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Evaluation of Intervention to Increase Exercise Among a Group of Hispanic Patients in South Florida

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Abstract

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Project Submitted in Partial Fulfillment

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Abstract

Despite knowledge regarding the need for regular physical exercise, little is known about the most effective ways to encourage and maintain regular physical activity among primary care patients. New approaches to education about and support of physical activity are needed for everyone, but especially for groups susceptible to diseases related to sedentary lifestyles. This project evaluated a web-based educational intervention guided by the health belief model to address the lack of regular physical activity among 25 Hispanic patients in a South Florida clinical practice. The physically inactive patients were identified through the clinic's electronic medical records and consented to participate. Quantitative data were obtained before and 8-weeks after the education using the International Physical Activity Questionnaire. The data were analyzed to find the median weekly minutes for each domain on the questionnaire (work domain, active transportation domain, domestic and garden domain, and leisure domain). Participants' median scores increased after the intervention for moderate physical activity at work (1440 minutes to 2400 minutes), vigorous physical activity during leisure time (0 minutes to 1920 minutes), and walking for transportation (0 minutes to 792 minutes). Inferential statistics were not employed, so the statistical significance of these increases were not determined. The social changes that may occur from wider implementation of this educational approach include decreased disability and decreased health care costs for patients at risk of developing diseases linked to a sedentary lifestyle.

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Dedication

I dedicate my dissertation work to my family and many friends. A special feeling of gratitude to my loving mother, whose words of encouragement and push for tenacity ring in my ears.

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I wish to thank my committee members who were more than generous with their expertise and precious time. A special thanks to Dr. Sue Ellen Bell, my committee chairman for her countless hours of reflecting, reading, encouraging, and most of all patience throughout the entire process. Thank you Dr. Hines for agreeing to serve on my committee; their excitement and willingness to provide feedback made the completion of this research an enjoyable experience.

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Section 1: Nature of the Project

There are various factors that can produce health-related issues to individuals, physical inactivity being one of them. Nonetheless, there is solid evidence of the benefits produced by physical activity. According to the Center for Disease Control and Prevention (CDC, 2011), engaging in a physical activity routine is one of the most important things individuals can do to improve their health. Physical exercise is beneficial to (a) attain weight control, (b) minimize the risk of cardiovascular disease, (c) reduce the predisposition to Type 2 diabetes and metabolic syndrome, (d) minimize risks for some types of cancers, (e) fortify the bones and muscles, (e) boost mental health and state of mind, (f) enhance the capacity to carry out daily tasks, (g) avoid frailty and falls in the elderly, and (h) improve the probability of extending the life span. Individuals who are not confident to engage in or increase their physical exercise due to the possibility of injury have the option of selecting safe, moderate-intensity aerobic exercise, such as fast walking. These recommendations revealed the importance of implementing and evaluating programs that promoted regular physical activity. In this section I will share the importance of educating people concerning taking on healthy lifestyles, the gap in practice factor, the relationship between a sedentary lifestyle and the development of major diseases, employing educational intervention to increase Hispanic adult patients' physical activity and the purpose of this project.

Problem Statement

There is a lack of regular physical activity among Hispanic patients in a South Florida clinical practice. According to the Institute for Work and Health (2015), primary prevention targets the prevention of disease or injury before it happens. Primary

prevention is attained by avoiding exposure to hazards that produce illness or injury, change unhealthy or unsafe conduct that can precede illness or injury, and boost resistance to sickness or injury if such exposure occurs. Primary prevention includes educating people regarding adoption of healthy lifestyles, such as engaging in regular physical exercise (Institute for Work & Health, 2015).

Having a sedentary lifestyle and lack of physical activity promotes illness and diseases. According to Hannan (2015), Hispanics have a predominantly sedentary lifestyle. Hispanics show a higher incidence of overweight among the population and a lower rate of compliance with the physical activity (PA) advice than other groups (Hannan, 2015). The population in the clinical setting of South Florida where I worked to complete the clinical practice required for my DNP degree was predominantly Hispanic. For that reason, I decided to implement an educational intervention aimed at increasing adult Hispanic patients' physical activity to meet the national exercise guidelines. The DNP final paper is an evaluation of an education program, with recommendations that contributed to the development of guidelines for the successful implementation of these types of programs among similar populations.

The Gap in Practice

Although health professionals are aware of the benefits of physical activity, plainly talking to patients about those facts and monitoring results is not always undertaken. According to the Accreditation Council for Continuing Medical Education (ACCME, 2012), there is a professional practice gap when there is a disparity between what the professional is doing or accomplishing in comparison to what is achievable on

the basis of current professional knowledge. Physicians and nurses at Cano Health Center believed that physical activity counseling was important. However, the population receiving care in this center still had a predominantly sedentary lifestyle. This gap between education and action provided an opportunity to promote and evaluate a program focused on increasing patients' adherence to and sustainability of regular physical activity.

There is enough evidence to support the need for patients' engagement in regular physical activity; nevertheless, there is a lack of implementation and evaluation of exercise programs in the patients being cared for at the Cano Health Center. The clinical need led to the development of a program delivered during the DNP clinical practicum hours to determine and implement best practices for improving patient activity levels. The program consisted of applying an evidence-based educational strategy aimed at increasing the probability of meeting the national exercise guidelines for patients at Cano Health Center. My DNP project was the evaluation of that program in encouraging and supporting Hispanic patients in their efforts to overcome barriers to adequate exercise. The project gave me the opportunity to evaluate a program centered on increasing the level of physical activity in a group of patients at the Cano Health Center, while assessing and documenting the interventions to support successful replication.

Current State of Professional Knowledge in the Area of the Project

There is evidence of the relationship between having a sedentary lifestyle and the development of heart disease (American Heart Association, 2014). As reported by the American Heart Association (2014), over 80% of adult individuals are under the

minimum recommended levels of aerobic and muscle strengthening activities. An educational intervention was needed at the study site to encourage engagement in regular physical activity.

The inactive lifestyle among the Hispanic population is one of the factors that make them predisposed to suffer cardiovascular disease. According to Healthy People 2020 (2015), physical inactivity is among the six manageable and modifiable risk factors for coronary artery disease and strokes. Eventually, both the heart and blood vessels may suffer changes if the risk factors prevail, and the result may be heart failure, strokes, or heart attacks (Healthy People 2020, 2015). The American Heart Association (2014) confirmed that the first cause of death in the United States is heart disease and stroke is the fourth cause. The risks of cardiovascular disease are higher among Hispanics than the general U.S. population because this population suffers significantly more from high blood pressure, obesity, and diabetes (American Heart Association, 2014). Therefore, it is important that the risk factors for cardiovascular diseases be eliminated at a young age so that the aftermath and complications of chronic cardiovascular disease can be prevented (United States Department of Health and Human Services, 2015). Improving adherence to national exercise recommendations may help to prevent early death and morbidity in this population (American Heart Association, 2014).

Context and Background

My DNP project was carried out at the Cano Health Center, a family medical center of South Florida where I was completing my practicum hours. The health care providers of that center deliver wide-ranging health care for individuals of all ages

supporting health promotion and disease prevention. They are fully engaged in comprehensive diagnosis, disease treatment, and preventive care, including (a) routine health risk assessments; (b) vaccinations; (c) screening tests; and (d) providing advice on healthy lifestyle, while often coordinating the support of other medical specialists. By performing a collaborative screening of the patients' electronic medical record (EMR) with my preceptor, we were able to identify that sedentary lifestyle was prevailing among Hispanic patients receiving care in that center. Along with the low levels of physical activity and the overall sedentary lifestyle detected in the population, the lack of implementing and evaluating exercise programs in patients being cared for at the Center was also corroborated by interviewing the administrator, medical director, and other health care providers. After considering all of the supporting evidence, the need for the proposed project appeared justified.

Purpose Statement

The purpose of this project was to evaluate an evidence-based educational intervention to increase exercise among Hispanic adult patients of a South Florida clinic practice. According to Stevens (2013), the outcomes of evidence-based practice (EBP) are highly regarded in nursing practice, nursing education, and nursing science. The mandate for evidence-based quality improvement and health care modifications emphasizes the need for bettering care to make it safe and effective. In line with numerous guidance setting recommendations from national experts, nurses have responded by starting programs that make the most of EBP contributions achieved by nurses who can produce results and fully execute the potential of EBP.

The goal of my DNP project was to perform an evaluation of the physical activity program through the achievement of the following objectives:

1. Short-term objective: Support the need for increased levels of physical activity in the selected population.
2. Intermediate objective: Document program development and activities to help ensure successful replication.
3. Long-term objective: Improve the implementation and effectiveness of the program through adoption of recommendations based on the evaluation results.

Nature of the Project

This project was carried out in a primary care setting in South Florida employing the latest EBP available regarding regular physical activity. The study was centered on evaluating an evidence-based educational strategy implemented to increase physical activity in a group of Hispanic patients attending this South Florida center using both qualitative and quantitative data collection and analysis. The International Physical Activity Questionnaire (IPAQ) Long version was used as a reliable and valid instrument to measure physical activity for monitoring population health, as well as an in-person interview for evaluating the effectiveness of the intervention.

Relevance to Practice

Hispanic patients can reduce the risk of illness and improve their quality of life by engaging in an active lifestyle. According to Healthy People 2020 (2015), both health and quality of life can be improved in people of all ages through regular physical activity,

even if an individual suffers from a chronic disease or has a disability. By engaging in physical activity, adults and older adults can reduce the possibility of (a) early death, (b) coronary heart disease, (c) stroke, (d) high blood pressure, (e) Type 2 diabetes, (f) breast and colon cancer, (g) falls, and (h) depression. Children and young people, as a result of performing physical activity, can improve bone health, improve cardio-respiratory and muscular fitness, decrease levels of body fat, and reduce symptoms of depression (Healthy People 2020, 2015). There are related health benefits even in inactive individuals when they make small increases in their physical activity (Healthy People 2020, 2015).

Health professionals' interaction with patients should include sharing information of the benefits of physical activity to enable patients consider options in order to modify their sedentary lifestyles. As reported by the CDC (2012), health care has been dedicated to diagnosing and treating disease and injury. There is a need for more information about the prevention of causes for early disability and death, and the health care sector has responded by initiating early intervention and prevention programs (CDC, 2012). While working with patients, health care providers can promote an increase in daily physical activity among adults, children, and families. The health care providers and organizations that support them can use the following tactics: (a) address and discuss physical activity with their patients as another "vital sign" to be evaluated; (b) consider physical inactivity as a fixable and preventable situation with serious health consequences; (c) use a health care systems approach to encourage physical activity and avoid and tackle physical idleness; (d) decrease inequalities when making available physical activity services in

health care facilities; (e) ensure that all health care specialists provide physical activity education; and (f) endorse the local, state, and institutional policies and programs that encourage physical activity (CDC, 2012).

Project Question

The question for this project was the following: Will the educational intervention to increase physical activity (i.e., number of times per week, duration of exercise, intensity of exercise, and type of exercise) among patients of a South Florida clinic practice be successful as evidenced by formative, process, impact, and outcome evaluation?

Evidence-Based Significance of the Project

The educational intervention was based on the policy and environmental approaches of the CDC (2015), Division of Nutrition, Physical Activity, and Obesity (DNPAO) to establish easily accessible and inexpensive active living for everybody. In addition, the project abided by the World Health Organization's (WHO, 2015) "Recommendations on Physical Activity for Health" with the general purpose of using national- and regional-level policy direction on the exercise dose-response connection, which includes the required frequency, duration, intensity, type, and overall physical activity necessary to prevent noncommunicable diseases (NCDs).

EBP has proven to be vital for proper decision making and the delivery of efficient patient care. According to McNally (2010), the global emphasis on EBP as a foundation for quality care has promoted the significance of nurses in establishing best evidence and translating that evidence to nursing practice. It is imperative that nurses

communicate findings of these translation projects to stakeholders and other health care professionals so that innovations for practice can be replicated or adopted in other clinical settings and with other clinical populations (McNally, 2010). In this study, I used EBP to perform an evaluation of the education intervention program and to provide recommendations for improvement. The results of the evaluation and the recommendations were the products of the DNP clinical practice project.

Implications for Social Change in Practice

Increase in physical activity has been associated with positive behavioral and social transformations. For that reason, in the United States, community-based involvement is a key element to encouraging changes in behavior to increase physical activity among individuals (Kahn et al., 2002). If people increase their levels of exercise, there will be a positive impact to society in lower costs of medical care including (a) decreased primary provider visits and referrals to specialists, (b) decreased medical treatments, and (c) decreased need for rehabilitation. It likely will also cause less time off of work and less premature and overall disability (CDC, 2011).

Definitions of Terms

Aerobic activities: Aerobic activities include swimming, biking, roller skating, jumping rope, or running for 30 to 60 minutes three to four times per week. These aerobic exercises are good for enhancing heart and lung capacity. In order to reduce the risk of dying prematurely from cardiovascular disease (CVD), people must engage in the recommended regular physical exercise (Cash & Glass, 2014).

Moderate activity level in adults: The moderate activity level in adults is at least 30 minutes of physical activity on a regular basis at least three times per week. Those activities may include walking, gardening or working in the yard, climbing stairs, dancing, home exercise, or executing moderate-to-heavy household chores (American Heart Association, 2014).

Physical inactivity: Persons not carrying out the recommended level of physical exercise are referred to as having physical inactivity (American Heart Association, 2014).

Assumptions and Limitations

With respect to the limitations of this study, not all the potentially eligible subjects in the selected community were willing or able to participate. Only those persons included in the electronic medical record of the particular practice were considered. The first 25 participants meeting the physically inactive requirements were selected at random from the electronic medical record to partake in the project on a volunteer basis. Accordingly, the evaluation was only valid for persons who were more motivated and willing to participate in the program. The program was monitored over a 3-month period. Prolonged monitoring would be essential to corroborate that the participants are integrating the learned information into their daily routines. By prolonging the monitoring period, the participants may keep active in and committed to regular physical activity.

Summary

This project intends to communicate among the Hispanic patients at the Cano Center the importance of engaging into regular physical activity and how to make simple

changes. According the CDC (2012), the vision of the National Physical Activity Plan (the Plan) is that all people in the United States make changes in their living, working, and playing settings that will make it possible for them to partake in regular physical activity. This plan includes policies, programs, and proposals that target physical activity increase in the population. The plan is the result of a private-public sector cooperative effort. Hundreds of organizations are jointly producing changes in their communities through approaches that will allow every person to be physically active. The purpose of the plan is to produce a national culture that endorses physical activity as a way of life to improve health, prevent disease and disability, and improve quality of life. The plan is focused on proposals that have the objective of boosting physical activity.

The DNP project was focused on following the National Physical Activity Plan guidelines to intensify physical activity in a group of Hispanic patients in South Florida. Intensified physical activity was accomplished by implementing an educational intervention intended to increase the level of regular physical activity. The DNP project evaluated the program. In the next section, I will be presenting the specific and general literature and reviews supporting the project. I will discuss the importance of regular physical activity, the method selected to measure physical activity, and the selected conceptual model.

Section 2: Background and Context

There is a necessity of having more people taking on active lifestyles. According to the National Institutes of Health (2011), many people in the United States are inactive. Yet, even small engagements into physical activity are beneficial for health. The following literature review was focused on evidence that supported the DNP project, which aimed to evaluate an evidence-based educational strategy implemented to increase physical activity in a group of Hispanic patients in South Florida.

Literature Supporting the Project

The search period applied for this literature review was between the years 2002 to 2015 with the intention of obtaining the most recent data from the peer-reviewed literature involving articles. I accessed the Walden Library, Cochrane Library, and government Internet sites including the CDC (2015) and Healthy People 2020 (2015) and complementary reliable sources such as the American Heart Association (2015) and the WHO (2015). From this literature review, articles that did not have direct relationship with increasing patient adherence to and sustainability of exercise among Hispanic adults were excluded. Eight articles were selected pertaining to the project and its evaluation, and two articles related to the general literature covering (a) the most commonly used formats in a literature review, (b) the importance of engaging in regular physical activity, and (c) the best instruments to use for measuring physical activity levels.

Specific Literature

Literature review formats. According to Terry (2015), one of the most commonly used formats in a literature review is one that is structured around a central

concept. Applying this structure to my current literature review involved the evaluation of the most common obstacles that prevent the Hispanic population in South Florida from engaging in regular exercise as a form of prevention for cardiovascular disease or stroke. In the literature review, I presented the studies consistent with the instruments used to operationalize and measure the degree of physical inactivity and to determine the most common causes and consequences of this problem among the selected population.

In spite of the fact that there is the need of programs to educate patients concerning adopting healthy lifestyles, also is the need of an accurate assessment of the programs and their results. According to Lowenkamp (2009), one of the initial questions asked by authorities, stakeholders, program supervisors, and government representatives is the following: "Is the program functional?" They want to discern if the resources used on a particular program are producing the expected results and achieving the proposed objectives. Reflecting on the complexity of individuals and the variety of impulses influencing human behavior, investigators need an agenda for program evaluations (Lowenkamp, 2009). Successful assessment of primary prevention programs is critical to promote and support the change wanted by these programs. The most efficient method to determine the achievement of outcomes in a primary prevention program is in conducting a comprehensive investigation and evaluation of such a program (Lowenkamp et al., 2009).

Importance of Regular Physical Activity

In order to see the benefits of regular exercise certain levels of activity must be met. As reported by the CDC (2014), adults require moderate to intense aerobic activity

(i.e., brisk walking) for at least 2 hours and 30 minutes (150 minutes) weekly and 2 or more days weekly of performance of muscle-strengthening activities to exercise all major muscle groups (legs, hips, back, abdomen, chest, shoulders, and arms). According to Cash and Glass (2014), people should aim to exercise at least three times a week on nonconsecutive days. To achieve maximum cardiovascular results, the individual's target heart rate must be maintained for 20 to 30 minutes. There are four components of activity that must be included in a patients' exercise plan: (a) warming up for 10 to 20 minutes to raise the blood flow to the heart and decrease muscle tension; (b) stretching to ready the main muscles for exercise; (c) aerobic activity for 20 to 30 minutes; and (d) cool-down for 5 to 10 minutes to cool the body temperature and slowly reduce the heart rate and prevent lightheadedness, fatigue, and nausea (Cash & Glass, 2014).

