Comparison of neurosis, loneliness and resilience between individuals with diabetes and normal people

Mitra Farshbaf Ghasemi Azar¹; Hamed Bermas²

¹M.A. of Clinical Psychology, Karaj Branch, Islamic Azad University, Karaj, Iran
²*A.P. of Psychology Department Karaj Branch, Islamic Azad University, Karaj, Iran
*Email: dr.bermas@gmail.com

Abstract

Present research was performed with the aim of comparing neurosis, loneliness and resilience between individuals with diabetes and normal people. With causal-comparative approach to this end, diabetes community of Karaj city, at Alborz province, was selected as statistical population of study. The statistical sample size was 100 people for each group of diabetic and normal individuals. Totally 200 persons were selected by available sampling method. Tools applied in this study included loneliness questionnaire (UCLA), Conner-Davidson’s resilience questionnaire (CD-RISC) and five big personality factors questionnaire (NEO) – long form. Hypothesis analysis was performed using SPSS21 software. Findings from hypothesis analysis showed that there is a difference between diabetic and normal people neurosis, of course the neurosis level in normal individuals was performed more than diabetic group. Also findings indicated that there is a difference between diabetic individuals’ loneliness level and normal individuals, and concerning resilience in these two groups it was revealed that there is a difference between diabetic individuals’ resilience level and normal individuals.

Keywords: neurosis, loneliness, resilience, diabetes.
Introduction

Diabetes is considered as sixth leading cause of death in the world and taking into account its direct relation with increased prevalence of cardiovascular diseases, cerebrovascular, peripheral vascular and depression is a direct influential factor on health care’s costs (Sconberg and Jray Week, 2011). Most important predisposing factor of death in these patients can be considered lack of self-care activities. There is a global consensus that self-care plays a special role in care of chronic diseases and when success is achieved in managing these diseases that patient can take part in self-care activities, including effective medication take, monitoring health fluctuations and keeping a healthy life style (quoted from Abutalebi, 2013). For an individual with diabetes it is always difficult to accept the issue that his/her life way must be changed based on this disease. In particular, at the beginning of disease, a patient uses denial immune response and refuses accepting the new situation that it makes worse treatment progress and prognosis and, in the other hand, increases treatment costs. As these patients are aware of short-term and long-term side-effects of this disease, emotional reactions such as depression wouldn’t be out of mind in these individuals. Hence, emotions have a crucial role in diabetes and influence on patient’s response in all levels including disease progress, treatment and patient’s life procedure. Pierot et. al. (2007) study has shown that diabetes is accompanied with increased disorders risk and psychological signs (Kooshan et. al. 2014).

Usually individuals when inform about existence of a chronic and serious disorder called diabetes in their bodies, consider it a great incident in their lives. Their psychological reactions include denial, anxiety, and depression and …. Therefore it can be said that getting diabetes influences directly on individual’s psychological features, therefore their personality characteristics also may undergo changes over time. In this study neurosis has been examined as one of the personality features in these people.

Personality features are defined in psychology in terms of structural differences between individuals that is assumed be stable in situations and are associated with performance in personal tasks. Neurosis is one of the Five Big personality factors that are diagnosed with irritability, touchiness, distress, helplessness and susceptibility to mental damages such as anxiety, depression and anger and other annoying outcomes. Individuals who get high score in neurosis (one of the neo-scale personality features), reveal more illogical thoughts, less power for impulse control and weaker adaptability with others and conditions. Also they evaluate themselves more critical, set low objectives and assess their performance inadequately (Kasta and McCrae, 2013). Logic talking with a neurotic individual always is possible, and if it is attempted he/she can get a completely true image about what happen for him/her. In the other words, such a person has a conscious mind that has been organized logically, but yet can’t adapt with what happen and often lose his/her behaviors monitoring (quoted from Shafiee, 2014).

Another mental factors that has been examined as a persistent and serious disorder in individuals with diabetes is resilience factor in them.

