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The Prediction of the Quality of Life in Individuals who have Blood Pressure through Differentiation Dimensions with respect to the Mediating Role of Moral Foundations

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Abstract: Abstract

The goal of this research is to develop a conceptual and experimental model and also codify a scientific model that can explain the quality of life in patients who have blood pressure and on the other hand provide a scientific and experimental base for identifying the psychological factors (differentiation of self) and the mediating role of moral foundations in the quality of life in patients who have blood pressure in Iranian culture. In order to do so, 425 patients were selected by purposive sampling from the patients who have blood pressure and come to Ghaem specialized hospital in Karaj in 2015. The patients completed the questionnaires of the quality of life (SF-36), differentiation of self inventory (DSI) and moral foundations questionnaire (MFQ30) verbally and non-verbally. In order to analyze the data, the conventional methods in descriptive statistics and structural equations were used and the data were analyzed by SPSS and LISREL software. Finally, modeling of structural equations showed that the exogenous variables (emotional reactivity, my reaction, emotional cutoff and fusion with others) don't have a direct influence on the quality of life but the indirect influence of these four exogenous variables on the quality of life is significant at 0/01 level. The endogenous variable of moral foundations on the quality of life has a direct influence (0/30) and it is statistically significant at 0/01 level. In addition to it, the direct influence of emotional reactivity, I-position, emotional cutoff and fusion with others on the quality of life are statistically significant at 0/01 level.

Key Words: moral foundations, differentiation of self, blood pressure, the quality of life.

Introduction

Today, chronic diseases are the main reason of death all over the world. Among chronic diseases, cardio-vascular disorders are considered as the main reason of death by scientific societies and blood pressure is one of the main effective reasons of these disorders. According to the seventh report of the joint national committee on prevention, identification, evaluation and treatment of blood pressure, high blood pressure is the most important risk factor of cardio-vascular diseases (Kalhornia Golkar, et.al, 2014). About 25% of the adults have high blood pressure. In Iran, according to the statistics of healthy heart project, the prevalence of high blood pressure is 23/2% in 35 to 65 year old individuals and this is 25/1% in men and 25/1 in women (Jabal Ameli, Neshatdoost and Mowlavi, 2009). Blood pressure can cause undesirable physical effects such as arteriosclerosis, heart attack, stroke, kidney failure and also it can have undesirable influence on patients' mental health and their quality of life. It is important to consider the personality characteristics and the psychological problems, in patients who have blood pressure, which are usually appeared as the side-effects and disorders of this disease and play a role in its development (Jabal Ameli, Neshatdoost and Mowlavi, 2009).

Wales et al., found that in patients who have high blood pressure and heart disease, the prevalence of psychiatric disorders, anxiety disorders, emotional disorders and drug abuse is more during the life. The aforementioned mental disorders result in the increase of blood pressure and decrease the quality of life related to health in these patients (Jabal Ameli, Neshatdoost and Mowlavi, 2009). In recent decades, many researchers emphasize on considering more widespread role for psychological interventions in order

to improve the quality of life in patients who have blood pressure (Kalhornia Golkar, et.al, 2014). The researches show that differentiation is related the quality of life. In other words, the higher the differentiation is, the more the quality of life will be (Ahadi, Alizadeh, 2011). A research in 2012 investigated the relationship between differentiation and the quality of life in Kashan medical sciences university. The data of the research showed that there is a positive and significant relationship between differentiation and the quality of life (Tabeii, 2012). In Haji Mohammad Alikhan et al., (2015) research, the results showed a relationship between differentiation of self, early maladaptive schemas, attachment styles and the quality of life. In other words, the quality of life increases with the increase of differentiation (Haji Mohammad khani et al., 2015). In the overall, blood pressure is under the influence of different factors which intensify and weaken this disease and finally influence on the quality of life in patients who have blood pressure (Jabal Ameli, 2010). Therefore, with the prevalence of high blood pressure and its side-effects, it is necessary to seek for methods in order to decrease psychological side-effects and their relationship with the quality of life (Kalhornia Golkar et al., 2014).

The quality of life is a structure which is taken into consideration by theorists of different social sciences branches and development studies and managers and the brokers of social sciences. In the recent years, researchers and psychologists pay attention to the quality of life and its importance in individuals' mental health. The quality of life appears with the research on the individuals who have special diseases such as diabetes, AIDS and special disabilities after the Second World War and over time the researchers find out that the quality of life can be one of the important consequences in health evaluations. WHO's description of health also emphasizes on this issue (Pazira, 2012).