Having an inactive lifestyle is widespread in the United States population and has become customary among adults. According to the CDC (2011), about 60% of people in the United States do not meet the recommended levels of physical activity. There are 10 key reasons why adults do not undertake more physically active lifestyles: (a) not enough time to exercise; (b) exercising is deemed inconvenient; (c) not motivated to engage in it; (d) do not find exercise entertaining, (e) exercise is considered boring; (f) no confidence in being physically active (low self-efficacy); (g) fearful of getting injured or was injured; (h) do not have self-management skills, such as establishing personal goals, evaluating improvement, or rewarding oneself for reaching those goals; (i) no encouragement and support from family and friends; and (j) no facilities, such as parks, sidewalks, biking trails, or safe and enjoyable walking pathways close to their home or workplace (CDC,

2011). However, to have a healthy life, it is imperative to participate in regular physical activity. Sedentary individuals have double the probability of getting coronary heart disease than people who engage in regular physical activity (Macera, 2010). Educating people about handling common barriers to physical activity and helping them to develop strategies to overcome the barriers can help patients include physical activity in their daily routines (Macera, 2010).

Measures of Physical Activity Levels

There are different methods of collecting data related to physical activity undertaken by the participants of this project. According to Hillsdon (2009), it is better to use log books, diaries, and interview-controlled questionnaires than to rely on self-completion of questionnaires. There is not a perfect way to measure physical activity; still, the best instruments to use for the purpose are (a) the Stanford 7-day recall; (b) the International Physical Activity Questionnaire (IPAQ) Long version; (c) the New Zealand Physical Activity Questionnaire (Short Form); and (e) the 7-day physical activity diary (Hillsdon, 2009). For this project, the IPAQ Long version was selected because it provided more detailed information about physical activity.

This method has received approval by international organizations and has been utilized in various centers and programs. As stated by Craig (2003), the International Physical Activity Questionnaire (IPAQ) was created as an instrument to monitor physical activity and inactivity across the nation. In the years 1997 and 1998, an International Consensus Group produced four long and four short forms of the IPAQ instruments. They were used in phone interviews or were self-administered, using two alternate

reference periods, either the “last 7 d” or a “usual week” of physical activity that the participants remembered (Craig, 2003). Later in 2000, 14 centers in 12 countries collected dependable and/or validity statistics on at least two of the eight IPAQ instruments (Craig, 2003). The test-retest reliability was evaluated during the same week. Simultaneous (intermethod) validity was examined during the same test administration, and the IPAQ validity measure was evaluated against the CSA (now MTI) accelerometer (Craig, 2003). Spearman’s correlation coefficients were provided. The IPAQ questionnaires generated data with repeatable outcomes (the Spearman’s correlations clustered around 0.8) with similar data from the short and long forms (Craig, 2003). The criterion validity had a median of about 0.30, equivalent to most other self-report validation studies (Craig, 2003). The “usual week” and “last 7 d” reference intervals acted similarly, and the reliability of phone administration was identical to the self-administered approach (Craig, 2003). The IPAQ instruments have adequate measurement properties and are minimally as trustworthy as other reputable self-reports. In view of the various samples in this study, IPAQ has sound measurement properties to monitor the physical activity levels in the 18- to 65-year-old adult population in different situations. The short IPAQ form “last 7 d recall” was suggested for national monitoring, and the long format is to be used when the data will be used for evaluation (Craig, 2003).

General Literature

Benefits of regular exercise. The benefits of engaging in regular activity are well documented with proven positive results to improve health and the quality of life of people of any age. According to Mayo Clinic staff (2015), in order to feel well, more

energetic, and live longer, people must not disregard the benefits of exercise and physical activity. The health benefits are available for the taking, irrespective of age, gender, or physical capacity. There are seven ways that exercise can improve health.

- Weight control: According to the CDC (2014), exercise helps to avoid weight gain and support weight loss. Calories are burned during physical activity; to burn more calories, there must be more intense activity. There is no need to spend lots of time to see the benefits of exercise for weight loss. Persons who find it difficult to do a workout can be active during the day by doing household tasks or walking up the stairs instead of using the elevator.
- Exercise can lead to fewer poor health conditions and diseases. According to Cassoobhoy (2014), exercise boosts high-density lipoprotein (HDL), or "good" cholesterol, and reduces unhealthy triglycerides. This “double whammy” maintains good blood circulation, which results in reduced risk of cardiovascular diseases. Regular physical activity can help avert health problems, such as stroke, metabolic syndrome, Type 2 diabetes, depression, and some types of cancer, arthritis, and falls (Cassoobhoy, 2014).
- Exercise fine tunes a person’s mood. The CDC (2014) confirmed that physical activity fires up several brain chemicals that can promote tranquility and a more contented feeling. It also improves a positive self-perception due to better appearance, which improves self-confidence.

- Exercise ignites energy levels. Regular physical activity, as stated by the CDC (2014), can increase muscle strength and promote endurance. Both exercise and physical activity enable the transport of oxygen and nutrients in the body and support the cardiovascular system to operate more efficiently. When the heart and lungs operate more efficiently, there is more energy available to carry out daily tasks.
- Exercise stimulates better sleep. According to the CDC (2014), regular physical activity can help people go to sleep faster and sleep more deeply.
- Exercise can stimulate sex life: According to the CDC (2014), most people feel energized and look better after engaging in regular physical activity producing a positive effect on their sex life. In addition, it can produce improved arousal in women. Men who participate in regular exercise are less likely to have erectile dysfunction problems than those who do not exercise.
- Exercise is something everyone can like. According to the CDC (2014), it can be a fun way to spend time because it allows people to relax, enjoy the outdoors, or just participate in activities that make people cheerful. Physical activity can also facilitate interaction with family members and friends socially. Mainly, through exercise and physical activity, people can feel better, obtain health benefits, and simply enjoy doing it. As an overall goal, everyone should seek to participate in at least 30 minutes of daily physical activity. If a person's desire is to lose weight, tone the body, or

achieve specific fitness goals, it might be necessary to add extra exercise time. It is important to verify with a health care provider that it is safe to exercise before beginning a new exercise program, especially if the person has been sedentary for a long time or is dealing with chronic health issues, such as heart disease, diabetes, or arthritis.

Research has demonstrated how several key body functions are sustained and improved through regular activity and exercise. According to the U.S. Department of Health and Human Services National Institutes of Health (2015), exercise helps to reduce the development of heart disease and keeps the bones healthy and strong. There was no corroborating data on how exercise increases immunity to certain diseases; however, scholars proposed the following:

- Physical activity may help remove bacteria from the lungs and airways and, therefore, could minimize the possibility of catching a cold, flu, or another airborne illness (U.S. Department of Health & Human Services National Institutes of Health, 2015).
- Exercise produces changes in antibodies and white blood cells that cause them to circulate faster and, as a result, these antibodies could identify illnesses earlier (U.S. Department of Health & Human Services National Institutes of Health, 2015).
- The brief increase in body temperature during and after exercise may avert bacteria growth and help the body to battle infection more effectively

(U.S. Department of Health & Human Services National Institutes of Health, 2015).

- Exercise reduces the liberation of stress-related hormones, which are known to increase the possibility of illness and lower stress hormones that could shield against illness (U.S. Department of Health & Human Services National Institutes of Health, 2015).

People do not have to engage in an extensive exercise routine; they can adopt moderate regular exercise and see results within a brief period of time. According to the U.S. Department of Health and Human Services National Institutes of Health (2015), individuals who switch from a sedentary way of life to a moderately active one get the most benefit when beginning an exercise program. A moderate exercise routine might involve (a) biking with the children a few times weekly, (b) walking for 20 to 30 minutes daily, (c) going to the gym on alternate days, and (d) playing golf regularly.

Conceptual Model

A nursing conceptual model was chosen to validate the favorable impact of nursing professionals in guiding or leading inactive patients towards adopting a healthier lifestyle. According to Johnson and Henderson (2013), the use of a conceptual model helps to define the explanatory concept that justifies the work and helps as a guide to carry out the proposed project. A conceptual model provided a frame of reference for practice and practice change. The use of a nursing conceptual model helped to identify the contribution of nursing professionals to health care services as a part of a multidisciplinary team.

After exploring different models, I considered the health belief model (HBM) a suitable model to guide my project (see Figure 1). The HBM was a good model to tackle problematic behaviors that produced health concerns. This model is the most frequently used in health education and related initiatives (Glanz et al., 2002).

According to the HBM, individuals are mostly rational in their thoughts and actions and are more likely to choose the best health supporting action if they (a) feel threat of contracting an illness or condition and the potential medical consequences, (b) maintain a positive expectation that engaging in the recommended action would help tackle the problem, and (c) have a solid conviction of being able to take the suggested action (Gristwood, 2011).

Logic models are vital to represent theories of change and help delineate a series of undertakings deemed important to produce such change and how they are associated to the project outcomes. According to University of Missouri (2008), logic models are generally a graphic representation of the logical connections involving the resources, activities, yields, and results of a program. The logic model developed by the University of Wisconsin in 1997 provided the conceptual framework for the evaluation of the program (see Figure 2). The logic model is a tool used by programs' financial sponsors, administrators, and assessors to appraise the efficiency of a program (University of Missouri, 2008). I followed the steps of the logic model in the evaluation, and its application is described further in Section 3.

Summary

The collection of data was only one aspect of corroborating the evidence. According to the American Nurses Association (ANA, 2015), after evidence is obtained, it is essential to assess its level of evidence and quality. There are various scales that may include three levels, and in some cases up to seven levels, for identifying levels of evidence. The levels of evidence for the supporting literature in this review were (a) Level I: Systematic Reviews (Integrative/Meta-analyses/Clinical Practice Guidelines based on systematic reviews); three of the selected articles were Level I evidence; and (b) Level VI: Opinions of Respected Authorities/Consensus Panels; seven of the selected articles were Level IV evidence. As a result of the combined level and strength of the evidence, I expected that the education intervention would be successful when evaluated for this DNP project. In the next section, I will be covering the project's design and methods, the population and sampling, the data collection process, the data analysis, and the evaluation plan.

Section 3: Collection and Analysis of Evidence

Among the advantages of nurses and other health professionals employing EBP is the resultant higher quality of care and enhanced patient outcomes. EBP integrates the latest research evidence that is accessible to those who deliver health care services (Prior, Wilkinson, & Neville, 2010). The purpose of the DNP project was to evaluate an evidence-based educational strategy implemented to increase physical activity in a group of Hispanic patients in South Florida. This section of the paper covers the proposal design and methods to achieve the project purpose.

Project Design/Methods

This project was a program evaluation that used both qualitative and quantitative data collection and analysis. In the project, I evaluated an education intervention presented through modules that the participants were directed to access online at the CDC (2014) under the title Physical Activity Guidelines for Americans. The modules were presented only in English, which was a challenge for those patients with low English language proficiency, but the material could be downloaded, printed, and translated by certified experts to clarify any doubt that could arise. The site included information on (a) how much physical activity adults need for important health benefits, (b) the importance of aerobic activity, (c) the significance of muscle strengthening activities, and (d) recommendations for physical activity in disabled persons. In collaboration with my preceptor, I conducted the interviews of patients and staff in English and Spanish languages depending on the preference of the interviewees. Both my preceptor and I could speak both languages fluently.

The project design included performing an evaluation of various parts of the program which included (a) a qualitative review of staff and patient interview answers; (b) pre and post intervention data on exercise, (c) the number of patients recruited, (d) the number of patients completing the pretest, (e) the number of patients completing the modules, and (f) the number of patients completing the posttest. The methods of data collection are described in detail later in this section of the paper.

Population and Sampling

Subjects were identified through the electronic medical records and were asked to participate in the project. The sample included physically inactive males or females who were at least 18 years of age, but less than 65 years of age, who were willing to participate in the project and signed the consent form. Excluded from this project were patients who were less than 18 years of age and older than 65 years of age, those who had not been identified as physically inactive, or those who did not agree to participate in this study. Additionally, only 25 patients were included in the project.

Data Collection (Instrument and Protection of Human Subjects)

First, the proposal was submitted to the Walden University Institutional Review Board (IRB) for its consideration and approval (approval number 02-05-16-0450387) in order to perform the evaluation of the project data. Only the evaluation of the project data was included in the DNP project. The recruiting of participant patients, the educational intervention, and the pretest and posttest took place exclusively as part of my practicum under the direction of my preceptor. After completing the project, I analyzed the data; the interpretation of data was produced in collaboration with staff in order to prevent

assumptions and to facilitate objective monitoring to validate transparency in the outcomes. A data report included the results of the evaluation. The results were communicated to staff, participants, and contributors. Corrections or changes to the project were recommended, as needed, for future implementation at the clinical site and elsewhere.

Recruiting patients to participate in this project occurred outside of the DNP project. Following human subjects guidelines, the potential participants were informed about the procedures to be carried out, as well as the possible risks and benefits of participating in the study. The individuals had the option of participating or not. A written consent form was received from each participant, and the corresponding starting date was recorded.

To initiate participation in the project, the participants were requested to complete a valid and reliable instrument, the IPAQ Long Version. Immediately after that, they participated in the educational intervention concerning the importance of engaging in regular physical activity and tactics to resolve the most common barriers identified through the literature review. Finally, 8 weeks later, the IPAQ Long Version instrument was filled out again. To guarantee that each pre and postintervention questionnaire was anonymous, it was deposited in a sealed envelope that made it impossible to identify the participants once the project concluded. No patient identifiers or other individually identifiable data were collected.

I applied ethical principles to protect the human rights of the participants. At all times, the data collected were maintained under strict confidentiality. The anonymity of

the whole group was guaranteed by making reference to no individual patients in the final DNP paper or any subsequent papers. The information submitted on the questionnaires was only seen by me. The questionnaires was kept safely locked in an office in a locked file cabinet and will be destroyed in a paper shredder 5 years after concluding the project. The participants were not identifiable once the study concluded. However, the names of the participants were made known to the office manager so that we could send the post questionnaire 8 weeks after the educational intervention.

The current project presented minimal risks to the subjects. I was paying attention all the time to reduce any type of uneasiness, tension, or any feeling that privacy was being invaded during the project. A potential benefit was that the participants would increase their knowledge level related to the benefits of partaking in regular physical activity, which may lead them to identify the risks of a sedentary lifestyle and embrace healthier options that would allow them to obtain greater health-related benefits.

Data Analysis

After the project was implemented at the project site, I began the analysis of the data collected at the site for the evaluation of the project. According to InSites (2007), the qualitative analysis of the interview included rereading the answers emphasizing information, forming the themes found in the data, and depicting links between distinct portions of data. I organized the data for analysis question by question and by analyzing the whole interview for common themes, categories, and patterns. That approach made it easier for data analysis. The interviews were done as a part of my practicum hours. The participants for the interview were staff and a sample of patient participants in the project

at my practicum site. I provided a short, open-ended interview guide for these in-person questions to gather information for the evaluation of project outcomes. A copy of the interview that was used can be found in Appendix A. In addition, several tables were created to present statistics (counts and percentages) of the questionnaire responses. Next, I compared the pretest and posttest results. A copy of the questionnaire is available in Appendix B.

Project Evaluation Plan

As part of this project, the implemented evaluation plan helped monitor timelines, very processes and assess the results throughout all the project activities. As elucidated in Hodges and Videto (2011), to determine the project evaluation plan, there are several options to consider. The formative evaluation option takes place during the planning or implementation phase; the researchers pay attention to the testing of program plans, messages, materials, procedures, and adjustments of existing programs prior to the implementation in order to corroborate the viability, suitability, and adequacy of their usage in the program considering the target population (Hodges & Videto, 2011). The summative evaluation is administered to determine if a program functioned as intended (author, year). The researchers emphasize whether or not the program created its projected results, instead of simply supplying information to improve the program. The process evaluation helps to define, monitor, and authenticate the organizational and program-related elements to improve the program efficiency; it supports the maintenance of the program, shows if theories and models are being used properly, facilitates the explanation of the reasons for the attainment or nonattainment of goals and objectives,

and makes possible suitable decision making related to the program and its components (Hodges & Videto, 2011). In the impact evaluation option, scholars measure the extent to which the projected short-term modifications were produced by the program in the target population (Hodges & Videto, 2011). This type of evaluation can also measure the attainment of the programs goals and objectives. It considers the improvements due to behavioral, environmental, predisposing, reinforcing, and supporting factors. The outcome evaluation is used to detect whether the program's long-term goals were achieved (Hodges & Videto, 2011). It measures modifications in health condition or indices in the quality of life. It is also essential to measure any unplanned outcomes that take place resulting from the program and the program's effect on related organizations and institutions.

The deliverables of the project were the process and impact evaluations. In the evaluations, I looked at each of the following steps of an evaluation to determine project impact and areas for improvement.

- Step 1 comprised the engagement of identified stakeholders, including (a) local organizations/community leaders; (b) people living at the surrounding area; and (c) administration, providers, and staff of my practicum site. Stakeholders were committed to the program and were interested in the outcomes of the evaluation and/or had participation in the evaluation. The value of the project was described to stakeholders, with the corresponding follow-up and updates, as needed to maintain the project and its continuity.

- Step 2 involved the description of the program's objectives, purposes for presenting the recommended changes, and the results of the program. As presented in Figure 2*,* a logic model was created.
- Step 3 included the conceptualization of the evaluation. The patients were identified for the evaluation; others interviewed included the office manager, medical assistants, nurse practitioners, and physicians. The purpose of the evaluation was determined in this step.
- Step 4 included the design of a step-by-step method to collect the data. That helped to avoid needless methods and, therefore, facilitated the timely completion of the project.
- Step 5 included the selection and testing of the instruments and processes to gather information from the questions used during the evaluation, including where to get information, cost considerations to get such information, and help for the participants with the survey if necessary.
- Step 6 was the collection of the data.
- Step 7 included the analysis of the data; data were interpreted with the participation of staff to avoid presuppositions and were objectively monitored to ensure clarity in the results. The final report of the data included all resulting findings of the evaluation. Staff, participants, and stakeholders were included in the communication of the findings.
- Step 8 was to recommend necessary corrections or modifications of the project.

