

Investigating the Relationship Between Stress Caused by the Corona Pandemic and Self-Care in Patients with High Blood Pressure and Diabetes in the Residents of Bushehr Province

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Abstract

Background and purpose: Patients with high blood pressure and diabetes usually have high stress, which affects their on self-care behaviors. Anxiety disorder is experienced as a disorder in patients with chronic physical diseases and has been remained unknown in many cases. Controlling blood pressure and diabetes requires self-care, and patient participation in self-care is very important. The aim of this research is to investigate the self-care behavior of patients in stressful situations. **Materials and appronthes:** In a non-experimental descriptive study, 251 hypertensive and diabetic patients in Bushehr city were randomly selected. Han, in the analysis of which four exploratory factors of diet and medication, attention to food labels and disease management, and dealing with stressful situations (ciss), which three main coping styles, problem solving, emotion controlling and avoidance were extracted step by step. The data were analyzed with independent t statistical tests, Tukey's post hoc test and Spearman's correlation coefficient. The required information was collected online. The data was analyzed using SPSS software version 16. The significance level of the tests ($P < 0.05$) was considered. **Findings:** 67% of patients with high blood pressure, 16% of diabetic patients, and 15% of both hypertensive and diabetic patients, the average age of the statistical population was 51.29, their data shows an inverse relationship, that is, with the increase in stress caused by covid-19, the self-care level of people with high blood pressure and diabetes decreases. It has been found **Note:** Following self-care procedures can be effective in controlling blood pressure and diabetes. Stress patients are sometimes not diagnosed and this can have a negative effect on their performance, especially self-care. Now, if more pressure or stressful conditions prevail, there is a need to educate and emphasize patients. It has to perform self-care and perform more psychological screening of patients.

Keywords: high blood pressure, diabetes, self-care, stress, corona virus

Introduction

The prevalence of high blood pressure and diabetes has grown significantly due to reasons such as the increase in the elderly population, urbanization, the prevalence of obesity and a sedentary lifestyle, which is one of the most important public health issues around the world (Eskandri and Salemi, 2016) (Shaw). et al, 2010), because it may lead to the loss of labor and impose more costs on the health system (Shariatpanahi et al, 2018). Health care policies regarding diabetes are focused on disease management and cost control through prevention. Among COVID-19 patients, elderly patients have a higher mortality rate due to high CFR and symptomatic infection rate (Kang and Jung, 2020) and react more strongly to stressful situations. Some known risk factors for this disease, such as family history, are uncontrollable, but many interventional studies have shown that by taking care of controllable

risk factors through lifestyle changes, this disease and its complications can be prevented. et al, 1997 (Tuomilentoj et al, 2001) Doctors have shown that patients with high blood pressure often suffer from psychological stress. It seems that tension, anger, and aggression trigger physiological responses in the sympathetic nervous system and stimulate the secretion of stress hormones, and this stimulation causes blood pressure. (Luke Seawardzoll, 2011) In the past, the assessment of health and disease was examined only based on physical factors, but today the definition of health has a wider scope and in addition to the optimal physical condition, mental factors such as experiences, behaviors and mental state social are also taken into consideration. (Ljotsson et al, 2013) stress is a special relationship between a person and the environment, in which the person evaluates the environment beyond their resources or endangering their health; In fact, a

person's interpretation and evaluation of events leads to stress. Stress increases a person's vulnerability due to high levels of depression and anxiety (Lazarus and Folkman, 1989). The ability to express emotion by a person is called emotion regulation. Gross suggests that emotion regulation refers to the process of influencing emotions, experiences and expressing them, and helps in the awareness of a person to understand emotions, accept them and the ability to control provocative behaviors and behave to achieve personal and situational goals (Gross and Jazaieri, 2016 (Rottenberg and Gross, 2003) among the determinants of health, self-care behaviors are known as the most important way to prevent disease, especially chronic diseases. Considering the urgent need of patients with high blood pressure for self-care to control this disease, the patient's participation and cooperation in self-care is one of the ways to improve blood pressure control (Ghanei Gheshlagh et al, 2014). Self-care includes prevention, maintaining health and treatment. Diseases are caused by the person himself, which includes healthy lifestyle, disease treatment and disease management (Gohar et al, 2008). Although the benefits of self-care in improving blood pressure are evident, most people do not follow self-care behaviors (Ha et al, 2013). Self-care guidelines for high blood pressure, such as weight loss, physical activity, smoking cessation, and consumption of sodium-free foods, can play an important role in regulating and controlling blood pressure (Yang et al, 2014) due to the possibility that the epidemic will last longer. Corona, more research is needed to evaluate the psychological effects of the spread of such infectious diseases and related factors on those affected. Public health efforts to contain the rapid transmission of COVID-19 have led to infection control measures and changes in related practices and policies. While hospitals are at the forefront of efforts to reduce life-threatening consequences, the actions of all social levels, directly or indirectly, have faced an unprecedented situation, quarantine during the outbreak of Corona and seasonal diseases to protect people's health from diseases. It is contagious, but it is widely regarded as an unpleasant experience that may lead to various psychological problems, including depression, anxiety, fear, loneliness, dissatisfaction, and dizziness. The mental and physical health of people and their social relationships, for example, in epidemics such as Sars, Corona, and influenza, people generally suffer from mental health problems such as anxiety, stress, depression, insomnia, and anger during the fight against the disease. Many psychological problems have arisen for patients and the general public. According to the mentioned materials, the basic question of the research is, what effect does stressful situations have on the self-care of patients with high blood pressure or diabetes?

