Original Article

Relationship between Physical Activity and Coping Styles in the Face of Covid-19 Epidemic among Women in Ahvaz

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Abstract

Background & Objective: Decreased levels of physical activity during the COVID-19 epidemic can cause physical and psychological problems for the individual. Therefore, the aim of this study was to evaluate the relationship between physical activity and control coping styles in the face of the Covid-19 epidemic in Ahvaz, Iran.
Materials & Methods: This study is a descriptive-analytical cross-sectional study and the research population includes females in Hamidiyeh Ahvaz, Iran, who were studying in 2019-2020. In this regard, 208 females were selected based on Cochran's formula and random sampling for participation in the study. Beck's physical activity questionnaires and Coping Styles Questionnaire in the face of the COVID-19 epidemic were used to collect data. Pearson correlation coefficient was used to establish statistical relationships.
Results: The results only showed a significant relationship between social support coping style and physical activity (physical activity related to leisure time) (r= 0.142, p= 0.044). There was no significant relationship between physical activity (related to work, sport, leisure time and total) and any of the other coping styles (Confrontation, Avoidance, Self-control, Responsibility, Escape and avoid, Problem solving, Positive estimation) (p≥0.05).
Conclusion: During the COVID-19 epidemic, physical activity related to leisure time was positively associated with social support coping style but all other cases we did not observe a significant relationship between physical activity and coping styles with Covid-19.

Keywords: COVID-19, women, coping styles, Physical Activity

Introduction

The Covid-19 virus is a member of the RNA family that causes respiratory disease in humans and animals and is therefore a threat to public health. Currently, one of the best ways to deal with this disease is prevention and personal hygiene (1).

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On the other hand, the spread of Covid-19 led to quarantine at home and the closure of many recreational and educational centers, which negatively affected people's mental health (2). During the quarantine process, depending on the environmental conditions as well as the type of infectious disease spread, people's mental health may be harmed and some psychological disorders may occur in people in quarantine. In general,

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all studies that have examined the psychological disorders of quarantined individuals show many signs of psychological damage such as emotional distress, depression, stress, mood swings, irritability, insomnia, decreased attention, post-traumatic stress disorder, anger have reported emotional numbness (3). In addition, in quarantine situations, the constant presence of family members together, quarrels between parents or children with parents leads to behavioral incompatibilities and negative feelings towards family members. Undoubtedly, successful adaptation to the psychosocial changes caused by this emerging virus can create new opportunities to experience growth in various aspects of individual-social life (4). However, although all people experience stressful events, some people respond to unpleasant events and manage things without severe trauma and the unpleasant experience of mental health problems. While the behavior of some other people is such that it has certain negative consequences for them, so in the current high-risk situation, identifying people prone to psychological disorders at different levels of society whose mental health may be endangered is necessary to appropriate psychological strategies and techniques can maintain the mental health of these people (5). Some studies have shown that not all women respond equally to stress. In the face of stress, some women experience severe emotional and physical problems; While for other women it can be an interesting and exciting experience. This difference is in the use of coping strategies or their coping style, which is also called copin (6). So, how to deal with stressors during the Covid-19 epidemic is very important. On the other hand, coping is an attempt to control and manage situations that seem dangerous and stressful (7). Questionnaire of coping styles in dealing with the Covid-19 epidemic included Confrontive coping, Distancing, Self-controlling, Seeking social support, Accepting responsibility, Escape-Avoidance, Plan full problemsolving, Positive reappraisal (5). A confrontive coping style is a set of aggressive behaviors that people use to solve a problem and involves a degree of hostility and risk in actions (8). Distancing refers to a set of cognitive behaviors that an individual or group uses to stay away from the source of the problem or to avoid it in order to reduce its importance (8). Self-controlling refers to a set of reactions that involve people reacting emotionally when confronted with a source of trouble and preventing people from expressing those reactions (8). The search for Seeking social support also reflects the individual's efforts to obtain intelligence and tangible support and emotional support (8). The method of Accepting responsibility refers to a set of reactions that show the role of the person in creating the problem through his continuous efforts to improve the situation (8). It describes the Escape-Avoidance method of wishful thinking or behavioral attempts to escape or avoid a problematic situation and involves escapism. The Plan full problem solving, describes a method which includes a set of measured and focused thoughts and efforts to deal with the problem, combined with the use of analysts' approaches to problem-solving (8). Finally, the positive reassessment method is a set of efforts to create positive concepts according to the degree of personal development. This method may include religious dimensions (8). On the other hand, it has been proven that among the effective factors in modulating stressors and ways to deal with it, we can mention regular physical activity and exercise. Today, regular physical activity is increasingly accepted as a means to maintain and promote mental health. In general, the results of research indicate that exercise behavior improves mental health, including improving mood (9). The COVID-19 pandemic is an unprecedented health crisis as entire populations have been asked to self-isolate and live in home-confinement for about two years, which in itself represents a physiological and mental challenges with significant health risks (10). Because the symptoms of depression (21%) and symptoms of anxiety (19%) are higher during COVID-19 compared to previous epidemiological data, it seems that COVID-19 epidemics and quarantine remain very stressful for women (11). Given that it is now known that exercise plays an important role in people's health and has a direct impact on mental and physical health, it was found that people who continue their physical activity at home during the Covid-19 era have a higher psychological well-being and better cope with the anxiety and stress caused by the Covid-19 virus (12).