- Step 9 will be the continued evaluation by the organization to determine if the program is sustainable and something that the clinic wishes to continue. The process and impact evaluations of the project, which are the DNP project deliverables, reflect Steps 7 and 8 of the project. Data were collected by the clinic and analyzed by me for the project executive summary report and the final DNP paper. The executive summary of the findings and the recommendations can be found in Section 5.

Summary

By engaging in regular exercise adults can support their health and deter illnesses. According to the Harvard College School of Public Health (2015), regular exercise or physical activity supports and improves the functions of various body systems; it keeps heart disease, diabetes, and many other diseases at bay and is a key element in losing weight. Opposite to the benefits regular physical activity produces in the body, a sedentary way of life increases the probabilities of overweight- and obesity-related health problems and becoming vulnerable to chronic diseases.

Physical activity has become one of the main topics of interest, especially when considering the prevalence of nontransmissible chronic diseases. According to WHO (2015), by 2020 nontransmissible diseases will be the cause of more than 70% of the burden of morbidity worldwide. That is why I selected a capstone project to evaluate whether an educational intervention to promote and reinforce physical activity could help to eradicate sedentary lifestyle. From this perspective, the objectives were focused on involving all the community actors and sectors to support promotional programs, create

the required spaces and needed conditions, and advise the population to execute physical activities that produce the expected physiological and psychological health supporting effects. The results of the project provided insights for recommendations to health care providers and policy makers in relation to how to implement positive changes in the lifestyle of individuals within communities by engaging them in regular physical activity. In the next section I will be covering the evaluation of findings, the implication of these findings and the strengths and limitations of the project.

Section 4: Findings and Recommendations

The purpose of this project was to evaluate an evidence-based education intervention to increase exercise among Hispanic adult patients of a South Florida clinic practice, thereby supporting the need for increased levels of physical activity in the selected population. I documented program development and activities to guarantee successful replication and to enhance the implementation and effectiveness of the program through the adoption of recommendations based on the evaluation results. The findings of this project are divided between IPAQ results and interview results. Regarding IPAQ results (see Table 52), I found that for domains work, active transportation, domestic and garden, and leisure time, the intervention mostly contributed to an increase the participants' scores in the posttest. In relation to the interview results, I found that all participants were satisfied with the education presented in modules and not many health care providers carried out the required assessments on patients or did not explain clearly the needed actions to undertake in order to raise the amount of physical activity. I also found a lack of motivational strategies and emotional support to generate a positive effect in the number of patients involved and committed to exercise, and I found that the program was shown to be cost-effective.

Evaluation/Findings and Discussion

IPAQ Results

In order to evaluate the changes resulting from the intervention, the International Physical Activity Questionnaire (IPAQ)-Long Form was administered two times. The IPAQ was answered by 25 people on the first (pretest) and a second occasion (posttest)

prior to and after the intervention. The results of both administrations were tabulated and analyzed using the Statistical Package for the Social Sciences (SPSS) program. The descriptive statistical analysis (frequencies, percentage) were performed. The median of the weekly minutes for each IPAQ domain (work domain, active transportation domain, domestic and garden domain, and leisure domain) was calculated. The descriptive results were calculated for each time (pretest and posttest) and the median of each IPAQ domain: work domain, active transportation domain, domestic and garden domain, and leisure domain. The median of each domain was calculated according to the processing guidelines for the IPAQ (2005) data analysis.

Pretest Results

For each of the domains (work, active transportation, domestic and garden, and leisure domain), the median of the physical activities (walking, moderate physical activity, and vigorous physical activity) was calculated in minutes. The guidelines for the procedures and analysis of the IPAQ data (2005) established the parameters to calculate the individual median for each of the domains and the summation of the medians to obtain the total median for the domain.

Work domain. For the work domain, the physical activity of the participants was investigated related to work linked to paid jobs, farming, volunteer work, course work, and nonpaid jobs outside of the home. The participants were asked about the time and number of days each week dedicated to vigorous physical activity, moderate physical activity, and walking during the last 7 days. The results of the days are shown in Table 1. As shown in this table, many of the participants (n = 7) did not perform vigorous physical

activity; they mostly performed moderate physical activity (n = 15) between 2 and 5 days a week and walked 5 days or more (n = 13) a week. The results of the time devoted to each of these activities are shown in Figure 3. Six participants reported that they carried out 60 minutes of moderate physical activity, and another six participants indicated that they walked for 60 minutes. On the other hand, six participants mentioned that they did not perform any vigorous physical activity, and another six participants performed vigorous physical activity for more than 150 minutes a day.

For the work domain, the medians of each physical activity were calculated (walking, moderate physical activity, and vigorous physical activity). The most frequent median of the minutes per week dedicated to walking related to work was equal to 990 (n = 4) (see Table 2). The most frequent median of the minutes per week dedicated to moderate physical activity related to work was equal to 1440 (n = 5) (see Table 3). The most frequent median of the minutes per week dedicated to vigorous physical activity related to work was equal to 0 (n = 7) (see Table 4). The total of the medians of physical activity in the work domain is presented in Table 5.

Active transportation domain. For the active transportation domain, the physical activity of the participants linked to the transportation was examined. Transportation included travel from a place to another such as work, going shopping, to the movies, and so on. The participants were asked the amount of time and the number of days they dedicated for transportation activities, such as using a motor vehicle, bicycling, and walking during the last 7 days. As shown in Table 6, the majority of the participants (n = 14) traveled in a motor vehicle 7 days of the week; they did not transport by

bicycling (n = 17), and they walked 5 days (n = 5) or 7 days (n = 5) a week. The results of the time devoted to transportation is shown in Figure 4. Five of the participants reported that they traveled for 120 minutes in a motor vehicle, and another five participants indicated that they traveled in a motor vehicle for more than 150 minutes. On the other hand, five participants mentioned that they walked 30 minutes, and another five participants walked for 50 minutes a day.

For the active transportation domain, the median of each physical activity, walking and cycling, was calculated. The most frequent median of the minutes per week dedicated to walking linked to transportation was equal to 0 (n = 4) (see Table 7). The most frequent median of the minutes per week dedicated to cycling linked to transportation was equal to 0 (n = 17) (see Table 8). The total of the medians for the physical activity in the active transportation domain are presented in Table 9.

Domestic and garden (yard work) domain. For the domesticand garden (yard work) domain, the physical activity of the participants linked to domestic and gardening was investigated. They were asked the amount of time and days dedicated to those activities during the last 7 days. The results of the days are shown in Table 10. The most frequent participation in vigorous physical activity in the yard was 1 day (n = 6) to 2 days (n = 6) per week. Other participants performed moderate physical activity in the yard 1 day (n = 7) to 2 days (n = 7) per week. Regarding moderate physical activity inside the house, the most frequent participation was (n = 7) 1 day a week. The results of the time devoted to each of these activities are shown in Figure 5. Six participants reported that they performed moderate physical activity in the yard 60 minutes, and another four

participants indicated that they performed vigorous physical activity in the yard for 60 minutes. On the other hand, four participants mentioned that they performed moderate physical activity inside the house 120 minutes per day.

For the domestic and garden(yard work) domain, the medians of each activity were calculated: vigorous physical activity in the yard and moderate physical activity in the yard and moderate physical activity inside the house. The most frequent median of the minutes per week dedicated to vigorous physical activity in the yard was equal to 0 (n = 5) (see Table 11). The most frequent median of the minutes per week dedicated to moderate physical activity in the yard was equal to 240 (n = 4) (see Table 12). The most frequent median of the minutes per week dedicated to moderate physical activity performed inside the house was equal to 0 (n = 4) (see Table 13). The total of the medians for the physical activity in the domestic and garden (yard work) domain is presented in Table 14.

Leisure time domain. For the leisure time domain, the physical activity of the participants linked to recreation, sports, exercises, or leisure was assessed. The participants were asked about the time and number of days each week dedicated to walking, vigorous activity (aerobics, running, and swimming), and moderate activities (such as running, cycling, swimming, playing tennis at a regular pace) during the last 7 days. The results of the days designated to those activities are shown in Table 15. During leisure the majority of participants (n = 6) walked 1 day; they did not walk (n = 5); they did vigorous physical activity (n = 4) 1 day, and they did moderate physical activity (n = 4) 1 day a week. The results of the time devoted to activities during the leisure are shown

in Figure 6. Four of the participants reported that they performed moderate physical activity 60 minutes; another four participants indicated that they performed moderate physical 30 minutes. On the other hand, three participants mentioned that they performed vigorous physical activity 60 minutes, and another nine participants declared that they walked between 20 to 40 minutes a day.

For the leisure time domain, the medians of each activity were calculated: walking, moderate physical activity, and vigorous physical activity. The most frequent median of the minutes per week dedicated to walking during leisure time was equal to 0 (n = 5) (see Table 16). The most frequent median of the minutes per week dedicated to moderate physical activity during leisure time was equal to 0 (n = 6) (see Table 17). The most frequent median of the minutes per week dedicated to vigorous physical activity during leisure time was equal to 0 (n = 6) (see Table 18). The total of the medians for the physical activity in the leisure time domain is presented in Table 19.

Total scores for all walking and moderateand vigorous physical activities. I calculated the total scores for the physical activities of walking, moderate physical activity and vigorous physical activity. For that purpose, the sum was made of the medians of weekly minutes of the work, transportation, and leisure time domains. The results are shown in Table 20; Table 21; Table 22; and Table 23.

Total physical activity scores. The total scores for the physical activities were calculated. For that purpose, the total median of the work, transportation, domestic shores and gardening, and leisure time were added. The results are shown in Table 24.

Summary of sitting variables. Finally, the time in weekly minutes, including

daily and weekends, that people spent seating was calculated. The results are presented in Table 25. Likewise, the average of the total minutes a person spent daily seating was calculated; and the results are shown in Table 26.

Posttest Results

In this section, I present the results of the posttests. For each of the domains (work, active transportation, domestic and garden, and leisure domain), the median of the physical activities (walking, moderate physical activity, and vigorous physical activity) was calculated in minutes and the summation of the medians to obtain the total median for the domain.

Work domain. For the work domain, the physical activity linked to work of paid jobs, farming, volunteer work, course work, and nonpaid jobs outside of the home was calculated. The participants were asked about the time and number of days each week dedicated to vigorous physical activity, moderate physical activity, and walking during the last 7 days. The results of the days are shown in Table 27. As shown in this table, many of the participants (n = 8) performed vigorous physical activity 5 days a week as a part of their job; others (n = 7) performed vigorous activity 3 days; they mostly performed moderate physical activity (n = 12) 5 days and walked (n = 9) 6 days a week. The results of the time devoted to each of these activities are shown in Figure 7. Six of the participants reported that they carried out 150 minutes of vigorous physical activity as a part of their job, and another five participants indicated that they performed vigorous physical activity for 90 minutes. On the other hand, six participants mentioned that they performed moderate physical activity 120 minutes, and another six reported that they

walked 150 minutes a day.

For the work domain, the median of each physical activity was calculated: walking, moderate and vigorous. The most frequent median of the minutes per week dedicated to walking related to work was equal to 990 (n = 3) (see Table 28). The most frequent median of the minutes per week dedicated to moderate physical activity related to work was equal to 2400 (n = 5) (see Table 29). The most frequent median of the minutes per week dedicated to vigorous physical activity related to work was equal to 2160 (n = 3) (see Table 30). The total of the medians of physical activity in the work domain in the posttest is presented in Table 31.

Active transportation domain. For the active transportation domain, the physical activity of the participants linked to the transportation was examined. Transportation included travel from a place to another such as work, going shopping, to o the movies, and so on. The participants were asked the amount of time and the number of days they dedicated for transportation activities, such as using a motor vehicle, bicycling, and walking during the last 7 days. As shown in Table 32, many of the participants (n = 19) traveled in a motor vehicle 7 days a week; they did not move in bicycle (n = 15), and they walked (n = 8) 5 days or walked (n = 6) 7 days a week. The results of the time designated to transportation, is shown in Figure 8. Nine of the participants reported that they walked for 60 minutes getting from one place to another. Fourteen participants indicated that they did not use a bicycle, and five participants mentioned that they used motor vehicles during 120 minutes a day.

For the active transportation domain, the medians of each physical activity (walking and cycling) was calculated. According to Math Goodies (2015), if there is an even number of items in the data set, then the median is found by taking the mean (average) of the two middlemost numbers. This way, the most frequent median of the minutes per week dedicated to walking linked to transportation was equal to 792 (n = 4) (see Table 33). The most frequent median of the minutes per week dedicated to cycling linked to transportation was equal to 0 (n = 15) (see Table 34). The total of the medians of physical activity in the active transportation domain is presented in Table 35.

Domestic and garden (yard work) domain. For the domestic and garden (yard work) domain, the physical activity of the participants linked to domestic and gardening was investigated. They were asked the amount of time and days dedicated to those activities during the last 7 days. The results of the days are shown in Table 36. Many of the participants (n = 8) performed vigorous physical activity in the yard 2 days; they (n = 6) performed vigorous physical activity in the yard 1 day. Others (n = 5) performed moderate physical activity inside the house 1 to 3 days. The results of the time dedicated to physical activity in the yard or inside the house are shown in Figure 9. Eight participants reported that they performed 60 minutes of moderate physical activity in the yard, and another seven participants indicated that they performed 60 minutes of moderate physical activity inside the house. On the other hand, six participants mentioned that they performed 60 minutes of vigorous physical activity in the yard per day.

For the domestic and garden (yard work) domain, the medians of each physical activity was calculated: moderate and vigorous chores in the yard and moderate tasks

inside the house. The most frequent median of the minutes per week dedicated to vigorous physical activity in the yard was equal to 0 (n = 6) (see Table 37). The most frequent median of the minutes per week dedicated to moderate physical activity in the yard was equal to 720 (n = 4) (see Table 38). The most frequent median of the minutes dedicated to moderate physical activity inside the house was equal to 360 (n = 8) (see Table 39). The total of the medians of physical activity in the domestic and garden (yard work) domain is presented in Table 40.

Leisure time domain. For the leisure time domain, the physical activity of the participants linked to recreation, sports, exercises, or leisure was assessed. The participants were asked about the time and number of days each week dedicated to walking, vigorous activity (aerobics, running, and swimming), and moderate activities (such as running, cycling, swimming, playing tennis at a regular pace) during the last 7 days. The results of the days designated to those activities are shown in Table 41. Many of participants (n = 6) walked 2 days a week during their leisure. Others (n = 7) performed vigorous physical activity 3 days. On the other hand, others (n = 7) performed moderate physical activity 4 days a week. The results of the time devoted to activities during the leisure are shown in Figure 10. Seven participants reported that they walked for 30 minutes, and six indicated that they walked for 60 minutes. On the other hand, five participants mentioned that they performed 60 minutes of vigorous physical activity, while five participants reported that they performed 120 minutes of vigorous physical activity during leisure. Alternatively five participants indicated that they performed 40 minutes of moderate physical activity during leisure per day.

For the leisure time domain the median of each physical activity was calculated: walking, vigorous physical activities and moderate physical activities. The most frequent median of the minutes dedicated to walking during leisure time was equal to 396 (n = 4) (see Table 42). The most frequent median of the minutes dedicated to moderate physical activity during leisure time was equal to 0 (n = 4) (see Table 43). According to Math Goodies (2015), if there is an even number of items in the data set, then the median is found by taking the mean (average) of the two middlemost numbers. This way, the most frequent median of the minutes dedicated to vigorous physical activity during leisure time was equal to 1920 (n = 3) (see Table 44). The total of the medians of physical activity in the leisure time domain is presented in Table 45.

Total scores for all walking, moderate and vigorous physical activities. I calculated the total scores for the physical activities of walking, moderate physical activity and vigorous physical activity in the posttest. For that purpose, the sum was made of the medians of the minutes per week of the work, transportation and leisure time domains. The results are shown in Table 46; Table 47; and Table 48.

Total physical activity scores. The total scores for the physical activity in the posttest were calculated. For that purpose, the total median of the work, transportation, domestic shores and gardening, and leisure time were added. The results are shown in Table 49.

Summary of sitting variables. Finally, the time in weekly minutes, including daily and weekends, that people spent seating was calculated. The results are presented in Table 50. Likewise, the average of the total minutes a person spent daily seating was

calculated; and the results are shown in Table 51.

Comparison of the Pretest and Posttest Results

Changes were seen in the numbers reported pretest to posttest. As shown in table 52, for domains work, active transportation, domestic and garden, and leisure time, the intervention mostly contributed to increase the participants' scores in the posttest. More analysis and data collection would be necessary to determine the clinical significance of these findings for patients. For example, we might need to know whether weight was lost, if quality of life (QOL) measures changed, if results were better for men or for women, etc. Also, we need to verify the effectiveness of this intervention through its application in a different clinical scenario including communities, worksites, and universities. These would be ideas for recommendations to consider for future work in this area.

