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EW0578

Outcomes in a group of 7–8-year-old children in a developmental-based intervention in autism spectrum disorder

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Healthy parent-child interaction is essential for child development. Parents play a central role in the acquisition of social and communicative skills, both in typical and atypical children. Increased support for parent-mediated intervention in autism has been demonstrated. Developmental approaches for ASD are based in establishing strong interpersonal relationships through natural play to foster developmental capacities. This work reports outcomes from an intensive approach based on a developmental, individual difference, home-based intervention program with children with severe ASD. Parents were trained with DIR approach by a specialist. An individual intensive rehabilitation program was set up for each child and implemented at school, home and rehabilitation center. The intervention program also focused on semi-structured activities to promote problem solving, and meliorate sensory dysfunction. Standardized scales were administered pre- and post-intervention, with ABC). The Childhood Autism Rating Scale (CARS), the Social Communication Questionnaire (SCQ) and Vineland Adaptive Behaviours Scales.

Results Before initiating the intervention all children presented severe difficulties in communication, social interaction, lack of language, and gestures of communication, auto- and hetero-aggressive behaviors. After 6 months, children showed significant changes in mean scores for emotional functioning, communication, and daily living skills and diminution of aggressive behaviors. The present results provide strong support for the effectiveness of a developmental-based intervention, specifically in the domains of social skills behavior, social responsiveness, in a group of children with severe autism. These results highlight the positive effects of a rehabilitative approach that works in harmony with the family, school and professional team.

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EW0579

Music as a helpful instrument in the treatment of children with Asd in their school inclusion program

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Since birth infants are active and communicative partners engaged in protoconversations with caretakers. Motherese, the simplified language adults spontaneously use with infants, has a musical structure. We believe that for developmental and evolutionistic reasons music is a preferential tool to favor communication and to promote group identity. We carried on a musical experience with a group of autistic (ASD) children aged 5 to 7 years. Each child participated at their school with 10 typically developed classmates and their teachers. Our ASD children love music and enjoy playing

and singing. With music, they overcome some communicative and social difficulties. Their bodily posture changed with music, facilitating joint attention and improvement of verbal language. When singing children learned linguistic skills, they ameliorated vowels' pronunciation and understood how a question and an answer differ in melodic contour. Taking into account the unique sensory motor profile of each ASD child, we proposed rhythmic music with high proprioceptive input (for under-reactive children) and smooth and calming music for avoidant and easily overwhelming children in order to ameliorate intentionality and enlarge circles of communication. A combination of semistructured and spontaneous activity is the main components of our approach, which has both therapeutic and educational impacts. In the musical group, all the ASDs appeared to be more attentive, motivated, better performing and able to teach their acquired skills to their peers. Typical peers interact more with children with ASD with music. We consider this very helpful in the inclusion of ASD children in a school setting.

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EW0580

Impulsivity and current alcohol use in adolescents

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Introduction Many studies have focused on the strong link between impulsivity and addictive behaviors, such as alcohol use disorders.

Objective Our study aimed to investigate the links between alcohol use and impulsivity in a sample of Tunisian pupils.

Methods This was a cross-sectional study conducted in May and June 2016. It enrolled 317 pupils from four colleges and schools in Sfax (Tunisia). The participants were asked to answer a self-administered questionnaire, after their consent. Alcohol use disorders identification test (AUDIT) was used to evaluate alcohol dependence. The Barratt Impulsiveness Scale (BIS), in its 11th version, was used to assess impulsivity trait. Its three second-order factors were attentional impulsiveness, motor impulsiveness, and non-planning impulsiveness.

Results The mean age was 16 years with a sex-ratio of 1.07. The school children reported having drunk alcohol at least once in 18.9% of cases and 41.66% of them still consume. According to AUDIT, 1.6% of alcohol users presented an alcohol misuse and 21.6% presented dependence. According to BIS, impulsivity prevalence (IP) in the whole sample was 27.8% while it was 40% among the alcoholic participants versus 24.9% in non-alcoholic participants. The average BIS score was more important in the alcoholic participants (69.25 versus 65.53; $P=0.011$). Alcohol consumption was correlated to attentional impulsiveness ($P=0.01$) and motor impulsiveness ($P=0.008$). Alcohol dependence was correlated to motor impulsiveness ($P=0.018$).

Conclusion These results show the importance of clinically evaluating and intervening on impulsive personality traits to better prevent addictive behavior such as alcoholism among adolescents.

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EW0581

Influence of peers drinking and parental drinking and attitudes on adolescent drinking

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Introduction It is widely recognized that parents and peers play a critical role in the adolescent's introduction to alcohol.

Objectives The aim of the study was to examine the relationship of parental and peers drinking to adolescent drinking behavior.