In psychology a person’s capacity against a bad event or stress is called resilience (Gallow and Braken, 2004). Resilience has been defined as ability to go through difficulties and overcome to circumstances in life. In fact resilience means capability to confront with hard conditions and flexible response to pressures of daily life. Resilience doesn’t limit stress, doesn’t remove life problems, but give a power to individuals to have a healthy confrontation with facing problems and overcome to hardness and move with life flow. In disease stress model, there is a belief that individuals get a disease or disorder if they have initially a biologic, psychological or psychosocial background for that disease and then are affected by stress of that disease. While many people have
background to get many diseases, but all don’t get these diseases. What prevents people from coming down against disease stress is the approaches that apply to adjust it. These efficient approaches appear based on resilience feature. Resilience not only is increase of a person’s tolerance and compatibility in confronting with a problem, but more importantly to maintain mental health and promoting it. Mental resilience gives an ability to people that confront with problems and without enduring damage consider these situations even an opportunity for promotion and personality growth (quoted from Salari, 2014).

Social fast transformations and diversity of life facts has confronted researchers with a new social perspectives and contexts. One of the most complicated psychological concepts that have being discussed from philosophers’ time is “loneliness”. According Veise (1973) and Forum-Richman’s (1959) theory loneliness is a very negative experience that a person actively avoids recalling it. Also Wood (1986) argues that loneliness is a fundamental emotion and one of the strongest experiences of man. He believes that feelings associated with loneliness remind lack of proper social relations. Also findings show that loneliness isn’t synonymous with living alone. Loneliness when occurs that important and significant social interactions diminish quantitatively or qualitatively. Experts believe that every attempt resulting in removal of loneliness feeling is a barrier against waves of complicated mental problems of individuals and, in the other hand, improve their self-esteem. Also successful treatment of loneliness may reduce risk of serious side-effects like depression. Loneliness is seen more in elderly people and patients than others (quoted from Rahim Zadeh and et. al. 2013). Hence, one aim of this study is examining this feeling in individual with diabetes.

Along with the study subject, some research has been performed among them Grendinti et. al. (2010) study can be referred. They made a study on “examining loneliness in individuals with diabetes” and studied mental factors in patients with diabetes type II. Findings obtained from this research showed that loneliness in diabetic patients is 61.3% from which 4.6% suffer from moderate to severe depression. Findings of Grendinti (2010) study showed that although most of chronic diseases are accompanied with increased loneliness prevalence, but in diabetic patients this issue is three times more common.

Also Oged et. al (2011) have performed a research on “study of treatment and care costs of diabetic individuals”. In this study expenditure of a depressed diabetic person has been compared with a non-depressed diabetic person. They concluded that depressed diabetic individuals in comparison with non-depressed diabetic individuals take more prescriptions and use more outpatient cares and their care costs Is 4.5 time more than the other group.

Anderson (2011) also performed a study on “comparing depression disorder prevalence between individuals with diabetes and normal people”. In this study a meta-analysis has been performed on 42 comparative studies. Anderson’s analysis results showed that major depression disorder prevalence in diabetic individuals is twice more than non-diabetic individuals. In this study he suggests that depression is an independent risk factor for diabetes type II emergence.

Therefore, it can be said that an individual with diabetes not only suffers from a physical condition but over time will confront with mental problems and his/her mental health reduces gradually. Several studies have been performed concerning depression in diabetic individuals but a little research has been done in Iran about other psychological variables. In this research, in view of data obtained about number of people with diabetes, the researcher intend to address to personality characteristics and variables like resilience in these individuals, their neurosis level after suffering diabetes as well as loneliness resulting from this disease during life.
Methodology

Present study method is causal-comparative. Statistical population in this research is all individuals referring to Diabetes Society of Karaj. This statistical population has been divided into two groups of diabetic and normal. Number of the statistical sample is 100 people for each group. Totally the sample size is 200 that is a sufficient size for correlation studies (Delavar, 2006). In this research available sampling method has been used.

