

**Research Article**

**Using Combination of Social Marketing Model and Diffusion of Innovation Theory to Promote Physical Activity of Women in Yazd: A Combined Study**

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**ABSTRACT**

**Introduction:** Regular physical activity in society is useful in promoting the health of people in the community. Women do not have much participation in physical activities, and their activities decrease with increasing age. The purpose of this study is to use a combination of social marketing model and promotion of physical activity in women in Yazd.

**Materials and Methods:** This qualitative and quantitative study was carried out. In the qualitative study, the experiences of 29 women in Yazd city were characterized by physical activity based on social marketing theory. In the quantitative study, IPAQ questionnaire and a designed questionnaire of analysis the qualitative section based on the social marketing model and publication model was reviewed and completed by 100 people.

**Results:** The results of qualitative study in the three main categories consisted of excuses, limiting beliefs, and feeling of well-being and physical activity. The Wilcoxon test showed that there is a significant difference between the knowledge and attitude of women about physical activity in the pretest and posttest of the intervention group. The results of correlation test showed that there was a significant and positive correlation between the relative advantage and the desire to do physical activity in the intervention group ( $r = 0.567$ ,  $n = 50$  and  $p$ -value  $< 0.05$ ). Also, in the

intervention group, there was a comparative advantage. There is also a moderate and significant positive correlation ( $r = 0.537$ ,  $n = 50$ , and  $P\_value < 0.05$ ). The correlation t-test showed that there was a significant difference in the flexibility of the test, the brush ( $p = 0.000$ ) and the strength of the finger grip ( $p = 0.008$ ), in the pretest and posttest groups of the intervention group.

**Conclusion:** The combination of these models should be targeted at designing physical activity. Identifying the barriers and opportunities for women's physical activity and combining these models will help health planners apply the most appropriate methods and strategies to promote this behavior.

**Keywords:** physical activity, women, social marketing model, innovation publication model, Yazd

## INTRODUCTION

A regular company in physical activity is helpful in improving the health of the community (1). According to the World Health Organizations WHO report, inactivity is one of the 10 major causes of death (around 9 million people a year). It also reported in 2010 that women were less likely to be inactive than men (28% vs. 34%) more (2). Women do not have much participation in physical activity, and their activity decreases with age (3). Motility is the cause of many morbid diseases such as obesity, weakness in cardiovascular and respiratory systems, and directly and indirectly endangers human health (4). Studies in the country have shown that more than 70 percent of Iranians do not have enough physical activity (5). Physical activity can promote women's health and prevent major diseases and disabilities (6). The WHO has reported that the prevalence of impulsivity among women aged 15-64 years is 76.3%. Women are more likely to have diseases and disabilities than men for physiological reasons such as pregnancy, lactation and menopause. Women also suffer from illnesses that are related to their lack of physical activity (7). Low mobility is a global problem and one of the top ten deaths in the world. So that around two million deaths occur annually (8). In the health services delivery system, Iran has the most emphasis on educating women and paying attention to their knowledge and attitudes barriers. While using audience-based behavior patterns, Target group views and opinions about a behavior or health service, and based on it, to boost the benefits or reduce the cost involved so that people can use it to treat or use that service. The head of the audience-driven behavioral template is social marketing in which, using marketing methods, we

seek to influence the voluntary behavior of target groups for the promotion of personal and social well-being, focusing on the needs and aspirations of contributors and reducing Barriers to the benefits of an idea, behavior or social action can promote it. (9) The use of social marketing as a planning model for solving health problems requires an operational framework. Various patterns have been proposed for determining the stages of social marketing-based planning, one of which is the model introduced by Neiger in 1998 as the Social Marketing (SMART) Assessment and Response Tool (10). The publication of a theoretical theory of innovation It helps to analyze, describe and adapt a new innovation, in other words, it describes the process of social change (11) In marketing, innovation is anything like brand, product, idea, service, technology, Activity and process are said to be considered by the present members in a new social system (12). According to Rogers, the characteristics what innovations may have on the track are the acceptance of innovations. These features are five, which are: The relative advantage is how much innovation is better than the previous one. Compatibility is the second feature of this pattern, which is the amount of person's perception of the coordination of innovation with the existing values, past experiences, and the needs of the recipient of innovation. The complexity that is the third characteristic means the level of individual perception is difficult to learn and apply to innovation. For most members of the social system, some innovations are easy to understand and apply, and some are complex. Testing is the fourth feature that is the ability to study and test innovation with the facilities is small. Innovations

