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Knowledge, Attitude, and Practices on Physical Activity among Adults: A Basis for a Health Promotion Program

Mariefe Rada Echavez
Adventist University of the Philippines, Philippines
mariefeechavez@gmail.com

Abstract

Physical activity is one of the current needs globally and locally due to the need of every adult's physical inactivity. Physical activity plays a significant role in health promotion as well as the prevention of non-communicable diseases among adults. Thus, inadequate physical activity is one of the risk factors that lead to death worldwide. The goal of this health promotion program is to reach the highest level of Knowledge, Attitude, and Practices on Physical Activity among adults in Mabulo, San Fernando Romblon. The method of the study constructed two phases of research design. The first phase was descriptive design (quantitative), also known as the needs assessment. The second phase was a case research study (qualitative). The researcher selected in the first phase 55 participants to respond to the need assessment survey. In the second phase, 6 participants were selected. The result shows that after the program, there was a 45% (from 45% to 90%) improvement in the knowledge of the participants on physical activity based on the pre-test and post-test given. Moreover, there was a 1.22 difference in the attitude of the participants from pre-test to post-test. The pre-test showed a positive response with a mean of 2.78, and the post-test reflected a very positive attitude with a mean of 4.00 after the program. Lastly, with the participant's practices, there is a low response in the pre-test with a mean of 1.36; however, in the post-test, there is a high response with a mean of 2.6. There was a 1.24 increase in the practice of the participants from pre-test to post-test. The study concludes that physical activity has been proven to have significant benefits for hearts and contributes to preventing non-communicable diseases. Thus, further improves overall well-being in adults. Hence, promoting physical activity can help develop awareness among adults and become more conscious of their health and lifestyle. Further study is recommended using a behavioral change that focuses on barriers and benefits of physical activity.

Keywords: Knowledge, Attitude, Practices, Physical Activity

INTRODUCTION

The study of physical activity is one of the current needs globally and locally due to the need for every adult's physical inactivity. The World Health Organization (WHO, 2019) defined physical activity as any bodily movement produced by skeletal muscles that require energy expenditure. Thus, Popular ways like to be physically active such as walking, cycling, sports, and recreation can be done at any amount of skill and for pleasure. However, inadequate physical

activity is a worldwide public health problem because one in four adults is not active enough (World Health Organization, 2018). Further, physical inactivity is associated with an increased risk of premature death (Carlson et al., 2018).

The term "physical activity" should not be confused with "exercise," which is a subcategory of physical activity that is planned, structured, repetitive, and aims to improve or maintain one or more components of physical fitness (WHO, 2019). Thus, someone has to work hard, breathe heavily and increase heart rate during exercise.

According to the World Health Organization (2018), *"*rates of physical inactivity throughout the world suggest that the promotion of regular physical activity is effective." Fiona Bull (2021) quotes, being active is important for our hearts, bodies, and minds, and how the favorable outcomes benefit everyone, of all ages and abilities" (para. 7). Physical activity of any kind can improve the health and well-being of anyone, but if you spend more time sitting down, anywhere at school or workplace, or home, it is better to do more physical activity rather than encounter sedentary habits.

Tom Walker (2020) cited, "Every move counts, especially now as we manage the constraints of the COVID-19 pandemic. We must all move every day safely and creatively." In order to improve commitment to physical activity, health promoters and professionals should provide updates of health messages with regards to physical activity that can make life worth meaning. In times like these, increasing physical activity is not only global and local problems but also involves individual problems. Hence, our whole society needs a relevant, informative, and collective approach that can be promoted in every country developed or developing. Recently Southeast Asia has faced an epidemic of chronic non-communicable diseases responsible for 60% of deaths in the region. Physical inactivity has been reported as one of the causes related to non-communicable diseases in adults (Dinanti Abadini, 2018). This study aimed to gather knowledge about physical activity determinants and correlations from studies held among adults in Southeast Asia.

