

**Conclusions** These preliminary results show that children to mothers with bipolar disorder, with or without intrauterine exposure to lithium, had a normal to high IQ at preschool age. 5 more children have been tested, results to be analyzed, and additional children will be recruited.

### 637 PRENATAL EXPOSURE TO HYDROXYLATED POLYCHLORINATED BIPHENYLS IS ASSOCIATED WITH THE QUALITY OF THE MOTOR REPERTOIRE IN THREE-MONTH-OLD INFANTS

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**Background and Aim** Polychlorinated biphenyls (PCBs) are ubiquitous environmental toxins, potentially toxic to the developing brain. Hydroxylated PCBs (OH-PCBs) are suggested to be even more toxic because of hydroxylation by the fetus and active transplacental transport of OH-PCBs. Still, little is known about their short-term health effects in humans. We aimed to determine whether prenatal exposure to OH-PCBs is associated with the neurological condition in three-month-old infants, assessed by the quality of the motor repertoire.

**Methods** In a Dutch observational cohort study, 97 mother-infant pairs participated. Cord blood samples were analyzed for PCB and OH-PCB concentrations. The quality of the motor repertoire was evaluated at 3 months from video-recordings. We determined the quality of General Movements (GMs) and calculated a Motor Optimality Score (MOS) ranging from 5 to 28 (low to high optimality). We explored correlations between PCB/OH-PCB levels and MOS using Spearman's Rank correlation. Next, we tested whether PCB/OH-PCBs levels differed between infants with 'low' (<26) and 'high' MOS (≥26).

**Results** We found no association between PCB/OH-PCB levels and the quality of GMs. Associations existed between several PCB/OH-PCB levels and MOS, including detailed aspects of the motor repertoire. High 4-OH-PCB-107 levels were associated with a low MOS ( $P=0.013$ ). High PCB-187 levels were associated with reduced mid-line arm and leg movements ( $P=0.047$  and  $P=0.043$ , respectively).

**Conclusion** Prenatal exposure to higher 4-OH-PCB-107 levels was associated with a non-optimal quality of the motor repertoire in three-month-old infants. This negative effect may be mediated by reduced thyroid hormone concentrations in the brain.

### 638 IMPACT OF WATCHING TV/PLAYING GAMES ON MENTAL HEALTH AND LEARNING OF UAE CHILDREN

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**Background** United Arab Emirates (UAE) is a rapidly changing society, and little is known about the children's free-time activities and their interference with the development and behavior. The recommendations of the American Academy of Pediatrics (AAP) state that children older than 2 years should watch quality television (TV) programs not more than 2 hours per day; and those younger than 2 years should avoid any TV viewing. Previous studies linked early TV viewing with later developmental and behavioral problems.

**Aims** Estimate average amount of daily time of TV/video games viewing in UAE children; and sociodemographic, behavior and other variables associated with TV/video games viewing.

**Methods** In a case control study, 211 school children (68% males, mean age 8.7 years) from United Arab Emirates were investigated. The children with developmental and behavioral disorders ( $n=98$ ) were compared with children without any developmental and

behavioral disorders ( $n=113$ ) in regard to the time of watching TV/video games per day.

**Results** children who watched TV/playing games over 2 hours/day had significantly ADHD and higher total CBCL scored than the children who watched TV/playing games less than 2 hours/day. The two groups also differed on the following CBCL subscales: withdrawn, attention, aggressive and delinquent behavior. In terms of learning abilities and IQ levels were did not differed from the children who watched TV/playing games less than 2 hours/day.

**Conclusions** 1/3 of children in UAE viewed TV/video games for more than the recommended 2 hours per day which found to be associated more with behavioral problems.

### 639 HIGH INCIDENCE OF CHILDHOOD TYPE 1 DIABETES IN QATAR BETWEEN 2006 AND 2011

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The overall age-adjusted incidence of type 1 diabetes varied from 0.1/100,000 per year in China and Venezuela to 36.8/100,000 per year in Sardinia and 36.5/100,000 per year in Finland. This represents a 350-fold variation in the incidence among the 100 populations worldwide.

**Objective** The aim of this study was to determine the incidence of type 1 diabetes among children aged 0–14 years in Qatar.

**Research design and methods** This was a prospective cohort study of the incidence of childhood type 1 diabetes in children aged 0–14 years who were diagnosed with type 1 diabetes from 2006 to 2011 on Qatar. Identified case subjects during this time period were ascertained from several sources and verified using the capture-recapture technique. Data were obtained from the only pediatric diabetes treatment center, Hamad Medical Center (HMC) for children living in Qatar.

**Results** Over the study period, 385 children aged 0–14 years in Qatar were diagnosed with type 1 diabetes. The incidence of type 1 diabetes in this population over the period 2006–2011 inclusive was 23.11 with a 95% CI of 31.82–40.03.

Abstract 639 Table 1

Year	Incidence/100000
2006	18.63
2007	30.64
2008	21.64
2009	22.91
2010	21.22
2011	23.64

**Conclusions** Qatar has a relatively high incidence of type 1 diabetes compared to incidences reported worldwide. The incidence increased over the 16-year study period.

### 640 PREVALENCE OF GESTATIONAL DIABETES AND ASSOCIATED MATERNAL AND NEONATAL COMPLICATIONS IN A FAST DEVELOPING COMMUNITY: GLOBAL COMPARISONS

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**Objective** To determine the prevalence of Gestational diabetes, compare the maternal-neonatal complications among women with GDM and non-GDM pregnant women and investigate the risk factors associated with GDM.