that can be tested with limited facilities are accepted sooner than those that cannot be tested. Visibility is the fifth feature, which means the visibility of the results of innovation, for others. As results Innovation are more obvious to the individual, the more likely he is to accept it (13). Since education for the purpose of the effectiveness of its programs requires recognizing the behavior and factors that affect it, it can take action to modify or modify existing behaviors and replace new behaviors. (14) In this regard, the theory of the dissemination of innovation and social marketing, the principles of practice. The convergence of these principles allows access to effectiveness and efficiency in promoting physical activity, policies and change in future behaviors (15) Despite the importance of Rogers research, one of the major weaknesses of these models is that the features of the innovation or the same product The new shows only part of the reason for the acceptance or rejection of innovation, and the impact of factors such as marketing strategies is not intended to accept or reject innovation (16). Therefore, this combined loading study, aimed at using a combination of social marketing model and publishing innovation in Improvement of the physical activity of women in Yazd. A new method for changing social behavior in the area Women's health is introduced.

## **MATERIALS AND METHODS**

The present study is a combination (qualitative and quantitative) method. The combined research methods, in comparison with each of the qualitative or quantitative methods, provide more comprehensive evidence for a research problem (17-18). Creswell introduced six important combination research methods (18). Due to the use of social marketing model and publishing innovation, this study is a combination of a framed evolutionary design with a sequential exploratory feature, because qualitative research priorities quantitative research in this study. The qualitative part of this study is guided by qualitative content analysis. In this approach, initial coding starts from a theory, and the chosen theory can help to focus the research question (17)

in the qualitative section of this study for data collection The focus of the group discussion was 1, and the semi-structured interview was based on the structures of social marketing theory and continued until the data saturation, so that in the last three interviews, no new code was obtained. Interviews were conducted in a health care setting and the purpose of the study was first explained to women, and interviews were conducted with the consent of each woman. In total, 20 women were interviewed and three group discussions were held, the average number of participants in the discussion a group of 9 people. Two women from health centers in Yazd formed the participants. The selected women from among the women aged 19-52 years who had their names in health centers' offices were targeted (based on the opinion of colleagues working in the center) and the maximum participation of different age groups was selected and invited to participate in the interview. Face-to-face interviews were conducted for 30-45 minutes to collect participants' data on physical activity experiences. The interviews were conducted with the consent of the participants in the healthcare environment. People who were not willing to participate in the interview, were reluctant or unable to participate in the interview were excluded. Demographic information and physical activity were gathered from each participant. Using a deep interviewing guide based on the structures of the social marketing model, participants were asked to express their physical activity experience, for example, in relation to activity The body you are doing tell me ", " How has you been doing physical activity? "And then, based on the goals, the interview continued. In cases where the controversy was in the contributors' words, the researcher was to better understand the subject From exploration and follow-up questions such as "Can Explain More", "What do you mean?", "In this case, Come on "and" What did you mean? " Data mining was also used to collect data simultaneously. To do this, the Lundman and Granhim method were used. In this study, the interview was immediately followed by the text of the interviews and was read several times. The initial codes were

extracted, then the codes were merged and based on similarities, and finally the concept and the content contained in the data were extracted. Data analysis was carried out through the evaluation of acceptability, reliability, adaptability and transferability. A collection tool the information was collected in a small part of the questionnaire and the information was collected through a questionnaire completed two times before the intervention and three months after it. A questionnaire in four sections was comprised of demographic information, knowledge and attitudes, a short form of the International Physical Activity Questionnaire (IPAQ), and questions related to the structures of the social marketing model and the dissemination of innovation. The other part was related to assessing the physical fitness of women. Indicators and measurement tests: Physiological indices of the present study included cardiovascular fitness, flexibility, muscular endurance and muscle strength. To assess these indices, the pre-test and post-test measurements consisted of: Queen college step test, flexural test (sit and reach test), long and sizable test (dynamic muscular endurance test) Muscle strength was also measured by a Nicholas manual muscle test (36). Data were analyzed by SPSS software. For determining the formal validity, a questionnaire was prepared for 14 students in the field of health education and physical education, and the quantitative index of its formal validity was determined. Also, to determine the content validity, the questionnaire 14 experts in the field of health education and sport were given. The Content Validity Index (CVI) and its Content Validity (CVR) were identified. The questionnaire was also examined through internal consistency. In the content validity study, all questionnaires were constructed from the minimum the standard had a reliability of 0.7. This study was conducted in a quantitative, semi-experimental, and interventional and control group on women referring to health centers in Yazd. The number of samples after the questionnaire was prepared according to the results of the qualitative section and the pilot study was conducted on 30 -15 women were