Figure 1: Paradigm of Intervention

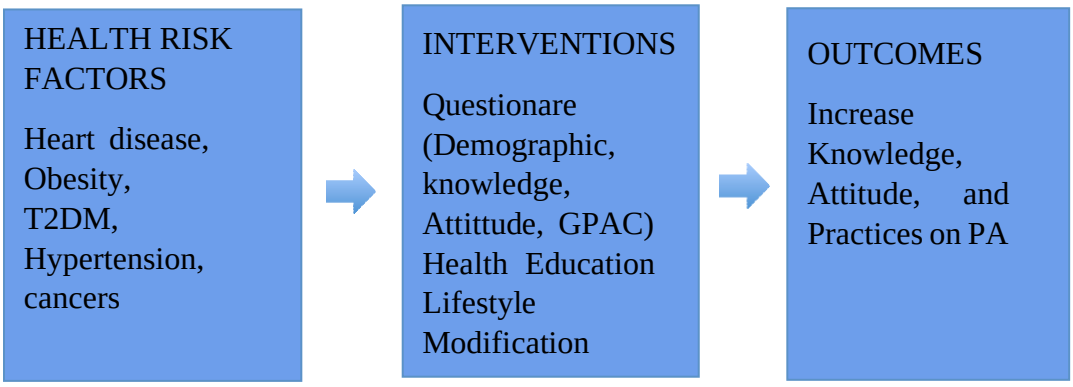

Figure 1 shows the intervention paradigm that presents the reduction of non-communicable disease risk.

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LITERATURE REVIEW

This section further presents the review of literature on physical activity among adults. Other related studies discuss physical activity and physical inactivity that contribute knowledge, attitude, and practices that promote physical activity and lifestyle intervention in relation to physical inactivity.

Magnitude of the problem

Inadequate physical activity is one of the risk factors that lead to death worldwide. Insufficient physical activity is a key risk factor for non-communicable diseases (NCDs) such as cardiovascular diseases, cancer, and diabetes. Thus, physical activity has significant health benefits and contributes to preventing NCDs. According to the World Health Organization (2019), globally, 1 in 4 adults is not active enough. And more than 80% of the world's adolescent population is insufficiently physically active. Further, policies to address insufficient physical activity are operational in 56% of WHO Member States. These Member States have agreed to reduce insufficient physical activity by 10% by 2025 (WHO, 2019).

The magnitude of the problem of physical activity is the leading key for non-communicable diseases. Thus, it has negative results in the quality of life and the effect on mental health. Updates from different countries globally indicate the adequate increase of physical inactivity and affects all walks of life. Studies had shown a global age-standardized prevalence of insufficient physical activity was 27·5% (95% uncertainty interval 25·0–32·2) in 2016, with a difference between sexes of more than 8% points (23·4%, 21·1–30·7, in men vs. 31·7%, 28·6–39·0, in women). Between 2001 and 2016, levels of insufficient activity were stable (28·5%, 23·9–33·9, in 2001; change not significant). The highest levels in 2016 were in women in Latin America and the Caribbean (43·7%, 42·9–46·5), South Asia (43·0%, 29·6–74·9), and high-income Western countries (42·3%, 39·1–45·4), whereas the lowest levels were in men from Oceania (12·3%, 11·2–17·7), east and southeast Asia (17·6%, 15·7–23·9), and sub-Saharan Africa (17·9%, 15·1–20·5). Prevalence in 2016 was more than twice as high in high-income countries (36·8%, 35·0–38·0) as in low-income countries (16·2%, 14·2– 17·9), and insufficient activity has increased in high-income countries over time (31·6%, 27·1–37·2, in 2001).

Gretchen Stevens (2018) indicates, “If current trends continue, the 2025 global physical activity target (a 10% relative reduction in insufficient physical activity) will not be met. Policies to increase population levels of physical activity need to be prioritized and scaled up urgently.”

