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The structural relationship between some psychological factors (relief and dysfunctional attitudes) with indicators of physical and psychological recovery in patients after cardiac surgery

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ABSTRACT

Biomedical community has increasingly found the importance of psychological factors in the natural history of disorders, the prevention from disability, disease and progression. Among the important psychological factors, psychological stress, hostility, anxiety and depression, coping mechanisms can be mentioned. The aim of this study is to investigate the causes of psychopathology, cognitive psychology and positive indicators of recovery after heart surgery. With respect to the nature of the title and the aim of study, the researcher used the correlation method in the present study. The sample study of the present study consisted of all patients referred to Jamaran Tehran Heart Centered to perform heart surgery in the first half of 1391 and for example, 43 cases of non-random sampling were selected. The researcher used instruments of this study on the bases of four main variables Interpersonal forgiveness scale (IFI-25), dysfunctional attitudes (DAS-26), depression, anxiety and stress (DASS-21), cardiac index. Statistical analysis employed by using GIS software and descriptive and inferential statistics follow SPSS: Pearson correlation and regression analysis methods, respectively. The results showed that the increasing depressive attitudes lead to enhances immunity, and reduces depression, anxiety and stress respectively. More precisely, the three subscales relief: re-connect, control and understanding of offense realistic, three variables control the pain with depression, anxiety and stress has a negative relation with a realistic, and understanding of the variables showed a significant negative relationship with anxiety. In addition, relief and physical improvement of dysfunctional attitudes can predict postoperative. The results also showed that depression, anxiety and stress can predicted for fever, pain, and shortness of breath after their surgery. Based on the findings of the present study, it is suggested that in addition to medical care in the prevention and treatment of emotional state of the patients treated with medical problems because many psychological factors involved in the response of heart disease and improve patients' and particularly anxiety and depression, stress independent of traditional risk factors affecting the recovery of heart patients.

Keywords: heart disease, relief, dysfunctional attitudes, stress, anxiety and depression

INTRODUCTION

Individuals' health and happiness are the largest support for developing social and economic development in the prosperity of a country. Hence, investments in this area should be considered as an essential investment. Health of each person has multiple-purposes and one of the most important dimensions, is physical dimension and fitness. Some scholars also maintained that one of the most important organs in the human heart is to maintain health.

Healthy heart with each beat of life breathes the spirit of life throughout the human body [13]. In Iran, incidence and mortality from coronary heart disease that are increasing. According to the statistics, 30 to 35 percent of people are suffering from coronary artery disease and deaths from the disease by 20 to 25 percent in 2004 to 35 to 40 percent of total deaths increased in 2009 [9]. In a series of studies of the emotional, psychological diseases-cardiovascular tests, including psychological factors are important in the psychological stress, hostility, and anxiety and depression-coping mechanisms mentioned. Anxiety and depression are among the psychological factors that greatly affect the heart. Awareness and understanding of the role of anxiety and depression of predictor can be effective in controlling the disease in patients with heart disease [8]. Anxiety causes transient increases in heart rate and blood pressure. Also, the emergence of the atrial and ventricular during mental stress in people with heart diseases primarily can be proven. The results indicated that the stress induced by mental math homework talk or move up in the presence of abnormal heart wall be in anxious individuals. Anxiety can prevent from psychological adjustment with chronic heart disease and physical recovery after a cardiac event [10]. Although anxiety is a normal reaction to a cardiac event or living with a particular disease, the pressure anxieties are not normal and they have a negative result on patient's health [10]. Also, the studies demonstrated that chronic stress is one of the most major risk factors in coronary heart disease. Depression, anxiety and stress are the most common consequence of acute coronary heart disease [3]. Recent developments has emerged in medical psychology and it has an inclination to evaluate factors "Positive Psychology Positive Psychology" in explaining psychological disorders, including the role of positive psychology relief variable is considered as a factor antagonistic hostility. McCullough (2002) believed that clemency is the characteristic of the person's interpersonal relationships, abuse or damage (such as offense or betrayal). Hence, the opportunity for error compensation, the person so offending shall be put up again, would build confidence. The researches showed that brain activity is like stress, anger and aggression during resentment. Worthington (2010) with the blood of people with long-term resentment saw the relief of negative correlation with adhesion and activation of blood poisoning prevention systems, correlated positively. Pattern of hormone release, especially cortisol in resentment like hormonal pathways in stress is associated by negative emotion [6]. Dysfunctional attitudes are false assumptions and inflexible rules that a person has no reason to believe that he barely moves. These views are biased, are consistent with facts and logic, perception, understanding and perception of bias individual events and one's feelings and behaviors are influenced [12]. Blackburn & Davidson (1990) know dysfunctional attitudes on the basis of knowledge about own structure about itself, the world and the future. The belief prepares individuals to specific situations should be construed as too negative and inefficient, also, Beck also states that dysfunctional attitudes are inflexible attitudes which away the individuals from itself and others. These schemes are located in an organized perception in order to evaluate the behavior. Since these attitudes are inflexible, they are resistant against them [1, 8]. Recent research has shown cognitive mediators such as dysfunctional attitudes in a cardiac - vascular, for example; Hoghes (1988) has referred the role of cognitive errors in causing disease symptoms. Although there are many questions about the relationship between positive psychological symptoms such as mental comfort and pleasure of the rate reduction, the people of your performance with the incidence of mental diseases, especially heart disease, vascular tone and there are various research findings offer for refined paradox findings. Hence, the aim of this study was to investigate the causes of psychopathology and cognitive psychology both positive indicators of recovery after heart surgery. Being clear about the subject and research in this field is of fundamental direction by adding new information in the texts of the relevant values are applied and can be fitted in the donor patient. Hence, the basic research question now is that: are the basic research question now is: Are the structural relationship between some psychological variables (forgiveness and inefficient reduction) with physical and psychological recovery index in patients after cardiac surgery?