referred to health center of 100 people. After obtaining a referral from the Faculty of Public Health of Shahid Sadoughi University of Medical Sciences in Yazd and presenting it to the authorities of the health centers of the city and Imam Shahr, and the related coordination, the list of all centers A city was prepared and among them, the homogeneous economic-social centers were selected, then from Among eight centers of four centers, they were selected randomly from among them, then two centers as an intervention group from Azad Shahr and two centers as a control group from Imam Sadegh. After referral to the health centers, the list of women was prepared, the cases number their address and contact numbers were registered to access them. Before the start of the program, the goals of the research were explained to women. The company's participation in the study was also subject to their satisfaction and willingness.

## FINDINGS

A) Qualitative study findings: Qualitative study results in three main categories include pretext, limiting beliefs,

The feeling of well-being and physical activity is provided.

A-excuse me

1) Loneliness: One of the barriers to physical activity and exercise in laziness, drowsiness and frustration is women. Contributor Number 20 on physical activity at the club said: "I was not bored. Sometimes I did not care about the club, for example, I would say every day, I'm leaving this month, leaving the following month."

2) High Concern: The participants in this study stated that one of the reasons that prevented physical activity in women was a lot of women's work. Company No. 3 did not do my experiences with the words "I do not do physical activity at home, I do not have time".

3) Family and Society Restrictions: Family and Society Restrictions: Participants in this study expressed one of the reasons for insufficient efforts to work out their physical disability. Contributor 11 stated in this regard: "My dad does

not allow me to go alone on the parachute Go on and do physical activity”

Participants in this study expressed another reason for insufficient efforts to exercise physical activity as a community constraint. Participant No. 8 described his experiences as: I like myself cycling so much, but not in Yazd. I have a bicycle, but it's not in the community.

4) Abandoning the exercise environment: The participants in this study expressed the lack of physical activity in the hall away from home. Participant No. 14 stated: "Because the club cannot do physical activity from my bloodstream."

5) Tuition: Expensive, financial and non-monetary issues were one of the things that the participants emphasized, the contributor 12, "For example, the club is expensive, one of the problems of exercise and physical activity in the financial aspect."

6) Inexpensive time: Not having an appropriate program is another reason for not doing physical activity in women. Women do my experiences in this regard with terms such as Contributor Number 5, "I go home; I go to my family, anytime from morning to noon." Filling, for example, I'm going to my friend's house, calling me, I sit at the computer, seeing TV, and they're all blocking my physical activity. "

7) Shame: Another reason for not doing physical activity in women was embarrassment from others. Contributor 10 will be experimenting with this statement with the words "I usually do not go to the park because I'm not doing physical activity because I'm embarrassed."

**B-restrictive beliefs**

1) Failure to accompany: Another reason for not doing physical activity in women was Contributor

Number 7, and expressed his experience with "I am alone, so I do not do physical activity again."

2) Failure to observe hijab in sports: Another reason for not doing sports in women was Participant No. 9 in this regard with the following sentences such as "We have to follow the hijab and this, it's hard for us to run in the park" .

3) Belief in the possibility of harassment: From other reasons, it was not physical activity in the villages. Contributor 14 described his experiences as "The other park is crowded; it's possible for someone to disturb you or say something that influences Rome. I cannot do physical activity anymore.

4) Lack of supervisor: Another reason was the lack of physical activity in the villages. Contributor Number 16 is his experience with the "Evening I can do somebody who does not have a brotherhood outside my father, not a father like me going to club night"

5) Physical and Mental Problems: One of the reasons for not doing physical activity in the villages. Contributor # 4: Experiences in this particular case, such as "usually the result of my low level of physical activity, was the main cause of my anemia."

C) feels good and well

1) Pleasant feeling: One of the reasons for doing physical activity in the villages. Contributor # 8, "I'm easier to read," says "I'm lighter when I'm doing physical activity."

2) Achievement of peace: Another reason for physical activity was in the villages. Contributor 12 spells out my experiences with this particular package, such as "Because I'm relaxing, I'm doing physical activity very well for me."

