Aim Hormonal balance, genetic background, calcium/vitamin D metabolism, nutrition, lifestyle and physical activity are principle factors affecting bone health during puberty. The aim of the study is to evaluate the effect of regular sportive activity (SA) on bone mineral density.

Materials and methods Adolescents admitted to Department of Pediatrics with licensed regular SA (n: 55) and without regular SA (n: 56) were included in the study. Age, height, body weight, body mass index (BMI), Tanner stages, educational status of parents, mean daily calcium intake, smoking, sun exposure, total time of for watching television and playing computer and type of licensed SA were recorded. Bone mineral density (BMD) was measured with a quantitative ultrasonography device.

Results BMI was higher in group without a regular SA (p=0.024). Adolescents with regular SA had higher BMD when compared to group without a regular SA (p=0.011). Vitamin D levels were also higher in group with SA (p<0.001). Daily calcium intake did not show any significant difference between groups (p>0.05). Higher educational status of parents was significantly related with higher prevalence of SA. Vitamin intake was higher in adolescence with SA (p=0.002) and smoking was more common in adolescents without regular SA (p=0.023).

Conclusion Quantitative ultrasound can be used to evaluate the BMD in children. Physical activity during adolescence is important for bone growth and SA should be encouraged earlier. Especially, adolescents whose mothers had higher educational status took part in SA more frequently.

Background and Aim This study was conducted to assess the relationship between obesity markers (Body mass index “BMI”, fat percentage) and DNA oxidative maker 8-hydroxy guanosine (8-OHg), as a predictor for future clinical problems in obese adolescents of Giza.

Methods The study was conducted on 103 adolescents aged 13–18 years (55 boys, 48 girls). BMI was calculated as body weight (kg) divided by height (m) squared and obesity was defined as BMI of 95 percentile. Fat percentage was determined by using Biological impedance technique. Oxidative stress markers as 8-hydroxy guanosine, superoxide and glutathione were measured. The adolescents were divided according to BMI into two groups. Group I with BMI > 95 percentile and less than 97 percentile (obese) and Group II with BMI > 97 percentile (severely obese).

Results Significant differences were detected between the two groups of the study as regard obesity markers (BMI, fat %) and oxidative stress markers (lipid oxidation, superoxide dismutate enzyme activity, glutathione peroxidase enzyme activity, 8-hydroxy guanosine) (p<0.0005). Significant positive correlations were detected between obesity markers and oxidative stress markers among severely obese adolescent (group II). Obesity is highly associated with states of oxidative stress in adolescents, with a positive relation with 8-hydroxy-guanosine and obesity markers and other oxidative markers.

Conclusion This marker might play an important role in the prediction of future clinical problems of some clinical diseases.