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10,000 Step Challenge for Bedside Registered Nurses Working 12 Hour Shifts

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Katherine Schnebly

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Walden University
2017

Abstract

Ten-Thousand Step Challenge for Bedside Nurses Working 12-Hour Shifts

by

Katherine L. Schnebly

MSN Shenandoah University, 2007

BSN York College of Pennsylvania, 2004

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

January 2017

Abstract

Obesity is a pandemic that directly affects chronic health problems and mortality. Researchers have shown that more than 54% of nurses are obese. The increasing rate of obesity among nurses and the long hours they work make healthy lifestyles, including daily physical activity, difficult. Tracking daily activity using a pedometer or fitness application has shown improved awareness and sustainability of daily physical activity. This project was an investigation of the daily steps of bedside nurses working a 12-hour shift, and their subsequent awareness of their daily physical activity. Pender's Health Promotion Model was used to consider motivating factors for improving daily physical activity. Thirty-seven nurses were recruited to use a pedometer application for 24 hours on a (12-hour) workday to track their steps for 3 consecutive days, as well as complete a final survey. A repeated measures ANOVA, with a Greenhouse-Geisser correction, determined that there was no statistical difference in the number of steps over the 3 time periods. Seventy-eight percent of the participants indicated that the project increased their awareness of physical activity. Extended research is needed to add a stronger support for the affect of wearing a pedometer and the benefits of increased awareness on health promotion. Pender's health promotion model suggests adding motivating factors such as competition. Fitness trackers now have this function and could play a large role in improving physical activity awareness and the battle of obesity for nurses and the general population. The results of this study may promote positive social change by making nurses more aware of the importance of their health and physical activity, given their long work days.

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Dedication

I dedicate this project to my three wonderful children: Peyton, Quinn, and Hank. Your smiles, hugs, and wide eyes of wonder give me the strength to pursue my own dreams so that I can help make yours a reality.

Acknowledgments

It is imperative that I acknowledge my Grandmother, Louise Mills. She is long from this world, but I know she laid the groundwork for each generation of nurse in our family. I firmly believe she has held my hand and guided me on the many journeys of this life. My parents, Gary and Donna Gruber, have provided me with nothing but love and support for many years-I hope I have made you proud. My saint of a husband, Mark, I could not have done this without your support. The hours I have poured into this project have taken time from our family, but you have picked up those pieces and made it seamless for our children, and for that I am grateful. Thanks to my supportive husband and wonderful parents for allowing me the time to complete this project and pursue my dreams.

A special thanks also to Dr. Marilyn Murphy, she has provided support and expertise through this entire process. I am blessed to have her overseeing this project.

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Section 1: Nature of the Project

Introduction

Healthy living is a priority for the United States, and despite years of intervention, the United States remains one of the unhealthiest countries in the world (Healthy People 2020, 2014). More than 34 % of the U.S. population is obese. Obesity has been related to other chronic conditions such as heart disease, stroke, type II diabetes, and is the leading cause of preventable death (CDC, 2014). Moreover, the estimated medical cost of obesity in the US was $147 billion in 2008 with the medical costs for people who are obese being $1,429 higher than those of normal weight (Centers for Disease Control and Prevention [CDC], 2014).

Obesity is operationally defined as an excessive amount of adipose tissue on the body that increases the likelihood of chronic health problems and mortality (Fock & Khoo, 2013). A clinical diagnosis of obesity requires the use of the Body Mass Index (BMI). The BMI is a tool used to determine an adult's percentage of body fat based on their height and weight. This number further stratifies their risk for chronic diseases (CDC, 2014). Specifically, a BMI of 30-35 cuts the life expectancy 2 to 4 years and > 40 reduces expectancy by 10 years (Fock & Khoo, 2013).

 In 1979, the first Healthy People initiative implemented recommendations for health promotion and prevention. A second, third, and fourth initiative followed in 1990, 2000, and 2010 (Office of Disease Prevention and Health Promotion, 2015). Despite these efforts to prevent chronic health problems and promote healthier lifestyles, chronic health complications have prevailed (Marchiondo, 2014). The Healthy People 2010

initiative encouraged the public to strive to make healthier choices and incorporate activities such as healthy eating and physical activity into their daily schedules. As a result, this initiative of healthy living has spurred research that examines the benefits of healthy behaviors. For example, according to Healthy People 2020 (2014), regular physical activity can lower the risk of early death, coronary heart disease, stroke, high blood pressure, type II diabetes, breast cancer, colon cancer, falls, and depression. Increasing daily physical activity is a substantial health promoting behavior to help fight the obesity problem.

Physical activity is one plausible solution to addressing obesity. The American College of Sports Medicine (2013) recommends 150 to 250 minutes of moderate-intensity exercise weekly to prevent weight gain. Regular exercise is beneficial in preventing cardiovascular disease and reduces food intake by increasing satiety (Fock & Khoo, 2013). Exercise and physical activity play a role in lowering the BMI and decreasing the incidence of obesity.

Exercise is a natural method to improve overall health. For example, taking the stairs instead of the elevator, parking further from the entrance, taking a walk break instead of a snack break, or wearing a pedometer are ways to increase the daily amount of exercise without paying for a gym membership or taking excess time from the busy daily routine. The American College of Sports Medicine recommends easing into exercise by starting with only 5 minutes at a time to allow the body time to adjust to the exercise demand on the body satiety (Fock & Khoo, 2013). There are physical and mental

benefits to exercise and it is available to every person if they are willing to find the time (Schmidt, 2012).

The use of a pedometer has been proven effective to motivate low active and sedentary individuals into increasing their exercise or activity level. The pedometer is a device worn on the body that tallies the number of steps taken by the person wearing it. (Patel, Kolt, Schofield, & Keogh, 2014). The awareness of the pedometer data and health promotion education has been shown to motivate individuals into becoming more active. According to Patel et al. (2014), using a pedometer as a self-management tool to set goals has proven effective in increasing daily the daily physical activity. Pedometers are now found as applications on smartphones or available for as low as $2 on the Internet. Fitness trackers, such as the Fitbit®, also have the pedometer function and allow wearers to keep a log of their steps and compete or compare their data with their friends.

Despite their position as health administrators, research has demonstrated that nurses are one of the larger population groups of professions, with over 54% of nurses being obese (Speroni et al., 2012). Nurses are aware of the consequences of obesity. The overweight appearance of a nurse potentially harms their credibility when educating on health promotion or healthy lifestyles and both are important for patients (Marchiondo, 2014). However, nurses might not understand the level of impact they provide when educating the patient population. Role modeling serves as a form of education. No matter the size of the nurse, if they are living a healthy active lifestyle the influence on the patient is present (Miller, Alpert, & Cross, 2008).

In most nursing facilities, the bedside nurse provides the majority of care to the patient. Health promotion within the workplace is one way to assist nurses in caring for themselves. Physical activity is a health promoting behavior and walking is a type of physical activity. There are guidelines for daily walking, specifically 10,000 steps per day (Tudor-Lock & Bassett, 2004).