MATERIALS AND METHODS

With respect to the nature of the title and the aim of study, the researcher used the correlation method in the present study. The sample study of the present study consisted of all patients referred to Jamaran Tehran Heart Centered to perform heart surgery in the first half of 2011 and for example, 43 cases of non-random sampling were selected.

Instrument

The researcher used instruments of this study on the bases of four main variables Interpersonal forgiveness scale (IFI-25), dysfunctional attitudes (DAS-26), depression, anxiety and stress (DASS-21), cardiac index. Statistical analysis employed by using GIS software and descriptive and inferential statistics follow SPSS: Pearson correlation and regression analysis methods, respectively. It is necessary to note that the reliability of Interpersonal forgiveness scale (IFI-25) is 0.92, its correlation with the original questionnaire 98/0 can be fitted. This scale by Ehtesham Zadeh *et al* (2010) fits with the cultural properties – have been made in Iran and a viable and reliable scale, for measuring the amount of interpersonal situations, and others in error reduction. The scale of are three factors and 25 articles. For dysfunctional attitudes (DAS-26) questionnaire, this scale developed by Beck and colleagues (1978). There are 40 questions in this questionnaire. Overall score for this scale of accountability between the individual and the three score for retail comes it scales. Internal consistency coefficients, according to Cronbach's for its scales and

the total retail scales $p = 0.80$, 77, 66 and 57/0/0 is reported respectively. Depression, anxiety and stress (DASS-21) questionnaire is another instrument done by the researcher. A report on the questionnaire itself, which is by design Afzali were made in 1995. The questionnaire of mental status anxiety, depression and stress, are evaluated by the person completing the offers. Characteristics of psychometrics in the questionnaire by Afzali and colleagues conducted on samples of 400 cases were reviewed and approved. The findings of the study, the depression scale correlation tests with the test, Beck Depression test anxiety with 894 Zhong 831/0 and with students ' stress log 0.758 has reported. A coefficient calculated for stress, anxiety and depression scale in order 0.94, 0.85 and 0.87 was reported. DASS questionnaire in 2006 also by Sepehri and Samanid about credit issue and its alpha coefficient are depression 0.89, anxiety 0.84, and 0.68 for stress.