Tools applied in this study include three questionnaires that are introduced in the following:

1. Loneliness questionnaire (UCLA)

Loneliness questionnaire was developed by Russell, Cortona and Paplo (1980). Third version of this measure (Loneliness UCLA) measures a common loneliness that an individual experiences in his interpersonal relations (quoted from Dvarpanah, 1994). Russell considered a high reliability for third version of Loneliness Scale UCLA. This questionnaire includes 20 items, in the form of four-option, 10 negative sentences and 10 positive sentences.

Scoring method: this four-option measure has 10 negative and 10 positive sentences. In this questionnaire the option “never” is rated (1), “rarely” (2), “sometimes” (3) and “always” (4). But scores of items 1, 5, 6, 9, 10, 15, 16, 19 and 20 is opposite. That is, “never” is rated (4), “rarely” (3), “sometimes” (2) and “always” (1). Scores range is from 20 (minimum) to 80 (maximum). Therefore, average score is 50. a score higher than average shows more severe loneliness.

Validity and reliability: Russell has considered a high reliability for third version of loneliness scale. Also Davarpanah (1994) performed a study concerning normalization of Loneliness Scale UCLA and reported Chronbach’s alpha 78%. Reliability of this test was reviewed in new version and was reported 78%. Validity and reliability of “loneliness” test by retest method by Paplo and Fergosen (1978) has been reported 86% and 89%, respectively. This scale was translated by Shokrkon and Mirderikvand (2006) and was applied after preliminary performing and modifications (quoted from Naderi and Haghshenas, 2009).

Value of Chronbach’s alpha of loneliness questionnaire with 20 items, in the present study, has been obtained 0.88 that is aproper and acceptable value.

2) Conner-Davidson’s resilience questionnaire (CD-RISC)

Describing the questionnaire: Conner-Davidson’s (2003) resilience scale is a 25 items tool that measures resilience construct in a five-point Likert scale rating from 0 to 4. A subject’s minimum score of resilience in this scale is 0 and maximum score is 100. Results of preliminary study concerning psycho econometric features of this scale has confirmed it reliability and validity (Conner& Davidson, 2003).

Scoring and interpretation: Scoring spectrum of this questionnaire is in terms of five-point Likert ranging from completely wrong (1) to always correct (5).

Minimum score: 25, average score: 75, maximum score: 125.

Score 25 to 50: resilience level is weak. Score 50 to 75: resilience level is middle. Score higher than 75: resilience level is strong.
Validity and reliability: results of preliminary study related to psycho economic features of this scale has confirmed it reliability and validity (Conner and Davidson, 2003). Internal consistency, retest reliability, convergence and divergent validity of the scale have been reported sufficient and, although results of exploratory factor analysis have confirmed existence of five factors (competence, personal strength, confidence to personal intuitions, negative emotions tolerance, accepting positive emotions, secure relations, control, spirituality) for resilience scale, because these scales reliability and validity haven’t been confirmed yet definitively, currently just general score of resilience is counted valid for research objectives (Conner& Davidson, 2003). Reliability and validity of Persian Form of resilience scale also has been examined and confirmed in preliminary studies on normal and patient samples (Besharat, 2007). In a organizational research, by Jokar and Sahragard (2007) the reliability of resilience scale with help of Chronbach’s alpha was obtained 87%. Also in a research performed by Shakeri Nia and Mohammad poor (2010), resilience scale was performed on 284 people that its reliability was obtained by measuring internal consistency of Chronbach’s alpha 0.91 and its validity was determined from convergent type and its validity reported 0.82. Value of Chronbach’s alpha of resilience questionnaire with 45 items in the present study has been estimated 0.85 that is a proper and acceptable value.

3) Five Big personality factors questionnaire (NEO) – long form

Description: NEO questionnaire has been developed by McCrae and Costa (1985).

Long form of this questionnaire has been designed in 240 items in order to measure five factors or main area of neurosis, extroversion, flexibility, agreeableness and responsibility. Also this questionnaire has another form called NEO-FFI that is a 60 item questionnaire and is applied for evaluation of five big personality factors. In the 240 item form, each factor consists of six levels or subscales, while in short form each factor is measured with 12 items.

It should be mentioned that because of higher accuracy, long form has been used in this research.