Physical inactivity and lack of exercise are major societal health problems. Most experts in exercise psychology, if asked how to support people in growing their motivation for physical activity and exercise, would probably recommend shifting the decisional balance by creating a belief that there are more benefits to be had from becoming active than barriers to be overcome, bolstering their appraisals of self-efficacy, and creating social environments that promote perceptions of autonomy, competence, and relatedness (e.g., Biddle and Vergeer, 2019).

These recommendations are evidence-based (e.g., Teixeira et al., 2012; Young et al., 2014). Many empirical studies show that people who are sufficiently physically active differ in these

variables from those who are less active. There are also longitudinal and intervention studies demonstrating that changing these motivational variables makes behavior change more likely.

A study shows that physical inactivity is now described as a pandemic that needs urgent action. And research showed that 1 in 4 adults in the world is inactive (Abraham Haileamlak, 2019). It is evidenced that physically inactive people are 20-30% times more likely to be at risk of death than active individuals or adults.

Non-communicable diseases (NCDs) contribute to two-thirds of the world's deaths. Nearly 80% of NCD deaths, close to 30 million per year, occur in low-income and middle-income countries. Several factors influence the occurrence of NCDs, including diet and lifestyle. As we presented the magnitude of NCDs in our previous issues, the focus for this note is to briefly discuss physical inactivity, which is a major risk factor for non-communicable diseases. About 9% of all deaths globally are attributed to physical inactivity (Abraham Haileamlak, 2019).

Thus, there are other ways to avoid this magnitude of the impact of physical activity; having physical exercise is the best option or best way to increase physical activity. Every country must plan lifestyle interventions aimed to promote knowledge, attitude, and cardiovascular diseases.

Risk factors

According to World Health Organization (2018), globally, around 23% of adults aged 18 and over were not active enough (men 20% and women 27%). In high-income countries, 26% of men and 35% of women were insufficiently physically active, as compared to 12% of men and 24% of women in low-income countries. Low or decreasing physical activity levels often correspond with a high or rising gross national product. The decrease in physical activity is partly due to inaction during leisure time and sedentary behavior on the job and at home. Likewise, an increase in the use of "passive" modes of transportation also contributes to insufficient physical activity.

METHODOLOGY

This section explains in detail the methods used in conducting the study. This study used a qualitative perspective in analyzing the experiences of participants who underwent a physical activity program. It includes the research design, sampling techniques, and data gathering procedure.

Research design

Generally, the study established two phases of research design. The first phase was descriptive design (quantitative), also known as the needs assessment. And the second phase was a case research study, known as qualitative research design.

Sampling technique

The program was conducted in Mabulo, San Fernando, Romblon. The researcher selected 55 participants for the first phase to respond to the need assessment survey. The second phase selected six participants among adults. It utilized the convenience sampling method, also known as availability sampling. The subjects of this non-probability sampling technique are selected because

of their availability. Due to this reason, samples cannot be used as a representation of the whole population (Gravetter & Forzano, 2011).

Data gathering procedure

The data was gathered through a paper survey method purposively distributed to the targeted adult participants who joined in physical activity. The data collection was carried out in the first eight (8) sessions of the program. Prior to the filling of survey questionnaires, the researchers' names and the purpose of the survey were explained to the participants individually. All participants voluntarily participated in the study. Due to the COVID-19 protocol, distancing was applied, and the six participants were being utilized for pre-assessment and post-assessment of this program so that their needs would be catered to.

Table 1: World Health Organization BMI Classifications for Adults age 20+

Asian BMI Level	BMI Level.	Weight Classification
Below 18.5	Below 18.5	Underweight
18.5-22.99	18.5-24.9	Normal weight
22.99-25	25.0-29.9	Overweight
25-39.9	30-34.9	Obese
40+	40+	Class 3 Obesity

RESULTS AND DISCUSSION

This chapter contains the results and discussion of the goal and objectives of the study in terms of demographic information of the participants' age, marital status, educational attainment, occupation, and monthly income. It discusses the health status of the participants in terms of blood pressure, heart rate before and after the physical activity, BMI, and GPAQ before and after the program and compares the results. It also discusses the level of knowledge, attitude, and practices of participants before and after the program and how physical activity intervention affects the participants after the program. A series of programs were conducted based on knowledge, attitude, and practices on physical activity. The program lasted for eight successive sessions with seminars on different health topics and daily physical activities relevant to the needs of each participant.