Cardiac Patients recovery index

Indicators of recovery of patients in this study, using a questionnaire that the recovery process by experts of Cardiology, according to indices of recovery after heart surgery and is based on the medical records of patients is made, shall be measured. This is a questionnaire that included two tests the following inventory 10 scale: recovery perceptions are based on questions about the pain, Dyspnea and feel the recovery is calculated by patient. recovery objective that according to inquiries related to pulmonary auscultation, heart rate of discharge, fever, abdominal fat, than to hear the assessment of wounds, and returning to life and occupational activity, the size of the measurement. The validity of this questionnaire, based on comments of some heart specialists has been confirmed.

Data Analysis

In this present study, statistical analysis software using descriptive and inferential statistics with S. P. SS: Methods of Pearson correlation and regression analysis was performed.

Participants

The total number of subjects in this study was 44 patients, 26 were male and 18 were female. The mean age of the sample group was 5.51 with a standard deviation of 7.7 years. Minimum age 41 and maximum age is 69. Men in the age group (4.53) and standard deviation (7.8) more than the average (8.48) and standard deviation (3.5) are women. Furthermore, comparison of variables before and after surgery showed a relatively small decrease in average total variables in the postoperative period compared with the pre-operation occurred. Reconnect the control variables, revenge, pain control, realistic understanding, total relief, was witnessed attitudes, depression, anxiety and stress averages before and after the operation are: (36.09, 32.01), (22.44, 21.17); (18.70, 16.36), (83.41, 82.97), (46.89, 44.78), (15.34, 14.03), (15.27, 13.50),

Table 1. Variance analysis of regression variables, depression, anxiety and stress variables on dysfunctional attitudes, reconnect, pain control, realistic understanding before and after surgery

Variable	Stage	Source	df	F	Sig	R	R ²
Anxiety	Before the surgery	Regression	4	3.504	.01	.514	.264
		Remaining	39				
	After the surgery	Regression	4	2.810	.03	.473	.224
		Remaining	39				

Variable	Stage	Source	df	F	Sig	R	R ²
Stress	Before the surgery	Regression	4	2.705	.04	.466	.21
		Remaining	39				
	After the surgery	Regression	4	3.414	.01	.509	.25
		Remaining	39				

Variable	Stage	Source	df	F	Sig	R	R ²
Depression	Before the surgery	Regression	4	3.95	0.009	0.537	0.288
		Remaining	39				
	After the surgery	Regression	4	5.56	0.001	0.603	0.36
		Remaining	39				

If a dysfunctional attitude variables, reconnect, resentful, realistic perception before and after practice to arrange the role between stress and depression, anxiety, and before and after practice to arrange the dependent role. The results of multiple regression to standard practice showed that the entry of predictor variables into the equation, the R and 2R before and after surgery for depression, respectively, 0.537, 0.288 and 0.603, 0.36 was statistically significant. Accordingly, it can be said before and after surgery in approximately 29 percent and 36 percent of variance depression variable is explained by the predictor variables. The amount of this is postoperative phase of defining more than before the operation. Multiple regression results for anxiety and to standard practices indicated that with

the arrival of an advance to the equation in step variables before and after the operation the rate R and 2R respectively to 515 p and 0.226, 0.473 and 0.224 which is meaningful statistic. On this basis we can say on stage before and after practice to arrange approximately 26% and 22% of default variables variants variable has been clarified by an anxiety. And finally multiple regression for stress results in a standard manner indicated that with the entry of default variables between before and after surgery to the equation of degree R and 2R respectively to 0.465 and 0.11, 0.509 and 0.25 which is statistically meaningful.

Table 2. Regression coefficients for variables dysfunctional attitudes, reconnect, pain control, realistic understanding before and after surgery