Due to the growth of number of patients who have blood pressure in Iran and all over the world and also the undesirable influence of this disease on the quality of life, this group of patients' quality of life is important. Differentiation is a subject that enables the individual to create a balance between emotional function and intellectual function and intimate relationships and autonomy, but in researcher's viewpoint, individuality and differentiation can be influential on the promotion of these individuals' quality of life. Differentiation is the most important concept in Bowen family systems theory (1987). The fundamental core of Bowen theory is the differentiation of self and in this theory it is described as the ability of creating balance between two intrapsychical and parasychical (interpersonal) levels. The foundation of this theory is that there is always a chronic anxiety in life. In Bowen's opinion, chronic anxiety is a biological phenomenon and it is a common aspect in all human and in different forms of life. In his opinion, this anxiety is transferred through the past generations whose influence is still present at the moment and it is manifested in a form of perpetual contest of the members on balancing togetherness in return for the differentiation feeling (Ahadi, Alizadeh, 2011).

Differentiation shows the ability of separating emotional processes from intellectual processes due to intrapsychical function and also it shows the experience of intimacy together with independence in interpersonal relationships and proper balance between them due to interpersonal function. Indifferentiation in individuals can decrease their quality of life by increasing the level of anxiety i.e. the components of the quality of life including physical health, mental health, social relationships and the individuals' conception of the living environment is decreased under the influence of anxiety. The studies also show that differentiation is related to the quality of life. In other words, the quality of life increases due to high differentiation.

And finally, in addition to the important dimensions and the influential subscales of them, the role of morality in confronting with the problems of life shouldn't be forgotten and some of them are cultural bases. Traditionally, morality is considered as the most essential aspect of human life and it is the main advantage of humans than other creatures. Basically, human is a creature that understands the moral affairs and he/she can use these values in his/her social and personal life (Rahnama, 2006).

Morality is an inseparable structure of human life and it plays an important role in human behavior regardless of race, culture, politics and social class. Arnold (1994) mentioned that morality is caring about other people like ourselves and distinguish between good, bad, right and wrong (Kashtidar et al., 2010). The concept of morality in psychology, as one of the key concepts, is considered as a set of internalized values and beliefs which acts as one of the inhibitor factors. In some of psychologists' opinion, with the growth of morality in human, the individual feels guilty when he/she violates the morality. Morality creates a prediction of feeling guilty when the humans neglect following the internalized values. It provides the resistance morality against disobedience of human values and criteria even when the

humans are not aware of them. Therefore, conscience goes beyond a simple judgment of right and wrong and the individuals achieve recognition and application of principles, duties and moral rules (Kadivar, 2007).

Therefore, due to the fact that this research is done on the society of individuals who have blood pressure, it can be a base for the promotion of these individuals' quality of life by increasing their awareness of psychological conditions of this chronic disease and the codification of this model can be very practical and helpful by considering the importance of this subject. Finally, the present research seeks for codifying a model for the prediction of the quality of life in individuals who have blood pressure through differentiation of self and with respect to the mediating role of moral foundations.

Research Methodology

The present research is based on a casual plan which is based on a correlation method and it is done on the modeling of structural equations in order to explain the possible casual relationships between variables.

Statistical Society and the Sample Group

The society of this research is the patients who have blood pressure in Karaj.

According to the research design, the purposive sampling method and the voluntary participation method including non-random methods, the studied sample group is selected according the following entry criteria from this society; 1) the specialist's recognition and having primary systolic blood pressure or high diastolic, 2) not receiving the psychological and psychiatric interventions during the last year. In order to do the research, the examiner goes to Ghaem Hospital in Karaj and collects data. And after getting consent from the participants, they receive the questionnaires and in non-verbal cases, the questionnaires collected by making phone calls and going to the participants' address. After implementing, it becomes clear that 20 questionnaires are incomplete, blank or defaced and their data are useless. Therefore, the number of questionnaires completed by the patients and entered the research was 425.

Research Tool

The quality of life scale (SF-36)

The SF-36 questionnaire was designed by Varo Sherbon in America in 1992 and its validity and reliability was investigated in different groups. The codification and preparation of Iranian form was done in 2010. This questionnaire has 36 items and evaluates eight different fields of health: general health (5 items), physical performance (10 items), the limitation of playing role due to physical reasons (4 items), the limitation of playing role due to emotional reasons (3 items), physical pain (2 items), social performance (2 items), boredom or exhilaration (4 items), mental health (5 emotional). In this questionnaire, the quality of life is quantitatively evaluated on a scale which is 0 to 100 (Montazeri, 2005).