The 10,000 step criteria initiated from Japan. Copyrighted in 1965, the Manpo-kei pedometer, which translates to *ten-thousand steps meter* was popular among Japanese walking clubs (Tudor-Lock & Bassett, 2004). The growing popularity led to further research, and the 10,000 steps continues to be a goal for achieving a healthy and active lifestyle. The research surrounding this concept suggests the 10,000 steps each day lead to improved health, lower body fat and lower blood pressures (Tudor-Lock & Bassett, 2004). In this project, I examined whether nurses are getting the recommended 10,000 steps per day.

As part of a large Medical Center in Western Maryland, the employee wellness program at the healthcare facility where I conducted this study was actively promoting healthy lifestyles and physical activity among the employees, including nurses. Wellness WORKS was a program geared to improve health, safety, and behaviors in an effort to enhance the personal wellbeing of the employees. There were several goals of this program. Two of the goals were directly linked to this project. The organization was working to increase the number of employees who exercised and decrease the number of employees who reported being overweight.

Within Wellness WORKS, there were six programs offered to employees. These programs included two that focused on a healthy weight, a smoking cessation program, a walking program, a health vending machine initiative, and resiliency packets. There was a wellness WORKS website on the employee intranet that had quick blurbs of information on each program. The wellness program also had the several websites for employees to use (e.g., www.americaonthemove.org, www.nationaldairycouncil.org, and www.mypyramid.gov).

A large population within the facility consisted of nurses. The majority of bedside nurses within the Medical Center worked 12-hour shifts. This extended shift allowed nurses to work fewer days, when compared to the 8-hour shift. There is a strong correlation between shift work and obesity (Kim et al., 2013). Kim et al. (2013) correlated prolonged shift work and obesity among female nurses. Moreover, the long hours of work and life responsibilities make adding exercise to the daily routine after a 12-hour shift very challenging. Many of the bedside nurses did not have time to participate in the current wellness WORKS program. Thus, the purpose of this scholarly project was to implement a 10,000-step program for bedside nurses working 12-hour shifts. Together, this project and the wellness WORKS program will continue to increase awareness of physical activity and promote a healthy lifestyle at the Medical Center. The 10,000-step project for bedside nurses will engage and empower the participants in a journey towards a healthier lifestyle.

Problem Statement

The obesity problem in the United States is growing. Obesity is a precursor to chronic health problems that are costly on a large scale (CDC, 2014). A healthy lifestyle that includes daily physical activity is one way to address obesity. The American College of Sports Medicine recommends 150-250 minutes of moderate-intensity exercise weekly to prevent weight gain (Fock & Khoo, 2013). Nurses have been identified as one group who do not get the daily-recommended exercise or 10,000 daily steps (Speroni et al., 2012).

There are many solutions to addressing obesity. Increasing the physical activity among the population and nurses is one method to decrease obesity (Speroni et al., 2012). The most important goal for the wellness WORKS program is to increase the awareness of a healthy lifestyle for the employees. This goal is consistent with the overall goal of the 10,000 step program for this scholarly project. Building upon the work already in place by the organization, the purpose of this project was to determine whether bedside nurses working 12-hour shifts are getting 10,000 steps, assess their awareness of physical activity, and to make recommendations to promote and increase physical activity among them.

Purpose Statement

The purpose of this project was to determine whether nurses working 12-hour shifts are getting 10,000 steps on days when they work, assess their awareness of physical activity, and to make recommendations to promote and increase physical activity among nurses.

Objectives

The following are measurable objectives for this scholarly project:

1. Determine whether nurses are getting 10,000 steps per day

2. Assess the awareness of physical activity among nurses.

3. Make recommendations to promote and increase physical activity in and outside of the workplace.

Significance to Practice

In the United States, 66.3% of the population is overweight, and 32% are obese. For the past 10 years, it has been recommended that adults get more than 30 minutes of moderate-intensity physical activity 5 days a week (Esposito & Fitzpatrick, 2011). Despite the many reports on the benefits of physical activity to promote a healthy lifestyle, only one third of the adult population meets the recommendations for physical activity. This lack of physical activity in the adult population acts to support the incidence of obesity.

Specifically, there is a 54% obesity rate among nurses (Speroni et al., 2012). No matter the size of the nurse, a nurse is a role model and educator to each patient they encounter. The obese or even overweight nurse plays as large of a part in mentoring the patient, but only if they are taking specific action to improve their overall health and can lead by example (Miller, Alpert, & Cross, 2008). If the nurse is not motivating the patient through life experience, the message has the potential to be lost on the patient population (Marchiondo, 2014). According to Marchiondo (2014), to combat this issue hospitals or medical centers need to change their culture to health promotion of

employees. Health promotion is a tactic used to improve a person's quality of life (CDC, 2013).

Accountability and awareness are powerful attributes when discussing a healthy lifestyle. Many nurses work a 12-hour shift, and many people-nurses included- who do not currently exercise state that lack of time is a common factor (Korkiankangas et al., 2010). Health promotion and awareness help hold each person accountable for their lifestyle choices. Nurses who are physically active and believe in the benefits surrounding this activity are more likely to educate their patient population regarding the same (Esposito & Fitzpatrick, 2011). McElligott, Siemers, Thomas, and Kohn (2009), define health-promoting behavior as, "motivated by the desire to increase well-being and actualize human health potential" (p. 211). Many people know that they need to increase their physical activity, but need assistance or supervision to stay motivated. The use of personal electronic devices to track physical activity provides reminders and praise for the person using these applications. Keeping track of the progress, or lack thereof, in the device can motivate people to work harder or become more physically active (Kirwan, Duncan, Vandelanotte, & Mummery, 2012).

Implications for Social Change

In 2013, President Obama released final rules on employment-based wellness programs in hopes of promoting workplace health. His supporting reasons for this program were to decrease or prevent chronic health problems, improve health, and cut back on the cost of chronic health care (United States Department of Labor, 2013). This program also awards employees who achieve the goal of the wellness program. Goals

include daily exercise, lowering of the BMI and cholesterol, and not smoking (United States Department of Labor, 2013).

The central focus of the employee wellness program at the Medical Center was health promotion among employees. Another strong element present within this facility was quality patient care. Quality initiatives are in place for the patient population as well as the employees. These initiatives focus on health promotion and improved patient outcomes. Furthermore, the medical center is actively seeking Magnet Status. According to White and Brown (2012), "Magnet organizations are poised to be the innovators of future best practices to improve nursing practice, including development of patient partnerships, implementation and translation of evidence-based practice, and dissemination and translation of new technologies" (p. 97). The 10,000-step program takes the evidence from current research surrounding physical activity in nurses, implements this within the facility to promote and motivate healthier lifestyles among the nurses, and reflect this onto the patient population.