Variable	Stage	Variable	Coefficient	St Err	T	Beta	Sig	Half denotative Correlation
Depression	Before the surgery	Constant	34.499	10.279	-	3.356	.002	-
		reconnect	-.269	.318	-.134	-.847	.402	-.114
		pain control	-.671	.237	-.402	-2.837	.007	-.383
		realistic understanding	-.142	.156	-.142	-.908	.370	-.123
		dysfunctional attitudes	.176	.077	.368	2.296	.027	.310
	After the surgery	Constant	30.152	8.930	-	3.376	.002	-
		reconnect	-.278	.328	-.135	-.847	.402	-.108
		pain control	-.662	.203	-.454	-3.257	.002	-.416
		realistic understanding	-.096	.133	-.116	-.724	.473	-.092
		dysfunctional attitudes	.187	.077	.408	2.438	.019	.312
Anxiety	Before the surgery	Constant	28.255	8.493	-	3.327	.002	-
		reconnect	.003	.263	.002	.011	.991	.002
		pain control	-.486	.195	-.359	-2.487	.017	-.342
		realistic understanding	-.283	.129	-.349	-2.193	.034	-.301
		dysfunctional attitudes	.066	.063	.170	1.043	.304	.143
	After the surgery	Constant	26.321	8.086	-	3.255	.002	-
		reconnect	-.220	.297	-.131	-.742	.463	-.105
		pain control	-.451	.184	-.377	-2.452	.019	-.346
		realistic understanding	-.041	.121	-.060	-.337	.738	-.048
		dysfunctional attitudes	.100	.069	.265	1.435	.159	.202
Stress	Before the surgery	Constant	29.971	11.995	-	2.499	.017	-
		reconnect	-.034	.371	-.015	-.090	.929	-.013
		pain control	-.784	.276	-.423	-2.842	.007	-.403
		realistic understanding	-.070	.182	-.063	-.382	.704	-.054
		dysfunctional attitudes	.120	.090	.225	1.336	.189	.189
	After the surgery	Constant	29.277	12.584	-	2.327	.025	-
		reconnect	-.046	.462	2.327	-.100	.921	-.014
		pain control	-.896	.286	-.100	-3.126	.003	-.431
		realistic understanding	.036	.188	-3.126	.192	.849	.026
		dysfunctional attitudes	.123	.108	.192	1.142	.260	.157

Percentage of variables between regression coefficients in table 2 suggests that when the total score before and after operation of dependent depression have a role only dysfunctional and resentful variables before and after practice with depression to have a meaningful relationship between positive and negative sequence. Regression coefficients also suggests that the extent of the relationship between two variables after surgery compared with surgery a little more that is of course the rate of this change is almost insignificant. Also, when the total score of anxiety before and after surgery is dependent on the role of preoperative stage variables control the resentment and negative relation with a realistic understanding of anxiety are meaningful, and in the next step of action as just a negative relationship with anxiety control variables meaningful are resentful. When the total score before and after the stress of the practice have dependent role in the stage before and after surgery is just a negative relationship with anxiety and other variables have meaningful relation. In Continuing on to the relationship between the variables of a dysfunctional, scores of forgiveness scales, depression, stress and anxiety with physical improvement in indicators like fever, Lung auscultation of heart pain and shortness of breath, voice and the ratio of ventricular emptying after operation of logistic regression is used.

Table 3. Results of logistic regression to predict the temperature by using the independent variables

Variables	Exp(B)	Sig	W-test	B
Dysfunctional attitudes	1.060	.643	.215	.058
Reconnection	.979	.874	.025	-.021
Control Pain	1.037	.666	.186	.036
Understanding	1.023	.698	.150	.022
Depression	1.060	.176	.153	.064
Anxiety	0.176	.045	5.176	-1.74
Stress	0.157	.033	6.119	-1.85
Fixed	0.289	.050	5.567	-1.240

Table 3 Regression coefficients (B), Wald statistic, significance level and odds ratio [Exp (B)] is related to predictive showing.

Wald test showed that only two variables of anxiety and statistically significant predictive normal fever. The test can show a parent, only two statistical variables in terms of stress and anxiety ahead of the normal situation between \rightarrow meaningful fever. The effect of stress on both the normal temperature is negative. Providing the same level of anxiety, the normal temperature for a unit increase in score of approximately 16/0 will be ease. The same stress condition for a unit increase in anxiety score of the normal temperature of approximately 0.18 will be ease.

