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“Exploring Disparities in Screening and Treatment for Osteoporosis in Patients with Hip Fractures”

INTRODUCTION:

Common risk factors have been identified for osteoporosis including physiological factors such as low bone mineral density (BMD), a lack of vitamin D or calcium, and rheumatoid arthritis, lifestyle factors such as smoking and alcohol abuse, or demographic factors including age, gender, ethnicity, socioeconomically disadvantaged groups and especially postmenopausal females. This study aims to identify demographic factors and disparities regarding screening and treating osteoporosis prior to hip fracture in females in order to improve physicians' knowledge of these disparities.

METHODS:

Data was obtained from 3,100 female hip fracture patients listed in the Research Action for Health Network (REACHnet) database, a database consisting of patients within multiple health partner systems in Louisiana and Texas. Each patient selected had hip fracture codes, a BMI status, and were either white or African American. Covariates were analyzed to identify factors that increased or decreased likelihood of screening. We also analyzed the 875 who were screened to identify factors that increased or decreased the likelihood of receiving bisphosphonates.

RESULTS:

Patients who were screened were more likely to be younger, have a higher Charleston Comorbidity Index (CCI), and have been given bisphosphonates prior to the fracture. After logistic regression, patients with alcohol dependence ((CI):1.18 (1.05-1.33)) were more likely to be screened while older patients ((CI):0.81 (0.67-0.97)) and smokers ((CI):0.83 (0.69-1)) were less likely. Regarding patients diagnosed with osteoporosis, only a later screening year was found to have an increased treatment with bisphosphonates ((CI):1.97 (1.63-2.37)).

DISCUSSION:

The lack of a significant disparity in screening or treatment regarding race and ethnicity contrasts published literature. Possible explanations could be due to an increase in research inquiry of BMD relationships involving underrepresented race and ethnicities as well as race-specific databases and risk assessment tools, such as the FRAX tool. Another explanation could be due to a larger minority study cohort (12%) compared to other studies (<5%). While our study does not conclude that racial/ethnic disparities do not exist, this indicates a possible improvement in the recognition of biases in providers for a frailer population.

Regarding other lifestyle and social factors, alcohol dependence had an increased odds of being screened prior to hip fracture, which makes sense since alcoholism is a risk factor for osteoporosis. On the other hand, smokers were less likely to be screened even though tobacco use is also a risk factor for osteoporosis. This finding could be due to decreased adherence by tobacco users to screening recommendations or physician ordering behaviors; however, further exploration of this disparity is warranted.