

INTRODUCTION

Background & Significance

- Osteoporosis: Most prevalent bone disease among older adults (Sabin & Sarter, 2014)
- Significant disease-associated morbidity and mortality
- It is preventable (through modifiable risk factors) (Kling, Clarke, & Sandhu, 2014)
- Inadequate screening = late detection = increased morbidity
- Osteoporosis results from bone density loss and causes fragility fractures (Kling, Clarke, & Sandhu, 2014).
- It is a silent disease until a fragility fracture occurs
- 50% risk thereafter for subsequent fracture (French & Emanuele, 2019).
- Prevalence in postmenopausal women due to the retraction of estrogen (1 in every 2 women) (Daly et al., 2019)

Purpose

- To create a multifaceted osteoporosis preventative initiative that integrates a nurse-led protocol for osteoporosis screening and recommend lifestyle osteoprotective modifications improve BMD and increase DEXA screening rates. to

Specific Aims

- i. Create a nurse-led protocol for telehealth nurses
- ii. Educate nurses about the Healthy Bones initiative
- iii. Improve DEXA screening rates for women > 50
- iv. Increase knowledge, clinical skills, and confidence of telehealth nurses regarding Osteoporosis

SUBJECTS

Setting & Recruitment

- Population: Telehealth nursing staff (n=25)
- Location: Single telehealth facility, Los Angeles
- Location provides all virtual support for five medical buildings.

Sample

Participants were recruited from the Telemedicine department n-25 (RN's & LVN's).

METHODS

Design

- Facts on Osteoporosis Quiz (FOOQ)
- Novel four question Likert-like survey
- Novel EHR osteoporosis tool
- Educational materials (PPT, one on one, etc.)
- EHR data mining conducted by IT department

Data Collection

- FOOQ: Pre- and Post- survey results: Paired sample doubled-tailed t-test ($p=0.05$)
- Likert-like survey: Paired sample doubled-tailed t-test ($p=0.05$)
- DEXA ordering: Fischer's exact test of independence ($p=0.05$)

- Data analyzed using SPSS version 25, StatPlus Excel plug-in

RESULTS

- The nurses participating in the project significantly improved on the FOOQ
- The opinions of the nurses involved in the project significantly improved
- DEXA ordering significantly increased for female patients > 64 years old
- DEXA scan ordering increased for female patients 50-64 years of age but the increase was not statistically significant

DEXA Scoring for Pre & Post Implementation Women >65 years old

DEXA count for Women > 65	Pre-Implementation	Post-Implementation	Total
No DEXA	797	679	1476
Yes DEXA	14268	14386	28654
Total	15065	15065	30130

DEXA Scoring for Pre & Post Implementation Women 50-64 years old

DEXA count for Women 50-64	Pre-Implementation	Post-Implementation	Total
No DEXA	11981	11904	23885
Yes DEXA	2895	2979	5874
Total	14876	14883	29759

DISCUSSION

Conclusions

Strategies for osteoporosis prevention are both cost-effective, increase efficacy, and promote healthy bones (identification and modifications of modifiable osteoporosis risk factors).

Limitations

Use of a non-random sampling plan-only the Telehealth nurses at a single location were able to participate in the project increased the risk of selection bias

Future Directions

Future research questions: Do recommendations made by Telehealth nurses translate into healthy bones?

References:

- Appelbaum, S., Hahuby, S., Mads, J., & Shafiq, H. (2012). Back to the future: Revisiting Kotter's 1996 change model. *Journal of Management Development*, 11(8), 764-782.
- Brande, C. (2017, Nov). DEXA dilemma: Clarifying recommendations for osteoporosis screening. *The Women's Health Advisor*, 42, 4-5. Retrieved from <https://search.proquest.com/dexa-view/1907060321?accountid=28843>
- Daly, R. M., Della Via, J., Dackham, R. L., Fraser, S. F., & Helge, E. W. (2019). Exercise for the prevention of osteoporosis in postmenopausal women: An evidence-based guide to the optimal prescription. *British Journal of Physical Therapy*, 23(2), 170-180. <https://doi.org/10.1016/j.bjpt.2019.11.011>
- Elias, B. L., Polanchik, S., Jones, C., & Cohen, S. (2015). Evolving the PICOT method for the digital age. *The PICOT-D Journal of Nursing Education*, 54(10), 594-599. doi.org/10.1097/01484834-201510016-00
- Fischer, C. R., Vandeve, E., Beaman, B., Messer, Z., Czuffko, A., & Lehman, R. (2018). Osteoporosis knowledge among spine surgery patients. *International journal of spine surgery*, 12(6), 689-694. <https://doi.org/10.14444/2086>