Table 4. Results of logistic regression to predict pain and dyspnea status by using the independent variables

Variables	Exp(B)	Sig	W-test	B
Dysfunctional attitudes	1.055	.734	.116	.054
Reconnection	.993	.965	.002	-.007
Control Pain	1.040	.720	.129	.039
Understanding	.954	.538	.380	.047
Depression	0.227	.010	6.058	-1.483
Anxiety	0.332	.046	5.001	-1.103
Stress	.359	.038	4.042	-1.023
Fixed	.151	.784	.075	-1.893

Table 4 shows regression coefficients (B), the statistics for meaningful level and parent, odds ratio [Exp (B)] relating to each show preview between. The parent test showed that only variables of depression, stress and anxiety due to the previously fitted between the statistical significant status of mild pain and shortness of breath. The impact of these three variables is depression, stress and anxiety on the mild pain and shortness of breath is negative. In the case of lung auscultation variables, voice and heart ventricular drain ratio results indicated that between by inefficient attitudes, reconnect, resentful, understanding the realistic, depression, stress and anxiety with which there is no meaningful relationship between variables and given these results do not need to report the relevant coefficients and statistics table.

DISCUSSION AND CONCLUSION

The results showed that the increasing depressive attitudes lead to enhances immunity, and reduces depression, anxiety and stress respectively. More precisely, the three subscales relief: re-connect, control and understanding of offense realistic, three variables control the pain with depression, anxiety and stress has a negative relation with a realistic, and understanding of the variables showed a significant negative relationship with anxiety. In addition, relief and physical improvement of dysfunctional attitudes can predict postoperative. The results also showed that depression, anxiety and stress can predicted for fever, pain, and shortness of breath after their surgery. Based on the findings of the present study, it is suggested that in addition to medical care in the prevention and treatment of emotional state of the patients treated with medical problems because many psychological factors involved in the response of heart disease and improve patients' and particularly anxiety and depression, stress independent of traditional risk factors affecting the recovery of heart patients. Therefore, these findings are consistent with Rahmani (2007) in relation to the characteristics of the variable and the path and also consistent with the findings of Tarighi (2002) in relation to the importance of psychological aspects in the development of the disease. Besharat (2008) in a series of emotional factors involved in cognitive psychology in heart disease concluded that vascular stress (stress) can be too much pressure on the blood vessels and heart muscle and vessels increase in heart patients. Anxiety and depression are among the psychological factors that greatly affect the heart. Awareness and understanding of the role of anxiety and depression of predictor can be effective in controlling the disease in patients with heart disease [8]. Anxiety causes transient increases in heart rate and blood pressure. Also, the emergence of the atrial and ventricular during mental stress in people with heart diseases primarily can be proven. Reduction stress, anxiety and depression after surgery and the treatment was expected, because patients will become more confident after surgery. These findings are consistent with Rahmani (2007), Haworth et al, (2005), Davudiyani (2005), and Moser (2007). Studies have shown that chronic stress from are the most important major factors for coronary heart disease. Depression, anxiety and stress are the most common consequence of acute coronary heart disease [3]. Compatibility problems have been reported in most of those heart patients who already have more stress disorder, social and emotional problems. Besharat (2007) in a series of emotional factors involved in cognitive psychology in heart disease concluded that vascular stress (stress) can be too much pressure on the blood vessels and heart muscle and vessels increase in heart patients. These findings are consistent with Bigdeli & Rahimian (2009) and Besharat et al., (2007). The occurrence of depression and anxiety disorders as well as physical appearance is natural and expected. Physical symptoms of depression and anxiety due to, in many cases, may be confused with physical illness. Physical illness may cause depression. Depression may be one of the symptoms of physical illness. Depression may arise due to physical illness is one of the side effects. The occurrence of depression may be a physical disease introduction

and prologue [5]. Anxiety can prevent from heart disease, chronic psychological adjustment and physical recovery after a cardiac event. High levels of anxiety can improve concerns over the quality of life among patients with heart disease - coronary. Anxiety can also cut off the patient's ability to take care of themselves. Patients who are very anxious, often can not learn to behave and act according to the rules of life care is difficult. Anxious patients are more slow and slower to return to work. This finding is understandable and it is expected that anxiety can predict after operative variables, dysfunctional attitudes, reconnect, control pain, realistic understanding of practice such as age and gender had a significant relationship. These findings are consistent with the findings of Caduc (2006) and Moser (2007). The results also showed that abnormal temperature varies with impunity variables, dysfunctional attitudes, age and gender are predicted. Stress and negative are predictive variables into meaningful normal fever. Variable pain and mild shortness of breath with relief variables, dysfunctional attitudes, depression, anxiety, stress, age and gender are explained.

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