Quarantine restrictions have also allowed family members to spend more hours at home. Given that the home space is considered feminine and women dominate this space more than men, it seems that the excessive presence of members in this space has created challenges and problems in this regard. As a result, it seeks to assess the relationship between physical activity and coping styles in the face of the corona epidemic in women living in the Hamidiyeh area of Ahvaz.

Materials & Methods

This research is applied in terms of purpose and descriptive in terms of nature and is based on the cooperation of Shahid Chamran University of Ahvaz (Iran). The population of this study was all married homemakers (28-55 years old) in the three districts of the municipality, living in Hamidiyeh, from 1399 to 1400 and the sample size in the study was selected based on Cochran's formula of 208 people and random sampling chosen. Two clusters (each cluster containing an area that was examined with 54 households) were selected from every region. Therefore, Hamidiyeh was first selected by purposeful method; Then, the voluntary method was used to complete the questionnaires. Due to Covid-19 disease, the questionnaire was provided to homemakers electronically through WhatsApp and Telegram platforms. In this way, the link of the questionnaire was provided to homemakers in Hamidiyeh region through cyberspace. 324 people filled in the questionnaires, and 208 were selected based on complete answers to the questions (5).

The inclusion criteria were homemakers living in Hamidiyeh, Ahvaz, who were willing to participate in the study and be able to complete the electronic questionnaire and women who have been married for two years.

Coping Styles Questionnaire in the Face of the COVID-19 Epidemic

This questionnaire has 24 phrases and has been designed and validated by Dortaj, Danesh-e-Payeh, Hassanvand and Mousavi (1399) and measures the coping styles Confrontive coping, Distancing, Self-controlling, Seeking social support, Accepting responsibility, Escape-Avoidance, Plan full problem-solving, Positive reappraisal (5). This questionnaire has 24 items and the measurement level of this questionnaire is designed in a distance and in the form of closed-ended questions with a 6-point Likert scale (from never to forever). The reliability of the questionnaire based on Cronbach's alpha was 0.75 which was confirmed. The correlation between anxiety and coping styles of Confrontive, avoidance, denial and Accepting responsibility was equal to 0.62, 0.57, -0.38 and -0.52, respectively, which indicated the validity of the questionnaire. The results of exploratory analysis showed that the adequacy of appropriate sampling and the eight-factor nature of the questionnaire were confirmed (5). Also, these eight factors could explain 66% of the total variance of the coping style variable. Confirmatory factor analysis confirmed the results of content validity and exploratory analysis based on the eight-factor nature of the coping styles questionnaire in the face of the Corona epidemic. Accordingly, the results indicate that this questionnaire is a suitable tool for determining the type of individual reactions in the crisis of epidemic diseases such as COVID-19 by measuring various coping styles of individuals in the face of COVID-19 (5). To get the score of each style, the score of the phrases related to that style is added together according to the table 1. The higher a person's score in a style, the stronger the person in that style (5).

