention norms [1]. Sexual maturation was assessed using the Tanner scale (participant-rated as closest to their stage of development based on standardized drawings).

*Results* Of 314 enrolled participants, 191 (60.8%) completed the study. Mean z-scores at baseline and last on-treatment assessment (LOTA) were 0.53 (standard deviation, 0.963) and 0.02 (1.032) for weight, 0.61 (1.124) and 0.37 (1.131) for height, and 0.32 (0.935) and –0.27 (1.052) for BMI. In general, z-scores shifted lower over the first 36 weeks and then stabilized. At LOTA, most participants remained at their baseline Tanner stage or shifted higher, based on development of hair (males, 95.5%; females, 92.1%) or genitalia/breasts (males, 94.7%; females, 98.4%).

*Conclusions* Consistent with previous studies of stimulants used to treat ADHD [2], z-scores for weight, height and BMI decreased, mostly in the first year, then stabilized. No clinically concerning trends of LDX treatment on sexual maturation or the onset of puberty were observed.

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#### EW0075

### The effect of cognition enhancement program using toy-robot for children

M.S. Shin<sup>1,\*</sup>, H.J. Jeon<sup>2</sup>, J.R. Park<sup>2</sup>, J. Lee<sup>2</sup>, H.W. Shin<sup>2</sup>

<sup>1</sup> Seoul National University College of Medicine, Department of Psychiatry, Seoul, Republic of Korea

<sup>2</sup> Seoul National University Children’s Hospital, Department of Child and Adolescent Psychiatry, Seoul, Republic of Korea

\* Corresponding author.

*Objectives* The purpose of this study was to verify the effect of Cognition Enhancement Program (CEP) using toy-robot for children aged 5–10 years. We thought that CEP using toy-robot might be a more kids-friendly method for improving cognitive ability than traditional programs. The enhancement of cognitive functions such as attention, response inhibition, memory, and working memory after the cognition training were the focus of the study.

*Methods* One hundred and twenty children aged 5 to 10 were randomly assigned to 3 groups: (1) experimental group receiving CEP training using toy-robot, (2) control group receiving previously developed internet-based cognitive training, (3) waiting list. The children of experiment and control groups received individual 8 training sessions. The effect of the program was measured with Smart Toyweb’s cognitive assessment tools we had developed (smart device based assessment) as well as traditional neuropsychological tests throughout 3 times (pre-training, post-training, and 1-month follow-up).

*Results* The training is in progress since it started in October 2016. We observed some of children on the CEP training tend to show improvement of cognitive function. The final assessment is planned for February 2017.

*Conclusions* The CEP using toy-robot could be very promising and useful in that it is a non-invasive and non-pharmacological treatment for children with attention or memory problem in home and clinical settings.

*Disclosure of interest* The authors have not supplied their declaration of competing interest.

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#### EW0076

### Treated versus untreated mental health problems in adolescents: A six-year comparison of emotional and behavioral problem trajectories

F. Jörg<sup>1,\*</sup>, D. Raven<sup>1</sup>, E. Visser<sup>1</sup>, R. Schoevers<sup>2</sup>, T. Oldehinkel<sup>1</sup>

<sup>1</sup> University Medical Center Groningen UMCG, ICPE, Groningen, The Netherlands

<sup>2</sup> University Medical Center Groningen UMCG, UCP, Groningen, The Netherlands

\* Corresponding author.

*Introduction* Multidisciplinary guidelines in adolescent mental health care are based on RCTs, while treatment efficacy can be different from effectiveness seen in ‘the real world’. Studies in the real world conducted so far suggest that treatment has a negligible effect on follow-up symptomatology. However, these studies did not incorporate the pre-treatment trajectory of symptoms nor investigated a dose-response relationship.

*Objectives* To test whether future treatment users and non-users differed in emotional and behavioural problem scores, whether specialist mental health treatment (SMHT) was effective in reduc-