Interview Results

After organizing the data for analysis question by question (see Appendix A) and analyzing the entire interview results for common themes, categories, and patterns, the following findings were obtained: Regarding question #1, most of the participants had a clear definition of the term *regular physical activity*. The finding demonstrated that the participants understood the program implications. Regarding question #2, most of the participants interviewed agreed that they still have insufficient levels of regular physical activity, which could be improved by implementing actions related to applying what they learned from the program. Regarding question #3, most of the participants concurred that regular physical activity provides more energy, makes then look better and feel better, promotes a better quality of sleep, and helps them to be more productive at home and at

work. These findings confirm the need for the program implementation. Regarding question #4, participants verified that not many healthcare providers carry out the required assessments on patients or explain clearly the needed actions to undertake in order to increase physical activity. Regarding question #5, most of participants concurred that selecting enjoyable activities that can be carried out habitually and adding them to the daily routine can be a simple way of raising their engagement into regular physical activity. Regarding question #6, every participant agreed that these educational modules accessed online at the CDC (2014) under the title Physical Activity Guidelines for Americans; presented good information regarding the benefits of physical activity and ways of incorporating it to the person's regular routine. Regarding question #7, all participants were satisfied with the education presented in modules. Regarding question #8, consensus was that the idea of developing motivational strategies and emotional support would generate a positive effect on the number of those committed to exercise. Regarding question #9, a common theme was that this program was cost-effective.

Implications

The conclusions resulting from this program's findings were shared and discussed with my preceptor, the Cano Health Center administrator, health care providers, and other employees of the center. In relation to the challenge of lacking enough healthcare providers completing the necessary evaluations on patients or not clearly explaining to patients the desirable activities to engage in so as to increase physical activity, they concurred that to achieve optimal outcomes, there must be specific guidelines concerning exercise, including the type of exercise, rate of repetition,

intensity, and progression (considering patients' medical situation) and having an on-going dialogue with the patients during regular monitoring. With respect to using strategies to encourage patients, they concurred that providing patients with emotional support when they face unexpected situations and encouraging social support, such as a partner system while executing their exercise, should increase the number of patients committed to exercise. In addition, they also recognize the importance of promoting programs such as the one trialed because of its cost-effectiveness; they affirmed that considerable health benefits can be acquired through the establishment of this program with a minimal investment.

Strength and Limitations of the Project

The strengths of the project are: (1) We could count on the cooperation of healthcare providers, staff, administrator, and patients at Cano Health Center; (2) This program required a minimal investment; (3) This program had a positive acceptance among the target population; (4) This program had the potential to modify lifestyles and improve the health of participants.

The limitations of the project were: (1) The sample size of the study was small (only 25 participants); and (2) The short time between pretest and posttest (only 8 weeks); future studies should be conducted to include measuring impact on knowledge and attitude and waiting at least 3 months after the intervention before the posttest to give time for people to process and practice behavior the modification.

Summary

Given that sedentary lifestyle is predominant among the Hispanic population, incorporating regular physical activity into their daily routine is one approach that can help prevent chronic diseases, functional limitations and disability. The results obtained from this research prove the effectiveness of this method to increase physical activity. In addition, the intervention improved patients' knowledge about exercise, and boosted their confidence in their ability to exercise. This study also discovered that those who received more frequent support were more active than those who received less frequent support. On the other hand, it was confirmed the need to provide good assessment and clear explanations to patients regarding frequency, duration, and intensity of exercise. Further evaluation of this research finding would be a suggestion for future research in this area.

Section 5: Dissemination Plan

In this section, I will be covering a scholarly product of the project, which is an executive summary of the exercise program evaluation, including recommendations for the future. In addition, I will be resuming my personal and professional growth through the development of this research. I will also be explaining my plan to disseminate the research findings and make them available to health-care decision makers, including planners, administrators and providers.

Executive Summary of the Project

The purpose of this project was to evaluate an evidence-based educational intervention to increase exercise among Hispanic adult patients of a South Florida clinic practice. According to Stevens (2013), the outcomes of evidence-based practice (EBP) are highly regarded in nursing practice, nursing education, and nursing science. The mandate for evidence-based quality improvement and healthcare modifications emphasizes the need for bettering care to make it safe and effective. In line with numerous guidance-setting recommendations from national experts, nurses have responded by starting programs that make the most of EBP contributions achieved by nurses that can produce results and fully execute the potential of EBP.

The educational intervention was based on the policy and environmental approaches of the CDC (2015), Division of Nutrition, Physical Activity, and Obesity (DNPAO) to establish easily accessible and inexpensive active living for everybody. In addition, the project abided by the World Health Organization's (WHO, 2015) "Recommendations on Physical Activity for Health" with the general purpose of using

national- and regional-level policy direction on the exercise dose-response connection, which includes the required frequency, duration, intensity, type, and overall physical activity necessary to prevent noncommunicable diseases (NCDs).

The search period applied for this literature review was between the years 2002 to 2015 with the intention of obtaining the most recent data from the peer-reviewed literature involving articles. I accessed theWalden Library, Cochrane Library, and government Internet sites including the CDC (2015) and Healthy People 2020 (2015) and complementary reliable sources such as the American Heart Association (2015) and the WHO (2015).

After exploring different models, I considered the health belief model (HBM) a suitable model to guide my project (see Figure 1). The HBM was a good model to tackle problematic behaviors that produced health concerns. This model is the most frequently used in health education and related initiatives (Glanz et al., 2002).

The project design included performing an evaluation of various parts of the program which included (a) a qualitative review of staff and patient interview answers; (b) pre and post intervention data on exercise, (c) the number of patients recruited, (d) the number of patients completing the pretest, (e) the number of patients completing the modules, and (f) the number of patients completing the posttest.

After, the current proposal was submitted to the Walden University Institutional Review Board (IRB) for its consideration and approved (approval number 02-05-16-0450387); I began the evaluation of the project data. Only the evaluation of the project data was included in the DNP project. The recruiting of participant patients, the

educational intervention, the pretest and posttest and the interview took place exclusively as part of my practicum under the direction of my preceptor. The findings of this project are divided between International Physical Activity Questionnaire (IPAQ)-Long Form (IPAQ) results and interview results.

Regarding (IPAQ) (see Appendix B), it was administered two times. It was answered by 25 people on the first (pretest) and a second occasion (posttest), prior to and after the intervention. The results of both administrations were tabulated and analyzed using the Statistical Package for the Social Sciences (SPSS) program.

The descriptive statistical analysis (frequencies, percentage) were performed. The median of the weekly minutes for each IPAQ domain (work domain, active transportation domain, domestic and garden domain, and leisure domain) was calculated. The descriptive results were calculated for each time (pretest and posttest) and the median of each IPAQ domain: work domain, active transportation domain, domestic and garden domain, and leisure domain. The median of each domain was calculated according to the processing guidelines for the IPAQ (2005) data analysis.

Changes were seen in the numbers reported pretest to posttest. As shown in table 52, for domains work, active transportation, domestic and garden, and leisure time, the intervention mostly contributed to increase the participants' scores in the posttest. More analysis and data collection would be necessary to determine the clinical significance of these findings for patients.

Regarding interview (see Appendix A), after organizing the data for analysis question by question and analyzing the entire interview results for common themes,

categories, and patterns, it was found that most of the participants had a clear definition of the term *regular physical activity*. Most of them understood the program implications, but refer still have insufficient levels of regular physical activity, which could be improved by implementing actions related to applying what they learned from the program. They also concurred that regular physical activity provides more energy, makes then look better and feel better, promotes a better quality of sleep, and helps them to be more productive at home and at work. These findings confirm the need for the program implementation. On the other hand, participants verified that not many healthcare providers carry out the required assessments on patients or clearly explain the needed actions to undertake in order to increase physical activity. Most of participants concurred that by selecting enjoyable activities that can be carried out habitually and adding them to the daily routine can be a simple way of raising their engagement into regular physical activity. Every participant agreed that these educational modules accessed online at the CDC (2014) under the title Physical Activity Guidelines for Americans; presented good information regarding the benefits of physical activity and ways of incorporating it to the person's regular routine. All participants were satisfied with the education presented in modules. Consensus was that the idea of developing motivational strategies and emotional support would generate a positive effect on the number of those committed to exercise. A common theme was that this program was cost-effective.

The concluding program's findings were discussed with my preceptor, the Cano Health Center administrator, health care providers, and other employees of the center. Regarding the challenge of not having enough healthcare providers carrying out the

needed patients' evaluations or not educating patients about the desired activities to perform in order to increase physical activity, they concurred that in order to attain optimal results there must be specific recommendations regarding exercise, including the type of exercise, rate of repetition, intensity, and progression (taking into account patients' medical situation) and having constant communication with the patients during regular monitoring. In relation to using strategies to reassure patients, they coincided that giving patients emotional support when they face unexpected situations and promoting social support, such as a partner system while performing their exercise, should increase the number of patients dedicated to engage in regular exercise. Furthermore, they also acknowledged the significance of promoting programs such as the one trialed since it is cost-effective; they acknowledged that substantial health benefits can be obtained through the implementation of this program with a minimum investment.

Among the recommendations for the future, we consider that more analysis and data collection would be necessary to determine the clinical significance of these findings for patients. For example, we might need to know whether weight was lost, if quality of life (QOL) measures changed, if results were better for men or for women etc. Also we need to verify the effectiveness of this intervention through its application in a different clinical scenario including communities, worksites, and universities. These ideas would be recommended for future work in this area. Since regular physical activity has been found helpful on the prevention of chronic diseases, functional limitations and disability, we propose the creation, implementation, and assessment of programs like this one to help people be more active. Future development and investigation about this area must be

centered on the new ways and means to facilitate the incorporation of exercise into the lives of people.

Analysis of Self

Previous to starting this investigation, I did not have a clear idea of my objectives and plans for the DNP project. During the interaction with faculty members, scholar-practitioners, and healthcare professionals, I recognized I had selected the project already as I was involved in the development and conduct of the exercise improvement program as part of my preceptor clinical hours for the DNP program. Not only did the exercise program address nursing-related concerns, but it also fit quite well with my clinical work setting, my goals, and my studying style. Acknowledging that the DNP project was meant to identify and apply new notions and approaches in practice, this project made it possible for me to network with, learn from, and collaborate with people I would have otherwise only seen in a lecture setting. This experience has sharply set my path towards a very dynamic and fruitful researcher career. Participating in this real-life clinical project has improved my education and defined my professional goals and outlook, including how to achieve them.

The research process allowed me to corroborate and reaffirm that health prevention is feasible for each individual and without the high costs associated with medical care for numerous diseases. I was able to validate that positive health consequences can be produced in our population by changing unhealthy behaviors. As a result of this project, I can uphold the idea that implementing primary health prevention programs, similar to this project, are vital to decrease the number of diseases affecting the

population, while ensuring optimal use of health system resources and maintaining financial sustainability.

As stated by Turale (2011), there is a research-practice gap in health care today that is causing a big problem, lack of dissemination of knowledge resulting from DNP projects and not translating new knowledge into clinical practice. Only a small percentage of the project outcomes are applied into the practice, because of three reasons: (1) outcomes are not disseminated; (2) the conclusions are not communicated to the right audiences; or (3) the results are distributed but are not implemented into practice. Accordingly, the distribution or communication of the results is the first step to implement the evidence into practice. Thus, the dissemination of this project's results is planned to be done through the publication in a peer-reviewed journal, specifically the Journal of the American Association of Nurse Practitioner (JAANP).

Summary

The adult population must add physical activity into their daily routines. A wide-range of health promotion and disease prevention programs can help adults of all racial/ethnic groups raise their usual physical activity to an appropriate level considering their capacities, needs, and interests. As indicated by the AHA (1996), even though there is much knowledge about exercise, there is still need for further investigation about better and more effective ways of implementing physical activity interventions that work for the majority of the population. As stated by the same source, there must be created, implemented, and assessed various nontraditional and original methods to help people increase their regular physical activity. In summary, future development and investigation

of physical activity ought to emphasize not only its benefits, but also identify the ways and means to facilitate the incorporation of exercise into the lives of people in the general population.

References

Accreditation Council for Continuing Medical Education. (2012). What is meant by "professional practice gap?" Retrieved from http://www.accme.org/ask-accme/criterion-2-what-meant-professional-practice-gap

American Association of College of Nursing. (2006). The essentials of doctoral education for advanced nursing practice. Retrieved from http://www.aacn.nche.edu/education-resources/essential-series

American Heart Association. (1996). Statement on exercise: Benefits and recommendations for physical activity programs for all Americans. *Circulation*, *94,* 341-343. doi:10.1161/01.CIR.94.4.857

American Heart Association. (2014). Hispanics and heart disease, stroke. Retrieved from http://www.heart.org/HEARTORG/Conditions/More/MyHeartandStrokeNews/Hispanics-and-Heart-Disease-Stroke_UCM_444864_Article.jsp

American Nurses Association. (2015). Appraising the evidence. Retrieved from http://nursingworld.org/Research-Toolkit/Appraising-the-Evidence

Buchko, B. L., & Robinson, L. E. (2012). An evidence-based approach to decrease early post-operative urinary retention following urogynecologic surgery. Retrieved from http://www.medscape.com/viewarticle/773058_4

Cash, J. C., & Glass, C. A. (2014). *Family practice guidelines* (3rd ed.). New York, NY: Springer.

Cassoobhoy, A. (2014). How to boost your good cholesterol. Retrieved from http://www.webmd.com/heart/how-to-boost-your-good-cholesterol

Craig, C. L., Marshall, A. L., Sjo, M., Bauman, A. E., Booth, M. L., Ainsworth, B. E., …Oja, P. (2003). International physical activity questionnaire: 12-country reliability and validity. *Medicine & Science in Sports & Exercise, 35,* 1381-1388. doi:10.1249/01.MSS.0000078924.61453.FB

Center for Disease Control and Prevention. (2015). Division of nutrition, physical activity, and obesity. Retrieved from http://www.cdc.gov/physicalactivity/index.html

Center for Disease Control and Prevention. (2014). How much physical activity do adults need? Retrieved from http://www.cdc.gov/physicalactivity/everyone/guidelines/adults.html

Center for Disease Control and Prevention. (2014). Physical activity guidelines. Retrieved from http://www.health.gov/paguidelines/

Center for Disease Control and Prevention. (2012). National physical activity plan. Retrieved from http://www.physicalactivityplan.org/healthcare.php

Center for Disease Control and Prevention. (2011). Overcoming barriers to physical activity. Retrieved from http://www.cdc.gov/physicalactivity/everyone/getactive/barriers.html

Center for Disease Control and Prevention. (2011). Physical activity and health. Retrieved from http://www.cdc.gov/physicalactivity/everyone/health/index.html

Durlak, J. A. (2008). Why program implementation is important. *Journal of Prevention & Intervention in the Community, 17*, 5-18. doi: 10.1300/J005v17n02_02

Glanz, K., Rimer, B. K., & Lewis, F. M. (2002). *Health behavior and health education*

(3rd ed.). San Francisco, CA: Jossey-Bass.

Gristwood. J. (2011). Applying the health belief model to physical activity engagement among older adults. *Illuminare, 9*, 59-71. Retrieved from http://scholarworks.iu.edu/journals/index.php/illuminare/article/view/1035

Guidelines for data processing and analysis of the international physical activity questionnaire. (2005). Retrieved from http://www.academia.edu/5346814/Guidelines_for_Data_Processing_and_Analysis_of_the_International_Physical_Activity_Questionnaire_IPAQ_Short_and_Long_Forms_Contents

Hannan, J., Brooten, D., Youngblut, J.M., Hildago, I., Roche, R., & Seagrave, L. (2015). Physical activity and stress in adult Hispanics. *Journal of the American Association of Nurse Practitioners, 27*, 79-86. doi: 10.1002/2327-6924.12127

Harvard College School of Public Health. (2015). The benefits of physical activity. Retrieved from http://www.hsph.harvard.edu/nutritionsource/staying-active-full-story/

Hillsdon, M. (2009). Tools to measure physical activity in local level weight management interventions: A rapid review. Retrieved from http://www.noo.org.uk/uploads/doc721_2_PA_measurement_tools_review.pdf

Hodges, B. C., & Videto, D. M. (2011). *Assessment and planning in health programs* (2nd ed.). Sudbury, MA: Jones & Bartlett Learning.

InSites.org. (2007). Tips for analyzing qualitative data. Retrieved from http://www.insites.org/CLIP_v1_site/downloads/PDFs/TipsAnalzQualData.5D.8-

07.pdf

Institute for Work & Health. (2015). What researchers means by… primary, secondary and tertiary prevention. Retrieved from http://www.iwh.on.ca/wrmb/primary-secondary-and-tertiary-prevention

Johnson, J., & Henderson, A. (2013). Conceptual models in a nutshell. Retrieved from http://boxesandarrows.com/conceptual-models-in-a-nutshell/

Kahn, E. B., Ramsey, L. T., Brownson, R. C., Heath, G. W., Howze, E. H., Powell, K. E.,… Corso, P. (2002). The effectiveness of interventions to increase physical activity: A systematic review. Retrieved from http://www.thecommunityguide.org/pa/pa-ajpm-evrev.pdf

Kettner, P. M., Moroney, R. M., & Martin, L. L. (2008). *Designing and managing programs: An effectiveness-based approach* (4th ed.). Thousand Oaks, CA: Sage

Lee, M. (2015). The difference between research design & research method. Retrieved from http://www.ehow.com/facts_7329595_difference-research-design-research-method.html

Lowenkamp, C. T., Hubbard, D., Markarios, M. D., & Latessa, E. J. (2009). A quasi-experimental evaluation of thinking for a change. Retrieved from https://us.sagepub.com/sites/default/files/upm-binaries/57232_Chapter_16.pdf

Macera, C. A. (2010). Promoting healthy eating and physical activity for a healthier nation. Retrieved from http://www.cdc.gov/HealthyYouth/publications/pdf/PP-Ch7.pdf

Math Goodies. (2015). The median of a set of data. Retrieved from

http://www.mathgoodies.com/lessons/vol8/median.html

Mayo Clinic Staff. (2015). Exercise: 7 benefits of regular physical activity. Retrieved from http://www.mayoclinic.org/healthy-lifestyle/fitness/in-depth/exercise/art-20048389?pg=1

McNally, D., Wright, T. L., Scherb, C. A., Gapar, P. M. (2010). Disseminating evidence-based practice projects: Poster design and evaluation. *Clinical Scholars Review. 3,* 14-21. doi: 10.1891/1939-2095.3.1.14

National Center for Chronic Disease Prevention and Health Promotion. (2014) State indicator report on physical activity. Retrieved from http://www.cdc.gov/physicalactivity/downloads/pa_state_indicator_report_2014.pdf

National Institutes of Health. (2011). What is physical activity? Retrieved from http://www.nhlbi.nih.gov/health/health-topics/topics/phys/

Prior, P., Wilkinson, J., & Neville, S. (2010). Practice nurse use of evidence in clinical practice: A descriptive study. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/21032971

Stevens, K. R. (2013). The impact of evidence-based practice in nursing and the next big ideas. *The Online Journal of Issues in Nursing, 18.* doi: 10.3912/OJIN.Vol18No02Man04

Stretcher, V., & Rosenstock, I. M. (1997). The health belief model. In K. Glanz, F. M. Lewis, & B. K. Rimer (Eds.). *Health behavior and health education: Theory, research and practice* (pp.113-116). San Francisco, CA: Jossey-Bass.

