more time to determine the amount of money, and distributed more money for the responder, compared to those in controls. **Conclusions:** Typically developing controls tended to perform altruistic behaviors in the ultimatum game under the "eyespots" condition. However, in persons with ASD, the effect of eyespots was not significant, which might be associated with the clinical disturbance of interpersonal communication of ASD.

**PM355**

**Characteristics of Language Profiles for Children with Autism Spectrum Disorder depending on the Coexistence of Attention-Deficit Hyperactivity Disorder**

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**Abstract**

**Objective:** The objective of this study was to investigate the characteristics of language profiles according to whether or not Korean children with autism spectrum disorder (ASD) also have ADHD, and to examine the relationship with executive function.

**Methods:** Participants in the study were boys with ADHD aged 6 to 11 years who visited the clinic from January 2012 to December 2013. In this study, 25 boys with ASD were included, and completed scales included the Korean version of Autism Diagnostic Interview-Revised (K-ADI-R), Korean version of Autism Diagnostic Observation Schedule (K-ADOS), Korean ADHD Rating Scale (K-ARS), and Korean-Conners’ Parent Rating Scale (K-CPRS). They also completed neuropsychological tests and assessed language profiles. Patients were categorized into two groups (with ADHD and without ADHD). T-test and Multivariate analysis of covariance (MANCOVA) was used for analysis.

**Results:** Statistically, no difference was found in receptive and expressive language ability between the ASD groups with and without ADHD. However, a lower score in Test of Problem solving (TOPS) was observed for ASD with ADHD than for ASD without ADHD, with problem solving and finding cues showing significant differences.

**Conclusions:** These findings suggest that language profiles in the ASD group without ADHD could be similar to those in the ASD group with ADHD, but comorbid ADHD could lead to more difficulty in linguistic ability for problem solving and could be related with executive function of the frontal lobe.

**Key Worlds:** Autism Spectrum Disorder, Attention-Deficit Hyperactivity Disorder, Language, Executive Function.

**PM356**

**Maternal lifestyle within 24 hours before delivery may be linked to the autism epidemic**

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**Abstract**

**Objective:** Neonatal hypoglycemia, depriving neurons of their main energy source, is a risk factor for autism spectrum disorders. Neonatal glucose levels are inversely correlated with cord levels of C-peptide, a polypeptide secreted with insulin. Since insulin causes fat to be stored rather than used for energy, it is expected that chronic hyperinsulinemia would result in large-for-gestational-age neonates. Since many small-for-gestational-age neonates have hypoglycemia, we postulated that a strong stimulus for maternal insulin secretion close to delivery would also stimulate neonatal insulin secretion, causing neonatal hypoglycemia.

**Methods:** The study included 155 expectant mothers with at least one of the following indicators of overstimulation of maternal insulin production: acanthosis, morbid obesity, any invasive bacterial infection within a week before delivery, systemic corticosteroid use within a week before delivery, inactivity within 24 hours before delivery (<40 minutes of housework, walking or any other moderate or intense physical activity), and high-carbohydrate intake within 24 hours before delivery (>75% of calories from carbohydrates or >50 g of glucose to correct iatrogenic hypoglycemia). The minimum glucose level of their 158 neonates, measured 1, 2 and 4 hours after birth, was correlated to the maternal indicators and to classical predictors of neonatal hypoglycemia, such as maternal diabetes, birth weight and gestational age at delivery. Significant predictors were entered into a logistic regression model to determine independent predictors.

**Results:** Independent predictors were inactivity and high-carbohydrate intake. The risk of neonatal hypoglycemia increased fivefold with inactivity, 11-fold with high-carbohydrate intake and 329-fold with both parameters. Screening based on these maternal risk factors detected all hypoglycemic neonates identified by current screening strategies, plus five appropriate-for-gestational-age term neonates born to non-diabetic, slim mothers.

**Conclusion:** Maternal lifestyle within 24 hours before delivery has a tremendous impact on neonatal glucose levels. Controlled studies are needed to determine whether physical activity combined with a balanced diet close to delivery can stop the autism epidemic.

**PM357**

**Breastfeeding is associated with children’s learning ability in school-aged children**

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**Abstract**

**Objective:** We investigated the association of breastfeeding with learning ability in school aged children.

**Methods:** A total of 868 children, aged 8–11 years, were recruited from 5 districts of South Korea. Parents filled out the Learning Disability Evaluation Scale (LDES) and the subscores were compared using analysis of covariance between children who were breastfed and those who were not. Age, gender, area of residence,
yearly family income were included as covariates in model 1 and the child’s IQ was added as a covariate in model 2.

