Kim L. Paxton DNP, ANP-BC, APRN Promoting the Health of Nurses Through A Web-based Pedometer Intervention



Presenter Disclosures

Kim L. Paxton

The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

"No relationships to disclose"

Background of the issue

Nurses have demonstrated:

- Impaired lifestyles
- Unhealthy Behaviors
- Increasing obesity rates
- Identified that physical activity is of low importance
- Lack knowledge

Scope and Significance of the Problem Extends beyond the nurses own personal health Patients Professional image Role of educator Advanced Practice Roles Regional Needs Assessment 85% (n=75) of nurses in a Midwest metropolitan community stated they do not practice healthy lifestyles consistently. • 90% acknowledged that do not participate in regular physical activity. • 82% do not participate in any type of focused physical activity. • 65% had a BMI of 25 or >. Identified Gap's Healthy lifestyle education · Physical activity knowledge · Weight loss management skills Personal motivation

Pilot Intervention: STeP (Self Tracking Exercise Program) Promote and address an activity that nurses already Address knowledge gaps associated with the health promotion act of **Physical activity** Base program on EB Guidelines Need to break through the barrier of "no time" Incorporate technology Embrace IOM initiative for collaborative practice Aligned with Exercise Science domain Pedometer: Omron HJ 720 ITC Device needed to be multi-functional and be able to: Record and track steps (normal & aerobic) Longitudinal memory Digital display Position tracking stability (vertical & horizontal) Energy expenditure Web-program tracking capabilities Web Program Web-based pedometer programs associated with tracking just beginning to be reviewed in the literature. Nurses did not know how to use Under utilized by health care professionals Under-evaluated in general Program chosen needed to possess capabilities that allowed access to Personal trainer to obtain step data

Theory Application	
The Health Promotion Model	
Self-care focus of the model strongly aligned with the	
purpose and anticipated outcome of the STeP	
intervention The Transtheoretical Model	
Change strategy and the embedded human nature	
understanding of the model proved to be invaluable	
in addressing behavior issues and motivation	
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Assessment Tools	
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The Health Promoting Lifestyle Profile – II • (1-Never, 2= Sometimes, 3= Often, 4= Routinely)	
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The General Self-Efficacy of Exercise Scale	
(1= very uncertain, 2= rather uncertain, 3= rather certain,	
4 = very certain)	
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STeP intervention

- HPLP-II and SEE completed at beginning and end of intervention
- Pedometers worn 7 days a week while awake
- Step data downloaded on a daily to weekly basis
- Week one used as baseline measurement
 Initial step goal for week 2 was derived for each participant based on their average steps for week 1
- Consecutive step goals were self-derived by the participant with the aim of producing a gradual increase to equal 150min/week of step activity by week 7
- Week 7 to week 12: sustain the increase achieved at week 7

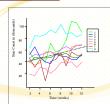
The Results

Formal nursing educational background held no defining relationship to health promotion belief and physical activity engagement.





STeP tracking results



Estimated mean difference was significantly greater than zero supporting that Overall participant's did improve their average step count over the 12 week period.



Participant	Average Step Count	Mean (SD)	% change
1-1-1-1-1	68685	24344	61%
2	48526	7782	3%
-[-[3]-[-[-]	48190	4042	28%
4	57877	7436	45%
5	29628	8672	117%
	52207	12593	75%
7	41782	14184	11%
8	86360	9755	38%

87.5% (7/8) increased their step activity to equal 150 min/week of sustained physical activity.

HPLP-II Physical Activity (PA) Rating

Participant	Pre PA Median (Range)	Post PA Median(Range)	P-value
	2(1, 4)	3(2, 4)	0.26
2	3(2, 4)	3(3, 4)	0.08
3	3(1, 4)	4(3, 4)	0.01
4	4(3, 4)	4(2, 4)	4-1-1-
5	1.5(1, 2)	3(1, 3)	0.02
6	3.5(2, 4)	4(4, 4)	0.059
7	2(1, 2)	4(2, 4)	0.01
8	1(1, 2)	2.5(1, 4)	0.059

Participant 3, 5, and 7 demonstrate statistical significant health promoting behavior changes related to physical activity. Participant 6 and 8 reflect changes though not statistically supported. (1= never, 2= sometimes, 3= often; 4 = routinely)

General Self-Efficacy of Exercise Scale (SEE)



Post intervention means for participant 1, 2 and 3 regressed. Participant 8 had no change in self-efficacy.

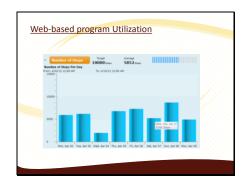
(1=very uncertain, 2= rather uncertain, 3= rather certain, 4= very certain).

Effectiveness Ratio for Behavior Change and Physical Activity

Participant	HPLP-II Pre-intervention Sum scores for physical activity	HPLP-II Post-intervention Sum scores for physical activity	Effectiveness Ratio
1	19	22	0.23
2	24	27	0.38
3	22	31	0.90
4	30	30	0
. 5	12	20	0.40
6	27	32	1
7	15	29	0.82
8	10	20	0.45

Effectiveness Ratio = (post-test score – pre-test score) (target score – pre-test score). Target score for the HPLP-II physical activity category equated to 32. One outlier is participant 4 who entered the program with high health promoting behavior of physical activity.



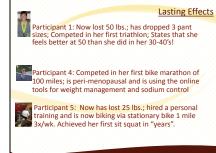




Results beyond the Pilot Goals

- Enhanced experience of 4 participants who used nutrition monitoring/caloric tracking
 2 participants lost 40 lbs.

 - 1 participant lost 15 lbs.
- Verbalization of 5/8 participants talking to patients about "open source" online programs for activity and nutrition monitoring.
- Self-awareness improved in relationship to acknowledging barriers of engagement and true ability to overcome them related to physical activity



Challenges of the Pilot Time organization for participants for orientation Resource withdrawal Web-based program change that occurred mid-pilot Motivating to come to education sessions Motivating to meet goals Adaptations for physical disabilities Limitations of the Pilot Study o Non-experimental o Small sample size o Participant pool o Potential for a Hawthorne effect o Lack of control for engagement of Personal trainers Participant ability to alter downloaded steps Next steps Disseminating the potentials Share the relative inexpensive nature Assessing cost savings Continue to collaborate with the discipline of exercise science Experimental comparison • Further evaluate for missed opportunities