Terry, A. J. (2015). *Clinical research for the doctor of nursing practice* (2nd ed.). Burlington, MA: Jones & Bartlett Learning.

Tilson, W., Honeycutt, A. A. Clayton, L., Khavjou, O., Finkelstein, E. A. Prabhu, M., ... Renaud, J. M. (2006). Guide to analyzing the cost-effectiveness of community public health prevention approaches. Retrieved from http://aspe.hhs.gov/health/reports/06/cphpa/report.pdf

Trochim, W. M. (2006). Research method knowledge base. Retrieved from http://www.socialresearchmethods.net/kb/statinf.php

Turale, S. (2011). The dissemination of research findings and translation into practice. Retrieved from http://www.ns.mahidol.ac.th/english/journal_NS/pdf/vol29/issue2/sue.pdf

University of Missouri. (2008). Program planning and development – program logic model. Retrieved from http://extension.missouri.edu/staff/programdev/plm

U.S. Department of Health, & Human Services. Office of Disease Prevention and Health Promotion. (2015). Healthy People 2020. Retrieved from http://www.healthypeople.gov/

U.S. Department of Health, & Human Services National Institutes of Health. (2015). Exercise and immunity. Retrieved from http://www.nlm.nih.gov/medlineplus/ency/article/007165.htm

World Health Organization. (2015). Global strategy on diet, physical activity and health. Retrieved from http://www.who.int/dietphysicalactivity/factsheet_recommendations/en/

Appendix A: Interview for Patients

Question #1: What is your definition of regular physical activity?

Question #2: How much regular physical activity do you perform?

Question #3: Which are the benefits you perceive on practicing regular physical activity?

Question #4: Which are the barriers you identify for engaging in regular physical activity?

Question #5: What do you think you can do to increase your levels of regular physical activity?

Question #6: What is your opinion about the educational modules acceded online at the CDC (2014) under the title *Physical Activity Guidelines for Americans?*

Question #7: Were you satisfied with the physical activity education presented in the modules?

Question #8: What changes would you make to the physical activity program for better outcomes?

Question #9: What else you would like to add regarding the physical activity program?

The interview of the staff members will include only questions 6, 7, 8, and 9.

Appendix B: International Physical Activity Questionnaire

(October 2002)

LONG LAST 7 DAYS SELF-ADMINISTERED FORMAT
FOR USE WITH YOUNG AND MIDDLE-AGED ADULTS (15-69 years)

The International Physical Activity Questionnaires (IPAQ) comprises a set of 4 questionnaires. Long (5 activity domains asked independently) and short (4 generic items) versions for use by either telephone or self-administered methods are available. The purpose of the questionnaires is to provide common instruments that can be used to obtain internationally comparable data on health–related physical activity.

Background on IPAQ

The development of an international measure for physical activity commenced in Geneva in 1998 and was followed by extensive reliability and validity testing undertaken across 12 countries (14 sites) during 2000. The final results suggest that these measures have acceptable measurement properties for use in many settings and in different languages, and are suitable for national population-based prevalence studies of participation in physical activity.

Using IPAQ

Use of the IPAQ instruments for monitoring and research purposes is encouraged. It is recommended that no changes be made to the order or wording of the questions as this will affect the psychometric properties of the instruments.

Translation from English and Cultural Adaptation

Translation from English is encouraged to facilitate worldwide use of IPAQ. Information on the availability of IPAQ in different languages can be obtained at www.ipaq.ki.se. If a new translation is undertaken we highly recommend using the prescribed back translation methods available on the IPAQ website. If possible please consider making your translated version of IPAQ available to others by contributing it to the IPAQ website. Further details on translation and cultural adaptation can be downloaded from the website.

Further Developments of IPAQ

International collaboration on IPAQ is on-going and an ***International Physical Activity Prevalence Study*** is in progress. For further information see the IPAQ website.

More Information

More detailed information on the IPAQ process and the research methods used in the development of IPAQ instruments is available at www.ipaq.ki.se and Booth, M.L. (2000).

Assessment of Physical Activity: An International Perspective. Research Quarterly for Exercise and Sport, 71 (2): s114-20. Other scientific publications and presentations on the use of IPAQ are summarized on the website.

INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE

We are interested in finding out about the kinds of physical activities that people do as part of their everyday lives. The questions will ask you about the time you spent being physically active in the **last 7 days**. Please answer each question even if you do not consider yourself to be an active person. Please think about the activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport.

Think about all the **vigorous** and **moderate** activities that you did in the **last 7 days**. **Vigorous** physical activities refer to activities that take hard physical effort and make you breathe much harder than normal. **Moderate** activities refer to activities that take moderate physical effort and make you breathe somewhat harder than normal.

PART 1: JOB-RELATED PHYSICAL ACTIVITY

The first section is about your work. This includes paid jobs, farming, volunteer work, course work, and any other unpaid work that you did outside your home. Do not include unpaid work you might do around your home, like housework, yard work, general maintenance, and caring for your family. These are asked in Part 3.

1. Do you currently have a job or do any unpaid work outside your home?

Yes

No ***Skip to PART 2: TRANSPORTATION***

The next questions are about all the physical activity you did in the **last 7 days** as part of your paid or unpaid work. This does not include traveling to and from work.

2. During the **last 7 days**, on how many days did you do **vigorous** physical activities like heavy lifting, digging, heavy construction, or climbing up stairs **as part of your work**? Think about only those physical activities that you did for at least 10 minutes at a time.

_____ **days per week**

No vigorous job-related physical activity ***Skip to question 4***

3. How much time did you usually spend on one of those days doing **vigorous** physical activities as part of your work?

_____ **hours per day**

_____ **minutes per day**

4. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the **last 7 days**, on how many days did you do **moderate** physical activities like carrying light loads **as part of your work**? Please do not include walking.

_____ **days per week**

No moderate job-related physical activity ***Skip to question 6***

5. How much time did you usually spend on one of those days doing **moderate** physical activities as part of your work?

_____ **hours per day**

_____ **minutes per day**

6. During the **last 7 days**, on how many days did you **walk** for at least 10 minutes at a time **as part of your work**? Please do not count any walking you did to travel to or from work.

_____ **days per week**

No job-related walking ***Skip to PART 2: TRANSPORTATION***

7. How much time did you usually spend on one of those days **walking** as part of your work?

_____ **hours per day**

_____ **minutes per day**

PART 2: TRANSPORTATION PHYSICAL ACTIVITY

These questions are about how you traveled from place to place, including to places like work, stores, movies, and so on.

8. During the **last 7 days**, on how many days did you **travel in a motor vehicle** like a train, bus, car, or tram?

_____ **days per week**

No traveling in a motor vehicle ***Skip to question 10***

9. How much time did you usually spend on one of those days **traveling** in a train, bus, car, tram, or other kind of motor vehicle?

_____ **hours per day**

_____ **minutes per day**

Now think only about the **bicycling** and **walking** you might have done to travel to and from work, to do errands, or to go from place to place.

10. During the **last 7 days**, on how many days did you **bicycle** for at least 10 minutes at a time to go **from place to place**?

_____ **days per week**

No bicycling from place to place ***Skip to question 12***

11. How much time did you usually spend on one of those days to **bicycle** from place to place?

_____ **hours per day**

_____ **minutes per day**

12. During the **last 7 days**, on how many days did you **walk** for at least 10 minutes at a time to go **from place to place**?

_____ **days per week**

No walking from place to place ***Skip to PART 3: HOUSEWORK, HOUSE MAINTENANCE, AND CARING FOR FAMILY***

13. How much time did you usually spend on one of those days **walking** from place to place?

_____ **hours per day**

_____ **minutes per day**

PART 3: HOUSEWORK, HOUSE MAINTENANCE, AND CARING FOR FAMILY

This section is about some of the physical activities you might have done in the **last 7 days** in and around your home, like housework, gardening, yard work, general maintenance work, and caring for your family.

14. Think about only those physical activities that you did for at least 10 minutes at a time. During the **last 7 days**, on how many days did you do **vigorous** physical activities like heavy lifting, chopping wood, shoveling snow, or digging **in the garden or yard**?

_____ **days per week**

No vigorous activity in garden or yard ***Skip to question 16***

15. How much time did you usually spend on one of those days doing **vigorous** physical activities in the garden or yard?

_____ **hours per day**

_____ **minutes per day**

16. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the **last 7 days**, on how many days did you do **moderate** activities like carrying light loads, sweeping, washing windows, and raking **in the garden or yard**?

_____ **days per week**

No moderate activity in garden or yard ***Skip to question 18***

17. How much time did you usually spend on one of those days doing **moderate** physical activities in the garden or yard?

_____ **hours per day**

_____ **minutes per day**

18. Once again, think about only those physical activities that you did for at least 10 minutes at a time. During the **last 7 days**, on how many days did you do **moderate** activities like carrying light loads, washing windows, scrubbing floors and sweeping **inside your home**?

_____ **days per week**

No moderate activity inside home ***Skip to PART 4: RECREATION, SPORT AND LEISURE-TIME PHYSICAL ACTIVITY***

19. How much time did you usually spend on one of those days doing **moderate** physical activities inside your home?

_____ **hours per day**

_____ minutes per day

PART 4: RECREATION, SPORT, AND LEISURE-TIME PHYSICAL ACTIVITY

This section is about all the physical activities that you did in the **last 7 days** solely for recreation, sport, exercise or leisure. Please do not include any activities you have already mentioned.

20. Not counting any walking you have already mentioned, during the **last 7 days**, on how many days did you **walk** for at least 10 minutes at a time **in your leisure time**?

_____ days per week

No walking in leisure time ***Skip to question 22***

21. How much time did you usually spend on one of those days **walking** in your leisure time?

_____ hours per day

_____ minutes per day

22. Think about only those physical activities that you did for at least 10 minutes at a time. During the **last 7 days**, on how many days did you do **vigorous** physical activities like aerobics, running, fast bicycling, or fast swimming **in your leisure time**?

_____ days per week

No vigorous activity in leisure time ***Skip to question 24***

23. How much time did you usually spend on one of those days doing **vigorous** physical activities in your leisure time?

_____ hours per day

_____ minutes per day

24. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the **last 7 days**, on how many days did you do **moderate** physical activities like bicycling at a regular pace, swimming at a regular pace, and doubles tennis **in your leisure time**?

_____ days per week

No moderate activity in leisure time ***Skip to PART 5: TIME SPENT SITTING***

25. How much time did you usually spend on one of those days doing **moderate** physical activities in your leisure time?

_____ hours per day

_____ minutes per day

PART 5: TIME SPENT SITTING

The last questions are about the time you spend sitting while at work, at home, while doing course work and during leisure time. This may include time spent sitting at a desk, visiting friends, reading or sitting or lying down to watch television. Do not include any time spent sitting in a motor vehicle that you have already told me about.

26. During the **last 7 days**, how much time did you usually spend **sitting** on a **weekday**?

_____ hours per day
_____ minutes per day

27. During the **last 7 days**, how much time did you usually spend **sitting** on a **weekend day**?

_____ hours per day
_____ minutes per day

This is the end of the questionnaire, thank you for participating.

Table 1

Frequency of Physical Activity Days as a Part of Paid or Unpaid Work

Physical Activity	Days (Frequency)								Total
	0	1	2	3	4	5	6	7	
Vigorous	7	2	3	1	1	3	0	2	19
Moderate	3	0	3	4	5	3	1	1	20
Walk	0	1	2	4	3	6	1	6	23

Table 2

Frequency of Walking MET-Minutes/Week at Work

Walking MET-minutes/week at Work	Frequency	Percent	Valid Percent	Cumulative Percent
0	1	4.0	4.0	4.0
33	1	4.0	4.0	8.0
165	1	4.0	4.0	12.0
248	1	4.0	4.0	16.0
396	1	4.0	4.0	20.0
528	1	4.0	4.0	24.0
594	1	4.0	4.0	28.0
634	1	4.0	4.0	32.0
809	1	4.0	4.0	36.0
990	4	16.0	16.0	52.0
1188	1	4.0	4.0	56.0
1386	2	8.0	8.0	64.0
1485	1	4.0	4.0	68.0
1650	1	4.0	4.0	72.0
1733	1	4.0	4.0	76.0
1782	1	4.0	4.0	80.0
1980	1	4.0	4.0	84.0
2426	1	4.0	4.0	88.0
3234	1	4.0	4.0	92.0
Missing	2	8.0	8.0	100.0
Total	25	100.0	100.0	

Table 3

Frequency of Moderate MET-Minutes/Week at Work

MET-minutes/ week	Frequency	Percent	Valid Percent	Cumulative Percent
0	3	12.0	15.0	15.0
400	1	4.0	5.0	20.0
480	2	8.0	10.0	30.0
720	1	4.0	5.0	35.0
960	2	8.0	10.0	45.0
1200	1	4.0	5.0	50.0
1400	1	4.0	5.0	55.0
1440	5	20.0	25.0	80.0
1800	2	8.0	10.0	90.0
1920	2	8.0	10.0	100.0
Total	20	96.0	100.0	
Missing	5	20.0		
Total	25	100.0		

Table 4

Frequency of Vigorous MET-Minutes/Week at Work

Vigorous MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
0	7	28.0	36.7	36.7
160	1	4.0	5.3	41.8
240	1	4.0	5.3	47.1
960	1	4.0	5.3	52.4
1440	1	4.0	5.3	57.7
2400	1	4.0	5.3	63.0
3840	1	4.0	5.3	68.3
3960	1	4.0	5.3	73.6
4800	1	4.0	5.3	78.9
9600	1	4.0	5.3	84.2
26880	2	8.0	10.4	94.6
28800	1	4.0	5.3	100.0
Total	19	96.0	100.0	
Missing	6	24.0		
Total	25	100.0		

Table 5

Frequency of Total Work MET-Minutes/Week

Total Work MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
165	1	4.0	5.0	4.0
753	1	4.0	5.0	8.0
834	1	4.0	5.0	12.0
990	1	4.0	5.0	16.0
1485	1	4.0	5.0	20.0
1996	1	4.0	5.0	24.0
2148	1	4.0	5.0	28.0
2262	1	4.0	5.0	32.0
2430	1	4.0	5.0	36.0
3288	1	4.0	5.0	40.0
4169	1	4.0	5.0	44.0
5034	1	4.0	5.0	48.0
5226	1	4.0	5.0	52.0
5400	1	4.0	5.0	56.0
6750	1	4.0	5.0	60.0
7586	1	4.0	5.0	64.0
11288	1	4.0	5.0	68.0
29093	1	4.0	5.0	72.0
29226	1	4.0	5.0	76.0
30874	1	4.0	5.0	80.0
Total	20	80.0	100.0	100.0
Missing	5	20.0		
Total	25	100.0		

Table 6

Frequency of Physical Activity Days on Transportation

Physical Activity	Days (Frequency)								Total
	0	1	2	3	4	5	6	7	
Travel in a motor vehicle	2	1	0	0	1	6	1	14	19
Bicycle	17	1	2	0	1	0	0	1	20
Walk	4	1	2	1	2	5	1	5	23

Table 7

Frequency of Walking MET-Minutes/Week for Transport

Walking MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
0	4	16.0	19	19.0
33	1	4.0	4.8	23.8
165	1	4.0	4.8	28.6
198	1	4.0	4.8	33.4
330	1	4.0	4.8	38.2
396	1	4.0	4.8	43.0
495	1	4.0	4.8	47.8
594	1	4.0	4.8	52.6
693	1	4.0	4.8	57.4
726	1	4.0	4.8	62.2
990	3	12.0	14.3	76.5
1155	2	8.0	9.5	86.0
1271	1	4.0	4.8	90.8
1320	1	4.0	4.8	95.6
4158	1	4.0	4.8	100.0
Total	21	84.0	100.0	
Missing	4	16.0		
Total	25	100.0		

Table 8

Frequency of Cycle MET-Minutes/Week for Transport

Cycle MET-minutes/ week	Frequency	Percent	Valid Percent	Cumulative Percent
0	17	68.0	77.3	77.3
360	1	4.0	4.5	81.8
660	1	4.0	4.5	86.3
1440	1	4.0	4.5	90.8
2880	1	4.0	4.5	95.3
8820	1	4.0	4.5	100.0
Total	22	88.0	100.0	
Missing	3	12.0		
Total	25	100.0		

Table 9

Frequency of Total Transport MET-Minutes/Week

Transport MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
0	6	24.0	27.2	27.2
33	1	4.0	4.5	31.7
165	1	4.0	4.5	36.2
198	1	4.0	4.5	40.7
330	1	4.0	4.5	42.5
495	1	4.0	4.5	49.7
594	1	4.0	4.5	54.2
726	1	4.0	4.5	58.7
1155	2	8.0	9.1	63.2
1271	1	4.0	4.5	72.3
1320	1	4.0	4.5	76.8
1350	1	4.0	4.5	81.3
1650	1	4.0	4.5	85.8
2430	1	4.0	4.5	90.3
3276	1	4.0	4.5	94.8
12978	1	4.0	4.5	100.0
Total	22	88.0	100.0	
Missing	3	12.0		
Total	25	100.0		