Definition of Terms

*BMI***:** The Body Mass Index (BMI) is a measure based on height and weight (Department of Health and Human Services & Centers for Disease Control and Prevention, 2015).

Obesity: BMI greater than or equal to 30 (Department of Health and Human Services & Centers for Disease Control and Prevention, 2015).

*Overweight***:** BMI between 25-29.9 (Department of Health and Human Services & Centers for Disease Control and Prevention, 2015).

*Physical activity***:** Any exercise that allows the body to move (Centers for Diease Control and Prevention, 2014).

Physical activity daily step goal: 10,000 steps (Tudor-Lock & Bassett, 2004).

Daily step count: The number of steps that each person takes daily to indicate their level of activity.

10,000-step challenge: 10,000 steps is recommended daily to be considered an active person.

Summary

Physical activity improves overall health and nurses are not excluded in the population of people who should maintain a healthy lifestyle. Current nursing research shows that nurses are spending the most time with patients. Nurses are critical players in education and role modeling for their patients and the population. A healthy nurse can further project this health promoting mentality onto their patient and potentially influence positive lifestyle changes and prevent further chronic and acute health problems. In the next section of this paper, Section 2, I will provide further support for this project discussing the current scholarly literature. In Section 3, I present the data collection and analysis. Section 4 contains findings and recommendations. Section 5 includes the dissemination plan.

Section 2: Review of Scholarly Evidence

Introduction

Nurses play an integral part in education and role modeling for patients. During hospitalization, the nurse has the most face time or encounters with the patient (Esposito & Fitzpatrick, 2011). This time allows for trust or even respect to build between the nurse and patient. This trust and respect has a strong influence on the outcome and decisions made by the patient regarding their health. The health and lifestyle choices of nurses directly influence patient outcomes and the work environment (Esposito & Fitzpatrick, 2011). The following literature review will support this project and further examine the overall health of working nurses, the benefits of a healthy working nurse, and the use of pedometers for health promotion with the guidance of the Health Promotion Model.

Search Strategy

In this literature review, I used the following key word searches in MEDLINE and CINAHAL: *health promotion, physical activity, 10,000-steps,* and *nursing.* Research was also gathered from Healthy People 2020 and the Centers for Disease Control and Prevention. I strived to obtain current research, within the past 5 years. The search did result in one article from 2004 that was crucial to this project and included for reference and significance of information. The search resulted in 17 scholarly articles that were relevant to the topic. A common theme from the articles was that of health promotion among nurses and the relevance to the patient population.

Literature Review

According to Healthy People 2020 (2014), 80% of adults are not getting the recommended amount of exercise (Healthy People 2020, 2014). The 10,000 Steps project, via the Internet, encourages every person to walk 10,000 steps each day to help maintain a healthy lifestyle (Kirwan et al., 2012). There are many health-promoting programs available for the public to combat this issue. The CDC and Healthy People 2020 are working diligently to combat obesity. Continued health promotion by the advanced practice nurse will be crucial in the goal of decreasing obesity within the US.

Nurses are not immune to obesity. Based on data collected in June of 2012, the American Nurses Association (2013) found that from a population 350 nurses, 70% fell into the category of overweight or obese. The percentage is actually higher than a corresponding report from Speroni et al., (2012), who reported 54% and had a larger sample size. The direct cause of obesity in nurses has links to poor diet, lack of sleep, and long shifts that make daily exercise very difficult to achieve (Miller, Alpert, & Cross, 2008).

Theoretical Framework

Nola Pender's health promotion model (2011) is a framework used to determine the motivating factors that influence people to make healthy lifestyle choices. The model specifically evaluates the contributing elements surrounding the behavior and predicts the likelihood of lifestyle or behavior change (McEwen & Wills, 2011). Concerning this

research, my use of the health promotion model will focus on the proposed research question: Do nurses get 10,000 steps during their twelve-hour shift?

The behavior-specific cognitions of nurses will include census on the unit, fatigue, and acuity of care for the clients. The perceived self-efficacy for the nurses will include knowledge of their physical activity and further health benefits to walking. Perhaps this will lead to nurses taking a *walking-lunch* if they find that they are not getting the recommended 10,000 steps, or the use of steps instead of elevators, or taking longer routes instead of short-cuts. Assessment of the level of commitment will occur at the end of the research. Ideally, the nurses who are not getting their 10,000 steps at work will find ways to increase activity while working to facilitate improved overall health.

The health promotion model (2011) walks the researcher through the steps that lead to a prediction of a health changing behavior, specifically looking at the elements that correlate with behavior changes. The concepts of this research model have been tested and used many times in research since Pender first began studying this model in the 1970s. Since that time, further development and research into the model has led to modifications, made by Dr. Pender herself, to bring the model to its current structure. The most recent modifier completed in 1996. Individual experiences, behavior-specific cognitions, and behavioral outcomes are the concepts for this model. Ease of molding the concepts into the model and a simple definition make this model very user friendly for researchers (McEwen & Wills, 2011).

The purpose of this theory is to help predict a behavior change resulting from health promotion. The key to the model is the behavior-specific cognitions concept. This

concept is responsible for the notion of *self-efficacy,* which is important when the attempt is made to change a behavior. How does this benefit me? How can I make this improve my quality of life? The self-efficacy is integral to this framework because without this part, the model is not personal. This concept allows the health promotion to apply on a personal level for each participant.

Physical Activity

Physical activity is a crucial component of health promotion. Vuori, Lavie, and Blair (2013) wrote, "Physical activity is an essential biological stimulus for the development and maintenance of healthy structures and functions of the human body" (p. 1446). Physical activity has the ability to prevent and decrease the burden of chronic diseases such as cardiovascular disease, obesity, and Diabetes Mellitus type II. Physical inactivity leads to a decrease in muscle tone, metabolism, and poor bone health (Vuori, Lavie, & Blair, 2013). All of these factors and overall decreases in physical activity due to lack of time and improved transportation (e.g., metro, air, and train systems) have led to a deficiency in physical activity that spans many populations all over the world (Vuori, Lavie, & Blair, 2013).

Healthy People 2020

The objectives of Healthy People 2020 (2014) are to increase physical activity from 43.5% to 47.9% for the population. Lack of leisure time remains the most significant barrier to meeting the physical activity recommendations (Josyula & Lyle, 2013). This initiative encourages all members of the population to increase their daily activity.

Nurses walk at work, and walking is a form of physical activity. Locke and Bassett (2004) defined daily steps into categories based on the quantity of steps taken daily. Less than 5,000 steps each day is considered *sedentary*, 5000 to 7,499 is *low activity*, 7,500 to 9,999 is *somewhat active*, 10,000 to 14,499 is *active*, and *highly active* people achieve more than 12,500 steps each day (Locke & Bassett, 2004). The use of pedometers to encourage physical activity has proven effective in self-monitoring and sustainability (Pillay et al., 2012). Pedometers are accurate, effective, and inexpensive. The recent smartphone models have activity logs and a pedometer function, allowing the owner to log their physical activity and count their daily steps. Previous studies looking at nurses using pedometers showed an increase in daily physical activity, as well as improved dietary choices such as fruits and vegetables (Tremblay et al., 2014).

