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Assessment of family functioning in patients with psychosomatic disorders (Diabetes, Hypertension, Heart Disease)

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Abstract

The present study is an assessment of family functioning in patients with psychosomatic disorders (diabetes, hypertension, heart disease). The study population consisted of all patients with psychosomatic disorders (diabetes, heart, blood pressure) in the city of Isfahan. To conduct this study, 39 patients were selected by simple random sampling method. This is a correlational study and the instrument used in this study is a family function questionnaire with the obtained validity of 0/88 for the study population. The data obtained were analyzed using logistic regression. The results show that there is a significant relationship between family function and heart disease ($p<0.05$), while there is not a significant relationship between family function and Diabetes and Hypertension ($p>0.05$).

Keywords: family function, Diabetes, Hypertension, heart disease, disorders

Introduction

Public health is an important issue which requires high degrees of attention. Public health includes physical and mental health which have mutual influence on each other. Paying attention to health is significant in every aspect (Mohtashemi, et al., 2003). According to the

World Health Organization (2002), health is the full human ability to play social, mental, and physical roles.

Historically, family has received an especial status in human thought and family issues have been of concern to many scholars. According the this scholars, a healthy society is made of healthy families and when the family has a healthy and productive environment, warm relationships, and interaction between the members, it can result in the growth and improvement of family members (Gholami & Abedi, 2011; Moin, et al., 2011). Such a healthy family provides healthy individuals for the society, but an unhealthy family causes various problems for the society and the problems will increase if the family conditions is not improved (Steyr, 1972).

Therefore achieving a healthy society is clearly dependent on the families' health and achieving a healthy family depends on the mental health and good relationship of its members. In this way, improving the family members and their relationships surly has positive impacts on the society (Samani & Ahmadi, 2011; Abangah, 2011).

Family function is referred to as the families' ability to adapt to changes throughout life, resolving conflicts, solidarity among members, success in disciplinary patterns, Compliance with the limits of individuals, and following the governing rules and principles of this institution with the purpose of protecting the whole family institution (Mojarad-Kahani & Ghanbari-Hashemabadi, 2011).

Family function is the reflection of flexibility and survivability boundaries, communication patterns the original family experience and the current context of family values and cultural orientation. Furthermore, the adaptive function of the family includes good relations among members and low levels of family conflict (Thomlison, 2002).

To improve the main responsibilities of the family, it should it needs to have a sound foundation and performance (Minuchin & Fishman, 1981). According to Dickstin, et al., (1998), to achieve a desired performance in the family system, we should organize roles, duties and tasks among all family members in a systematic way. He also believes that coordination, balance, leadership and effective relationship are important for optimal performance. Depaul (2006) also mentions some of the characteristics of a family with a acceptable performance as: open communicative interaction, Inhibitory control of mental stress effectively, empathy, leadership, love, and personal responsibility. Mal-performance of the family is the opposite a well performance. Family system malfunction supports and strengthens the pathological symptoms in the interactive progressive processes.

Nowadays, family is defined as a social and communicative system which its health and consequently the societies' health is a reflection of its performance. Investigating the history of diseases in the last century represents the change of diseases from infectious diseases to chronic and non-infectious diseases. However in recent decades, we have seen the emergence of new types of psychosomatic disorders caused by emotional and psychological factors. The basic features of the disease changes is highlighting of social and cultural factors, and signifying the effect of social structures and behaviors on the emergence, distribution, and treatment of the mentioned diseases. The term "psychosomatic" is normally used when an individual has physical symptoms that mainly seem to be simultaneously created or exacerbated by psychological factors and physical symptoms. The emergence of

psychosomatic disorders requires that psychological factors and physical symptoms simultaneously have permanent link and closure (Cummings & Davies, 2002). In fact psychosomatic disorders, refer to presence of a type of complicated and multi-faceted relationship and interaction of biologic and physiological backgrounds and talents from one aspect, and environmental and psychological stress factors from another aspect (Aruna, et al., 2005).

