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ECR 2025 / C-22074

Evaluation of BMD and the Influence of Physical Activity in Lactose Intolerant and Non-Intolerant Youth – A Study by DEXA

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Purpose

research questions and hypotheses and the organization of work. Lactose Intolerance (LI) occurs due to the inability to efficiently digest this sugar, resulting from a deficiency of the lactase enzyme present in the body. The deficiency or absence of this enzyme may result in the impossibility of ingesting lactose, consequently leading to the partial or total suspension of foods that contain this constituent (Oliveira J. A., 2020). Most lactose intolerant individuals avoid the intake of milk and dairy products, however, removing these foods without any replacement can...

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Methods and materials

The exam of choice for the diagnosis of this type of pathology is the bone densitometry exam, carried out using Dual Energy X-ray Absorptiometry equipment (Fujifilm FDX Visionary). This type of exam is recommended for women over 65 years of age, who are in menopause and have risk factors such as family history, low body mass percentile and smoking. However, any individual who presents a fracture or a notable loss of bone mass must have it performed (Carvalho, et al., 2022). The DEXA equipment allows the...

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Results

Similar to what was previously carried out to evaluate the dependent variables of the general sample, the Figures demonstrate the distribution of BMD values were obtained as a function of the two main groups, that is, the healthy group, and the lactose intolerant group. Regarding the BMD of the right femoral neck of the non-lactose intolerant group, its arithmetic mean was 1.124 g/cm², with a standard deviation of ± 0.115 g/cm². The lowest recorded value, equivalent to the minimum, was 0.945 g/cm², and the highest recorded...

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Conclusion

Lactose intolerant individuals have lower Bone Mineral Density, both in the neck of the right femur and in the neck of the left femur and this decrease is independent of the time of diagnosis. Furthermore, it was also possible to verify that individuals who practice physical activity have higher Bone Mineral Density for the two regions under study and that this increase is related to the time of practice. In agreement with the results obtained, it is possible to conclude that the regular practice of...

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Personal information and conflict of interest

J. M. L. D. Campos: Nothing to disclose J. Pinheiro: Nothing to disclose L. P. V. Ribeiro: Nothing to disclose A. F. C. L. Abrantes: Nothing to disclose S. I. Rodrigues: Nothing to disclose

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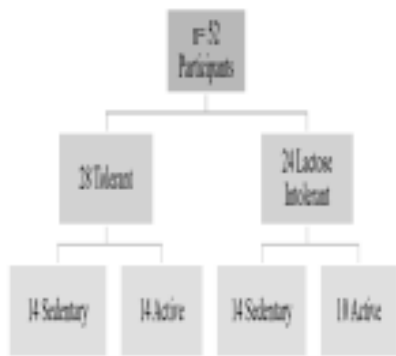


Fig 1: Sample distribution (n=52).

Classification	Diagnostic Criteria
Normal	$T \geq -1$
Osteopenia	$-2.5 < T < -1$
Osteoporosis	$T \leq -2.5$

Table 1: OMS classification for Osteoporosis

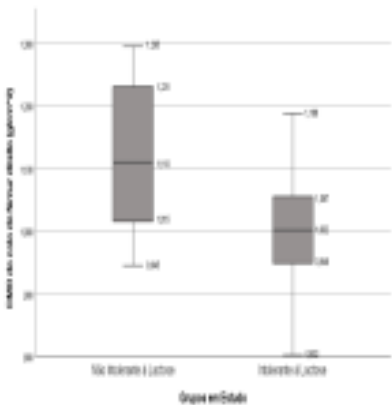


Fig 2: Graph of the distribution of bone mineral density measured at the neck of the...

	$\bar{x}$	s^2
BMD (g/cm³) (Tolerant)	1.09	0.001
BMD (g/cm³) (Intolerant)	0.94	<0.001

Table 2: One-Way ANOVA test to compare mean BMD values in the four groups under...

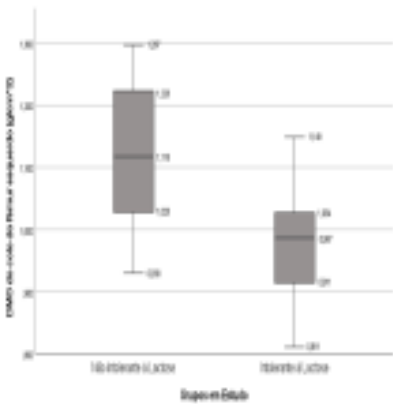


Fig 3: Graph of the distribution of bone mineral density measured at the neck of the...

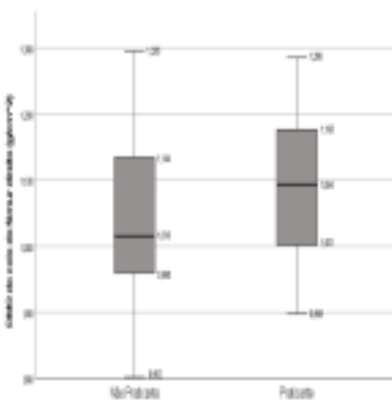


Fig 4: Graph of the distribution of bone mineral density measured at the neck of the...

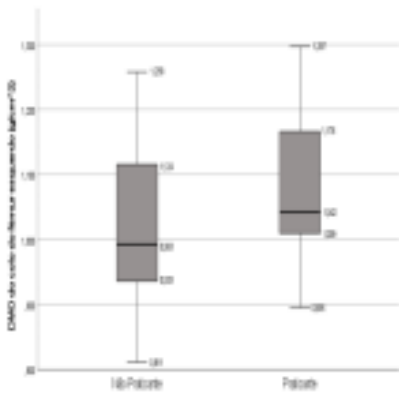


Fig 5: Graph of the distribution of bone mineral density measured at the neck of the...

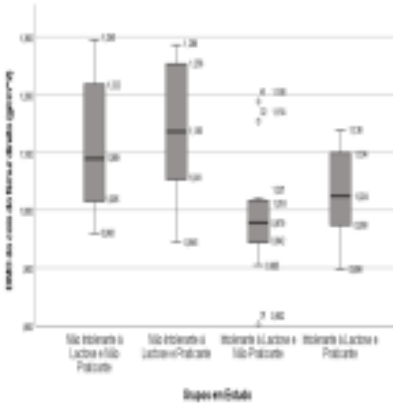


Fig 6: Graph of the distribution of bone mineral density measured at the neck of the...

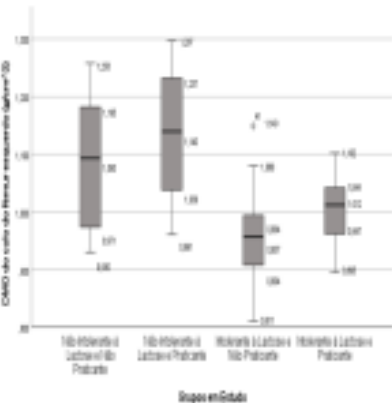


Fig 7: Graph of the distribution of bone mineral density measured at the neck of the...