Table 1. The score of each style

Style	Score of the phrases
Confrontive coping	1-2-3
Distancing:	4-5-6
Self-control (self-control)	7-8-9
Seeking social support	10-11-12

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Accepting responsibility	13-14-15
scape-Avoidance	16-17-18
Plan full problem-solving	19-20-21
Positive reappraisal	22-23-24

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Baeke Physical Activity Questionnaire Assessment

Baeke questionnaire includes a total of 16 questions classified into three domains: work, sports, and non-sports leisure activity. Each domain has several questions scored on a five-point Likert scale, ranging from never to always or very often. Scoring of the questionnaire in our study followed the original system; work was the mean score among eight occupational questions, sports was the mean score among four sports-related questions, and non-sports leisure was the mean score among four habitual physical activities during leisure time. Each domain could receive a score from one to five points, thus allowing a total score from three (minimum) to fifteen (maximum). For each scale, the mean score is categorized as 1-2-3 as low level, 2.34-3.66 as medium level and 3.67-5 as high level (13). Cronbach's alpha for the Baecke questionnaire was 0.77-0.88 (14).

Statistical Analyzing

Descriptive charactaristics of the research variables were reported using mean, standard deviation, range of minimum and maximum. Also, the shapiro-wilks test was used to test the normality distribution. Spearman correlation coefficient was used to investigate the relationships between variables. The data were analyzed using the SPSS Statistics (Version 22.0) for Windows (SPSS Inc., Chicago, IL, USA). Significance level will be $P<0.05$.

Results

Anthropometric indices of study subjects (Mean±SD, age 37.40±10.04, height 162.29±6.55, weight 68.14±11.83, BMI 25.90±4.46) and descriptive characteristics of women in are shown in Table 2.

Also, the results only showed a significant relationship between social support coping style and physical activity (physical activity related to leisure time) ($r= 0.142$, $p= 0.044$). There was no significant relationship between physical activity (related to work, sport, leisure time and total) and any of the other coping styles (Confrontation, Avoidance, Self-control, Responsibility, Escape and avoid, Problem solving, Positive estimation) ($p\geq0.05$) (Table 3).

Table2. Mean±SD of Anthropometric indices, self-reported physical activity and coping styles in the face of the COVID-19 epidemic of study subjects

Variable	Mean±SD	Minimum	Maximum
Anthropometric indices			
Age	37.40±10.04	17	65
Height	162.29±6.55	145	190
Weight	68.14±11.83	45	100
BMI	25.90±4.46	23.89	26.72
Self-reported physical activity			

Related to work	2.82±0.36
Related to sport	2.82±0.61
Related to leisure time	2.51±0.62
Total	8.15±0.98
Coping styles	
Confrontation	12.48±2.33
Avoidance	14.43±2.76
Self-control	14.18±2.42
Social support	14.48±2.46
Responsibility	13.56±1.75
Escape and avoid	13.77±2.64
Problem solving	15.99±1.81
Positive estimation	15.72±2.17

BMI: body mass index

Table 3. Correlation between self-reported physical activity and coping styles in the face of the COVID-19

Variable	PA-Work	PA-Exercise	PA-Leisure time	PA.Total
Confrontation	R=0.108 P=0.126	R=-0.095 P=0.183	R=0.098 P=0.167	R=0.043 P=0.547
Avoidance	R=0.062 P=0.381	R=-0.057 P=0.424	R=0.124 P=0.081	R=0.066 P=0.385
Self-control	R=-0.064 P=0.371	R=-0.041 P=0.565	R=0.089 P=0.211	R=0.007 P=0.925
Social support	R=-0.028 P=0.692	R=-0.012 P=0.871	R=0.142 P=0.044*	R=0.072 P=0.310
Responsibility	R=-0.070 P=0.322	R=0.015 P=0.832	R=-0.048 P=0.504	R=-0.047 P=0.511

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Escape and avoid	R=-0.031 P=0.665	R=0.085 P=0.234	R=0.055 P=0.441	R=0.076 P=0.282
Problem solving	R=-0.059 P=0.403	R=-0.021 P=0.770	R=0.065 P=0.360	R=0.006 P=0.934
Positive estimation	R=0.006 P=0.936	R=-0.052 P=0.461	R=0.060 P=0.396	R=0.007 P=0.919

PA: physical activity; * indicated significant correlation

Discussion

The results only showed a significant relationship between social support coping style and physical activity (physical activity related to leisure time) (r= 0.142, p= 0.044). There was no significant relationship between physical activity (related to work, sport, leisure time and total) and any of the other coping styles (Confrontation, Avoidance, Self-control, Responsibility, Escape and avoid, Problem solving, Positive estimation) (p≥0.05).