The stress imposed on individuals can vary due to a variety of social situations. Facilities, skills, and abilities of individuals to cope with stress can also increase or reduce the harmful effects of stress on the individual organism and increase or decrease the likelihood of getting physical disorders. For instance in higher levels of mental stress, it seems that psychological outcomes for people with lower social position are much stronger than those who have a higher social status (Cochrane, 1983).

Diagnosis of psychosomatic disorder occurs when there is a disorder with physical harm and events that are significant in terms of psychology have happened before the disorder and they will contribute to the onset or worsening of it. When psychological factors affect the illness physically, usually one denies that he is ill, and avoids taking the drug and might ignore the possible risk factors that may worsen the physical state. The first factor distinguishes the psychosomatic disorders form physical impairment. Physical disorders do not have known physical basis, but psychosomatic disorders have physical basis. Psychological factors can affect multiple physical conditions in many organ systems, such as respiratory, cardiovascular, gastrointestinal and sensory organs.

Family functioning is associated with its member's mental health, and solidarity dimensions, the ideals of family and self-expression are good predictors of mental health (Janai, 2000). Research has shown that families which have close and intimate internal relations and interactions and high levels of harmony among all its members, they are all relatively resistant against the pressures of life (Islami, 2000). Hypertension is one of the most common modifiable risk factors for cardiovascular disease. Studies show that hypertension is major threat to public health and is one of the major causes of morbidity and mortality (Sadeghi, et al., 2003).

The World Health Organization estimates that 600 million people worldwide have high blood pressure and 7/5 million people lose their lives as a result of the disease and its consequences annually (World Health Organization, 2002). Studies show an increase in the incidence of the disease in Iran. Ghanbarian et al., 2006), estimated the prevalence of hypertension as 4/19 per cent, Azizi et al., (2004) estimated it as 5/32 percent, and Bahrami et al., (2006) estimated it as 5/32 percent.

Coronary heart disease (CHD) is caused by narrowing or blockage of the coronary arteries, blood vessels that carry blood rich in oxygen to the heart. It is one of the major causes of death in the world (Rosenhan & Seligman, 1995). Compatibility problems is reported more in patients with heart disease who have suffered stress and social problems before the disease not necessarily those whose disease is more severe (Sarafino, 2011). Psychological and social variables play an important role in the occurrence and outcome of the disease. (Samavat & Hojatzadeh, 2005, as cited in Aschbacher, et al., 2008) states that social support from relatives, family, friends, and receiving material resources, including a

suitable shelter to live can be a facilitating factor for treatment and improving treatment outcomes (Barnes, et al., 2002), and also benefiting a good social support from family increases the recovery period and can reduce the likelihood of relapse. Diabetes is a deadly disease that is increasing every year. Two thirds of patients with diabetes are in developing countries, and 70% of them are located in the Asia Pacific region (Andre-Petersson, et al., 2007; Ireland, et al., 2001).

Diabetes consequences are more important than diabetes itself and the progress of such chronic consequences is related to high glucose in the blood. Therefore, high blood glucose control will help to reduce mortality due to diabetes. However, the most important way to control blood glucose in patients with diabetes is appropriate diet. In addition, to understand diabetes, providing effective information and positive family support significantly helps to improve the diet of diabetic patients (Kaplan & Cassel, 1977).

As mentioned above, a close relationship is seen between the diabetes recovery and the family members' functioning (Cha, 2004). Many social psychological reasons too affect diabetes control (Katon, et al., 2005). Some of these factors relate to family life and have been proven to be related to metabolic control. For example, higher family support leads to better control of diabetes (Fisher, et al., 2000).

Materials and Method

As far as the subject matter of the present study is the assessment of family functioning in patients with psychosomatic disorders (heart disease, high blood pressure & Diabetes), therefore this study is descriptive with a correlational design. It is descriptive since the purpose is to investigate realities and it is not intended to forecast or have statistical inferences. The study is correlational because it examines the relationship (correlation) between variables based on research objectives. The study aimed at assessing family functioning in patients with psychosomatic disorders. In this study, the predictor variable is family functioning and the criterion variables include heart disease, Hypertension, and Diabetes.