Participants' demographic information

The first research objective pertains to the demographic information of the participants in terms of age, marital status, educational attainment, occupation, and monthly income. There was a total of six adults. Aged 39 to 61 years old, as shown in Table 2. The Marital status is all married. The educational attainment of half of the participants was high school graduates, and the other half was college graduates. Family occupations were businessmen, construction, housekeeper, and fishermen, which comprised a monthly income between 5,000 to 15,000 as tabulated in the table.

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Table 2: Participants' Demographic Information

Age	**N (6)**
39	1
45	1
55	1
42	1
58	1
61	1
Marital Status	
Married	6
Single	0
Educational Attainment	
High School Graduate	3
College Graduate	3
Occupation	
Construction	1
Businessmen	1
House keeper	2
Fishermen	2
Monthly Income	
Between 5,000 – 10,000	4
Between 10,000 – 15,000	2

Research consistently demonstrates that physical activity declines with age. However, such declines do not occur linearly. The transition into early adulthood is one period in which disproportionate declines in physical activity have been evident (John Cairney, 2012).

Participants' Health Status

This section discusses research Objective 2, which assesses the health status of the participants in terms of blood pressure, resting heart rate, BMI before and after the physical activity before and after the program, and compares the results. Tables 2, 3, and 4 below indicate the participants' health status in relation to knowledge, attitude, and practices of physical activity.

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Table 3: Participants' Blood Pressure

	Participants	Pre-test	Classification	Post-test	Classification
1.	1	130/100	Stage 1	120/80	Normal
2.	2	140/90	Stage 2	130/90	Stage 1
3.	6	160/100	Stage 2	140/80	Stage 2
4.	3	145/90	Stage 2	130/80	Stage 1
5.	5	130/100	Stage 1	120/80	Normal
6.	4	138/80	Stage 1	118/80	Normal

Legend: Normal <120/80: **Elevated** 120-129/<80; **Stage 1** 130-139/80-89; **Stage 2** >140/90

Table 3 revealed that half of the participants have stage 1 Hypertension (130 mmHg systolic / 90-100 mmHg diastolic) while the rest of them have stage 2 Hypertension or high blood pressure (140 160 / $\leq$ 100) after pre-test. However, after the post-test, one participant had normal blood pressure (118/80), two participants were elevated (120/80), two participants were stage 3 (130/90, 130/80), and one participant was stage 2 (140/80). Studies suggest that physical activity is an important factor for improving general health and preventing the development of NCDs (Miriam Reiner, 2013).

Experimental evidence from interventional studies has further confirmed a relationship between physical activity and hypertension as the favorable effects of exercise on blood pressure reduction have been well characterized in recent years (Keith M. Diaz, 2014). Further, physical activity is commonly recommended as an important lifestyle modification that may aid in the prevention of hypertension.

Table 4: Participants' Heart Rate

	Participants	Resting Heart Rate (Pre-test)	Resting Heart Rate (Post-test)
1.	1	66	64
2.	2	80	78
3.	6	70	70
4.	3	77	67
5.	5	72	71
6.	4	83	66

Table 5: Participants' BMI (Body Mass Index)

Participants	Weight and Height Classification				
	Height	Weight (Pre-test)	Result (BMI)	Weight (Post-test)	Result (BMI)
1.	154.9 cm	50.7 kg.	21.250.5 kg.		21.0
2.	163 cm	57 kg.	21.656.5 kg.		21.3
3.	157 cm	54.8 kg.	22.154.8 kg.		22.1
4.	157 cm	66.8 kg.	26.967.5 kg.		27.2
5.	168 cm	71 kg.	25.370.2 kg.		25.0
6.	168 cm	63.8 kg.	22.863.2 kg		22.4
Overall			**23.3**		**23.1**

