

## ABSTRACTS

### Metabolic Syndrome Among Healthy Children Aged 6 to 12 Years in Al Ain, United Arab Emirates

**BACKGROUND AND OBJECTIVE:** The United Arab Emirates (UAE) has one of the highest rates of diabetes in the world. Few data are available on the burden of metabolic syndrome (MetS) among young children. We determined the prevalence of MetS and its components in children 6 to 12 years old in Al Ain, UAE.

**METHODS:** As part of a global health project, "Developed and Developing Countries Partnership for Non-Communicable Disease (NCD) Prevention," 622 parents were invited to bring their children aged 6 to 12 years for assessment of NCD risk factors. A self-administered questionnaire was used to assess sociodemographic characteristics, physical activity, and dietary habits. Blood pressure, height, weight, waist circumference, fasting blood glucose, and plasma lipids were measured. BMI was calculated. Overweight was defined as BMI  $\geq$ 85th and  $<$ 95th percentile and obesity as BMI  $\geq$ 95th percentile, according to 2000 Centers for Disease Control growth charts. We used waist circumference cutoff points ( $\geq$ 90th percentile) to define central obesity. MetS was defined according to the Adult Treatment Panel III criteria.

**RESULTS:** Of the 234 children (51.7% girls) surveyed, 11.1% were overweight and 13.3% were obese. The overall prevalence of MetS in children was 9.9%. The prevalence of MetS was higher (11.3%) in children aged 10 to 12 years than in those aged 6 to 9 years (8.3%). More girls (9.9%) had MetS than boys (7.9%). The burden of individual MetS components included central obesity (27.7%), hypertension (18.9%), dyslipidemia (6.84%), low high-density lipoproteins (47.7%), and high fasting blood sugar (1.7%).

**CONCLUSIONS:** The prevalence of the MetS is high among children in the UAE, particularly among girls. Of the individual components of MetS, central obesity in particular was very high.

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### Patterns and Genetic Polymorphisms in Unconjugated Hyperbilirubinemia (Gilbert Syndrome)

**BACKGROUND AND OBJECTIVES:** Gilbert syndrome is an underdiagnosed clinical entity because  $>$ 30% of patients are asymptomatic. The clinical and genetic patterns have not

been fully elucidated. Several genetic association studies have linked a number of single nucleotide polymorphisms (SNPs) with unconjugated hyperbilirubinemia. We conducted the current study to investigate the different clinical presentations and to validate the association of SNPs with the development of hyperbilirubinemia in patients with Gilbert syndrome in the Kingdom of Saudi Arabia.

**METHODS:** Screening of patients attending the outpatient clinics identified 65 patients with Gilbert syndrome, who were enrolled in the study. Complete laboratory workup, abdominal ultrasound, and abdominal computed tomography were performed. Genotyping of 5 SNPs in 2 candidate genes was conducted in all patients with hyperbilirubinemia, in addition to 100 controls, by polymerase chain reaction restriction fragment length polymorphism, gene scan analysis, and direct DNA sequencing.

**RESULTS:** The study cohort included 27 male and 38 female patients (age range 12–32 years, mean  $18 \pm 12.8$  years). The cohort included 40 Saudi, 12 Indian, 9 Jordanian, and 4 Filipino patients. Jaundice was the only manifestation in 45% of cases. Nonspecific symptoms such as abdominal cramps, fatigue, and malaise were reported in 40% of cases, and 15% of patients were asymptomatic. Genetic polymorphisms of the UGT1A1 promoter, specifically the  $-3279$  T $\rightarrow$ G phenobarbital responsive enhancer module (rs4124874) and (TA) $_7$  dinucleotide repeat (rs8175347) and the coding region variants (rs2306283 and rs4149056) of the OATP2 gene, were significantly higher among the cases than among the controls.

**CONCLUSIONS:** Gilbert syndrome should be suspected in patients with unexplained hyperbilirubinemia or nonspecific symptoms. The UGT1A1 polymorphisms and number of variants are associated with altered bilirubin metabolism and could be genetic risk factors for neonatal hyperbilirubinemia.

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### "Magic Potion" to Tackle India's Silent Crisis: Severe Acute Malnutrition in Children

**BACKGROUND AND OBJECTIVES:** Every day, on average, 26 000 children  $<$ 5 years of age die of malnutrition, mostly from preventable causes, and nearly all of them live in the developing countries. One-third of the malnourished children in the world live in India. Tackling malnutrition in children is a national emergency. Nearly 50% of children between 1 month and 5 years of age are malnourished, with a mortality

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