Value of Chronbach’s alpha of NEO questionnaire in neuroticism scale with 48 items in current study has been obtained 0.89 that is a proper and acceptable value.

Validity of the questionnaire used in this study was estimated with Chronbach’s alpha that its results are presented in following table:

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Chronbach’s alpha</th>
<th>Number of items</th>
<th>Number of Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>loneliness</td>
<td>0.88</td>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td>neurosis</td>
<td>0.89</td>
<td>48</td>
<td>200</td>
</tr>
<tr>
<td>Resilience</td>
<td>0.85</td>
<td>45</td>
<td>200</td>
</tr>
</tbody>
</table>

Findings

In order to examine main hypothesis of the study, namely “there is a difference in neurosis, loneliness and resilience between diabetic and normal individuals” multivariable variance was used. Here it must be reminded that dependent variable in this hypothesis are three variables that was measured twice.
Considering that performing statistical test of multivariable variance analysis requires holding some assumptions, they were examined before performing variance analysis and analyses have been made after confidence in assumptions holding.

After assumption of data normality that was examined in descriptive section, assumption of existing a relation between research variables with Bartoltt test was studied that its results has been presented in table 2.

Table 2. Results of Bartolot test to study assumption of correlation between variables

<table>
<thead>
<tr>
<th>Likelihood ratio</th>
<th>X value</th>
<th>df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>184.311</td>
<td>5</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Results of Bartoltt’s sphere city test to examine assumption of correlation between variables showed this assumption holds for three variables entered in multivariable variance analysis (p > 000/0).

In the following Box test was used to study homogeneity of variance-covariance matrix assumption that its results is presented in table 3. Application of Box test is similar to Levin test in univariate case.

Table 3. Results of Box test to study homogeneity of variance-covariance matrix assumption

<table>
<thead>
<tr>
<th>Box</th>
<th>F</th>
<th>Df1</th>
<th>Df2</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.376</td>
<td>1.307</td>
<td>6</td>
<td>284.075</td>
<td>0.091</td>
</tr>
</tbody>
</table>

In view of results of Box test (p>09/0), homogeneity of variance-covariance matrix is confirmed for three dependent variables in different groups. Considering the univariate variance analysis in conclusion, sub-hypotheses of assuming variances homogeneity was examined by Levin test.

Table 4. Results of Leivn test

<table>
<thead>
<tr>
<th>Variables</th>
<th>F value</th>
<th>df1</th>
<th>df2</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>loneliness</td>
<td>0.104</td>
<td>1</td>
<td>198</td>
<td>0.748</td>
</tr>
<tr>
<td>neurosis</td>
<td>0.543</td>
<td>1</td>
<td>198</td>
<td>0.462</td>
</tr>
<tr>
<td>resilience</td>
<td>0.702</td>
<td>1</td>
<td>198</td>
<td>0.313</td>
</tr>
</tbody>
</table>

In table 4 shows that value of F for variance difference between two groups was obtained 0.104 in loneliness that with freedom degree of 1 and 198 isn’t significant in level p<0.748. Value of F for variance difference between two groups was obtained 0.543 in neurosis that with freedom degree of 1 and 198 isn’t significant in level p<0.462.

Value of F for variance difference between two groups was obtained 0.702 in resilience that with freedom degree of 1 and 198 isn’t significant in level P<0.313. Therefore there isn’t a difference between variances and the assumption is correct. After assumptions examination, variance analysis was performed and its results have been reported in table 5.

Table 5. Results of multivariable variance analysis comparing diabetic and normal individuals
In table 5 it is observed that F value obtained for Lambday Vilks with value of 12.38 and freedom degrees of 3 and 196 is significant in level 𝑝>0.000. Consequently, it is concluded that there is a difference between diabetic and normal individuals in neurosis, loneliness and resilience. Impact rate for difference between groups has been obtained 0.159 that is significant and shows that independent variable, namely diabetes has a strong influence on dependent variables.

Following the significance of main hypothesis, univariate variance analysis that is obtained in output of multivariable variance analysis, in order to examine more detailed difference and sub hypotheses, has been reported in table 6.