Table 10

Frequency of Physical Activity Days on Domestic and Garden Domain

Physical Activity	Days (Frequency)								Total
	0	1	2	3	4	5	6	7	
Vigorous in the garden or yard	5	6	6	1	2	0	1	0	21
Moderate in the garden or yard	4	7	7	2	1	0	0	0	23
Moderate inside home	4	7	4	2	4	3	0	0	24

Table 11

Frequency of Vigorous MET-Minutes/Week Yard Chores

Vigorous MET-minutes/week Yard Chores	Frequency	Percent	Valid Percent	Cumulative Percent
0	5	20.0	23.8	23.8
193	1	4.0	4.8	28.6
220	1	4.0	4.8	33.4
248	1	4.0	4.8	38.2
330	2	8.0	9.5	47.7
440	1	4.0	4.8	52.5
495	1	4.0	4.8	57.3
660	2	8.0	9.5	66.8
990	1	4.0	4.8	71.6
1320	1	4.0	4.8	76.4
1650	1	4.0	4.8	81.2
1980	3	12.0	14.3	95.5
2640	1	4.0	4.8	100.0
Total	21	84.0	100.0	
Missing	4	16.0		
Total	25	100.0		

Table 12

Frequency of Moderate MET-Minutes/Week Yard Chores

Moderate MET-minutes/week Yard Chores	Frequency	Percent	Valid Percent	Cumulative Percent
0	4	16.0	19.1	19.1
120	2	8.0	9.5	28.6
240	4	16.0	19.1	47.7
280	1	4.0	4.8	52.5
320	1	4.0	4.8	57.3
360	1	4.0	4.8	62.1
420	1	4.0	4.8	66.9
480	3	12.0	14.3	81.2
720	1	4.0	4.8	86.0
1280	1	4.0	4.8	90.8
2880	1	4.0	4.8	95.6
3840	1	4.0	4.8	100.0
Total	21	84.0	100.0	
Missing	4	16.0		
Total	25	100.0		

Table 13

Frequency of Moderate MET-Minutes/Week Inside Chores

Moderate MET-minutes/week Inside Chores	Frequency	Percent	Valid Percent	Cumulative Percent
0	4	16.0	16.7	16.7
30	1	4.0	4.2	20.8
90	1	4.0	4.2	25.0
120	1	4.0	4.2	29.2
150	2	8.0	8.3	37.5
180	1	4.0	4.2	41.7
360	3	12.0	12.5	54.2
390	1	4.0	4.2	58.3
450	2	8.0	8.3	66.7
540	3	12.0	12.5	79.2
720	1	4.0	4.2	83.3
1080	2	8.0	8.3	91.7
1350	1	4.0	4.2	95.8
2160	1	4.0	4.2	100.0
Total	24	96.0	100.0	
Missing	1	4.0		
Total	25	100.0		

Table 14

Frequency of Total Domestic and Garden MET-Minutes/Week

Total Domestic and Garden MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
0	2	8.0	9.5	9.5
270	1	4.0	4.8	14.3
313	1	4.0	4.8	19.1
420	1	4.0	4.8	23.9
570	1	4.0	4.8	28.7
585	1	4.0	4.8	33.5
690	1	4.0	4.8	38.3
890	1	4.0	4.8	43.1
1020	1	4.0	4.8	47.9
1028	1	4.0	4.8	52.7
1320	1	4.0	4.8	57.5
1480	1	4.0	4.8	62.3
1500	1	4.0	4.8	67.1
1680	1	4.0	4.8	71.9
1980	1	4.0	4.8	76.7
3060	1	4.0	4.8	81.5
3240	1	4.0	4.8	86.3
3510	1	4.0	4.8	91.1
4010	1	4.0	4.8	95.9
6060	1	4.0	4.8	100.0
Total	21	84.0	100.0	
Missing	4	16.0		
Total	25	100.0		

Table 15

Frequency of Physical Activity Days on Leisure Time Domain

Physical Activity	Days (Frequency)								Total
	0	1	2	3	4	5	6	7	
Walk-Leisure Time	5	6	4	3	1	1	1	2	22
Vigorous-Leisure Time	6	4	2	2	2	2	0	1	19
Moderate-Leisure Time	6	4	3	2	2	2	0	0	19

Table 16

Walking MET-Minutes/Week Leisure

Walking MET-minutes/week Leisure	Frequency	Percent	Valid Percent	Cumulative Percent
0	5	20.0	22.7	22.7
66	1	4.0	4.5	27.2
99	1	4.0	4.5	31.7
132	2	8.0	9.1	36.2
149	1	4.0	4.5	45.3
264	2	8.0	9.1	49.8
297	3	12.0	13.6	58.9
396	1	4.0	4.5	72.5
495	1	4.0	4.5	77.0
594	1	4.0	4.5	81.5
693	1	4.0	4.5	86.0
792	1	4.0	4.5	90.5
1040	1	4.0	4.5	95.0
1188	1	4.0	4.5	100.0
Total	22	88.0	100.0	
Missing	3	12.0		
Total	25	100.0		

Table 17

Moderate MET-Minutes/Week Leisure

Moderate MET-minutes/week Leisure	Frequency	Percent	Valid Percent	Cumulative Percent
0	6	24.0	31.6	31.6
160	1	4.0	5.3	36.9
240	4	16.0	21.1	58.0
360	2	8.0	10.5	68.5
600	1	4.0	5.3	73.8
700	1	4.0	5.3	79.1
960	2	8.0	10.5	89.6
1080	1	4.0	5.3	94.9
1680	1	4.0	5.3	100.0
Total	19	76.0	100.0	
Missing	6	24.0		
Total	25	100.0		

Table 18

Vigorous MET-Minutes/Week Leisure

Vigorous MET-minutes/week Leisure	Frequency	Percent	Valid Percent	Cumulative Percent
0	6	24.0	31.6	31.6
360	1	4.0	5.3	36.9
480	1	4.0	5.3	42.2
560	1	4.0	5.3	47.5
600	1	4.0	5.3	52.8
800	1	4.0	5.3	58.1
840	1	4.0	5.3	63.4
960	1	4.0	5.3	68.7
1200	1	4.0	5.3	74.0
1440	1	4.0	5.3	79.3
2400	1	4.0	5.3	84.6
2880	2	8.0	10.5	95.1
4320	1	4.0	5.3	100.0
Total	19	76.0	100.0	
Missing	6	24.0		
Total	25	100.0		

Table 19

Total Leisure-Time MET-Minutes/Week

Total Leisure-Time MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
0	2	8.0	10.5	10.5
132	1	4.0	5.3	15.8
339	1	4.0	5.3	21.1
626	1	4.0	5.3	26.4
792	1	4.0	5.3	31.7
892	1	4.0	5.3	37.0
1097	1	4.0	5.3	42.3
1200	1	4.0	5.3	47.6
1224	1	4.0	5.3	52.9
1357	1	4.0	5.3	58.2
1908	1	4.0	5.3	63.5
2055	1	4.0	5.3	68.8
2120	1	4.0	5.3	74.1
2520	1	4.0	5.3	79.4
3240	1	4.0	5.3	84.7
3693	1	4.0	5.3	90.0
4104	1	4.0	5.3	53.3
6396	1	4.0	5.3	100.0
Total	18	72.0	100.0	
Missing	7	28.0		
Total	25		100.0	

Table 20

Total Walking MET-Minutes/Week

Total Walking MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
165	1	4.0	4.8	4.8
495	2	8.0	9.5	14.3
990	1	4.0	4.8	19.1
1254	1	4.0	4.8	23.9
1353	1	4.0	4.8	28.7
1386	1	4.0	4.8	33.5
1485	1	4.0	4.8	38.3
1535	1	4.0	4.8	43.1
1650	1	4.0	4.8	47.9
1667	1	4.0	4.8	52.7
1782	1	4.0	4.8	57.5
1914	1	4.0	4.8	62.3
2013	1	4.0	4.8	67.1
2102	1	4.0	4.8	71.9
2838	1	4.0	4.8	76.7
2970	1	4.0	4.8	81.5
3251	1	4.0	4.8	86.3
3317	1	4.0	4.8	91.1
4967	1	4.0	4.8	95.9
5412	1	4.0	4.8	100.0
Total	21	84.0		
Missing	4	16.0		
Total	25	100.0		

Table # 21

Total Moderate MET-Minutes/Week

Total Moderate MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
0	1	4.0	5.3	5.3
360	2	8.0	10.5	15.8
570	1	4.0	5.3	21.1
1080	1	4.0	5.3	26.4
1230	1	4.0	5.3	31.7
1240	1	4.0	5.3	37.0
1420	1	4.0	5.3	42.3
1770	1	4.0	5.3	47.6
2090	1	4.0	5.3	52.9
2340	1	4.0	5.3	58.2
2480	1	4.0	5.3	63.5
2810	1	4.0	5.3	68.8
2840	1	4.0	5.3	74.1
3120	2	8.0	5.3	79.4
3420	1	4.0	5.3	84.7
5520	1	4.0	5.3	90.0
6300	1	4.0	5.3	95.3
Total	19	76.0	100.0	100.0
Missing	6	24.0		
Total	25	100.0		

Table 22

Total Moderate MET-Minutes/Week Cycling and Yard

Total Moderate MET-minutes/week Cycling and Yard	Frequency	Percent	Valid Percent	Cumulative Percent
0	1	4.0	5.3	5.3
360	1	4.0	5.3	10.6
690	1	4.0	5.3	15.9
1065	1	4.0	5.3	21.1
1230	1	4.0	5.3	26.5
1273	1	4.0	5.3	31.8
1420	1	4.0	5.3	37.1
1770	1	4.0	5.3	42.4
2420	1	4.0	5.3	47.7
2560	1	4.0	5.3	53.0
2920	1	4.0	5.3	58.3
3000	1	4.0	5.3	63.6
3690	1	4.0	5.3	58.9
4490	1	4.0	5.3	74.2
5100	1	4.0	5.3	79.5
5460	1	4.0	5.3	84.8
6840	1	4.0	5.3	90.1
11820	1	4.0	5.3	95.3
15330	1	4.0	5.3	100.0
Total	19	76.0	100.0	
Missing	6	24.0		
Total	25	100.0		

Table 23

Total Vigorous MET-Minutes/Week

Total Vigorous MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
0	4	16.0	22.2	22.2
240	1	4.0	5.5	27.7
480	1	4.0	5.5	33.2
600	1	4.0	5.5	38.7
720	1	4.0	5.5	44.2
2160	1	4.0	5.5	49.7
2880	2	8.0	11.1	60.8
4800	1	4.0	5.5	66.3
5600	1	4.0	5.5	71.8
6720	1	4.0	5.5	77.3
8280	1	4.0	5.5	82.8
9960	1	4.0	5.5	88.5
26880	1	4.0	5.5	93.8
27840	1	4.0	5.5	100.0
Total	18	72.0	100.0	
Missing	7	28.0		
Total	25	100.0		

Table 24

Total Physical Activity MET-Minutes/Week

Total physical activity MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
855.00	1	4.0	5.3	5.3
990.00	1	4.0	5.3	10.6
2865.50	1	4.0	5.3	15.9
2979.00	1	4.0	5.3	21.1
3012.00	1	4.0	5.3	26.5
3655.00	1	4.0	5.3	31.8
4135.00	1	4.0	5.3	37.1
4254.00	1	4.0	5.3	42.4
4725.00	1	4.0	5.3	47.7
9536.50	1	4.0	5.3	53.0
10858.00	1	4.0	5.3	58.3
11013.00	1	4.0	5.3	63.6
11352.00	1	4.0	5.3	58.9
15046.50	1	4.0	5.3	74.2
15184.50	1	4.0	5.3	79.5
20190.00	1	4.0	5.3	84.8
23176.50	1	4.0	5.3	90.1
30996.00	1	4.0	5.3	95.3
34620.50	1	4.0	5.3	100.0
Total	19	76.0	100.0	
Missing	6	24.0		
Total	25	100.0		

Table 25

Sitting Total Minutes/Week

Sitting Total Minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
330.00	1	4.0	4.0	4.0
720.00	1	4.0	4.0	8.0
1380.00	1	4.0	4.0	12.0
1440.00	1	4.0	4.0	16.0
1500.00	1	4.0	4.0	20.0
1680.00	2	8.0	8.0	28.0
1920.00	1	4.0	4.0	32.0
1980.00	1	4.0	4.0	36.0
2100.00	1	4.0	4.0	40.0
2160.00	1	4.0	4.0	44.0
2190.00	1	4.0	4.0	48.0
2300.00	1	4.0	4.0	52.0
2340.00	1	4.0	4.0	56.0
2460.00	1	4.0	4.0	60.0
2520.00	1	4.0	4.0	64.0
2640.00	1	4.0	4.0	68.0
2880.00	2	8.0	8.0	76.0
3000.00	1	4.0	4.0	80.0
3060.00	1	4.0	4.0	84.0
3360.00	1	4.0	4.0	88.0
3720.00	1	4.0	4.0	92.0
3960.00	1	4.0	4.0	96.0
4200.00	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 26

Average Sitting Total Minutes/Day

Average Sitting Total Minutes/day	Frequency	Percent	Valid Percent	Cumulative Percent
47.14	1	4.0	4.0	4.0
102.86	1	4.0	4.0	8.0
197.14	1	4.0	4.0	12.0
205.71	1	4.0	4.0	16.0
214.29	1	4.0	4.0	20.0
240.00	2	8.0	8.0	28.0
274.29	1	4.0	4.0	32.0
282.86	1	4.0	4.0	36.0
300.00	1	4.0	4.0	40.0
308.57	1	4.0	4.0	44.0
312.86	1	4.0	4.0	48.0
328.57	1	4.0	4.0	52.0
334.29	1	4.0	4.0	56.0
351.43	1	4.0	4.0	60.0
360.00	1	4.0	4.0	64.0
377.14	1	4.0	4.0	68.0
411.43	2	8.0	8.0	76.0
428.57	1	4.0	4.0	80.0
437.14	1	4.0	4.0	84.0
480.00	1	4.0	4.0	88.0
531.43	1	4.0	4.0	92.0
565.71	1	4.0	4.0	96.0
600.00	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 27

Frequency of Physical Activity Days as a Part of Paid or Unpaid Work

Physical Activity	Days (Frequency)								Total
	0	1	2	3	4	5	6	7	
Vigorous	1	1	1	7	1	8	3	3	25
Moderate	0	0	0	4	4	12	3	2	25
Walk	0	1	1	5	2	6	9	7	25

Table 28

Frequency of Walking MET-Minutes/Week at Work

Walking MET-minutes/week at Work	Frequency	Percent	Valid Percent	Cumulative Percent
33	1	4.0	4.0	4.0
165	1	4.0	4.0	8.0
248	1	4.0	4.0	12.0
396	1	4.0	4.0	16.0
462	1	4.0	4.0	20.0
594	1	4.0	4.0	24.0
634	1	4.0	4.0	28.0
792	1	4.0	4.0	32.0
924	1	4.0	4.0	36.0
990	3	12.0	12.0	48.0
1188	1	4.0	4.0	52.0
1238	1	4.0	4.0	56.0
1386	2	8.0	8.0	64.0
1485	2	8.0	8.0	72.0
1650	1	4.0	4.0	76.0
1733	1	4.0	4.0	80.0
1782	1	4.0	4.0	84.0
1980	1	4.0	4.0	88.0
2426	1	4.0	4.0	92.0
2970	1	4.0	4.0	96.0
3234	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 29

Frequency of Moderate MET-Minutes/Week at Work

Moderate MET-minutes/week at Work	Frequency	Percent	Valid Percent	Cumulative Percent
240	1	4.0	4.0	4.0
640	1	4.0	4.0	8.0
960	1	4.0	4.0	12.0
1080	1	4.0	4.0	16.0
1200	1	4.0	4.0	20.0
1400	1	4.0	4.0	24.0
1440	3	12.0	12.0	36.0
1500	1	4.0	4.0	40.0
1800	1	4.0	4.0	44.0
2000	1	4.0	4.0	48.0
2160	1	4.0	4.0	52.0
2400	5	20.0	20.0	72.0
2800	1	4.0	4.0	76.0
2880	2	8.0	8.0	84.0
3000	3	12.0	12.0	96.0
4000	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 30

Frequency of Vigorous MET-Minutes/Week at Work

Vigorous MET-minutes/week at Work	Frequency	Percent	Valid Percent	Cumulative Percent
0	1	4.0	4.0	4.0
960	2	8.0	8.0	12.0
1200	1	4.0	4.0	16.0
1680	1	4.0	4.0	20.0
1800	1	4.0	4.0	24.0
1920	1	4.0	4.0	28.0
2160	3	12.0	12.0	40.0
2400	1	4.0	4.0	44.0
2520	1	4.0	4.0	48.0
2880	1	4.0	4.0	52.0
3240	2	8.0	8.0	60.0
3600	2	8.0	8.0	68.0
4200	1	4.0	4.0	72.0
4400	1	4.0	4.0	76.0
6000	1	4.0	4.0	80.0
7200	1	4.0	4.0	84.0
12960	1	4.0	4.0	88.0
17280	1	4.0	4.0	92.0
19200	1	4.0	4.0	96.0
23040	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 31

Frequency of Total Work MET-Minutes/Week

Total Work MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
3038	1	4.0	4.0	4.0
3525	1	4.0	4.0	8.0
3653	1	4.0	4.0	12.0
3822	1	4.0	4.0	16.0
4350	1	4.0	4.0	20.0
4353	1	4.0	4.0	24.0
4788	1	4.0	4.0	28.0
4870	1	4.0	4.0	32.0
5592	1	4.0	4.0	36.0
5914	1	4.0	4.0	40.0
6060	1	4.0	4.0	44.0
6204	1	4.0	4.0	48.0
6546	1	4.0	4.0	52.0
6890	1	4.0	4.0	56.0
7526	1	4.0	4.0	60.0
7636	1	4.0	4.0	64.0
7965	1	4.0	4.0	68.0
8034	1	4.0	4.0	72.0
8885	1	4.0	4.0	76.0
9102	1	4.0	4.0	80.0
9390	1	4.0	4.0	84.0
15608	1	4.0	4.0	88.0
20066	1	4.0	4.0	92.0
23850	1	4.0	4.0	96.0
25114	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 32