The 10,000 step criteria initiated from Japan, where Dr. Yoshiro Hatano from the Kyushu University of Health and Welfare, in 2004 spoke at a conference and promoted this concept (Tudor-Lock & Bassett, 2004). Copyrighted in 1965, the Manpo-kei pedometer, which translates to 'ten thousand steps meter' was popular among Japanese walking clubs(Tudor-Lock & Bassett, 2004). The growing popularity led to further research and the 10,000 steps continues to be a goal for achieving a healthy and active lifestyle (Tudor-Lock & Bassett, 2004).

According to Tudor-Lock and Bassett (2004), there are advantages to using the 10,000 step-per-day as a benchmark for patients and the general population. The 10,000 steps is an easy number to remember. The research on this concept suggests the 10,000

steps each day lead to improved health, lower body fat, and lower blood pressures (Tudor-Lock & Bassett, 2004).

Nursing and Health

Nurses, as part of their role, promote health. According to Malik, Blake, and Batt (2011), "Despite nurses' health-promoting role and professional knowledge concerning healthy lifestyle choices, research indicates that many nurses do not transfer this knowledge to their own health and lifestyle behavior" (p. 489). High stress, burnout, and illness causing missed work are all common and unpleasant findings within the nursing profession (Malik et al., 2011). Physical inactivity also adds to the problems of high levels of fatigue, stress, burnout, and illness.

Nurses advocate, teach, and provide care to an influential population. Sick patients look to their healthcare providers for answers and interventions to prevent further illness. Malik et al. (2011) suggested that nurses have the highest frequency of patient contact, and this makes nurses influential upon the patient. Fifty-four percent of nurses are obese, and 112,000 deaths annually are attributed to obesity (Speroni et al., 2012).

Nurses need to practice healthier lifestyle selections in order to promote the same options to their patient population. Also supported by the literature, patients are more likely to exercise and make healthier decisions if the nurse is an example of this behavior and can speak from experience (Esposito & Fitzpatrick, 2011). In contrast and supported by Malik et al. (2011), nurses are more likely to promote physical activity if they are physically active themselves.

In 2011, a Canadian Hospital implemented a nurse specific 10,000-step initiative and the average daily step count was 12,000 (Tremblay et al., 2014). This is well over the 10,000-step recommendation for maintaining a healthy level of physical activity on a daily basis. This study was done in a health promoting hospital and the log of steps was for the entire day, not just the hours at work.

Obesity is a problem for many people and it does not exclude nurses. Nurses are at the bedside providing care and education to a large influential population. Promoting health and increased physical activity among nurses is beneficial to not only nurses, but the patient population (Esposito & Fitzpatrick, 2011). Using a fitness tracker or pedometer provides awareness to the user (Tremblay et al., 2014). Setting a goal of 10,000 steps daily has shown to improve overall health and encourages a healthy lifestyle. health promotion and active lifestyles are crucial in the fight against obesity.

Nurse Health and Self-Efficacy

The self-efficacy theory-as presented by Bandura, encourages nurses to independently manage their health (McEwen & Wills, 2011). This independence still requires a goal to promote a healthy outcome. According to Zhu, Norman, and While (2013), the belief in the outcome is the key. Concerning this project, the ideal outcome is a healthier person. The predictive nature of the self-efficacy theory supports the nurses increasing their daily activity or making healthy choices to facilitate the healthier outcome for themselves.

This self-efficacy theory is critical to practice interventions. The predictions serve as a guide to education and information for clients or participants. This theory is

significant for nursing research because the level of prediction for health changing behaviors determines how each client or participant is treated. Personalized care is potentially available to each person based on this theory, leading to higher efficacy of a positive behavior change.

Summary

A significant number of practicing nurses are obese and a lack of physical activity can play a role in this issue. Despite their knowledge, nurses are not always taking an active role in their own health. This directly influences the care they provide and perceptions of the patient. In this project, I used the health promotion model to determine whether nurses are taking 10,000 steps per day.

Section 3: Collection and Analysis of the Evidence

Project Design

In this project, I used a survey design. After IRB approval (Approval # 06-17-16-0474575), I recruited participants via an email invitation. Email addresses were obtained from my personal medical center email account, which I commonly use for communicating with the medical facility for my employment. This method of recruitment was approved by the medical center IRB. Once the participant agreed to participate in the project, he or she contacted me to learn more about the project. Participants had 1 week to sign their consent form and return the pre survey (see Appendix A). Participants collected and submitted their data to me via email, text, or in person.

I requested that each participant collect his or her data on 3 consecutive workdays, immediately after submitting their consent and initial survey. Each day of collection consisted of a 24-hour period, which included the 12 hours of bedside nursing work. This pattern of data collection occurred 3 times. After the final collection of data/steps, I requested that all participants fill out a postproject survey (See Appendix B). The collection of data took place over a 2-week time in order to get three consecutive collections from the participants.

Population, Sampling, and Procedure

The target population consisted of registered nurses working as bedside nurses for a 12-hour shift. The inclusion criteria required that they work in one of the following departments: Emergency department, four medical surgical units, ICU, Labor and Delivery, Observation Unit, and the Cardio-pulmonary step down unit. These units were

identified for this project as they all used bedside nurses for a 12-hour shift. Exclusion

criteria included any participant who was flexed down during a shift (asked not to report

to work) or worked a shift shorter or longer than the 12 hours. These participants were

excluded.

In order to anticipate the appropriate number of participants for this project, a

power analysis was necessary. Using an alpha of 0.05; power of 80, and a medium effect

size, 22 participants was the recommended sample size (Grove, Burns, & Gray, 2013).

However, according to Grove et al. (2013), for a variable to reach a normal distribution, a

population of at least 30 is recommended. The project had the potential to include more

than 30, as there were more than 180 nurses working on the identified units.

Demographic Data

Following informed consent, each participant completed a demographic data sheet

in order to describe the sample. The following demographic data was collected from

each participant: age, unit location, and shift (see Appendix A).

Instruments

The pedometer was the data collection tool for this project. Each participant used

their own cell phone with the following free application: Pedometer Free-Step Counter

and Walking Activity Tracker for Sport and Fitness by App Holdings (see Appendix C).

This application had the ability to track each step, and most importantly, had a reset and

pause function. These functions were crucial to acquiring accurate data.

The pedometer is a proven effective tool of self-monitoring. According to Pillay,

Alexander, Proper, Mechelen, and Lambert (2012), the pedometer is an appropriate tool

for awareness of physical activity and behavioral modification. The use of the pedometer provides instant feedback to the user and in some studies, increased health awareness is apparent with improvement in the user's food choices (Tremblay et al., 2014). Each participant downloaded a free pedometer application to their phone that tracked their steps for 12 hours while they worked. This application has a on and off setting so that nurses only tallied their steps when they were working.