The validity and reliability of Persian version of this questionnaire is approved in Iran (r= 0/7-0/9). The reliability of this questionnaire is done by using statistical analysis, internal consistency and validity test is done by using comparison method of the recognized groups and convergent validity. The analysis of internal consistency showed that other Persian scales of this test have at least reliability standard coefficients of 0/77 to 0/90 except the exhilaration scale which is 0/65. The implementation of this questionnaire is done in a form of group or individually (Montazeri, 2005).

Differentiation of Self Inventory (DSI)

The differentiation of self questionnaire was first designed and implemented in 1998 by Skowron and Friedlander with 43 items. Then, it was revised in 2003 and the final questionnaire was adjusted by Jackson with 46 items and 4 factors based on Bowen theory. This questionnaire is a self-evaluation and self-report tool used for the evaluation of individuals' differentiation. Sub-scales of this questionnaire is as follow: emotional reactivity (11 items), I-position (11 items), emotional cutoff (12 items) and fusion with others (9 items). The results of the research done by Skowron and Smith (2003) showed high validity and reliability. The reliability of the revised form was 0/92 by Cronbach's alpha for the whole scale. The consistency coefficient of the sub-scales of this questionnaire is emotional reactivity (0/89), emotional cutoff (0/84), I-position (0/81) and fusion with others (0/86) respectively. This test was normalized on a

normal sample by Yunesi (2006) in Iran and its validity was announced 0/85 by Cronbach's alpha and retest for the whole scale (Habibipour, 2013).

Moral Foundations Scale

Moral foundations questionnaire (Haidt and Graham, 2007) has 30 items and it is adjusted in order to evaluate the quintuple dimensions. In Haidt and Graham's opinion, these 5 dimensions investigate the essential and foundational morality dimensions between cultures and different ethnic, racial and verbal identities. 5 sub-scales of this questionnaire are as follow: care/harm, fairness, in-group loyalty, authority respect and purity/sanctity (Seyfi et al., 2012). The total validity coefficient of this scale in Seyfi Ghoozloo's research (2012), in which there are 125 couples, was obtained about 0/79 by Cronbach's alpha and also for subscales of care/harm, fairness, in-group loyalty, authority respect and purity/sanctity it was obtained 0/58, 0/79, 0/61, 0/70 and 0/73 respectively and they show the appropriate internal inconsistency of this questionnaire. In order to determine the validity of mortality foundation scale, confirmatory factor analysis was used. In order to determine the validity of the questionnaire by retest method, the quantities of care/harm, fairness, in-group loyalty, authority respect and purity/sanctity were obtained 0/71, 0/68, 0/69, 0/71 and 0/82 respectively for 123 students of southern California university after 37 days (28 to 43 days). The obtained coefficients by retest are close to the obtained coefficients by Cronbach's alpha for each dimension. The analyses done for determining the divergent validity with other questionnaires such as Schwartz values survey (SVS) showed that each dimension of the questionnaire has a validity of strong prediction (Seyfi, et al., 2012).

In the present research, in order to test the suitability of the developed models for the quality of life, the path analysis was used. In order to investigate the relationships between the studies variables, Pearson's correlation coefficient and multiple regression were used. The statistical method was analyzed by using LISREL software.

The findings

In table 2, the indices of descriptive statistics of the research variables are reported according to the sample size (n=425).

Variable	Average	Standard Deviation	Skewness	Kurtosis
Emotional reactivity	31/64	3/44	1/33	0/60
I-position	28/36	3/97	0/61	0/82
Emotional cutoff	35/70	2/91	1/25	0/56
Fusion with others	20/54	3/10	1/10	0/21
Moral foundations	86/21	3/38	0/41	0/34
The quality of life	81/33	4/35	0/75	1/02

Table 2: The indices of descriptive statistics of research variables

According to the obtained skewness and kurtosis of the research variables, the distribution of all variables is normal. It is important to mention that in addition to skewness and kurtosis, the significance levels obtained from Kolmogorov-Smirnov test (over 0/05) also show the normality of the variables' distribution but the tables related to it are not mentioned. Also the linearity assumptions are approved by investigating the scatter plot of regression standardized residuals. In the following section, in table 3, correlation matrix of research variables is represented.