**B) Quantitative study findings:**

**Table 1.** Comparison of knowledge and attitude of women about physical activity before and after intervention in two groups of intervention and control

Groups	Variable	Central indicators			Wilcoxon Test		
		Average	Standard deviation	Middle	N	Z	P_value
Intervention group	Awareness Before intervention	10.3	1.6	10.5	50	-	0.00
	Awareness after intervention	11.7	1.3	12	50	4.14	
control group	Awareness before intervention	10.5	2.5	11	50	-	0.856
	Awareness after intervention	10.5	2.6	11	50	0.18	
Intervention group	Attitude before intervention	49.2	13.8	45.5	48	-2.8	0.005
	Attitude after intervention	56.2	10.5	56	50		

control group	Attitude before intervention	53.5	14.7	54.5	50	-1.3	0.18
	Attitude after intervention	54.9	14	56.5	50		

The Wilcoxon test showed that there was a significant difference between the women's knowledge about physical activity in the pretest (Med=10.5 and M = 10.3 ± 6.1) and posttest (Med= 12 and M = 11.7 ± 1.3) in the intervention group [Z(50)= -4.14 and P 0.01]. Also, Wilcoxon test showed that there was a significant difference between women's attitude toward physical activity in the pretest (Med =45.5 and M = 49.2 ±13.8) and post-test (Med =56 and M=56.2± 10.5) and intervention group [Z(48)= -2.8 and P 0.01].

**Table 2** the statistical indices of the groups in the physical fitness variables before and after the intervention

Groups	Variable	Average	Standard deviation	N	t	P_value
Intervention group	Flexibility before intervention	26.22	6.6	50	-5.6	0.000
	Flexibility after intervention	32.7	6.4	49		
control group	Flexibility before intervention	29.60	8.6	50	-1.5	0.136
	Flexibility after intervention	30.7	8.7	49		
Intervention group	Maximum Oxygen Consumption Before Intervention	42	2.1	47	0.17	0.986
	Maximum Oxygen Consumption After Intervention	41.7	2.02	50		
control group	Maximum Oxygen Consumption Before Intervention	41.6	1.8	50	0.684	0.497
	Maximum Oxygen Consumption After Intervention	41.3	1.8	50		
Intervention group	Muscle strength before intervention	22.32	5.2	50	-2.7	0.008
	Muscle strength after intervention	25.16	4.73	50		
control group	Muscle strength before intervention	21.2	5.3	49	0.086	0.932
	Muscle strength after intervention	21.3	5.2	49		
Intervention group	Muscular endurance before intervention	14.5	7.2	50	0.077	0.939
	Muscular endurance after intervention	14.47	7.98	50		
control group	Muscular endurance before intervention	15.44	7.6	50	1.03	0.305
	Muscular endurance after intervention	14.9	8.9	47		

The correlation t-test showed that there was a significant difference in the flexibility of the test and the brush test in the pre-test and post-test groups of the intervention group (p = 0.000), in the pre-test and post-test maximal oxygen consumption in the control and intervention groups There was no significant difference in the grip strength of the fingers in the pre-test and post-test of the intervention group (p = 0.008). Also, there was a significant difference in the score of the lecture test, the pre-test and the post-test in the control and intervention groups was not observed.

**Table 3** Correlation between the desire to do physical activity in women and the characteristics of the pattern of innovation

Groups	Variable a	Variable b						
			Comparative advantage	Physical activity tendency	Visibility	Testing	Complexity	Compatibility
Intervention group	Comparative advantage	Correlation	1.000	0.567	0.537	0.619	0.222	0.256
		P_value	-	0.000	0.000	0.000	0.122	0.073
		n	50	50	50	50	50	50
	Physical activity tendency	Correlation	0.567	1.000	0.313	0.380	0.132	0.19
		P_value	0.000	-	0.027	0.007	0.360	0.19
		n	50	50	50	50	50	50
	Visibility	Correlation	0.537	0.313	1.000	0.774	0.039	-0.240