Data Analysis

In this analysis, I used descriptive statistics to describe the sample and step count provided by each participant. A repeated measures ANOVA, with a Greenhouse-Geisser correction, was used to estimate if there was a significant difference in number of steps across collection points.

Protection of Human Rights

I submitted this study to the Walden University and Medical Center Institutional Review Board (IRB) for review and approval. Protection of participant information was achieved, as there were no personal identifiers (such as name or birthdate) on the participant survey. All eligible participants received a consent form, and participants initialed the survey via email (or physical document delivered to me) within 1 week of the original email informing potential participants of goal of project. Each participant received a statement indicating that they were volunteers and under no circumstance were they required to participate in this project.

Data collection did not begin until participants returned assigned consent forms. This project did not pose any physical risk or harm to any participant. The project

findings will be reported in a manner as to not create tension amongst different units, shifts, or age groups but instead stimulate health promotion.

Project Evaluation Plan

The evaluation process of this project was a survey conducted at the conclusion of the data collection. Each participant was asked to complete a final survey. This survey was focused on whether they achieved more or less steps than they initially anticipated. Did this project increase their awareness of their level of physical activity? (see Appendix D).

At the Medical Center where the study took place, the employees were given goals for wellness prior to this study. I anticipated that the findings of this project would coincide with the wellness goals. The wellness team would then continue this project by creating benchmarks for steps taken each day and awarding achievers of this goal. The sustainability is a concern, but with the ongoing use of pedometers and goals set by the facility, it has the potential to persevere.

Summary

Nurses are on the front lines of patient education and influence. The physical activity that nurses are able to attain during a 12-hour shift is significant, but possibly not sufficient to meet recommended guidelines of daily physical activity. The 10,000-step project for registered nursing working 12-hours at the Medical Center will determine if nurses are getting sufficient physical activity while they work. This project has noteworthy implications for health promotion of this population and potentially the entire staff population at the Medical Center.

Section 4: Findings and Recommendations

Introduction

The purpose of this project was to determine whether nurses working 12-hour shifts were getting 10,000 steps on days when they work, and to make recommendations to promote and increase physical activity among nurses. The goals were to create and implement a 10,000 step program for nurses and motivate them to achieve that threshold. In addition, assessing the awareness of physical activity and making recommendations to promote and increase physical activity in and outside of the workplace were also goals. In the following subsections, I will discuss the results and recommendations that have resulted from this project.

Findings

Thirty-seven participants volunteered for the project. Ninety-seven percent (97.3 %; $n = 36$) were female and 2.7% ($n = 1$) were male. The average age of the sample was 35.70 (9.55) with a range of 23.0 to 60.0. Twenty-one percent (21.6%) were from the emergency department; 37.8% ($n = 14$) were from the Intensive Care Unit; and 40.5% ($n = 15$) were from medical-surgical floors (see Table 1).

Table 1

Demographic Data of Participants (n= 37)

Variable	N	Frequency (%)	Mean (SD)
Age	37		35.70 (9.55)
Gender			
Male	1	2.7%	
Female	36	97.3%	
Unit			

ER	8	21.6%	
ICU	14	37.8%	
Medical Surgical	15	40.5%	
Steps			
First	37		9,369.70
Second	37		(2,786.5)
Third	37		11,654.80
			(15,128.04)
			9,215.19
			(2,913.33)

The participants were from three different areas within the medical facility. The units included: Emergency Room, Intensive Care Unit, and Medical Surgical Units. The Emergency Room is a large area, and contains 52 beds. The nurses in this department are responsible for covering for each other, transferring patients to radiology and other units within the hospital.

The Intensive Care Unit nurses are in a secluded unit where the bed assignments are numerical, keeping the nurse in one location for the majority of the 12 hours. The resource nurse in ICU potentially leaves the floor to cover codes and emergencies within the entire hospital. The medical surgical units have 24-30 beds. The nurse cares for up to 6 patients that may or may not be in all in the same hallway. These units have 3 long hallways and the nurses could have patients in each hallway. These nurses spend the majority of their day on their unit and only leave to transfer critical patients.

The average steps taken by the nurses on these three units revealed the following data. The Emergency Room nurses averaged the most steps at 9,855. The Medical Surgical Unit nurses averaged the second with 9,198. Finally, the Intensive Care Unit

nurses averaged 8,993 steps. These data is not surprising considering the layout of the hospital and role of the nurses on these units (see Table 2).

Table 2

Average Step Count Cased on Unit

Unit	Emergency Room	Medical Surgical Units	Intensive Care Unit
Average number of steps	9,885	9,198	8,993

The average number of steps for the first time period was 9,369.70 ($SD =$ 2,786.50); second time period was 11,654.80 ($SD = 15{,}128.04$); and third time period was 9,215.19 ($SD = 2{,}916.33$). A repeated measures ANOVA with a Greenhouse-Geisser correction determined that there was no statistical difference in number of steps over the three time points (F{1.057, 38.05} = 0.969, p > 0.05) (see Table 3). Of the 37 participants, only 14 (37.8%) completed the final survey. Eleven (78.5%) participants found that the project increased their awareness of daily physical activity, and 3 (21.4%) did not feel that the project increased their awareness (see Table 4). The final survey only represented 37% of the participants in this project, but of those participants, the majority did agree that the project increased their awareness of their daily physical activity which was the goal of this project.

Table 3

ANOVA (Number of Steps Taken Over 3 data Collection Points)

Period	Number (n)	Mean (SD)	F, p-value
First	37	9369.784	0.969, $p >$ 0.05

Second	37	11654.838	$p > 0.05$
Third	37	9215.19	$,p > 0.05$

Table 4

Awareness Data (n = 14)

Awareness	Increased awareness	Did not increase awareness
Level of awareness	11 (78.5%)	3 (21.4%)

Recommendations

The findings of the project show that the nurses in the organization are not getting the recommended 10,000 steps on the days when they are working. The 12-hour shift consumes at least half of the day for the nurse. There are times when nurses do not leave on time and have to commute (any distance) to and from work. This brings to light the question as to how nurses can be motivated to improve their own health and engage in physical activity when at work.

According to Speroni, Williams, Seibert, Gibbons, and Earley (2013), in order to facilitate a healthier lifestyle, with the trickle down to their patients, nurses needs evidence-based interventions and educational programs. These programs start with nursing leadership setting the example and promoting healthy workplace environments. One example from the literature includes the Nurses Living Fit (NLF) program. Nurses designed this program at Inova Hospital in Virginia. The NLF program includes exercise and nutrition-based interventions in the effort to lower Body Mass Index (BMI) to improve nursing health and ideally affect how they care for their family and patients. The program participants did decrease their BMI and actually requested ongoing

educational support and health promotion ideas (Speroni, Williams, Seibert, Gibbons, & Earley, 2013).