-- Legend: Underweight (BMI 18.5); Normal weight (BMI 18.5-22.99); Overweight (BMI 22.99-25)**;** Class 1 Obesity (BMI 25-39.9)

Table 5 above shows the overall pre-test Body Mass Index (BMI) is 23.3 this means the overall weight is within normal range, while the post-test result of Body Mass Index (BMI) is 23.1 this means the weight is within the normal range; thus, the difference is .>02. To sum up, participant 1 pre-test Body Mass Index (BMI) is 21.2, which means the weight is within the normal range, while the post-test result of Body Mass Index (BMI) is 21.0 within the normal range with the difference of >02. Participant 2's pre-test Body Mass Index (BMI) is 21.6; this means the weight is within the normal range, while the post-test result of Body Mass Index (BMI) is 21.3, which is also within the normal range but with a difference of .>03. Participant 6's pre-test Body Mass Index (BMI) is 22.1; this means the weight is within the normal range, while the post-test result of Body Mass Index (BMI) is still 22.1. Hence, there is no difference within the range. Participant 3's pre-test result of Body Mass Index (BMI) is 26.9; this means the weight is within the overweight range, while the post-test result of Body Mass Index (BMI) is 27.2, still within the overweight range with a difference of <.03. Participant 5 pre-test Body Mass Index (BMI) result is 25.3 this means the

weight is within the overweight range, while the post-test Body Mass Index (BMI) is 25.0, which is greater than the recommended range with a difference of <.03. Participant 4 pre-test Body Mass Index (BMI) is 22.8, which means the weight is within the normal range, while the post-test result is 22.4, which has a difference of <.04.

Participants' level of knowledge, attitude, and practices

This section explored research Objective 3, which looks up the level of knowledge, Attitude, and Practices of participants after the pre-test and post-test of physical activity. Table 5 below describes the results of the pre-test and post-test on knowledge. Table 6 shows the attitude pre-test and post-test. Table 7 level of practices on physical activity.

Table 6: Pre-test and Post-test Scores of Participants on Knowledge

Participants	**Pre-Test**		**Post-Test**			
Score	Interpretation		Score	Interpretation	Difference	% Change
1.	4	Poor	9	Very High	5	50
2.	5	Average	10	Very High	5	50
3.	4	Poor	8	High	4	40
4.	5	Poor	9	Very High	4	40
5.	7	High	10	Very High	3	30
6.	3	Poor	6	Average	1	10
Average	**4.5**	**Poor**	**9**	**Very High**	**4.5**	**40.5**

Legend: Verbal Interpretation: 9-10 – Very High; 7-8 –High; 5-6 Average; 4-3 – Poor Knowledge; 0-2–Very poor

Table 6 shows participants' pre-test and post-test scores of knowledge of the adults regarding physical activity. After the pre-test, participants had a poor level of knowledge with an overall mean score of 4.5, and after the program, the participants' level of knowledge increased to the overall mean score of 9, which is interpreted as very high. There were 40.5% changes in score from baseline and end line of the health promotion program.

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Table 7: Attitude of the Participants Regarding Physical Activity

Items	Pre-test		Post-test	
	Mean	**Interpretation**	**Mean**	**Interpretation**
1. The older I get, the more I need to increase my physical activity.	3.67	Positive	4.00	Very Positive
2. Gardening everyday is enough for my physical activity.	3.25	Positive	4.00	Very Positive
3. I think that physical activity Is important even for those Who are not overweight/obese.	3.00	Positive	4.00	Very Positive
4. Physical activity will decrease my risk of developing stroke.	3.00	Positive	4.00	Very Positive
5. I think that 30 minutes of moderate physical activity, 5 times per week has a health benefit at all.	3.00	Positive	4.00	Very Positive
6. Physical activity will keep me Healthy.	2.83	Positive	4.00	Very Positive
7. I like to do physical activity. Very Positive Very Positive Very Positive	2.50	Negative	4.00	Very Positive
Overall	**2.78**	**Positive**	**4.00**	**Very Positive**