Research Methods

The present study was a descriptive, non-experimental, correlational study that was conducted in Bushehr in 1401. In this study, 251 people who had visited health centers in the Sib system since 2017 and their illnesses were recorded were investigated. The criterion for entering the study was to have at least one of the diseases of hypertension and diabetes, based on the history and investigations, also people with full consent participated in this study. According to the preliminary study and the calculation of the sample size, the case sample There were 251 people who were selected randomly and available and based on the entry criteria. At first, the purpose of the study and how to complete the questionnaire were explained to the people, then if they agreed to participate in the questionnaire study, they or the health care provider himself would conduct an interview. It is completed. In order to carry out this study, using the Pressline program and two self-care questionnaires of Han blood pressure patients and Ciss stress conditions and measuring characteristics such as: age, sex, education, etc., were used and then to investigate the relationship between stress caused by the Corona pandemic and self-care in Patients suffering from high blood pressure and diabetes were provided with two questionnaires related to each of these indicators. First, the reliability of these questionnaires was checked based on the responses of the participants in the research.

Reliability: Cronbach's alpha coefficient was used to check reliability. The value of alpha is always a number from zero to one. Higher values of 0.7 confirm the reliability of the questionnaire. Based on this and based on the obtained results, the value of alpha in the blood pressure questionnaire is 0.875 and in the stress questionnaire is 0.773..

Reliability Statistics

Cronbach's Alpha	N of Items
.875	16

Reliability Statistics

Cronbach's Alpha	N of Items
.733	39

According to the subject of the research, which is to investigate the relationship between two variables, the normality of these two variables was investigated first,

and then inferential calculations were performed according to the normality.

The Han questionnaire, a self-care tool for patients with hypertension, was designed by Han et al. in 2014. Considering that the data was collected on Korean patients living in America, it is related to the Asian culture. After obtaining permission from Dr. Han, this tool was psychometrically evaluated in 2017 by Ghanei and his colleagues in Iran. The Ciss questionnaire for dealing with stressful situations was created by Endler and Parker in 2017 in order to evaluate how people cope with their problems, which has 48 items and two problem-oriented scales. , examines excitement-oriented and avoidant-oriented people. The Cronbach's alpha coefficient of the three main subscales was reported above 0.8, the alpha coefficient of the two dimensions of the avoidant coping style subscale (social entertainment and attention-seeking) was also between 0.72 and 0.84 in the mentioned sample. Also, the reliability coefficient obtained from the open test method of sub-scales has been reported between 0.51

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Man	121	48.2	48.2	48.2
	woman	130	51.8	51.8	100.0
	Total	251	100.0	100.0	

Age :

According to the type of age variable, which is continuous, the central and dispersion indices of this variable have been calculated in the table below

Based on this, the average age of people was more than 52 years old, the youngest person participating in the project was 26 years old and the oldest participant was 88 years old.

Statistics

Age

N	Valid	251
	Missing	0
Mean	52.8606	
Median	52.0000	
Mode	45.00	

and 0.73 within 6 weeks. In Iran, Shokri et al reported alpha coefficient of problem-oriented scale as 0.75, impulsive excitement as 0.82, and avoidant coping as 0.73. The intended scale was proven. The observed correlation is as follows: problem-oriented coping=0.48, emotion-oriented coping=0.41 and avoidant coping=0.45.

findings

First, we will examine the demographic information of the people participating in the questionnaire, including the examination of people from the moment of gender, age, education and marital status, suffering from diseases, occupation and frequency of self-care control in the people who are present in the research.

Gender:

121 of the participants in the research plan, equal to 48.2% of all people, are men, and 130 people, equal to 51.8% of the people, are women..

Std. Deviation	10.05746
Variance	101.152
Minimum	26.00
Maximum	88.00

education :

The results of the frequency distribution of people participating in the research based on the level of education are as follows:

68people equal to 27.1% of illiterate people, 75 people equal to 29.9% of people with primary education, 59 people equal to 23.5% of cycle people, 5 people equal to 2% of post-graduate people, 36 people equal to 14.3% of people with diploma, 6 people They were equivalent to 2.4% of bachelors and 2 people were equivalent to 0.8% of postgraduates.

education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	illiterate	68	27.1	27.1	27.1
	elementary	75	29.9	29.9	57.0
	cycle	59	23.5	23.5	80.5
	Associate Degree	5	2.0	2.0	82.5
	diploma	36	14.3	14.3	96.8
	Masters	6	2.4	2.4	99.2
	Master's degree	2	.8	.8	100.0
	Total	251	100.0	100.0	

Marital status :

Regarding the marital status of the participants, it can be said: 200 people equal to 79.9% of married people, 20

people equal to 8% of single people, 10 people equal to 4% of people have separated from their spouses, and 21 people equal to 8.4% of people They have lost their husbands due to death.