The population included all patients with psychosomatic disorders (heart disease, high blood pressure & Diabetes) is the city of Isfahan in the year 2012. A multi-stage cluster sampling is used in this study. The study aims to investigate family functioning in patients with psychosomatic disorders (heart disease, Hypertension, and Diabetes). The Family Functioning Measure Questionnaire was used as the instrument of the study. The questionnaire was developed for assessing family functioning based on the McMaster model by Epstein, Baldwin and Bishop (1983). Najarian (1995), Noaruzi (1998), Molanaqy (1998), Mirenayat (1999), quoted Amini (2000), Rezaii (1999), as cited in Bahari (2000), Amini (2000) and Bahari (2000) approved the face and content Validity of Family Functioning Measure instrument. The reliability of the questionnaire in Iran has been approved using internal consistency in multiple researches (Table 1).

Table 1

Cronbach's alpha coefficient of Family Functioning Questionnaire's subscales

Row	Subscale	Mirenayat study	Rezaei study	Amini study	Present study
1	Problem solving	0.63	0.66	0.61	0.65
2	Relationship	0.63	0.67	0.38	0.54
3	Play a role	0.48	0.63	0.72	0.51
4	Affective Response	0.56	0.42	0.64	0.68
5	Affective involvement	0.74	0.61	0.65	0.68
6	Behavior control	0.59	0.38	0.61	0.64
7	Total functioning	0.74	0.73	0.81	0.84
8	Total scale	0.90	0.91	0.92	0.93

Results

Hypothesis 01: Is there a significant relationship between the family functioning and Diabetics patients?

Table 02

Amnibus Test of Model Coefficient

		Chi-square	df	Sig.
Step 1	Step 1	1.902	7	.965
	Block	1.902	7	.965
	Model	1.902	7	.965

The results of table 01 shows that the model based on Amnibus test is not a good predictor. This test shows the fitness of the prediction model based on Chi-square. Chi-square test suggests the inappropriateness of the prediction model (p=0.965).

Table 03

Fitness test model for the agreement of the observed and predicted results

Step	R	R Square	Adjusted R Square
1	46.243[a]	.048	.067

As table 02 shows, Logistic regression model based on obtained logarithmic values and its Chi-squares, determines the criterion variable variance for 4.8 to 6.8 percent which is Diabetes dependence. Also Chi-square test suggests the inappropriateness of the prediction model.

Table 04

Simultaneous logistic regression for prediction of family functioning on the diabetes disease

	B	S.E.	Wald	df	Sig.	Exp(B)
Relationship	.028	.154	.033	1	.857	1.028
Emotional involvement	.100	.132	.571	1	.450	1.105
Play a role	-.117	.107	1.202	1	.273	.889
Total functioning	-.014	.082	.028	1	.868	.986
Problem solving	.047	.110	.183	1	.669	1.048
Emotional accompaniment	.014	.109	.016	1	.898	1.014
Behavior control	-.024	.089	.074	1	.786	.976
Constant	-.631	2.202	.082	1	.775	.532

Results of table 03 suggest that none of the family functioning components have a predictive power for the criterion variable (Diabetes).

Hypothesis 02: Is there a significant relationship between family functioning and heart disease.

Table 05

Amnibus Test of Model Coefficient

		Chi-square	df	Sig.
Step 1	Step 1	18.222	7	.011
	Block	18.222	7	.011
	Model	18.222	7	.011

The results of table 04 shows that the model based on Amnibus Test is not a good predictor. This test shows the fitness of the prediction model based on Chi-square. Chi-square test

suggests the appropriateness of the prediction model (p=0.01).

Table 06

Fitness test model for the agreement of the observed and predicted results

Step	R	R Square	Adjusted R Square
1	33.748[a]	.373	.507

As table 06 shows, the Logistic regression model based on obtained logarithmic values and its Chi-squares, determines the criterion variable variance for 3.7 to 5 percent which is heart dependence. Also Chi-square test suggests the appropriateness of the prediction model.

