Physical exercise level is related to peak bone mass in undergraduate students

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BACKGROUND
Promotion of high peak bone mass is one of the strategies to prevent osteoporosis in adult life. Undergraduate students are still in the age group of mineral acquisition and, therefore, their lifestyle may influence this process.

OBJECTIVE
To evaluate bone mass in undergraduate students with different lifestyle.

METHODS
Observational study in 142 (62 males) undergraduate students aged 17 to 28 years (22.3 ± 2.9). Socio-demographic, clinical, and lifestyle variables were obtained through densitometric anamnesis. Bone mineral density (BMD) at lumbar spine (LS), total body (TB), femoral neck (FN) and total femur (TF) were evaluated by DXA (Explorer, Hollogic). Low PBM was defined as Z-score < -1 DP. Anthropometry was performed before the DXA examination. Statistical tests used were Student’s t-test, Mann-Whitney U and Chi-square. Human Ethics Comity approved the study.

RESULTS
Table 1 ad 2 presents demographic, life style and medical history categories according student group. Physical education students dispended more time doing exercise than medical students. Moreover, frequency of regular practicing of physical was also higher in this group. Medical students presented higher frequency of low PBM in al sites except femoral neck (TB: 51.4% vs 85.3%; LS: 72.9% vs 91.2%; TF: 77.0% vs 92.6%; p<0.001), BMD Z-score was lower in medical students in al sites. Z-score differences varied from 0.76 in TF to 0.92 in LS. High impact exercises was more frequent in physical education students (54.4% vs 33.8%; p<0.05). Students with normal PBM presented more frequency of regular practicing of physical activity than those with low PMB (71.9% vs 50.0%; p<0.05). There were no students with smoking history or calcium supplements use.

CONCLUSIONS:
Higher physical exercise level was associated to higher peak bone mass in Brazilian undergraduate students.

REFERENCES