**Results:** Children who were breastfed had higher listening (p = 0.048), speaking (p < 0.001), reading (p = 0.002), writing (p = 0.002), mathematical calculation (p = 0.002), and learning quotient (p < 0.001) scores in the LDES in model 1. When adding the child’s IQ as a covariate, the speaking (p = 0.013), spelling (p = 0.041), and learning quotient (p = 0.042) still remained significant.

**Conclusion:** The results suggest that breastfeeding has a protective effect on learning disabilities in school-aged children.

**Keywords:** Breastfeeding, Continuous Performance Test, Learning disability

### SCHIZOPHRENIA:PM358 – PM543

#### PM358

**Antidepressant Prescription pattern and Clinical Correlates for Schizophrenia**

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**Abstract**

**Objectives:** Few studies have investigated antidepressant (AD) prescriptions for patients with schizophrenia. The aim of this study was to identify the sociodemographic and clinical correlates and prescription patterns of ADs among schizophrenia patients.

**Methods:** Schizophrenia patients were recruited and interviewed using standardized assessment instruments. Differences in demographic and clinical characteristics including current psychiatric symptoms, and concomitant psychotropic medications between patients with and without ADs were analyzed. Brief Psychiatric Rating Scale (BPRS) was used to evaluate current psychiatric symptoms.

**Result:** Among 297 patients, 78 (27%) patients received an AD prescription. The most commonly used ADs were Escitalopram (30.8%), Sertraline (25.6%), and Fluoxetine (10.3%). As for the combined prescription rate of psychotropic medications, there was only significantly greater rates of benzodiazepine prescription for AD user compared to AD nonuser (p=0.005).

With regard to sociodemographic characteristics, there was no significant difference between two groups. As for clinical aspects, we found that anxiety (p=0.007) and depressive mood (p=0.014) scores of patients taking AD were significantly higher than patients not taking AD in respect of BPRS. On the contrary, Excitement (p<0.001) and Grandiosity (p=0.003) scores were significantly lower among AD user compared to AD nonuser.

**Conclusion:** This study showed that the most commonly used AD is SSRI with the prevalence of 27% among schizophrenia patients. In addition, current AD use for schizophrenia compared to nonuse is likely to be related with anxiety and depressive symptoms regardless of positive and negative symptoms currently. Further evaluation of anxiety and depressive symptoms and management of those symptoms may improve quality of life and drug compliance for patients with schizophrenia.

**Keywords:** Schizophrenia, Antidepressants, Anxiety, Depressive mood

#### PM359

A prospective cohort study for metabolic measures during antipsychotic treatments in patients with schizophrenia and schizoaffective disorder: A cross-sectional analysis of baseline data

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**Abstract**

We conducted a prospective cohort study for metabolic measures during antipsychotic treatments in patients with schizophrenia and bipolar disorder (matSaB study) using the Japanese blood glucose monitoring guidance (Kusumi et al. 2011) in order to find undiagnosed hyperglycemia systematically as a routine clinical practice. In this study, we aimed to report a cross-sectional analysis of baseline data to quantify the frequency of glucose abnormalities in patients with schizophrenia and schizoaffective disorder.

A total of 930 patients with schizophrenia and schizoaffective disorder, who had not been diagnosed as diabetes prior to baseline screening and started one-year monitoring between April 2013 and March 2015, were enrolled at 45 sites in Japan. Participants included both in- and outpatients who started some new antipsychotics at baseline monitoring. The study protocol was approved by the institutional review board of each site. All participants provided written informed consent after receiving a full explanation of the study protocol. This study was supported by grants from the Early-phase/Exploratory or International-standard Clinical Research by Japan Agency for Medical Research and Development.

Out of 930 patients, 46 (4.9%) met criteria for probable diabetic type, 155 (16.7%) for pre-diabetic type, and 729 (78.4%) for normal type. Individuals with pre-diabetic type, but not those with probable diabetic type, had a significantly higher body mass index than those with normal type. Both probable diabetic and pre-diabetic groups had a higher frequency of family history of hyperlipidemia and hypertension, but not that of diabetes than normal group. Patients with olanzapine use during one-year period before baseline screening showed a significantly higher serum triglyceride and lower HDL-cholesterol than those without olanzapine use.

One-year follow-up study is underway to assess the detective power and usefulness of the blood glucose monitoring guidance for patients with schizophrenia and schizoaffective disorder.

#### PM360

Overactivation of the VPAC2 receptor during the early postnatal period causes prefrontal synaptic abnormalities and cognitive dysfunction in mice

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**Abstract**

A one-year follow-up study is underway to assess the detective power and usefulness of the blood glucose monitoring guidance for patients with schizophrenia and schizoaffective disorder.