The Walk@Work automated intervention tool was used in a recent study titled "Walk@Work: An automated intervention to increase walking in university employees not achieving 10,000 daily steps" and while not beneficial for comparison purposes, could be a useful motivational tool (Gilson et al., 2013). The Walk@Work tool is one that could also be applied within a hospital. The purpose behind the Walk@Work program was to improve daily physical activity among university employees, specifically those not getting their daily 10,000 steps.

Five universities in four different countries were included in this research, which found that participants using this program increased their daily steps by 25% (Gilson et al., 2013). According to Gilson et al., (2013) this specific program is an "automated web-based program that streamlines intervention delivery and evaluation" (p. 287). This program was most effective for participants who were not achieving the 10,000 steps prior to beginning the program. Since the nurses in this project did not achieve the 10,000 steps on average, using an application such as this one could prove beneficial.

Bakhshi, Fei, Murrells, and While (2015) found that half of their sample population (of nurses) were promoting physical activity to their patients and 73% personally wanted to be a *normal body weight size*. This data supports the idea that nurses want to be healthy, but further teaching and opportunities are necessary for them to achieve these goals. Bakhshi et al. (2015) suggested further counseling or training for

nurses regarding the latest recommendations and strategies, and looking closer at barriers preventing physical activity for nurses.

Nurses need to be healthier and utilize health promotion in their daily life—even while at work. A recent study in the American Journal of Nursing looked at original research investigating the health-promoting lifestyle practices of registered nurses (Thacker, Stavarski, Brancato, Flay, & Greenwald, 2016). The findings showed that 66.9% of the participants felt that there are barriers to health promoting activities. Again, this research suggests ongoing education, internal motivation, and external enticements (Thacker, Stavarski, Brancato, Flay, & Greenwald, 2016). It then concludes that the health of nurses directly affects workplace productivity and job retention (Thacker, Stavarski, Brancato, Flay, & Greenwald, 2016). This research is monumental in supporting ongoing health-promotion for nurses and sustaining it (Thacker, Stavarski, Brancato, Flay, & Greenwald, 2016).

At the Medical Center where the study took place, the Chief Nursing Operator and administrative nursing team are continuing to strive toward Magnet status while providing quality care. Each employee is responsible for providing quality care and a large percentage of them are nurses. If the nurses are not healthy, will this affect the patients?

As mentioned above, nurses want to be healthy. Currently there are barriers that are possibly preventing the nurses from achieving their daily physical activity goals. Such barriers include a nursing shortage, which directly affects the ever-controversial nurse to patient ratio. Nurses feel stressed and tired when they finish their shift, and

many are working extra hours and shifts to help with the shortage (Bakhshi et al., 2015).

The medical facility does not have a gym or fitness center located within the medical

center. Several local gyms offer a discount, but this is not convenient for many nurses. It

will take time to build an on-site fitness center, but this is something that should be

brought up to senior leadership. In the meantime, instead of discounts, offer free

membership at one local gym for employees who average two or more visits to the gym

weekly.

Another program could involve fitness trackers and buying several for each unit

to share and participate in competitions. The medical center could offer an award, such

as free massage, to the unit who gets the most steps each month. The unit that wins

would have signs and pictures placed for staff, patients, and visitors to see. This would

hopefully prompt questions from patients and show the community how the nurses are

working together to promote health for themselves.

There may also be other ways to motivate nurses to improve their health. Perhaps

adding education interventions would be beneficial. Most employers strongly encourage

nurses to join organizations such as the American Nurses Association. This association

encompasses the entire scope of nursing and actually offers a program called Healthy

Nurse, Healthy Nation. This information is available online (American Nurses

Association, 2016). The Chief Nursing Operator (CNO) for the medical center could

subscribe to this site and set an example by sharing the monthly information with the

nursing staff. The staff meets monthly for Grand Rounds, this would be a time to insert a

program entitled 2 Minutes 2 B Healthy and the CNO or selected nurse can present the monthly topic.

Strengths and Limitations

Strengths

This project was focused on the nursing population and found that at this medical facility, on average the nurses are not getting the 10,000 steps recommended each day. This was the prediction prior to the project and is correct. With the popularity of fitness trackers on the rise, there is an opportunity to collect data more accurately and for longer periods. The project did increase awareness for 78% of the participants who returned their surveys. Further evaluation into perceptions of health and actual health would be of value in future research on the topic of health-promotion.

Limitations

It is likely that a sample size may have enhanced the statistical significance of the project. Additionally, daily or bi-weekly reminders may have increased the number of steps recorded. Furthermore, this project has limitations due to lack of participation and potential variability the of data collection. The findings do suggest that nurses think they are more active than they actually are. Further education and awareness provided to nurses at the bedside would benefit a study in the future. Lastly, each participant self-reported his or her steps from the individual's own tracking device, thus the actual number of steps taken may be skewed.

Summary

A significant number of practicing nurses are obese and a lack of physical activity can play a role in this issue. Despite their knowledge, nurses are not always taking an active role in their own health. This directly influences the care they provide and perceptions of the patient.

Section 5: Dissemination Plan

The 10,000 step project for the bedside nurse working 12-hour shifts is not complete. However, the data I collected is significant and will benefit the participants. I have every intention of taking the findings and presenting them at Nursing Grand Rounds, which are held monthly within the medical center. The Director of Nursing Education has asked me to present the findings and provide a question and answer session directly following the presentation. It is my hope that the participants find benefit from the health awareness and use the data to improve their health.

Analysis of Self

The work involved in identifying the evidence-based problem for this project has allowed this nurse to find significant benefit in nursing research. The ongoing education that is required at the doctoral level of nursing has heightened my appreciation for healthcare policy and informatics. I now have a better understanding on how every evidence-based project/research finding benefits not only nursing, but the entire population. As I reflect on my journey to my doctoral work, I am brought back to my own philosophy on nursing. I feel this project, while it focuses on health promotion and awareness, still encompasses my own personal philosophy.

My own philosophy centers upon caring, and when I think about caring I think about the first nursing theorist. Florence Nightingale formulated the first nursing theory during the Crimean War; caring for soldiers, she formulated goals and guidelines for nurses. She encouraged and taught nurses based on her book *Notes on Nursing* to study the patient, symptoms, and environment (McEwen & Wills, 2011). Based on these items,

in detail, nurses were to use the knowledge they gathered to provide care (McEwen & Wills, 2011).

I also hope to encourage and teach fellow nurses and colleagues about health promotion from the research in this project and other projects in the future. I will admit that this project did not turn out as I had expected, but the outcome shows there is room for improvement. Ongoing health promotion starts with those who are providing care.

Summary

This project showed that bedside nurses working a 12-hour shift on average did not achieve 10,000 steps on days when they worked. Obesity is a problem for many, and this includes the nursing population. Nurses need to take better care of themselves so that they can lead by example.