Table 07

Simultaneous logistic regression for prediction of family functioning on heart disease

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Relationship	-.286	.227	1.589	1	.207	.751
	Emotional involvement	-.442	.226	3.836	1	.050	.643
	Play a role	.351	.155	5.139	1	.023	1.421
	Total functioning	.062	.090	.478	1	.489	1.064
	Problem solving	-.100	.139	.518	1	.472	.905
	Emotional accompaniment	-.051	.129	.153	1	.695	.951
	Behavior control	.466	.206	5.124	1	.024	1.594
	Constant	-5.259	2.801	3.526	1	.060	.005

Results of table 07 show that the family functioning components of affective association, doing responsibility, and behavior control have a predictive power for the criterion variable (heart). It means that when the affective association factor increases, the likelihood decline of heart disease decreases for 0.64, and for doing responsibility factor, when the doing responsibility factor increases, the likelihood increase of heart disease decreases for 1.4 percent while the other factors lacked the prediction power.

Hypothesis 03: Is there a significant relationship between family functioning and

hypertension?

Table 08

Amnibus Test of Model Coefficient

		Chi-square	df	Sig.
Step 1	Step 1	8.789	7	.268
	Block	8.789	7	.268
	Model	8.789	7	.268

The results of the above table shows that the model based on Amnibus Test is not a good predictor. This test shows the fitness of the prediction model based on Chi-square. Chi-square test suggests the inappropriateness of the prediction model (p=0.268).

Table 09

Fitness test model for the agreement of the observed and predicted results

Step	R	R Square	Adjusted R Square
1	39.356[a]	.202	.285

As table 09 shows, the Logistic regression model based on obtained logarithmic values and its Chi-squares, determines the criterion variable variance for 2.02 to 2.8 percent which is hypertension dependence. Also Chi-square test suggests the inappropriateness of the prediction model.

Table 10

Simultaneous logistic regression for prediction of family functioning on hypertension

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Relationship	.067	.172	.153	1	.696	1.070
	Emotional involvement	.152	.158	.921	1	.337	1.164
	Play a role	-.114	.125	.839	1	.360	.892
	Total functioning	-.043	.088	.236	1	.627	.958
	Problem solving	.078	.128	.374	1	.541	1.081
	Emotional accompaniment	.006	.121	.002	1	.961	1.006
	Behavior control	-.219	.113	3.746	1	.053	.803
	Constant	2.274	2.394	.903	1	.342	9.719

Results of table 10 suggest that none of the family functioning factors have a predictive power for the criterion variable (hypertension).

Discussion and Conclusion

The results of the studies indicate that social support from relatives, family, friends, and receiving material resources, such as a proper shelter to live can be a facilitating the treatment and improving treatment outcomes and since compatibility problems have been reported more in those with heart disease who have had more stress and social problems, not necessarily those with a more severe disease (Sarafino, 2011).

Based on the findings of this study, there is a significant relationship between the family functioning and heart disease. As a result, hypothesis 01 is accepted at the 0.05 significance level and the results of this research study are in line with Andre-Petersson's (2007) study and Ireland, et al., (2011). As compatibility problems have been reported more in those with heart disease who have had more stress and social problems, not necessarily those with a more severe disease (Sarafino, 2011), this indicates the importance of family functioning and further results showed that diabetes and hypertension have no significant relationship with the family functioning and hypothesis 02 and 03 are rejected at the 0.05 significance level and the results of this research study are not in line with Katon's (2005) study and Sadeghi (2003). This shows that family functioning components are not good predictors for heart disease and hypertension. Also these findings suggest that there is a significant negative relationship between the family functioning subscales and the emotional involvement component and this indicates that people with heart disease have lower levels of emotional involvement. Also, there is a significant positive relationship between play a role and control behavior components and heart disease which shows that people with heart disease have higher levels of play a role and control behavior components.

As shown in table 06, affective involvement has a negative predictive power and control behavior a positive predictive power in getting heart disease which shows that as the affective involvement increases in individuals the likelihood of getting heart disease decreases for 0.64 percent.

This findings have significant implications for the prediction and treatment of patients with heart disease. For example, if we increase the emotional involvement in family and decrease playing roles and behavior control components, we have prevented high-risk behaviors. Due to the huge cost of treatment and rehabilitation, family can be considered as the first base for fostering family functioning and reduce heart disease by establishing training programs.

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