Table 6. Results of univariate analysis comparing diabetic and normal individuals

<table>
<thead>
<tr>
<th>sources</th>
<th>variables</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
<th>η2</th>
</tr>
</thead>
<tbody>
<tr>
<td>group</td>
<td>loneliness</td>
<td>02.792</td>
<td>1</td>
<td>02.792</td>
<td>6.768</td>
<td>0.001</td>
<td>033.0</td>
</tr>
<tr>
<td></td>
<td>neurosis</td>
<td>05.1799</td>
<td>1</td>
<td>05.7993</td>
<td>33.335</td>
<td>0.001</td>
<td>144.0</td>
</tr>
<tr>
<td></td>
<td>resilience</td>
<td>98.5140</td>
<td>1</td>
<td>98.5140</td>
<td>18.889</td>
<td>0.001</td>
<td>087.0</td>
</tr>
<tr>
<td>fault</td>
<td>loneliness</td>
<td>66.2317</td>
<td>198</td>
<td>029.117</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>neurosis</td>
<td>72.1068</td>
<td>198</td>
<td>757.539</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>resilience</td>
<td>8.5386</td>
<td>198</td>
<td>029.272</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>loneliness</td>
<td>68.2396</td>
<td>199</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>neurosis</td>
<td>65.1248</td>
<td>199</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>resilience</td>
<td>78.5900</td>
<td>199</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6 shows that there is a difference in loneliness, neurosis and resilience between diabetic and normal individuals (df=1/118 𝑃>0.01).

According the findings of above table it can be suggested:

1) There is a difference in neurosis level between diabetic and normal individuals.

In neurosis variable there is a difference between diabetic and normal groups (df=1.118 𝑓=33.33 𝑃>0.01). Consequently, it is concluded that there is a difference in neurosis rate between diabetic and normal individuals, so that neurosis in normal individuals is more than diabetic individuals and this hypothesis has been confirmed.

2) There is a difference in loneliness between diabetic and normal individuals.

In loneliness variable there is a difference between diabetic and normal individuals (df=1.118 𝑓=6.76 𝑃>0.01). Thus, it is concluded that there is a difference in loneliness rate between diabetic,
so that loneliness in diabetic individuals is more than normal individuals and this hypothesis has been confirmed.

3) There is a difference in resilience rate between diabetic and normal individuals.

There is a difference in resilience variable between diabetic and normal individuals (df=1.118, f=18.89, p>0.01). As a result, it is concluded that there is a difference in loneliness rate between diabetic and normal individuals so that diabetic individuals’ resilience is less than normal people and this hypothesis was confirmed as well.

Discussion and conclusion

With confirmation of first sub-hypothesis of this study and determining that there is difference in neurosis between diabetic and normal individuals examined in this research; it can be suggested that because individuals with diabetes have a treatment will, therefore their neurosis is in a lower level. About occurring this difference it could be said that errors in measuring tools may be cause abnormal result. In the other hand, restrictions of diabetic individual’s life style have impact on his neurosis and, for example, anger factor (in neurosis) may be lower. Also because the questionnaires have been completed in Diabetes Community, the individuals have treatment reason and this is effective in lowering their neurosis score.

It must be mentioned that results obtained from this hypothesis is in alignment with results of Noroozi Nezhad’s study (2012) that compared mental conditions of diabetic and non-diabetics people.

Therefore, as noted previously, neurosis as one of the Five Big personality factors is determined by features such as irritability, touchiness, distress, helplessness and susceptibility to mental damages. Individuals who score high in neurosis, display more illogical thoughts, less power for impulse control and weaker adaptability with others and conditions. Also they evaluate themselves more critical, set low objectives and assess their performance inadequately.

Hypothesis related to loneliness variable and its difference measure in both groups was confirmed and results show that there is a difference in loneliness rate between diabetic and normal individuals, so that loneliness in diabetic individuals is more than normal individuals and this hypothesis has been confirmed, too. In fact it can be stated that in an individual with diabetes, because of disruption of social interactions or involving in a feeling that he/she has being suffered a disorder that should leave old habits and has a new lifestyle, results in loneliness for sometimes.