		P_value	0.000	0.027	-	0.000	0.787	0.093
		n	50	50	50	50	50	50
	Testing	Correlation	0.619	0.380	0.774	1.000	0.103	0.001
		P_value	0.000	0.007	0.000	-	0.477	0.995
		n	50	50	50	50	50	50
	Complexity	Correlation	0.222	0.132	0.039	0.103	1.000	0.396
		P_value	0.122	0.360	0.787	0.477	-	0.004
		n	50	50	50	50	50	50
	Compatibility	Correlation	0.256	0.19	-0.240	0.001	0.396	1.000
		P_value	0.073	0.19	0.093	0.995	0.004	-
		n	50	50	50	50	50	50
	control group	Comparative advantage	Correlation	1.000	0.506	0.434	0.288	0.229
P_value			-	0.000	0.002	0.043	0.109	0.105
n			50	50	50	50	50	50
Physical activity tendency		Correlation	0.506	1.000	0.578	0.539	0.369	-0.042
		P_value	0.000	-	0.000	0.000	0.008	0.771
		n	50	50	50	50	50	50
Visibility		Correlation	0.434	0.578	1.000	0.384	0.276	-0.078
		P_value	0.002	0.000	-	0.006	0.052	0.588
		n	50	50	50	50	50	50
Testing		Correlation	0.288	0.539	0.384	1.000	0.387	0.044
		P_value	0.043	0.000	0.006	-	0.005	0.761
		n	50	50	50	50	50	50
Complexity		Correlation	0.229	0.369	0.276	0.387	1.000	0.132
		P_value	0.109	0.008	0.052	0.005	-	0.360
		n	50	50	50	50	50	50
Compatibility		Correlation	0.232	-0.042	-0.078	0.044	0.132	1.000
		P_value	0.105	0.771	0.588	0.761	0.360	-
		n	50	50	50	50	50	50

In order to investigate the relationship between the variables in question, using the Kolmogorov tests Smirnov and Shapirovilk tests, the data normalization was investigated and considering the statistical test of non-normality of the data, in order to investigate the correlation between the variables, the test Spearman correlation, which is equivalent to nonparametric Pearson correlation test, was used.

The results of the correlation test showed that there is a moderate and significant positive correlation between the relative advantage and the desire to do physical activity in the women of the intervention group ( $r = 0.567$ ,  $n = 50$  and  $P\_value < 0.05$ ). Also, this test showed that there was a moderate and significant positive correlation between the comparative advantage and likelihood in the intervention group ( $r = 0.537$ ,  $n = 50$ , and  $P\_value < 0.05$ ). In the intervention group, there is a significant and positive correlation between

women's ability to test and the relative advantage of physical activity ( $r = 0.619$ ,  $n = 50$  and  $P\_value < 0.05$ ), however, between the relative advantages and the female adjustment score as well as the relative advantage There was no significant correlation between the complexity score ( $P\_value > 0.05$ ,  $n = 50$ ). The highest correlation was found between women's ability to test and viability ( $r = 0.774$ ,  $n = 50$ , and  $P\_value < 0.05$ ).

## DISCUSSION

The purpose of this study was to design and implement an educational program for promoting physical activity in women in Yazd using a combination of social marketing model and publishing innovations in a combined study. The findings of this study showed that women face many obstacles to physical activity. A lot of work at home was one of the most common problems for women. This conclusion is supported by a

study by Motameni (19) on identifying and prioritizing the barriers faced by women in sports activities, Najaf Aghaei (20) and Naderian (26), Romsa, Hoffman (21), Skowron (22), and Rye JA (23). Despite all the evidence regarding the benefits of physical activity in promoting women's health and well-being, these obstacles have not been resolved and their awareness and ability to improve their life-affairs needs to be improved so that they can work together with day-to-day activities the body is also included in the daily activities of the individual. The importance of physical activity and the need to eliminate the barriers faced by women regarding physical activity are not known. These barriers from external barriers to barriers from the inner environment, such as time and time constraints, require planning to be accurate and appropriate. Women's active participation in physical activity.

Another reason for women's lack of physical activity and laxity was drowsiness and sleepiness. This conclusion is consistent with the study of Motameni (19) and Mehdizadeh (25). In this regard, cultural, social and economic factors such as low income, having multiple responsibilities, such as housekeeping, child care and multiplicity of roles as Mother For other reasons, women's low levels of physical activity were not well received. This result is consistent with the study of Naderian(26).

