

DEVELOPMENT OF AN OSTEOPOROSIS SCREENING CLINIC AT JEFFERSON COUNTY DEPARTMENT OF HEALTH: A PILOT STUDY

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Background: Patients in indigent care system often do not receive osteoporosis screening due to lack of insurance coverage for prescribed DEXA scans. Our study population consisted of patients receiving primary care services at the local health department. Our project was designed to provide osteoporosis screening to this patient population. The study objective was to identify patients who have osteopenia or osteoporosis, provide education on the prevention and treatment of osteoporosis, and to refer patients who have osteoporosis to their physicians to receive treatment. Secondary objectives were to create a model for pharmacy based osteoporosis screening at Jefferson County Department of Health (JCDH) and to evaluate bone density characteristics of patients on long term medroxy-progesterone injections.

Methods: Prospective, cross-sectional study of patients recruited from the adult health and family planning clinics at JCDH, in Birmingham, Alabama. All participants were registered patients of JCDH. They were females 45 years of age or older, and those under age 45 with one or more risk factors for osteoporosis. Also females 21 years of age and older who were receiving depot injections of medroxy-progesterone. Males 50 years of age and over with one or more risk factors for osteoporosis were screened as well. Patients were referred to the clinical pharmacist investigators. Each patient received free osteoporosis screening using a heel quantitative ultrasound (QUS) device, educational handouts, and counseling by a pharmacist regarding disease prevention and treatment of osteoporosis. Screening QUS results were entered in their electronic medical records and their physicians were notified of the results with recommendations.

Results: A total of 50 patients were screened for the study. 60% (30) of patients had negative QUS values (T-scores < 0.0) and 14% (7) of patients were classified as having osteopenia (T-score of ≤ -1 to > -2.5). 22% (11) had borderline osteopenia (T-score ≤ -0.7). None of the patients had osteoporosis (T-score ≤ -2.5). However, 6% (3) were considered to have borderline osteoporosis (T-Score ≤ 2.0 to > 2.5). Recruitment of only three patients receiving medroxy-progesterone therapy did not provide sufficient data to analyze the impact of progestin treatment.

Conclusion: Our primary objective of identifying, educating and treating patients with osteopenia was met. We have also created a model for a clinical pharmacist-run osteoporosis screening clinic at JCDH. This service was not provided to our patients before and is considered to be a useful addition to the clinics. We believe this practice model can be reproduced in other outpatient delivery systems.

LONGITUDINAL STUDY ON THE RELATIONSHIP BETWEEN DAILY WALKING STEPS AND CHANGES IN QUS PARAMETERS IN JAPANESE FEMALE COLLEGE STUDENTS

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To increase and maintain the bone mass, it is essential to be physically active. However, there has been a decrease in the number of young Japanese females who exercise on a regular basis.

Therefore, this longitudinal study was conducted to examine the relationship between the changes in QUS parameters and physical activities. We measured the QUS parameters of female college students and asked about their lifestyle habits during a period of two years from admission, including the total number of steps taken per a week.

The subjects were 73 students aged 19.24 ± 0.31 years old. We measured the calcaneal QUS parameters using an ultrasound bone densitometer (A-1000 Express, Lunar Co. USA). To examine their level of physical activity, we asked them to record the number of steps taken during a one-week period using a pedometer (HJ-107, Omuron Co. Japan). We also conducted a questionnaire survey on past (in junior and senior high school) and current exercise habits, including the type and period of exercise.

The subjects were divided into three groups according to their level of physical activity: WD (n=24), WK (n=30), and WI (n=19) groups, (the number of steps decreased, did not change, and increased in the three groups, respectively), and examined changes in their QUS parameters. QUS parameters were showed significantly decrease in the WK group ($p < 0.05$). The results of the present study indicate that it is important to develop the habit of walking in daily life to maintain the bone mass.