Table 3: Correlation matrix of research variables

P* < 0/05 p** < 0/01

Variabl es	1	2	3	4	5	6
Emotio						
nal	1					
reactivi						
$\mathbf{t}\mathbf{y}$						
I-	0/14*	1				
position	0/11	1				
Emotio						
nal	0/19**	0/09	1			
cutoff						
Fusion						
with	0/22**	0/07	0/16*	1		
others						
Moral						
foundat	0/34**	0/30**	0/48**	0/31**	1	
ions						
The						
quality	0/12*	0/06	0/15*	0/18**	0/33**	1
of life						

According to table 3, the highest correlation coefficient among the variables of this research is related to the relationship between emotional cutoff and moral foundations (0/48) and the lowest correlation coefficient is related to the relationship between I-position and the quality of life (0/06). The first one is statistically significant at 0/01 level and the second one is not significant. From the research variables, moral foundations (0/33), fusion with others (0/18), emotional cutoff (0/15), emotional reactivity (0/12) and I-position (0/06) has respectively the highest to lowest correlation coefficients with the quality of life. The last one is not significant. In table 4, the coefficients of direct and indirect influence and all the research variables influence are represented with their significance level.

Table 4: The coefficients of direct and indirect influence and all the research variables influence on each other

Variables Estimates	Direct influences	Indirect influences	Total influences	Explained variance
On the quality of				
life from:				
Emotional	-	0/13**	0/13**	
reactivity				
I-position	-	0/10**	0/10**	0/26
Emotional cutoff	-	0/15**	0/15**	
Fusion with others	-	0/08**	0/08**	
Moral	0/30**	-	0/30**	
foundations				
On moral				
foundations from:				
Emotional	0/31**	-	0/31**	
Reactivity				

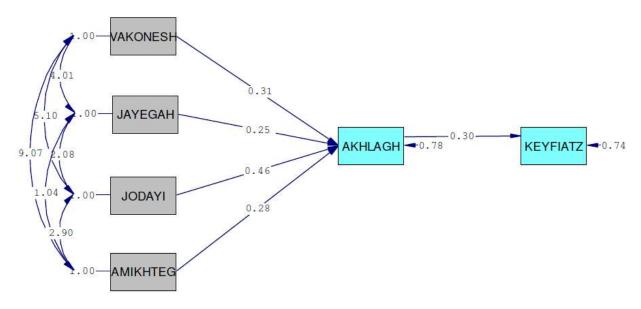
I-position	0/25**	-	0/25**	0/22
Emotional cutoff	0/46**	-	0/46**	
Fusion with others	0/28**	-	0/28**	
others				Di eler di ele

P* < 0/05 p** < 0/01

According to table 4, none of the exogenous variables (emotional reactivity, I-position, emotional cutoff and fusion with others) has a direct influence on the quality of life but the indirect influence of these 4 exogenous variables on the quality of life is respectively 0/13, 0/10, 0/15 and 0/08 and all of them are significant at 0/1 level and they happen through the mediating role of moral foundations. Endogenous variable of moral foundations has a direct influence on the quality of life (0/30) and it is statistically significant at 0/01 level. In addition to it, the direct influence of emotional reactivity, I-position, Emotional cutoff and fusion with others on the quality of life is respectively (0/31), (0/25), (0/46) and (0/28) and all of them are statistically significant at 0/01 level. It is necessary to mention that from all the research variables, emotional cutoff has the most direct influence on moral foundations. Also, emotional cutoff has the most indirect influence on the quality of life. In the present research, the variance of the quality of life explained by differentiation of self and moral foundations is 26%. In the following section, according to the parameters presented in table 4, the path diagram of the fitted prediction model of the quality of life (figure 2) is represented with the fitting indices.

The results based on the direct influence of differentiation of self on the quality of life is consistent and congruent with the results of Haji Mohammad Alikhan et al., (2015), Sandaj and Johnsky (2013), Nikkhah et sl., (2013), Tabeii (2012) and Ahadi and Alizadeh Asli (2011). Also, it is consistent and congruent with the results of Khaniki and Tabrizi (2009) and Asghari and Ghasemi Joobaneh (2014) in relation to the indirect influence of these 4 exogenous variables on the quality of life through the mediating role of moral foundations.