Our findings were consistent with previous findings such as Morris (2000) and Weinberg et al. (2014)(15, 16). Probably one of the reasons for not observing a significant difference between coping styles with Covid-19 disease with the level of physical activity, closing sports clubs and reducing the level of physical activity in women. Our results are in contrast to those of Bagheri et al. (2020), Polizzi et al. (2020), Vienna and Delira (2020), and Wang et al. (2020) (12, 17-19).

One of the reasons for the inconsistency of our results with some studies is the level of implementation of sports programs because the subjects surveyed in this study were at the amateur and non-professional level and were not involved in sports programs like professional and elite athletes. It is also possible that the level of competition of research subjects and their involvement in sports programs in the meantime is adequate. However, more research is needed to investigate this issue, and it is better for future research to pay attention to this point and evaluate and analyze such a factor in their research. Another critical factor that can play a role is nutrition and diet. It has been shown that a good diet reduces stress and improves social skills (20).

In addition, the study found that leisure physical activity could be an essential source of social support, similar to the results of Mills (1985) and Ewart (1985)(21, 22). Also, in the study of Gerber (2010), seeking help from others was observed as one of the effective coping methods against stress (22). In research Samari (2006) with the title of reviewing support resources and methods of coping within students about the perception of social support received a significant inverse relationship between the perception of social support and students' perception of stress (23) Vilhjalmsson (1994) states that increasing social support from parents and peers reduces the impact of adverse life events among young people and leads to health adjustment (24). In general, there is evidence that social leisure support can reduce stress. Moreover, participating in leisure activities enables social interaction. They create more extensive social relationships and friendships and they are more likely to think that these friends will support them in the event of problems and difficulties (25).Therefore, considering the concepts of coping and social support can lead to a more comprehensive

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understanding of the complex relationship between physical activity in leisure time. In addition, certain types of leisure-time physical activity are likely to build social support and / or lead to higher self-esteem and self-efficacy (25).

Considering turning to others for sympathy, asking for help, and consulting with others are examples of seeking social support. On the other hand, participating in social activities and public sports attracts the support and social acceptance of the individual and increases the morale of the community and those around him, which contributing to mental health and self-confidence. High self-confidence and positive self-belief seem to play an important role in overcoming severe stress. on the other hand, exercise and physical activity in various ways increase self-confidence and positive self-perception and consequently, increase a person's ability to overcome stressors. High self-confidence and positive self-belief seem to play an essential role in overcoming severe stress. On the other hand, exercise and physical activity in various ways increase self-confidence and positive self-perception and, consequently, increase a person's ability to overcome stressors.

Finally, it is necessary to state that the present study had its limitations. The statistical population of this study was women in Hamidiyeh region of Ahvaz in 1400-1399. For this reason, caution should be exercised in extending the results to other groups and regions.The limitation of the research to self-report and online questionnaires is another limitation of the research. However, some respondents may not honestly complete the questionnaires.In the present study, the information was collected using a questionnaire and self-report of women that some participants may not have provided the true information

In this regard, it is suggested that in future studies, research questionnaires will be distributed in person with social distance and observance of health points. First of all, it can be said that there is a kind of psychological distress about Covid-19 virus that needs very serious attention. The significant role of coping skills, including the 2019 coronary heart disease, is another issue that was demonstrated in the present study. However, in this study, only the level of physical activity was measured. It is suggested that in the future, researchers use different exercise protocols to assess the role of exercise in controlling anxiety. It is recommended that medical staff and sports psychologists provide regular exercises and programs during home quarantine; It can be helpful even for people who are recovering from Covid-19.

The present study has limitations such as: collecting information through electronic questionnaire and collecting information from homemakers. However, some respondents may not honestly complete the questionnaires.

In the present study, the information was collected using a questionnaire and self-report of women that some participants may not have provided the true information.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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