Touro University Nevada

PROMOTING BONE HEALTH THROUGH UTILIZATION OF A NURSE LED PROTOCOL

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ABSTRACT

Osteoporosis is a preventable chronic condition defined as low bone density with bone micro-architecture deterioration resulting in an increased risk of fragility fractures, mortality, morbidity, and financial burden. Weight-bearing exercises and osteoprotective behavior modification can improve bone mineral density and reduce fragility fractures but deficits in the identification of at-risk patients have hindered efforts to intervene.

INTRODUCTION

Osteoporosis: Most prevalent bone disease among older adults (Sabin & Sarter, 2014).
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)

MATERIALS & METHODS

Facts on Osteoporosis Quiz (FOOQ)
Novel four question Likert-like survey
Novel EHR osteoporosis tool
Educational materials (PPT, etc.)
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

Purpose/Aims

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.

Population/Setting: Telehealth nursing staff (n=25), Location: Single telehealth facility, Los Angeles Location providing all virtual support.

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.

FOOQ SCORING

Pair 1	Pre-Implementation Survey	13.96	25	2.761	.552
	Post-Implementation Survey	18.80	25	1.414	.283

		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	95% Confidence Interval of the Difference Upper	t	df	Sig. (2-tailed)
Pair 1	Pre-survey Post-survey	- 4.840	3.064	.613	-6.105	-3.575	-7.897	24	.000

The data above indicate that there was an increase in total score between the pre-survey as 13.96 (mean) and post-survey (18.80 (mean).

DEXA Ordering

DEXA Columns Pre and Post-Implementation Women >65

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 Columns Pre and Post-Implementation Women 50-64

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

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CHALLENGES

COVID 19 was a challenge-patient's were reluctant to undergo non-emergency testing due to the shelter at home recommendations. Increased volume of Covid-19 related calls and e-mails inundated the department, straining all resources, which created a time barrier for nurses to effectively screen for osteoporosis risk factors.

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?.

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