Shyness was due to other reasons why women did not participate in physical activity. This result is consistent with the study of Searle, Jackson (27) and Mehdizadeh(25) about the obstacles to the development of universal sport at universities. The lack of proper planning is another reason for non-participation. Women were engaged in physical activity. This result is consistent with the study of Mehdi Zadeh (25). The results of Ehsani (24) and Arezu (28) study were also due to the lack of participation of women in physical activity, due to the lack of participation of women in physical activity. Reads

Women in this study cited the economic, non-monetary and high costs of the club as another reason for not doing physical activity, which is consistent with Ehsani study (24) by Holt et al.

(32). Participants in this study one of the reasons for not doing physical activity in the hall was a distance away from home, which is consistent with the study of Allender (33). Participants in this study also stated another reason for inadequate physical activity to be objected by the spouse, which is consistent with the Motameni study (19). The product is a good behavior that women expect to do (in this physical activity). How are the partners responding to the question of how you do physical activity? They have been cited as having joy, joy, and tranquility. That result By studying Rashidi(29) on the effect of group exercise on reducing depression in women, Salesi(30) about the effect of exercise and physical activity on the amount of joy in postmenopausal women and the Wong study (31) on the VERB social marketing campaign to increase physical activity Interacting with young people. With proper notification and reporting, the television can provide appropriate strategies for expanding physical activity and physical activity in women. Participating women in this study, with regard to the availability of television on the role of informing them in physical activity and Sports emphasized. Which was similar to that of the Horne J study (34), which emphasized the importance of television in developing sports among the Japanese people. It is also similar to the study of Shilton et al. (35) entitled "Sustainable Social Marketing for Physical Activity." The findings of this study indicate that women in Yazd are considered to be the best location for providing services, products and physical activity in women's park. The findings of this study highlighted ways to increase physical activity in women by removing barriers, educating and informing about the benefits of physical activity, creating suitable physical activities and reducing costs.

One can use the proposed strategies to increase the physical activity of women. Given that the results of this study, like all qualitative studies, are time-dependent. Also, because the community of research has considered a group of women with specific geographical and cultural conditions, research findings should be more cautious other

geographical and cultural conditions are generalized. The lack of cooperation of some women and the timing of the interview and interview sessions could have prevented the participation of some women in the study. The researcher tried to some extent reduce the dimensions of the problem by explaining the goals of the study to each participant and frequent visits at different times and receiving the contact details of the interviewees and asking them for further questions at the right time. The significant change in the mean score of the knowledge of the women in the intervention group was indicative of the effect of educational intervention and the success of the training in increasing the awareness of the group. The results of the study showed that the planned educational intervention in the field of physical activity on the level of knowledge and attitude of the participating women In the study group. In the present study, the knowledge score of women before intervention was 10.3 and in the post-intervention phase 11.7. The mean score of women's knowledge about the pre-intervention stage showed a significant increase indicating that the effect of education on An increase in awareness, indicating that it has enough information and resources The results are similar to the results of Abu-Moghli et al., The effects of the health education program on lifestyle and health behaviors among 130 Jordanian students (48), Vanhelst et al. (49) , The assessment and change in lifestyle in obese adolescents, which was performed in France in 2010 in a sample of 26 boys and girls. All of these studies confirm the result of our study to raise the awareness of the subjects under investigation.

The results of this study indicate that there is a significant difference between the attitude scores of the control group and the test in the post-test stage. These changes can indicate the effectiveness of the curriculum as well as the application of different educational methods and the communication and interaction more and more appropriate. With individuals and expressing new concepts of regular physical activity within the framework of educational training. These findings confirm that the use of logical message transfer

systems in educational programs can be effective in changing attitudes of women in physical activity. , Which is consistent with similar studies in this regard Rejection (52.51, 50). In general, the results of this study confirmed the effect of educational intervention on women's awareness and attitude toward positive and raising the level of internal motivation on physical activity that could have an effective role in improving women's health.

Recent studies, especially in the twentieth century, show that proper and continuous exercises improve and increase strength, muscular endurance, cardio-respiratory endurance, flexibility, as well as fitness and reduce body fat. In fact, the purpose of exercise And continuous physical activity, a better physical condition for longer health and well-being and longer shelf life (37).

Here, the effect of regular physical activity on flexibility tests, muscular endurance, muscle strength and cardio respiratory endurance, which was measured before and three months after the intervention, is discussed with the introduction of other studies.

The findings of this study on the importance and necessity of physical activity showed that physical activity has a significant effect on improving the functional capabilities of physical function. These findings are consistent with the results of many studies.