According Rahimzadeh’s study (2011) loneliness in old people and patients is seen more than other members of society that is in line with results obtained from second hypothesis of this study.

Results of Grendinti studies (2010) show that although most of chronic diseases is accompanied with increase of loneliness prevalence but in diabetic individuals this issue is three time more common. His results are in alignment with results of this study.

In the other words, it can be argued that individuals that suffer from a disorder or disease, experience more loneliness than individuals that haven’t a disease of a special physical limitation, because over time they feel that their lifestyle is different from others around and this cause they feel isolation from others and in some cases think that others don’t understand their physical conditions and their need feeling doesn’t satisfied by no one effectively and the same different
feelings over time results in formation of “loneliness” in them which was confirmed in this study considering the statistical arguments.

Third hypothesis of this research also was confirmed. Therefore it is concluded that there is difference in resilience rate between diabetic and normal individuals so that individuals with diabetes have less resilience than normal individuals.

As noted before, resilience has been defined as ability to pass from difficulties and overcome on life conditions. In fact resilience means capability to confront with hard conditions and flexible response to pressures of daily life. It gives a power to individuals to have a healthy confrontation with facing problems and overcome to hardness and move with life flow. As diabetic people involve in a problem and disease, it seems natural that their resilience is lower than normal people.

Salari et. al. (2014) in their study on comparing resilience in individuals with heart disease with healthy individuals suggested that resilience in patient group and healthy group had no difference in their test subjects.

Therefore it can be argued that results obtained from their research isn’t alignment with results of third sub-hypothesis analysis in the present study. Of course they have also reminded that: despite lack of relation between resilience in healthy and patient groups in our study, it can’t be concluded that resilience has no inhibitory effect on heart disease emergence.

Suggestions

1) It is suggested that in future research a more extensive statistical population is used until results of study can be used for whole the country with a better documentation.

2) It is proposed that similar variables in future research is performed between two women and men groups (comparison in terms of gender).

3) Families that have a member with diabetes problem it is suggested that use results of this study.

4) It is suggested to diabetes communities in throughout the country that take serious mental damage in members of the communities and consult with related experts to resolve it.
References

Abutalebi Daryasari, Ghasem; Vosoghi Karkazlu, Nazila; Farahani, Behnaz (2013), Study of self-care ability of individuals with diabetes, scientific quarterly of Nursing and Midwifery Faculty of Birjand Medicine University, 8(4); 27-32.


Delavar, ali (2015), Mythology in Psychology and Education, Virayesh publication.


Salari, Arsalan; Akbari, Bahman; Noori saeed, Aazam (2014), Comparison of mental resilience in individuals with coronary artery disease and healthy people, journal of Gilan Medicine University, 23 (9); 31-44.


Shakerinia, Iraj; Mohamadpour, Mehri (2010), Relation of stress and resilience with job burnout in female nurses, scientific-research quarterly of Kermanshah Medicine University; 4 (2), 98-111.

Shafiee Sourak, Sina; Vahedi, Shahram; Hashemi, Tooraj (2014), Impact of education years, neurosis and strategies of learning self-regulation on academic burnout: test of one concept model, quarterly of Knowledge and research on applied psychology, 15(3); 41-56.
Kooshan, Mohsen; Molla shahi, Zeynab; Delbari, Ahmad; Rakhshani, Mohammad Hasan (2014), Impact of group reminiscence on loneliness rate of old people, quarterly of Sabzevar Medicine University, 21(4).

Naderi, Farah; haghshenas, Fariba (2009), Relation of impulsivity and loneliness with amount of using mobile phone in students, New findings in psychology, 4(12); 111-121.

Noroozi, Gholamhossein; Boostani, Hatam; Nematpoor, Soroor; Behroozian, Foroozan (2012), Comparing depression in Diabetic and non-diabetic patients, Journal of Medicine Sciences, 5(1); 40-55.