References

The American Nurse (2013, January/February), Retrieved from

http://www.theamericannurse.org/index.php/2013/03/01/an-issue-of-weight/

Bakhshi, S., Fei, S., Murrells, T., & While, A. (2015). Nurses' health behaviours and

physical activity-related health promotion practices. *British Journal of*

Community Nursing, 20(6), 289-296.

Centers for Disease Control and Prevention (2014). *Physical Activity*. Retrieved from

http://www.cdc.gov/physcialactivity/everyone/guidelines/adults.html

Centers for Disease Control and Prevention (CDC) (2013). *Workplace Health Promotion:*

Benefits of health promotion programs. Retrieved from

http://www.cdc.gov/workplacehealthpromotion/businesscase/benefits/

Centers for Disease Control and Prevention (CDC) (2014, July). *Healthy weight- it's not*

a diet-it's a lifestyle! Retrieved from

http://www.cdc.gov/healthyweight/assessing/bmi/

Centers for Disease Control and Prevention (2014). *Chronic Diseases and Health*

Promotion. Retrieved from

http://www.cdc.gov/chronicdisease/overview/index.htm

Esposito, E. M., & Fitzpatrick, J. J. (2011). Registered nurses' beliefs of the benefits of

exercise, their exercise behaviour and their patient teaching regarding exercise.

International Journal of Nursing Practice, 17, 351-356.

Flannery, K., Burket, T. L., & Resnick, B. (2014). Exercise habits of licensed nurses and

   nursing assistants: Are they meeting national guidelines. *Geriatric Nursing, 35*,

   S17-S20.

Fock, K. M., & Khoo, J. (2013). Diet and exercise in managemnt of obesity and

   overweight. *Journal of Gastroenterology and Hepatology, 28*(4), 59-63.

Gilson, N. D., Faulkner, G., Murphy, M. H., Meyer, R. M., Washington, T., Ryde, G. C.,

   & Arbour-Nicitopoulos, K. P. (2013). Walk@Work: An automated intervention to

   increase walking in university employees not achieving 10,000 daily steps.

   Preventive Medicine, 56, 283-287.

Grove, S. K., Burns, N., & Gray, J. R. (2013). *The Practice of Nursing Research* (7th

   ed.). St. Louis, Missouri: Elsevier Saunders.

Healthy People 2020 (2014). *Physical Activity*. Retrieved from

   http://www.healthpeople.gov/2020/topics-objectives/topic/physical-activity

The Institute of Medicine (2000). To Err is Human: Building a Safer Health System.

   *National Academy of Sciences, *, 1-8.

Josyula, L., & Lyle, R. (2013). Health care provider physical activity prescription

   intervention. *American Journal of Health Education, 44*(3), 162-168.

Kim, M. J., Son, K. H., Park, H. Y., Choi, D. J., Yoon, S. H., Lee, Y. H.,...Cho, M. C.

   (2013). Association between shift work and obesity amoung females nurses:

   Korean Nurses' Survey. *BMC Public Health, 13*(1204).

Kirwan, M., Duncan, M. J., Vandelanotte, C., & Mummery, W. K. (2012). Design,

   Development, and Formative Evaluation of a Smartphone Application for

Recording and Monitoring Physical Activity Levels: the 10,000 steps "iStepLog".
Health Education & Behavior, 40(2), 140-151.

Laidman, J. (2012, December 6). *Nurses remain Nations most trusted professionals*.
Retrieved from http://www.medscape.com/viewarticle/775758

Locke, C. T., & Bassett, D. R. (2004). How many steps/day are enough. *Sports Med,
34*(1), 1-8.

Malik, S., Blake, H., & Batt, M. (2011). How healthy are our nurses? New and registered
nurses compared. *British Journal of Nursing, 20*(8), 489-495.

Marchiondo, K. (2014). Stemming the obesity epidemic: Are nurses credible coaches?
Medsurg Nursing, 23(3), 155-158.

McElligott, D., Siemers, S., Thomas, L., & Kohn, N. (2009). Health promotion in nurses:
is there a healthy nurse in the house? *Applied Nursing Research, 22*(3), 211-215.

McEwen, M., & Wills, E. M. (2011). *Theoretical Basis for Nursing* (3rd ed.).
Philadelphia, PA: Lippincott Williams & Wilkins.

Miller, S. K., Alpert, P. T., & Cross, C. L. (2008). Overweight and obesity in nurses,
advanced

Office of Disease Prevention and Health Promotion (2015). *Healthy People 2020*.
Retrieved from http://www.healthypeople.gov/2020/about/History-and-
Development-of-Healthy-People.

Patel, A., Kolt, G. S., Schofield, G. M., & Keogh, J. W. (2014). General practitioners'
views on the role of pedometers in health promotion. *Journal of Primary Care,
6*(2), 152-156.

Pillay, J. D., Alexander, T. L., Proper, K. I., Mechelen, W. V., & Lambert, E. V. (2012). Steps that count!: the development of a pedometer-based health promotion intervention in an employed health insured South African population. *BioMed Central Public Health, 12*(880), 1-8.

Polit, D. F. (2010). *Statstics and Data Analysis for Nursing Research* (2nd ed.). Upper Saddle River, NJ: Pearson Education Inc.

Schmidt, S. (2012, January 19). *American College of Sports Medicine: Obesity and exercise*. Retrieved from https://www.acsm.org/access-public-information/articles/2012/01/19/obesity-and-exercise

Speroni, K. G., Earley, C., Seibert, D., Kassem, M., Shorter, G., Ware, C. C.,...Atherton, M. (n.d.). Effect of Nursing Living Fit: exercise and nutrition intervention on body mass index in nurses. *The Journal of Nursing Administration,42(*4*)*, 231-238 .

Thacker, K., Stavarski, D. H., Brancato, V., Flay, C., & Greenwald, D. (2016). CE: Original Research: An investigation into the Health-Promoting Lifestyle Practices of RNs. *American Journal of Nursing, 116*(4), 24-30.

Tremblay, M. L., Sounan, C., Trudel, J. G., Lavigne, G. L., Martin, K., & Lowensteyn, I. (2014). Impact of a pedometer program on nurses working in a health-promoting hospital. *The Health Care Manager, 33*(2), 172-180.

Tudor-Lock, C., & Bassett, D. R. (2004). How many steps/day are enough? Preliminary pedometer indices for public health. *Sports Med, 34*(1), 1-8.

United States Department of Labor (2013). *Obama administration continues moving forward to implement health-care law by releasing final rules on employment-based wellness programs* (13-1079-NAT). Washington, DC: U.S. Government Printing Office.

Vuori, I. M., Lavie, C. J., & Blair, S. N. (2013). Physical Activity Promotion in the Health Care System. *Mayo Clinic Proceedings, 88*(12), 1446-1461.

White, K. M., & Brown, S. D. (2012). *Translation of evidence into nursing and health care practice.* New York, New York: Springer Publishing Company.

