INTRODUCTION
Osteoporosis is a disease that is characterized by low bone mass and deterioration of bone tissue which leads to bones that are weaker and more susceptible to fractures (1). Osteoporosis is primarily thought of as a disease that affects women, however, of those 34 million who are at risk for osteoporosis, 12 million are men (2).

Preventative care to attain the greatest peak bone mass should begin as early as possible in order to reduce the risk of osteoporosis-related fractures and falls over the lifespan due to low bone mass in both genders. Prevention, including proper nutrition and physical activity, should be implemented in order to prevent osteoporosis rather than treat its associated fractures, falls, and often accompanying poor quality of life (2).

RESEARCH PURPOSE
To test the effectiveness of osteoporosis educational interventions (control, lecture and hands-on activity) on osteoporosis knowledge (OK), health beliefs (HBs), self-efficacy (SE), and dietary intake of calcium (CA) and vitamin D (VD) in young adults for prevention of osteoporosis.

METHODS
A quasi-experimental, pre-post survey design to assess OK, HBs and SE was conducted. Three-day food diaries were collected to assess dietary calcium and vitamin D intakes. The Osteoporosis Health Belief Scale and Osteoporosis Self-Efficacy Scale were revised to include vitamin D related items.

Descriptive statistics, regression analysis and a 3 X 2 repeated measures analysis of variance (ANOVA) were used to analyze the data.

RESULTS
Mean osteoporosis knowledge total scores increased from 56% to 72% in both treatment groups. Increases in OK [F(1,149)=110.05, p<.000] and HBs [F(1,149)=11.71, p<.001] were significant. SE was not significantly different [F(1,149)=1.47, p<.227] [F(2,149)=2.87, p>0.06]. Average dietary calcium and vitamin D intakes were approximately 1060 mg and 225 IUs per day. Osteoporosis HBs were significant predictors of dietary calcium intake (p<.044) and vitamin D intake (p<.047) which accounted for approximately 11.2% and 10.1% respectively. SE was a significant predictor of dietary vitamin D intake (p<.01) which accounted for approximately 7.3% of the variance, however it was not a significant predictor of dietary calcium intake (p>.187).

IMPLICATIONS
Both educational interventions increased overall knowledge and health beliefs, but did not increase self-efficacy. Current or future nutrition, nursing, or health classes that focus on osteoporosis prevention can incorporate either delivery method. Educators can also prepare or enhance prevention programs with either delivery method. Both interventions did not alter dietary behavior significantly perhaps due to calcium requirements already being met and the limited availability of vitamin D containing foods.

References