Frequency of Physical Activity Days on Transportation

Physical Activity	Days (Frequency)								Total
	0	1	2	3	4	5	6	7	
Travel in a motor vehicle	0	0	0	0	0	5	1	19	25
Bicycle	15	2	3	0	2	1	0	2	25
Walk	0	1	1	6	3	8	0	6	25

Table 33

Frequency of Walking MET-Minutes/Week for Transport

Walking MET-minutes/week for Transport	Frequency	Percent	Valid Percent	Cumulative Percent
99	1	4.0	4.0	4.0
165	1	4.0	4.0	8.0
297	2	8.0	8.0	16.0
446	1	4.0	4.0	20.0
495	1	4.0	4.0	24.0
528	1	4.0	4.0	28.0
578	1	4.0	4.0	32.0
594	4	16.0	16.0	48.0
792	1	4.0	4.0	52.0
990	4	16.0	16.0	68.0
1040	1	4.0	4.0	72.0
1155	3	12.0	12.0	84.0
1188	1	4.0	4.0	88.0
1386	1	4.0	4.0	92.0
1485	1	4.0	4.0	96.0
4158	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 34

Frequency of Cycle MET-Minutes/Week for Transport

MET-minutes/week for transport	Frequency	Percent	Valid Percent	Cumulative Percent
0	15	60.0	60.0	60.0
270	1	4.0	4.0	64.0
600	2	8.0	8.0	72.0
720	1	4.0	4.0	76.0
900	1	4.0	4.0	80.0
1260	1	4.0	4.0	84.0
1440	2	8.0	8.0	92.0
4320	1	4.0	4.0	96.0
5040	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 35

Frequency of Total Transport MET-Minutes/Week

Total Transport MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
99	1	4.0	4.0	4.0
165	1	4.0	4.0	8.0
297	2	8.0	8.0	16.0
446	1	4.0	4.0	20.0
495	1	4.0	4.0	24.0
528	1	4.0	4.0	28.0
578	1	4.0	4.0	32.0
594	4	16.0	16.0	48.0
792	1	4.0	4.0	52.0
990	4	16.0	16.0	68.0
1040	1	4.0	4.0	72.0
1155	3	12.0	12.0	84.0
1188	1	4.0	4.0	88.0
1386	1	4.0	4.0	92.0
1485	1	4.0	4.0	96.0
4158	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 36

Frequency of Physical Activity Days on Domestic and Garden Domain

Physical Activity	Days (Frequency)								Total
	0	1	2	3	4	5	6	7	
Vigorous in the garden or yard	5	6	8	2	2	0	1	0	24
Moderate in the garden or yard	2	9	5	7	1	0	0	0	24
Moderate inside home	2	5	5	5	4	4	0	0	25

Table 37

Frequency of Vigorous MET-Minutes/Week Yard Chores

Vigorous MET-minutes/week yard chores	Frequency	Percent	Valid Percent	Cumulative Percent
0	6	24.0	24.0	24.0
248	1	4.0	4.0	28.0
330	3	12.0	12.0	40.0
440	3	12.0	12.0	52.0
495	1	4.0	4.0	56.0
660	3	12.0	12.0	68.0
990	1	4.0	4.0	72.0
1320	2	8.0	8.0	80.0
1980	2	8.0	8.0	88.0
2640	2	8.0	8.0	96.0
2970	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 38

Frequency of Moderate MET-Minutes/Week Yard Chores

Moderate MET-minutes/week Yard Chores	Frequency	Percent	Valid Percent	Cumulative Percent
0	2	8.0	8.3	8.3
120	2	8.0	8.3	16.7
200	1	4.0	4.2	20.8
220	1	4.0	4.2	25.0
240	3	12.0	12.5	37.5
280	1	4.0	4.2	41.7
320	1	4.0	4.2	45.8
360	2	8.0	8.3	54.2
420	1	4.0	4.2	58.3
480	3	12.0	12.5	70.8
720	4	16.0	16.7	87.5
960	1	4.0	4.2	91.7
2880	1	4.0	4.2	95.8
3840	1	4.0	4.2	100.0
Total	24	96.0	100.0	
Missing	1	4.0		
Total	25	100.0		

Table 39

Frequency of Moderate MET-Minutes/Week Inside Chores

Moderate MET-minutes/week Inside Chores	Frequency	Percent	Valid Percent	Cumulative Percent
0	2	8.0	8.0	8.0
135	1	4.0	4.0	12.0
180	2	8.0	8.0	20.0
360	8	32.0	32.0	52.0
390	1	4.0	4.0	56.0
450	2	8.0	8.0	64.0
540	2	8.0	8.0	72.0
600	1	4.0	4.0	76.0
900	1	4.0	4.0	80.0
1080	3	12.0	12.0	92.0
1350	1	4.0	4.0	96.0
2160	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 40

Frequency of Total Domestic and Garden MET-Minutes/Week

Total Domestic and Garden MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
0	1	4.0	4.0	4.0
600	1	4.0	4.0	8.0
668	1	4.0	4.0	12.0
720	1	4.0	4.0	16.0
750	1	4.0	4.0	20.0
820	1	4.0	4.0	24.0
840	1	4.0	4.0	28.0
915	1	4.0	4.0	32.0
930	1	4.0	4.0	36.0
1110	1	4.0	4.0	40.0
1140	1	4.0	4.0	44.0
1355	1	4.0	4.0	48.0
1500	1	4.0	4.0	52.0
1680	1	4.0	4.0	56.0
1740	1	4.0	4.0	60.0
1990	1	4.0	4.0	64.0
2000	1	4.0	4.0	68.0
2070	1	4.0	4.0	72.0
3000	1	4.0	4.0	76.0
3240	1	4.0	4.0	80.0
3510	1	4.0	4.0	84.0
3780	1	4.0	4.0	88.0
4200	1	4.0	4.0	92.0
5010	1	4.0	4.0	96.0
6420	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 41

Frequency of Physical Activity Days on Leisure Time Domain

Physical Activity	Days (Frequency)								Total
	0	1	2	3	4	5	6	7	
Walk-Leisure Time	2	3	6	4	2	3	1	4	25
Vigorous-Leisure Time	1	6	3	7	3	4	0	1	25
Moderate-Leisure Time	4	3	0	6	7	5	0	0	25

Table 42

Walking MET-Minutes/Week Leisure

Walking MET-minutes/week Leisure	Frequency	Percent	Valid Percent	Cumulative Percent
0	2	8.0	8.0	8.0
99	1	4.0	4.0	12.0
198	1	4.0	4.0	16.0
248	1	4.0	4.0	20.0
297	3	12.0	12.0	32.0
347	1	4.0	4.0	36.0
396	4	16.0	16.0	52.0
446	2	8.0	8.0	60.0
528	1	4.0	4.0	64.0
594	1	4.0	4.0	68.0
693	3	12.0	12.0	80.0
792	1	4.0	4.0	84.0
891	1	4.0	4.0	88.0
990	2	8.0	8.0	96.0
1386	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 43

Moderate MET-Minutes/Week Leisure

Moderate MET-minutes/week leisure	Frequency	Percent	Valid Percent	Cumulative Percent
0	4	16.0	16.0	16.0
240	1	4.0	4.0	20.0
300	1	4.0	4.0	24.0
360	2	8.0	8.0	32.0
540	1	4.0	4.0	36.0
560	1	4.0	4.0	40.0
640	1	4.0	4.0	44.0
720	1	4.0	4.0	48.0
840	1	4.0	4.0	52.0
900	3	12.0	12.0	64.0
960	1	4.0	4.0	68.0
1100	1	4.0	4.0	72.0
1200	1	4.0	4.0	76.0
1440	2	8.0	8.0	84.0
1600	1	4.0	4.0	88.0
1680	1	4.0	4.0	92.0
1800	1	4.0	4.0	96.0
1920	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 44

Vigorous MET-Minutes/Week Leisure

Vigorous MET-minutes/week leisure	Frequency	Percent	Valid Percent	Cumulative Percent
0	1	4.0	4.0	4.0
160	1	4.0	4.0	8.0
280	1	4.0	4.0	12.0
480	2	8.0	8.0	20.0
560	1	4.0	4.0	24.0
600	1	4.0	4.0	28.0
800	2	8.0	8.0	36.0
960	3	12.0	12.0	48.0
1440	2	8.0	8.0	56.0
1680	1	4.0	4.0	60.0
1920	1	4.0	4.0	64.0
2160	2	8.0	8.0	72.0
2400	1	4.0	4.0	76.0
2520	1	4.0	4.0	80.0
2880	3	12.0	12.0	92.0
4000	1	4.0	4.0	96.0
4320	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 45

Total Leisure-Time MET-Minutes/Week

Total Leisure-Time MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
339	1	4.0	4.0	4.0
1097	1	4.0	4.0	8.0
1114	1	4.0	4.0	12.0
1438	1	4.0	4.0	16.0
1473	1	4.0	4.0	20.0
1653	1	4.0	4.0	24.0
1830	1	4.0	4.0	28.0
1836	1	4.0	4.0	32.0
1856	1	4.0	4.0	36.0
2097	1	4.0	4.0	40.0
2190	1	4.0	4.0	44.0
2256	1	4.0	4.0	48.0
2446	1	4.0	4.0	52.0
2457	1	4.0	4.0	56.0
3088	1	4.0	4.0	60.0
3360	1	4.0	4.0	64.0
3420	1	4.0	4.0	68.0
3906	1	4.0	4.0	72.0
3951	1	4.0	4.0	76.0
4088	1	4.0	4.0	80.0
4752	1	4.0	4.0	84.0
4893	1	4.0	4.0	88.0
5147	1	4.0	4.0	92.0
5546	1	4.0	4.0	96.0
6396	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 46

Total Walking MET-Minutes/Week

Total Walking MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
809	1	4.0	4.0	4.0
891	1	4.0	4.0	8.0
908	1	4.0	4.0	12.0
1502	1	4.0	4.0	16.0
1617	1	4.0	4.0	20.0
1832	1	4.0	4.0	24.0
2079	1	4.0	4.0	28.0
2178	1	4.0	4.0	32.0
2244	1	4.0	4.0	36.0
2327	1	4.0	4.0	40.0
2376	1	4.0	4.0	44.0
2475	2	8.0	8.0	52.0
2574	1	4.0	4.0	56.0
2657	1	4.0	4.0	60.0
2838	1	4.0	4.0	64.0
3109	1	4.0	4.0	68.0
3234	1	4.0	4.0	72.0
3416	1	4.0	4.0	76.0
3465	1	4.0	4.0	80.0
3515	1	4.0	4.0	84.0
3713	1	4.0	4.0	88.0
4026	1	4.0	4.0	92.0
5082	2	8.0	8.0	100.0
Total	25	100.0	100.0	

Table 47

Total Moderate MET-Minutes/Week

Total Moderate MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
2130	1	4.0	4.0	8.0
2280	1	4.0	4.0	12.0
2580	1	4.0	4.0	16.0
2810	1	4.0	4.0	20.0
3540	2	8.0	8.0	28.0
3740	1	4.0	4.0	32.0
3968	1	4.0	4.0	36.0
3990	1	4.0	4.0	40.0
4480	1	4.0	4.0	44.0
4950	1	4.0	4.0	48.0
5075	1	4.0	4.0	52.0
5130	1	4.0	4.0	56.0
5220	1	4.0	4.0	60.0
5355	1	4.0	4.0	64.0
6050	1	4.0	4.0	68.0
6120	1	4.0	4.0	72.0
7080	1	4.0	4.0	76.0
7590	1	4.0	4.0	80.0
7920	1	4.0	4.0	84.0
8040	1	4.0	4.0	88.0
8610	1	4.0	4.0	92.0
11940	1	4.0	4.0	96.0
14100	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 48

Total Vigorous MET-Minutes/Week

Total Vigorous MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
0	1	4.0	4.0	4.0
1760	1	4.0	4.0	8.0
2760	1	4.0	4.0	12.0
2880	1	4.0	4.0	16.0
3120	1	4.0	4.0	20.0
3240	1	4.0	4.0	24.0
3400	1	4.0	4.0	28.0
3480	1	4.0	4.0	32.0
3600	1	4.0	4.0	36.0
3800	1	4.0	4.0	40.0
3840	1	4.0	4.0	44.0
4080	1	4.0	4.0	48.0
4200	1	4.0	4.0	52.0
4800	1	4.0	4.0	56.0
5160	1	4.0	4.0	60.0
5200	1	4.0	4.0	64.0
5280	1	4.0	4.0	68.0
6000	1	4.0	4.0	72.0
7280	1	4.0	4.0	76.0
8880	1	4.0	4.0	80.0
11520	1	4.0	4.0	84.0
15120	1	4.0	4.0	88.0
18080	1	4.0	4.0	92.0
19680	1	4.0	4.0	96.0
23320	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 49

Total Physical Activity MET-Minutes/Week

Total Physical Activity MET-minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
5041.50	1	4.0	4.0	4.0
7178.00	1	4.0	4.0	8.0
7617.50	1	4.0	4.0	12.0
7875.00	1	4.0	4.0	16.0
8048.50	1	4.0	4.0	20.0
8106.00	1	4.0	4.0	24.0
10314.00	1	4.0	4.0	28.0
10317.00	1	4.0	4.0	32.0
11532.50	1	4.0	4.0	36.0
11851.50	1	4.0	4.0	40.0
13295.00	1	4.0	4.0	44.0
13359.00	1	4.0	4.0	48.0
13383.00	1	4.0	4.0	52.0
14381.00	1	4.0	4.0	56.0
14715.00	1	4.0	4.0	60.0
15042.00	1	4.0	4.0	64.0
15304.50	1	4.0	4.0	68.0
16631.00	1	4.0	4.0	72.0
18492.00	1	4.0	4.0	76.0
19884.00	1	4.0	4.0	80.0
22576.50	1	4.0	4.0	84.0
23728.00	1	4.0	4.0	88.0
24811.50	1	4.0	4.0	92.0
30418.60	1	4.0	4.0	96.0
30834.00	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 50

Sitting Total Minutes/Week

Sitting Total Minutes/week	Frequency	Percent	Valid Percent	Cumulative Percent
330.00	1	4.0	4.0	4.0
620.00	1	4.0	4.0	8.0
1140.00	1	4.0	4.0	12.0
1230.00	1	4.0	4.0	16.0
1260.00	1	4.0	4.0	20.0
1400.00	1	4.0	4.0	24.0
1530.00	1	4.0	4.0	28.0
1560.00	1	4.0	4.0	32.0
1650.00	1	4.0	4.0	36.0
1680.00	3	12.0	12.0	48.0
1980.00	3	12.0	12.0	60.0
2040.00	1	4.0	4.0	64.0
2100.00	1	4.0	4.0	68.0
2280.00	1	4.0	4.0	72.0
2340.00	1	4.0	4.0	76.0
2520.00	1	4.0	4.0	80.0
2580.00	1	4.0	4.0	84.0
2760.00	1	4.0	4.0	88.0
2820.00	1	4.0	4.0	92.0
2880.00	1	4.0	4.0	96.0
3120.00	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 51

Average Sitting Total Minutes/Day

Average Sitting Total Minutes/day	Frequency	Percent	Valid Percent	Cumulative Percent
47.14	1	4.0	4.0	4.0
88.57	1	4.0	4.0	8.0
162.86	1	4.0	4.0	12.0
175.71	1	4.0	4.0	16.0
180.00	1	4.0	4.0	20.0
200.00	1	4.0	4.0	24.0
218.57	1	4.0	4.0	28.0
222.86	1	4.0	4.0	32.0
235.71	1	4.0	4.0	36.0
240.00	3	12.0	12.0	48.0
282.86	3	12.0	12.0	60.0
291.43	1	4.0	4.0	64.0
300.00	1	4.0	4.0	68.0
325.71	1	4.0	4.0	72.0
334.29	1	4.0	4.0	76.0
360.00	1	4.0	4.0	80.0
368.57	1	4.0	4.0	84.0
394.29	1	4.0	4.0	88.0
402.86	1	4.0	4.0	92.0
411.43	1	4.0	4.0	96.0
445.71	1	4.0	4.0	100.0
Total	25	100.0	100.0	

Table 52

Most Frequent Medians of the Minutes per Week for Physical Activity for Domain Pretest to Posttest Comparison

Domain/Median	Pretest	Posttest
Work/walking	990 (*n* = 4)	990 (*n* = 3)
Work/moderate physical activity	1440 (*n* = 5)	2400 (*n* = 5)
Work/vigorous physical activity	0 (*n* = 7)	2160 (*n* = 3)
Active Transportation/Walking	0 (*n* = 4)	792 (*n* = 4)
Active Transportation/Cycling	0 (*n* = 17)	0 (*n* = 15)
Domestic and Garden/vigorous physical activity in the yard	0 (*n* = 5)	0 (*n* = 6)
Domestic and Garden/moderate physical activity in the yard	240 (*n* = 4)	720 (*n* = 4)
Domestic and Garden/moderate physical activity inside the house	0 (*n* = 4)	360 (*n* = 8)
Leisure-Time/walking	0 (*n* = 5)	396 (*n* = 4)
Leisure-Time/moderate physical activity	0 (*n* = 6)	0 (*n* = 4)
Leisure-Time/vigorous physical activity	0 (*n* = 6)	1920 (*n* = 3)

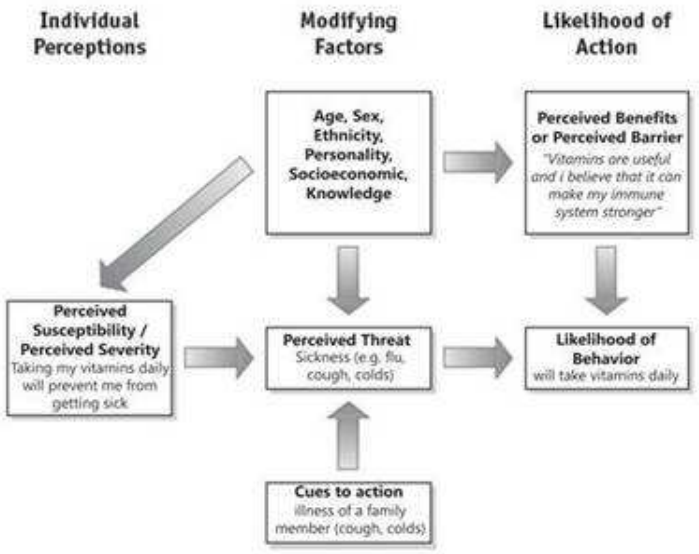

Figure 1. The information of health belief model. Adapted from "Health Behavior and Health Education: Theory, Research and Practice," by V. Stretcher, and I.M. Rosenstock, 1997, Jossey-Bass. Copyright 2015 by Jones and Bartlett. Reprinted with permission.