The mean of flexibility score before intervention in the intervention group was 22.26 and three months after the intervention was 32.7 and the flexural score before and after the intervention was significantly different in the intervention group ( $P < 0.001$ ). In the study of healing and colleagues (38), similar to the results of this study, the mean score of the post-intervention flexibility test was significantly different between the intervention and control groups. These results are consistent with the findings of Patricia et al. (39). Also, with Chou-c-c findings (40) that have shown that the participants' activity was improved from the pretest to the post-test phase in the field of flexibility. The improvement of each of the factors of physical fitness through education and training

depends on its nature and type (38). ) And the development of one of the factors of physical fitness may depend on a variety of factors. In any case, providing information on the importance, concepts, principles, and ... related to the physical fitness, the internal motivation increases and, consequently, higher quality physical activity is performed. In order to teach the concepts of readiness to be credible, they should be gradually presented to the people (38). Finally, more exploratory research is needed to make an explicit commentary on this.

There was no significant difference in the maximum oxygen consumption of pre-test and post-test in both control and intervention groups ( $p = 0.986$ ,  $t = 0.17$ ) and  $p = 0.497$  ( $p = 0.684 = (50) t$ ). With the results of the study Gurlan et al. (41) and Amber (42) were contradictory. These results are contradictory with the findings of the research Patricia et al. (39) and Chou-c-c (40).

There was no significant difference in test scores for lecture test, pre-test and post-test in the control and experimental groups ( $p = 0.939$ ,  $t = 0.077$ ,  $p = 0.305$ , and control = 1.03 = 47). This section the research is consistent with the results of the study by Sullivan (43). According to the results of the study, Anbari et al. (42), who examined the effect of eight weeks of general sport model on physical fitness and general health of male employees, and the opposite of Mohammadian (44) were.

In contrast to the control group, there was a significant difference in the power of the fingers of the fingers (muscle strength) in the pretest and posttest in the intervention group ( $p = 0.008$ ,  $t = 2.7 = t$ ,  $p = 0.932$ ,  $p = 0.086 = 49$ ) These results are similar to the results of the Pasdar (2) regarding the study of physical activity and its impact on body composition and quality of life in female employees of Kermanshah University of Medical Sciences and also with the results of the study by Patricia et al. (45).

As shown in Table 3, there is a moderate and significant positive correlation between the relative advantage and the desire to do physical activity in the intervention and control group women, the findings of this section showed that women understood the benefits of physical

activity. This result reflects the fact that women have evaluated effective physical activity and its relative advantage over low activity, which can be one of the reasons for doing more physical activity in them. The benefits of physical activity in the present study were similar to the results of the studies of Downs, Hausenblas (46) and Collette (47). Also, the results of correlation test showed that there was a moderate and significant positive correlation between the comparative advantage and likelihood in the intervention group ( $P\_value < 0.05$ ). Visibility is a feature that means the visibility of the physical activity results for others. The greater the physical activity outcome for a person, the greater his probability of accepting (19). Given the fact that objectivity and the degree of tangibility lead to the adoption of this action (35), the results of the present study suggest that women may have touched upon the benefits of physical activity and, given the touch and objectivity of their benefits, tend to be more likely to Exercise physical activity. Innovations that can be tested with limited facilities are accepted sooner than those that cannot be tested. (19). The feasibility and relative advantages of physical activity in the women of the intervention group have a moderate and significant positive correlation, which can be due to the tendency of women to acquaint themselves with and touch their physical fitness and their physical abilities. Testing is a feature that allows the study and testing of physical fitness and physical activity with few facilities. Therefore, women's testing can be related to their understanding of the benefits and relative benefits of physical activity. Also, the highest correlation was observed in the intervention group between the test and the observability, but in spite of the significant relationship between these two variables in the control group there was a weak correlation between them. Therefore, it can be said that the measurable results of physical activity besides touching the benefits of it may be related to the desire of women to perform physical activity in the intervention group. In the intervention group, there was a weak correlation between complexity and adaptation. Complexity means the level of

understanding of the individual's difficulty of learning and the application of innovation and adaptability; the amount of person's perception of the coordination of innovation with the existing values, past experiences and learning needs. For most members of the social system, some innovations are easy to understand and apply, and some are complex. Therefore, one can say that between the perceptions of the harmony of innovation with the values of the social system and the perception of a person from the difficulty of learning and applying that weak correlation Positive but meaningful. In this study, there was no significant correlation between the complexity and compatibility with other features of the innovation release model.

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