Title:
Age, BMI, and History of Fracture in a Hispanic Female Group With Osteopenia: Secondary Analysis

Jorge Rivera Vázquez, BSN
University of Puerto Rico Mayagüez, Department of Nursing, Mayagüez, PR, Puerto Rico

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Bone Mass Density, Hispanic Female and Osteopenia

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Abstract Summary:
A secondary analysis was done to analyze if age, bone mass density and history of fractures where present in a Puerto Rican female group with osteopenia. Aggregated data from a larger study was used to compare specific risk factors in the mentioned population and identify if this lead to bone fractures.

Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
The learner will be able to identify if age and bone mass density is related to a history of fractures in a Hispanic female group.	The graphics and the discussion show to learner how this three factors are related.
The learner will be able to compare if absolute risk factors such as age and bone mass density relate to a history of fracture in a female Hispanic population.	The graphics shows the risks factors

Abstract Text:

Background: Low bone mass density is a strong risk factor for fractures. According to the National Center for Health Statistics, (2015) the percentage of adults aged 65 with low bone mass at the femur neck was 16.2% and the age adjusted prevalence is higher in women. The prevalence of low bone mass in Hispanic women over 65 years old was 52.3% and it did not change with increase age (CDC/NCHS, 2010). As the bone mineral density deteriorates, bones become fragile placing women at increased risk of fractures of the hip, spine and wrist. In the United States low bone mass or osteoporosis is reflected in more than 53 million people (Looker, & Frenk, 2015). Women are at higher risk of losing bone mass after menopause. Many factors are linked to osteoporosis, which includes absolute and relative risks. As women get older bones become thinner and weaker (NIH, 2015). Many chronic diseases also contribute to losing bone. It is important to recognize immediate bone loss, especially in women with additional risk factors. Bone fractures are a cause of incapacity and decrease quality of life, at older age; hence preventive measures and awareness can delay or eliminate this outcome. Those selected to evaluate in this study are age, body mass index and history of fracture.

The purpose of this study was to analysis-aggregated data from a larger study to compare specific risk factors in osteopenia.

Methodology: A descriptive study from aggregated data was obtained for a secondary analysis of 79 records of Densitometry with a Dual-energy X-ray absorptiometry done in a Hispanic female sample from

the west of Puerto Rico. Records obtained for this secondary analysis did not have patient identifiers or private health information that could be matched to a person.

Results: A total of 77 reports of women were included who underwent densitometry between 2013-2015. The mean age of women was 57 years and BMI of 27. The mean bone mineral density T-score was -1.72 SD at head of femur. A total of 19 women reported history of fracture. Of those women who reported history of fracture, mean age was 57.8 years with a BMI of 29. The mean bone mineral density T-Score of this group was -1.67 SD.

Conclusions: There was no significant difference between those women who had history of fracture, bone mineral density and BMI. Mean age was equal in both groups, both exhibited osteopenia with a minimal difference of only -.05 SD. Further research is necessary to analyze why the group with history of fracture presented a higher BMI. It is recommended that a higher sample of women is needed to compare these two groups. Inferential statistical analysis would be of benefit.