

preschool children is significantly increased in the last decade (student t-test, p).

**Conclusions** Data from 2013 indicate that about 30% of young children encounter the obesity problem. Therefore, children at this age already should represent the priority population for intervention strategies such as control of diet and/or physical activity.

#### PO-0077 VITAMIN D DEFICIENCY IN CHILDREN WITH OSTEOGENESIS IMPERFECTA

BL Meena, I Panigrahi, RK Marwaha. *Pediatrics, Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, India*

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**Background and aims** Osteogenesis imperfecta (OI) is a disorder that leads to fragile bones and significant morbidity. The aim was to find out the prevalence of Vitamin D deficiency in children with OI.

**Methods** In present study, 15 children with clinically severe OI on zoledronate therapy were studied. The biochemical parameters tested were Vit D level and urine DPD level along with the routine parameters like Ca, Po, ALP, and urinary calcium creatinine ratio. We used a cut-off value of 30 ng/ml for vitamin D deficiency. Also cost effectiveness of zoledronate therapy was assessed.

**Results** Most of the OI patients were vit D deficient (80%). The mean value of vitamin D in the study was  $21.89 \pm 9.76$  (mean  $\pm$ SD), and median value was 25.49 units. This treatment in present study did not significantly increase the financial burden on the family using alternate brand of zoledronate.

**Conclusions** High prevalence of Vitamin D deficiency in OI may be due to their less mobility and thus less sun exposure, the low vit D level can decrease their response to zoledronate treatment. Vitamin D supplementation may be needed at higher doses along with oral calcium in patients with OI put on bisphosphonates therapy. Generic preparations of zoledronate do not increase the burden of therapy in patients with OI. Further studies are needed to find out long term side effects of zoledronate therapy in children.

#### PO-0078 THE RELATIONSHIP BETWEEN MATERNAL AND NEONATAL 25(OH)D STATUS

D Anuk Ince, A Ecevit, A Abbasoglu, U Tugcu, A Kurt, MA Tekindal, D Aldemir, A Tarcan. *Department of Pediatrics, Baskent University School of Medicine, Ankara, Turkey*

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**Background** In this study we aimed to investigate the relationship between maternal and neonatal 25(OH)D levels.

**Methods** The subjects were 58 mothers and their newborns who were born between February 2012 and April 2012. Blood specimens were obtained within 72 h of birth and from mothers. Serum 25(OH)D concentrations were measured. Vitamin D deficiency was defined as serum concentrations  $\leq 20$  ng/mL.

**Results** The mean gestational age and birth weight of preterm infants were  $33.06 \pm 2.2$  weeks and  $2125.4 \pm 546$  g and for term infants were  $38.84 \pm 1$  weeks and  $3470.3 \pm 451$  g, respectively. Sociodemographic characteristics of mothers were not significantly different between groups.

Twelve percent of infants born before 32 completed weeks, 16% infants born between 32–36 weeks and 28% of term infants had vitamin D deficiency. Vitamin D deficiency was found in 27% mothers of preterm infants and 42% mothers of term infants.

**Conclusion** Vitamin D receptors plays an important role in calcium absorption and bone metabolism. In the literature there are reports that vitamin D deficiency during pregnancy had adverse gestational outcomes including risk of pre-eclampsia, gestational diabetes. The mean vitamin D levels were normal in infants whereas their mothers had low levels of vitamin D. When we consider that all mothers in the study received vitamin D supplements, we should give appropriate vitamin D prophylaxis during pregnancy. Also we should give adequate vitamin D supplementation to the infants without any delay.

#### PO-0079 URINARY N-TELOPEPTIDE LEVELS ARE NOT ASSOCIATED WITH VITAMIN D STATUS IN HEALTHY CHILDREN

<sup>1</sup>CA Stoian, <sup>1</sup>JK Mah, <sup>2</sup>AC Chin, <sup>1</sup>A Khan. *<sup>1</sup>Pediatrics, Alberta Children's Hospital, Calgary, Canada; <sup>2</sup>Pathology and Laboratory Medicine, Calgary Laboratory Services, Calgary, Canada*

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**Background and aims** Urinary levels of N-telopeptide (NTx) have been reported to be a sensitive and specific marker of bone resorption. This cross-sectional study determined the urinary levels of NTx among healthy children living in Calgary and explored their relationship with age, sex and vitamin D status.

**Methods** We included healthy children 2 to 13 years of age who presented to the Alberta Children's Hospital for elective surgery during a 12-month period. Data including the child's weight, height, age, gender, ethnicity, dietary intake, vitamin intake, and physical activity were collected. Urinary NTx levels were measured with a commercially (Wampole Laboratories, Princeton) available competitive-inhibition enzyme-linked immunosorbent assay.

**Results** Urinary NTx levels were available for 968 out of 1862 participants, of whom 605 (62.5%) were boys. The mean urinary NTx/Creatinine ratio was 605.4 nmol/mmol (SD 264.8, range 200–2985.1). We found that mean urinary NTx/creatinine excretion was higher in the younger children (2–5 years) compared to subsequent ages. There was no significant difference in urinary NTx levels between children with suboptimal vitamin D status (serum 25-hydroxyvitamin D  $< 80$  nmol/L) compared to those with optimal vitamin D status.

**Conclusions** Higher urinary NTx levels were measured in our healthy paediatric participants compared to what has been reported in healthy adults. In healthy children, urinary NTx levels may not be a useful marker of increased bone turnover in face of suboptimal vitamin D status. Future research is needed to determine the effect of suboptimal vitamin D status on bone health in children.

#### PO-0080 LAXITAS GENERALISATA

B Stanimirov. *Pediatrics, Health Center, NOVI SAD, Serbia*

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