Marital status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	estranged wife	10	4.0	4.0	4.0
	married	200	79.7	79.7	83.7
	Single	20	8.0	8.0	91.6
	deceased wife	21	8.4	8.4	100.0
	Total	251	100.0	100.0	

Having a chronic disease:

In terms of chronic diseases, 42 people (16.7%) had diabetes, 170 people (67.7%) had high blood pressure, and 39 people (15.5%) had both conditions.

Having a chronic disease

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	diabetes	42	16.7	16.7	16.7

Blood pressure and diabetes	39	15.5	15.5	32.3
blood pressure	170	67.7	67.7	100.0
Total	251	100.0	100.0	

Job :

In the frequency distribution of people based on their jobs, it can be seen that 68 people equal to 27.1% of the people in the society have free jobs, 14 people equal to 5.6% of the employed people, 27 people equal to 10.8%

of the retired people, 113 people equal to 45 people of the house. 16 people, equal to 6.4% of unemployed people, and 13 people, equal to 5.2% of people, have chosen other options.

job

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	freelance job	68	27.1	27.1	27.1
	Employee	14	5.6	5.6	32.7
	Retired	27	10.8	10.8	43.4
	housewife	113	45.0	45.0	88.4
	Other cases	13	5.2	5.2	93.6
	Unemployed	16	6.4	6.4	100.0
	Total	251	100.0	100.0	

Control frequency:

In terms of frequency of control periods in people participating in the plan, we see 10 people equivalent to 4% of people daily, 24 people equivalent to 9.6% of

people once a week, 24 people equivalent to 9.6% of people twice a week, 119 people equivalent to 47.4% of people visited monthly and 74 people, equivalent to 29.5% of people, visited only every six months.

Control frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	once a week	24	9.6	9.6	9.6
	twice a week	24	9.6	9.6	19.1
	monthly	119	47.4	47.4	66.5

Every six months	74	29.5	29.5	96.0
Daily	10	4.0	4.0	100.0
Total	251	100.0	100.0	

To investigate the relationship between the stress caused by the corona pandemic and self-care in patients with blood pressure and diabetes, two questionnaires related to each of these indicators are available to the researcher, who first checked the reliability of these questionnaires based on the answers of the participants in Research has been done.

Normality check:

Kolmogorov Smirnov and Shapiro-Wilk tests were used to check the normality of the data. The null hypothesis of these two tests states that the data has a normal distribution. If the probability value of the test in these two hypotheses is higher than 0.05, this hypothesis is accepted and rejected otherwise. Based on the results of the table below, it can be seen that the data in the two questionnaires does not have a normal distribution.

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
blood pressure	.088	251	.000	.959	251	.000
Stress caused by the corona virus	.060	251	.031	.990	251	.048

a. Lilliefors Significance Correction

Due to the absence of normality, Spearman's correlation coefficient was used to measure the relationship between two variables.

The correlation coefficient is always a number from negative one to positive one. The closer this value is to positive one, the relationship between two variables is direct and strong, and the closer to negative one, the

relationship between two variables is inverse and strong, and no significant relationship between variables is observed around zero.

The null hypothesis of the correlation test states that the data have no significant relationship, if the probability value of this test is greater than 0.05, this hypothesis will be accepted and otherwise it will be rejected.

Correlations

		blood pressure	Stress caused by the corona virus
Spearman's rho	blood pressure	Correlation Coefficient	1.000
		Sig. (2-tailed)	.
		N	251
Stress caused by the corona virus	Stress caused by the corona virus	Correlation Coefficient	-.372**
		Sig. (2-tailed)	.006
		N	251

** . Correlation is significant at the 0.01 level (2-tailed).

Discussion and conclusion:

As can be seen in the above tables, the null hypothesis of correlation is rejected, that is, the relationship between the stress caused by Covid-19 and the level of self-care is observed, but according to the value of the correlation coefficient, i.e. -0.372, and the explanation above, this relationship is inverse, that is, with the increase in stress caused by Covid-19, the amount of self-care of people with high blood pressure has decreased. Therefore, following self-care instructions such as losing weight, not smoking, eating healthy foods and using more fruits and vegetables, and physical activity can be effective in controlling high blood pressure and diabetes. Patients sometimes have undiagnosed stress, which has a negative effect on their performance, especially self-care. However, if more pressure or stressful conditions prevail, there is a need to educate and emphasize patients to perform self-care and perform more psychological screening of patients with more accuracy.

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