Figure 2: The path and estimation diagram of the parameters of the fitted prediction model of the quality of life (output model)



Chi-Square=9.18, df=4, P-value=0.05671, RMSEA=0.067

Discussion and Conclusion

In the present research, we try to predict the quality of life in individuals who have blood pressure according to differentiation dimensions and moral foundations and with a systematic approach and beyond the two-variable researches. In addition to it, we try to investigate the influence of the above variables on each other in a form of casual model. In order to achieve this goal, according to the available theoretical and experimental background about the studied variables, a theoretical model is proposed and tested by path analysis method. The results show that the proposed model has a suitable fitting with the data of this research and it explains 26% of the quality of life variance in individuals who have blood pressure; and this issue shows the importance of the role of differentiation dimension and its consequences i.e. moral foundations in these individuals' quality of life.

Today, according to WHO description, the quality of life is the individuals' conception of their position in life in terms of culture, value system in which they live, goals and expectations, standards and their priorities (Latifi, Farrokhvandi, 2011). The quality of life is a multidimensional concept and it includes the optimal level of welfare feeling in the field of physical, psychological and social function; in the other hand, moral foundation which means caring about other people influence on the quality of life and we can distinguish from "good and bad" and "right and wrong" with its help. Differentiation of self refers to the individual's ability for obtaining emotional control and remaining in emotional atmosphere of the family. Differentiation includes a kind of intrapersonal capacity for distinguishing between thought and feeling and also the interpersonal ability for preserving independence in deep relationships with important people of life (Goldenberg and Goldenberg, 2012). According to this issue, it can be said that the more the ability of individual for thinking realistically about emotional subjects in family is, the more he/she care about other people and can distinguish between "good and bad" and "right and wrong" (Kashtidar et al., 2010). Due to the fact that moral foundations include 5 dimensions of care/harm, fairness, in group loyalty, authority respect and purity/sanctity, it can be expected that the level and quantity of these moral criteria would increase in individuals through having higher level of differentiation of self.

Regarding the explanation of a general pattern and its comparison with other similar researches, it can be mentioned that the researcher can't find a research which is compatible with this model or even close to it. However, the researches of Haji Mohammad Alikhani et al., (2015), Betmaz et al., (2014), Sandaj and Johnsky (2013), Pelek and Rahal (2012), Asghari and Ghasemi Joobaneh (2014), Kalhornia Golkar et al., (2014), Nikkhah et al., (2013), Tabeii (2012), Ahadi and Alizadeh (2011) are congruent with the presented model.

In conclusion, blood pressure which is the third reason of death and one of the most important reasons of chronic disability all over the world can influence on the patients' quality of life though its chronic and progressive development. This disease which is called silent killer has a close relationship with psychological factors, therefore, in recent decades; many researchers try to investigate this field through considering the widespread role of psychological interventions in order to improve the quality of life, promote mental health and also control blood pressure of these patients. It is clear that the trainings related to the promotion of quality level of the above fields such as proper training of parenting and independence of children in order to achieve a worthy individuality can improve and promote the quality of life in individuals who have blood pressure.

According to the results, all dimension of differentiation (emotional reactivity, I-position, emotional cutoff and fusion with others) have indirect, positive and significant influence on the quality of life in individuals who have blood pressure through the mediating role of moral foundations. Following the explanation of the present research results, it can be mentioned that the differentiation structure, due to its variables, can clearly copy the moral patterns and styles of the individual's family from emotional interactions of individuals with their family and this process is institutionalized in individuals through the formation of child character and within a family and this institutionalization of moral styles influence on the mixing style of independence and finally the individuals' emotional differentiation with their family and also spouse. In this case, the selection of family's moral style receives a very influential and effective role. Therefore, following the explanation of the research results, the researcher suggests that similar researches will be done in other hospitals, statistical societies and also cities and the results will be compared. Also in future researches, especially in case study researches, the influence of other factors beyond the studied model and context such as the parents' quality of life, society culture, work environment and etc should be investigated. And due to experimental and theoretical bases of the available variables in the model, it is suggested that other competing models will be also investigated and tested and their results will be compared with the present research findings. The limitation of the present

research done on individuals who have blood pressure in Karaj is that because we don't investigate the role of context, living environment, family conditions, genetics and etc, the results can be generalized to this statistical society but the generalization of the results to other statistical societies needs some precaution. In the intended model of the present research, due to multiplicity of variables, the investigation of some of the contextual, psychological and motivational variables was not possible.

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