Legend: Verbal Interpretation: 1.00-1.75 Very Negative; 1.75-2.50 Negative; 2.51-3.25 Positive; 3.36-4.00 Very Positive

Table 7 above shows the pre-test and post-test scores on the attitude of participants on physical activity. It shows that the pre-test had an overall mean of 2.78, which is interpreted as a positive attitude, while the overall mean score in the post-test was increased to an overall mean of 4.00, which is interpreted as very positive.

Table 8: Participants Global Physical Activity

	Pre-Test			**Post-Test**		
	Mean	Met-Min/Week	Interpretation	Mean	Met-Min/Week	Interpretation
1.	1.6	Less than 600	Low	3.00	At least 3000	High
2.	1.6	Less than 600	Low	3.00	At least 3000	High
3.	1.6	Less than 600	Low	3.00	At least 3000	High
4.	1.00	Less than 600	Low	1.00	At least 600	Low
5.	1.00	Less than 600	Low	3.00	At least 3000	High
Overall	**1.36**	**Less than 600**	**Low**	**2.6**	**At least 3000**	**High**

Legend: 1.00-1.66 = Less than 600 (Low); 1.67-2.33 = At least 600 (Moderate); 2.34-3.00 = At least 3000 (High)

Table 8 shows the pre-test and post-test practices of the participants on physical activity. The overall mean score at pre-test is 1.36, which is interpreted as low practices, while the overall mean score in the post-test improved with the mean score of 2.6, which is interpreted as high practices with the difference of 1.24 after the post-test. Recent studies show that when adults engage in physical activity, it will lead to health benefits, such as an increase in muscle power and improvement in mental health, physical health, cognitive functions, and self-assurance (A.F. Petterson, 2017).

Participants Intervention / Outcomes

This segment investigates research Objective 4 in following how the physical activity intervention affects the participants after the program.

Table 9: Effects of Intervention After the Program

Level of Knowledge – After the program, participants reach the highest level of awareness on physical activity.
Attitude – Participants' attitudes awareness change to positive on the need to be physically active. "It feels good when I do physical activity every day, I had a good night's sleep, and my blood pressure normalized (Participants' comments)."
Practices – Participants were able to achieve>150 minutes of moderate to vigorous intensity of physical activity per week and achieve a change of diet and lifestyle. Participants group themselves and perform physical activity every morning.

Studies have shown the many benefits of physical activity and the low prevalence rates; it is imperative that interventions be designed that effectively promote the adoption and maintenance of active lifestyles in large numbers of people, particularly among adults (Healthy People, 2010).

CONCLUSION

According to Tom Walker (2020), "Every move counts, especially now as we manage the constraints for the COVID-19 pandemic. We must all move every day safely and creatively." To improve commitment to being physically active. Health promoters and professionals should provide an update for the health message with regards to physical activity that can make life worth meaningful.

Physical activity has been proven to have significant health benefits and contributes to preventing non-communicable diseases. Thus, further improves overall well-being in adults. Hence, promoting physical activity can help to develop awareness among adults, and they become more conscious of their health and lifestyle. There should be more educational programs carried out by our health workers.

The study revealed that the Move, Move Your Way program helps increase the knowledge of the participants from low to high. The attitudes of the participants were improved from positive to

very positive. Also, the practices of the participants were improved from low to high. Significance differences in knowledge, attitude, and practices were established in the participants before and after the program execution. Hence, the program effectively promotes and improves the knowledge, attitude, and practices on physical activity of the participants. Thus, the Move Your Way program can be used as an intervention to prevent non-communicable diseases.

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