Methods A cross-sectional study was carried out in four colleges and schools in Sfax in Tunisia, in May and June 2016. The sample consisted of 317 pupils, and was determined through a simple randomized sampling. These adolescents were asked to answer a self-administered questionnaire, after their consent. Alcohol use disorders identification test (AUDIT) was used to evaluate alcohol dependence.

Results The mean age was 16 years, with a sex-ratio of 1.07. The participants reported having drunk alcohol at least once in 18.9% of cases and 41.66% of them still consume. According to AUDIT, 1.6% of alcohol users presented an alcohol misuse and 21.6% presented dependence. They reported that parents' attitude toward their alcohol use was favorable in 27.11% of cases. Among dependent adolescents, the prevalence of fathers' alcohol consumption was 20% while that of friends was 70%. Adolescent drinking was significantly correlated to fathers, mothers and peers drinking ($P < 0.001$, $P = 0.004$, $P < 0.001$ respectively), mothers and peers smoking ($P = 0.05$, $P < 0.001$ respectively), fathers and peer's cannabis use ($P < 0.001$, $P < 0.001$ respectively).

Conclusion Findings suggest that negative family and peers influence increased risk of alcohol consumption in adolescents. Understanding the influences on parents' beliefs about their children's drinking and the functions of social networks in preventing alcohol consumption may be necessary to address adolescent risky drinking.

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EW0582

Drug metabolizing enzyme and transporter genes associated with plasma risperidone level in Thai autism spectrum disorder

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Background The associations between genetic variants of drug metabolizing enzyme and transporter (DMET) genes and steady-state plasma concentrations of risperidone, 9-hydroxyrisperidone, total active-moiety, and metabolic ratio remain unclear.

Objective The objective of the present study was to present the results of the association between genetic variants of DMET gene and steady-state plasma concentration risperidone and its metabolite using Affymetrix DMET Plus genotyping microarray.

Methods Subjects eligible for this study included male and female adolescents with ASD diagnosed according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) criteria and being treated with risperidone for at least 4 weeks prior to the blood sample collection. Blood samples were drawn prior to the next dose of risperidone intake to determine the steady-state plasma trough concentrations of risperidone and 9-hydroxyrisperidone. Genotyping profile was obtained using the microarray. Steady-state plasma risperidone and 9-hydroxyrisperidone were measured using liquid chromatography/tandem mass spectrometry (LC-MS/MS) assay.

Results The polymorphisms of UGT2B4, CYP2D6 were highly associated with metabolic ratio. Of all the DMET analysis, ABCB11 (3084A > G, 420A > G, 368G > A, and 236G > A) and ADH7 (690G > A and -5360G > A) were found to be associated with plasma concentrations of risperidone ($P < 0.01$). In addition, 6 genetic variations among the SLC transporter family were associated with the plasma concentration of 9-hydroxyrisperidone.

Discussions This study provides a pharmacogenomic approach to investigate further among the DMET genetic variants which influence plasma concentration of risperidone. The treatment of ASD should be based on genetic factors making the challenge of psychopharmacological treatment more efficacious with lesser adverse events.

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EW0583

Exome sequencing detection of genetic markers for Thai autism spectrum disorder

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Background Autism spectrum disorders (ASD) are neurodevelopmental disorders characterized by abnormalities in 3 domains; social interaction, communication/language, and restricted and repetitive behavior. The study of ASD prevalence in Thailand showed that it is approximately 9.9 children per 10,000 population for children 1–5 years old. ASD has a strong genetic basis, although the genetics of autism are complex and it is unclear. The objective of this study was to identify the genetic markers of Thai ASD.

Methods Exome sequencing was performed with twelve unrelated ASD affected individuals from twelve families. Each sample was sequenced on SOLiD 5500xl genetic analyzer, and the resulting data was processed and analyzed on LifeScope Genomic Analysis software. Exome sequencing with two additional samples was performed Ion Proton System and the data was processed on Ion Reporter server. Tertiary data analysis with all fourteen exome sequencing data were performed by using Golden Helix software. In filtering process, data were annotated to various databases including UCSC KnownGenes for non-coding and synonymous variants filter, 1000 Genomes Project for high frequency variants filter, and dbNSFP for functional prediction.

Results The genetic markers were identified for Thai ASD associated variants (c.2014G > A in EIF2AK3, c.2951G > A in FGD6, and c.6119A > G in CHD8).

Conclusions these genetic markers were the most possible of causing variants Thai. We also demonstrated a potential of exome sequencing and bioinformatics pipeline to identify the possible causative variants of ASD, which could be applied in the case that unable to identified variants by other technique.

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EW0584

Hyperuricemia and metabolic adverse effect in children and adolescents with autism spectrum disorder treated with risperidone

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