World Health Organization (2015). *Obesity*. Retrieved from http://www.who.int/topics/obesity/en/

World Health Organization (2016, November). *Programmes: Health Promoting Hospitals*. Retrieved from http://http://www.who.int/healthy_settings/types/hospitals/en/

Zaccagnini, M. E., & White, W. K. (2011). *The Doctor of Nursing Practice Essentials.* Sudbury, MA: Jones and Bartlett Publishers.

Zhu, D. Q., Norman, I. J., & While, A. E. (2013). Nurses' self-efficacy and practices relating to weight management of adult patients: a path anaylsis. *International Journal of Behavioral Nutrition and Physical Activity, 10*, 131.

Appendix A: Participant Initial Survey

1. Age (in years) _____

2. Gender   Male _____   Female_____

3. Unit where you are currently working:

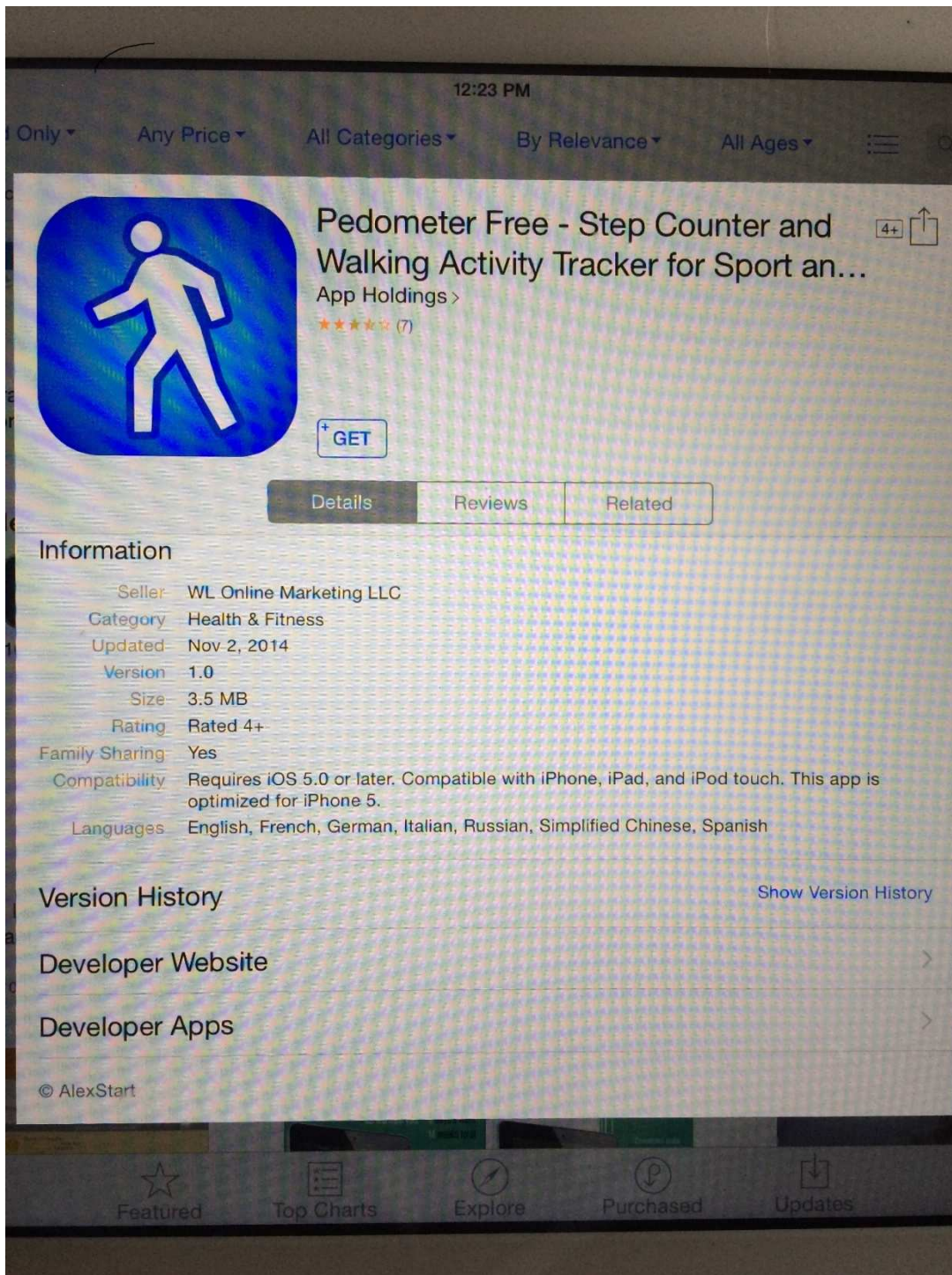   _____ ED   _____ICU   _____Medical-Surgical

Appendix B: Post Participation Survey

Did recording your steps during work increase your awareness of your physical

activity?

_____ Yes   ____No

Appendix C: Pedometer Application

Appendix D: Medical Center IRB Approval Letter

INSTITUTIONAL REVIEW BOARD

Meritus Medical Center

11116 Medical Campus Road   Phone: 301-790-8825
Suite 2884 - Roth Library   fax: 301-790-8569
Hagerstown, MD 21742   FWA # 00008157

May 4, 2016

Katherine Schnebly, MSN
11116 Medical Campus Road
Hagerstown, Maryland 21742

RE: IRB #: 201604118
    Study Title: 10,000 Step Challenge for Bedside Nurses Working 12-Hour Shifts
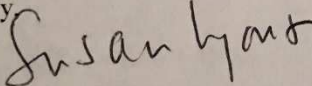
Dear Ms. Schnebly,

The Meritus Medical Center Institutional Review Board (MMC IRB) reviewed and granted approval for the above noted research study by means of its expedited review process on **May 4, 2016.** The expedited category is 45 CFR 46.110 (**7**). Included are the IRB approved protocol (version 1; dated March 3, 2016); approved consent form (version 1: dated March, 2016), Initial Survey, Post Survey, and Educational emails.

As principal investigator, you have the primary responsibility for protecting the rights and welfare of human subjects, and in complying with the federal regulations, applicable state laws, and all institutional policies and procedures. Please see the reverse side for additional specific responsibilities.

The federal regulations require continuing review at intervals appropriate to the degree of risk involved in this research. IRB approval of this study expires on **May 3, 2017.** The IRB requires that you submit a progress report 60 days prior to the end of the approval period or a final report at study completion. Please note that the MMC IRB office will automatically close and withdraw this study on the expiration date unless a request for continuation or final study report has been reviewed and approved by the IRB.

As always, we expect full compliance with all applicable federal regulations and MMC IRB policies. The MMC IRB must be notified of: 1) any and all unanticipated or serious adverse events; 2) any modifications; 3) any protocol deviations; 4) any safety updates; 5) recruitment materials and 6) termination of the protocol

If you have any questions, please do not hesitate to contact me.

Sincerely,

Susan Lyons, ACNP, MSN, MA BSN
Co-Chair

Cmf
CC: IRB file