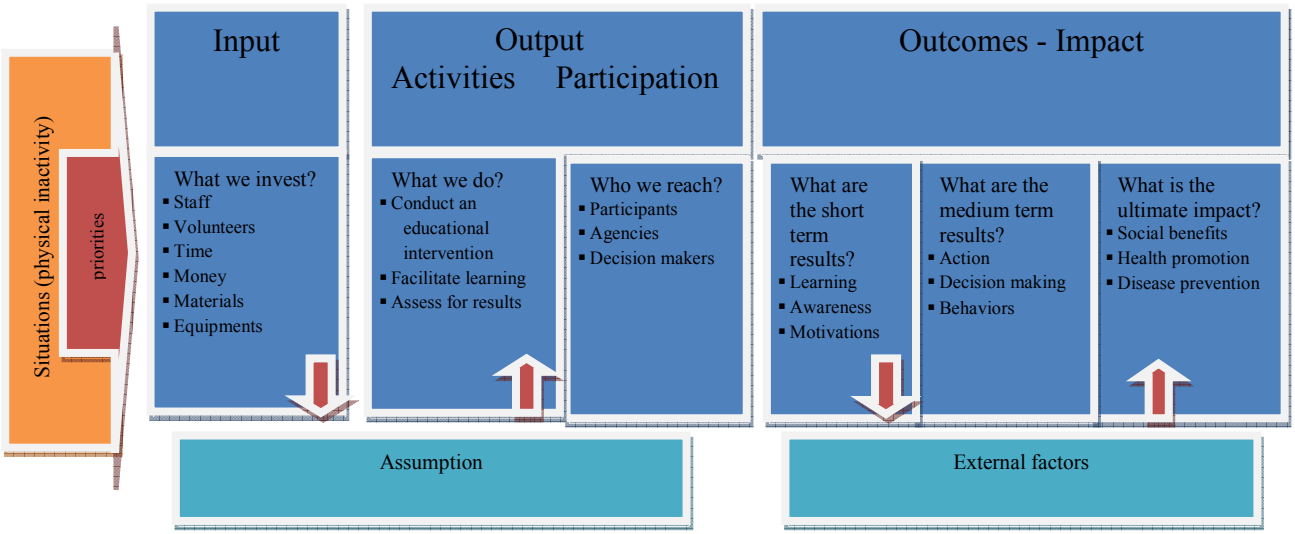

Figure 2. Describes what the program was and what it did - the sequence of events that linked program investments to results**.** Adapted from "Program Planning and Development – Program Logic Model**,"** by University of Wisconsin, 2008**,** Retrieved from http://extension.missouri.edu/staff/programdev/plm/. Copyright 1997 by University of Missouri. Reprinted with permission.

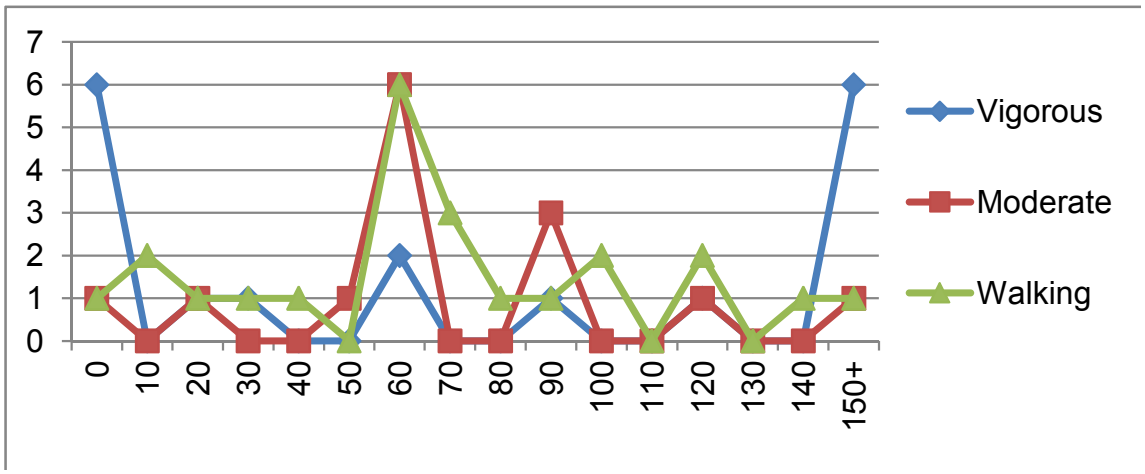

Figure 3. Frequency of time (minutes) spend on one day of physical activity as a part of paid or unpaid work (Pre test results)

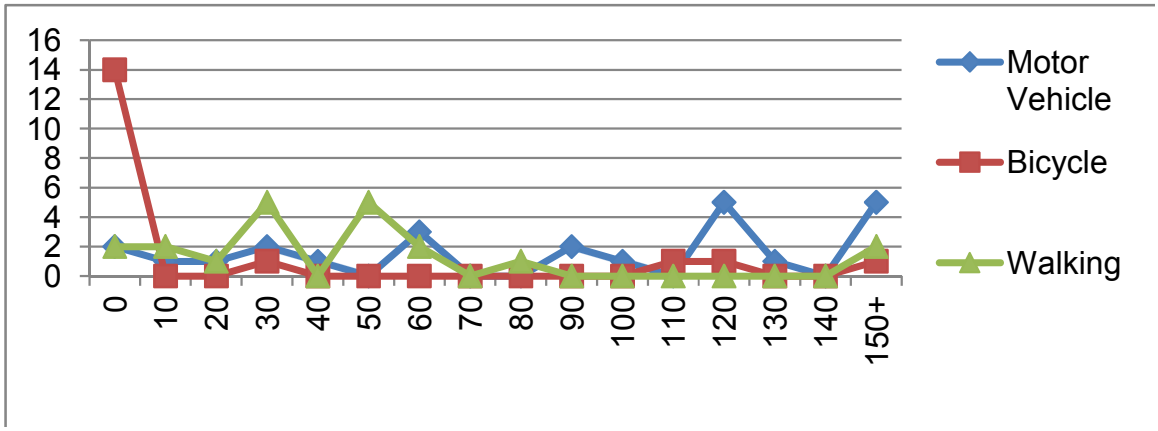

Figure 4. Frequency of time (minutes) spend on one day of traveling (Pre test results)

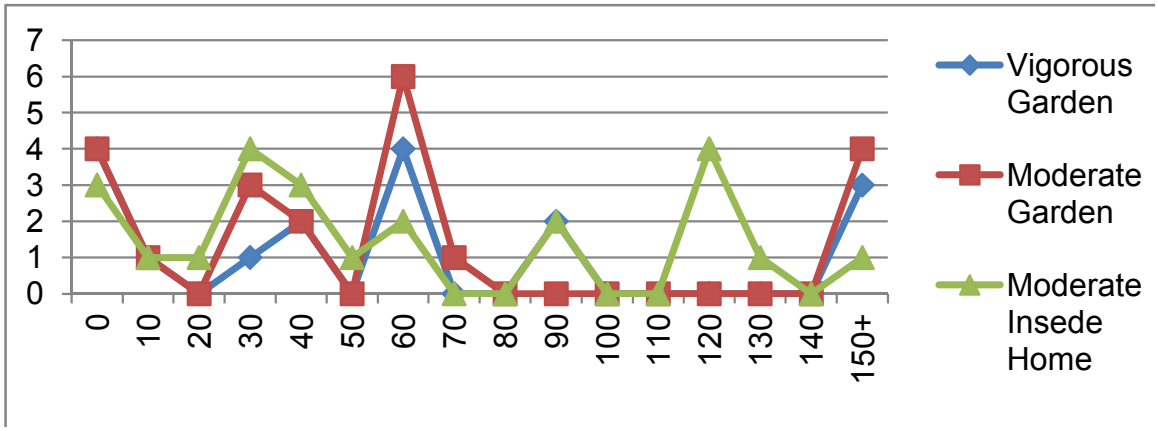

Figure 5. Frequency of time (minutes) spend on one day of domestic and garden domain (Pre test results)

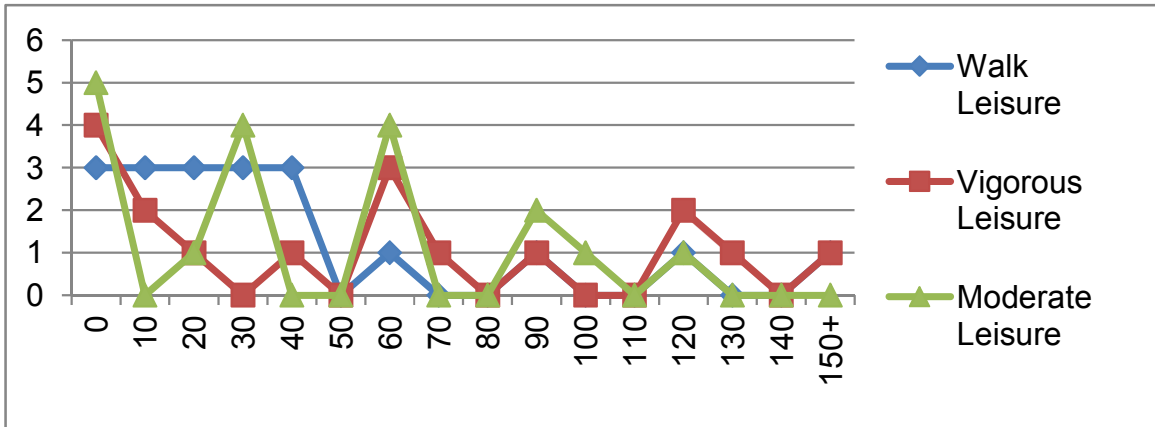

Figure 6. Frequency of time (minutes) spend on one day of leisure time domain (Pre test results)

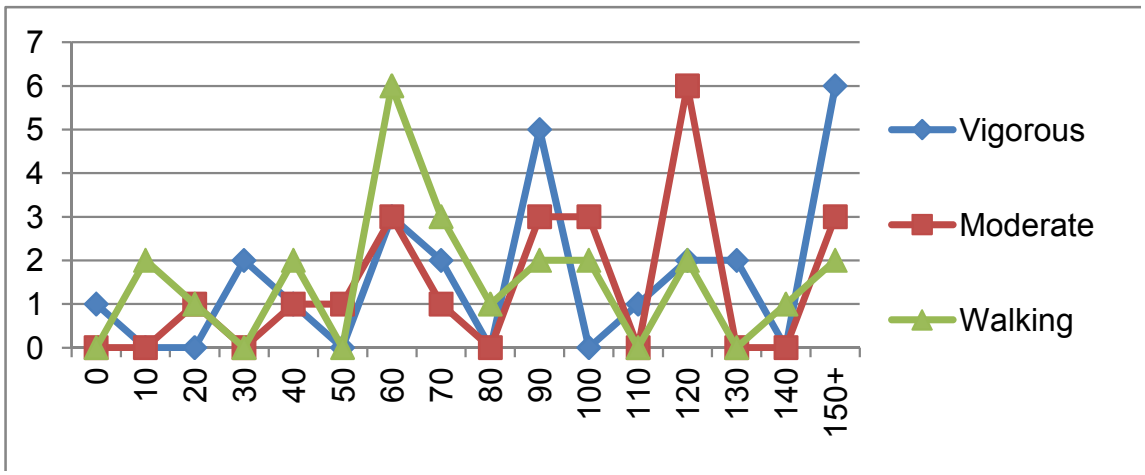

Figure 7. Frequency of time (minutes) spend on one day of physical activity as a part of paid or unpaid work (Post test results)

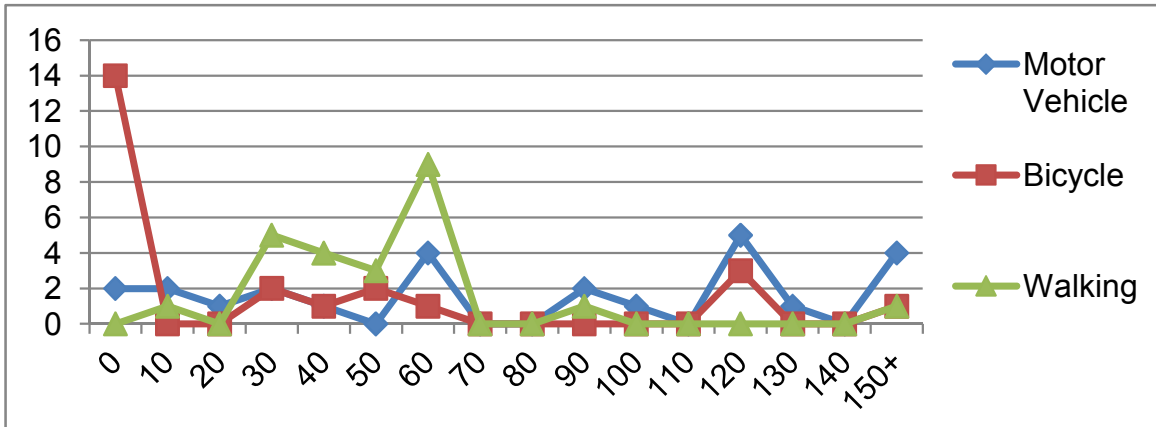

Figure 8. Frequency of time (minutes) spend on one day of traveling (Post test results)

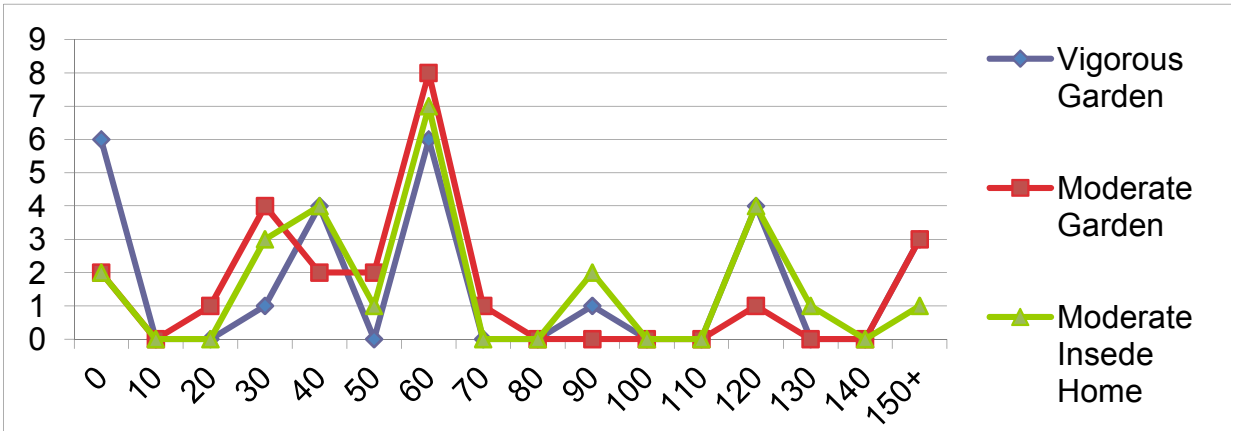

Figure 9. Frequency of time (minutes) spend on one day of domestic and garden domain (Post test results)

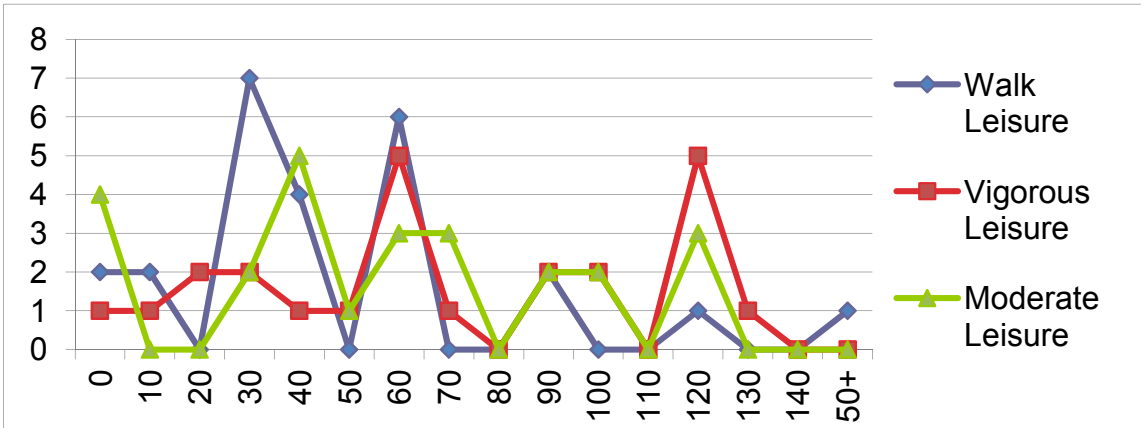

Figure 10. Frequency of time (minutes) spend on one day of leisure time domain (Post test results)