Relationship between Personality Characteristics, Internal Locus of Control, Psychological Hardiness and Nurses’ Quality of Life

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Background: Psychological characteristics affect the quality of life. This study aimed at determining the relationship between personal characteristics, internal locus of control, psychological hardiness and nurses’ quality of life.

Methods: In this correlation study, 297 nurses were selected based on Curgesy and Morgan table via multistage cluster sampling among 1023 nurses of the public hospitals of the Urmia city in the year 2015. All of them filled out the questionnaires of personality characteristics (including neuroticism, extroversion, openness, agreeableness, and conscientiousness), internal locus of control, psychological hardiness and quality of life. The data was analyzed by correlation and multiple regression methods with step-by-step model.

Results: The findings showed a significant negative relationship between neuroticism and the nurses’ quality of life. Furthermore, there was a positive correlation between extroversion, openness, agreeableness, conscientiousness, internal locus of control, psychological hardiness and their quality of life. Among the predictor variables, psychological hardiness, neuroticism, internal locus of control and openness could meaningfully predict 64.7% of the changes of nurses’ quality of life. (P<0.01).

Conclusion: According to the results, by increasing the psychological hardiness, internal locus of control and openness and by decreasing the neuroticism, the nurses’ quality of life could be increased.

Keywords: Personal Characteristics, Internal Locus of Control, Psychological Hardiness, Quality of Life, Nurses
Nursing is a stressful profession and the pressures have a significant negative effect on their mental health and quality of life (1). The quality of life is a complex and multidimensional structure by taking into account the cultural context, values and the situation in which people live (2). The quality of life is a framework for delivering services and the importance is so significant that some consider its improvement as the most important purpose of treatment (3). Given the extent of quality of life (physical health, mental health, social relations, emotions, bodily functions, spiritual and professional life), it is highly important to be fully considered (4).

Numerous variables are related to the nurses’ quality of life, including personal characteristics, internal locus of control and psychological hardiness. One related variable is the personal characteristics. Personality is an organized series of almost stable and durable characteristics (5). Theories of Personality believe that personal characteristics have an important role in the prediction of the quality of life and restoring a normal balance (6). Personal characteristics have five aspects of neuroticism, extroversion, openness, agreeableness, conscientiousness.

Neuroticism is the inclination to experience anxiety, tension, hostility and depression, extroversion is the inclination to be positive, courageous, energetic and intimate, openness is the inclination to be curious, artistic, flexible and wise, agreeableness is the inclination to generosity, kindness, sympathy, altruism and trust, and conscientiousness is characterized by being organized, effective, self-regulated, logical and calm (7). The results of the studies show a meaningful relationship between personality traits and the quality of life (8-11). Lichtenstein et al. (2014) found that psychological hardiness has a meaningful inverse relationship with the quality of life and extroversion, agreeableness and conscientiousness has a direct relationship with the quality of life (9). Kenarbarozhi et al. (2016) found that psychological hardiness (negatively), extroversion, openness, conscientiousness and problem-focused coping (positively) are related to the quality of life.

Another related variable with the quality of life is the internal locus of control. The internal locus of control is based on the social learning theory of Rotter (1975). The people having internal locus of control believe that their actions determine their successes and failures (12). Also, they experience crimes and negative emotions much less and they cope better with stress (13). They have higher self-confidence, self-esteem, health and quality of life. In fact, the feeling of life control leads to psychological adjustment and decrease of bodily, mental and behavior issues (14). The results of studies indicated a meaningful positive relation between internal locus of control and the quality of life (15-17). Mohammad Aliha (2015) found in a study that the internal locus of control has a meaningful direct relationship with quality of life (15).

Wray et al. reported that quality of life has a direct relationship with self-concept and internal locus of control (16). Ghasemizad et al. (2010) reported that the quality of life, self-esteem, locus of control and social resource has a positive and meaningful correlation (17).

Another variable related to the quality of life is the psychological hardiness. The expression of hardiness was first proposed by Kobasa (1979). From his point of view, hardiness is a group of personal characteristics that provides a resistance resource against the stressful events (18). Hardiness is a combination of beliefs about one’s self and the universe that acts as a cognitive-emotional combination (19). The people with hardiness have three properties of commitment, control and challenge. People with commitment find a meaning for their every act. People with control, knows the life events controllable and predictable and people with challenge knows the change as a natural aspect of life and find the challenging situations as an opportunity for growth (20).

The studies show a positive relationship between psychological hardiness with the quality of life (21-24). Moradi and Shaker (2015) reported that the psychological hardiness has a meaningful direct relationship with the quality of life (21). In Gharhbaz Azari et. al’s study, hardiness has a direct relationship with the quality of life and an inverse relationship with anxiety (22). Pourakbar et al. (2014) reported in their study that the psychological hardiness has a positive and meaningful relationship with the quality of life.
Nurses are responsible to maintain and improve the health of patients, which is stressful. Stress gives rise to a decrease in life satisfaction and life quality that in turn leads to disorders such as insomnia, fatigue, family issues and even low quality of service. Hospital officials should look for solutions to reduce the nurses’ stresses and increase their quality of life. Also, in any organization, one important issue in the human resource management department is supplying the needs and motivation to increase the quality of services of their personnel (25). Although the previous studies have separately studied the relationship between the personal characteristics, internal locus of control and psychological hardiness with the quality of life, but no study has investigated the simultaneous role of these variables in the prediction of the quality of life. Therefore, the general purpose of this study is to determine the relationship between the personal characteristics, internal locus of control and psychological hardiness with the nurses’ quality of life.

Methods
This correlational study was conducted on 1023 nurses of public hospitals in the city of Urmia in year 2014. The sample size, based on Curgesy and Morgan table, was 280; and by considering a 10% drop, 315 were selected by multistage cluster sampling. First, the city was divided into four zones of north, south, east and west (each zone having two hospitals) and then two zones were selected randomly. After enlisting the hospitals of each zone, two hospitals were selected (considering different sizes of the population of nurses, 60 to 90 nurses were selected from each hospital). The questionnaires were filled out without mentioning the names after stating the confidentiality of personal information and receiving the consent of informed participation by the nurses. For the sake of preventing the loss of credibility of the data, the questionnaires were given to the nurses and they were asked to carefully fill out the questionnaires without any time limitations. Among the 315 questionnaires distributed, after eliminating the incomplete questionnaires, 297 questionnaires were finally selected for the analysis. The criteria for entering the study included physical health and the lack of any stressful event such as death of loved ones in the previous 6 months according to their reports and the criteria for exclusion from the study were the participant’s refusal of cooperation and accessing incomplete questionnaires. The instruments were the following four questionnaires:

**Personality characteristics questionnaire** (Costa & McCrae, 1992), which was arranged in the form of 60 items and based on 5-grade Likert scale (1-completely averse to, to 5-completely agree to). The tool consists of five aspects of neuroticism, extroversion, openness, agreeableness and consciousness (each aspect with 12 items). The method of calculating was the average of the grades of each item. Kozako et. al (2013). The validity of the structure of the tool, reported the consistencies of the aspects of neuroticism, extroversion, openness, agreeableness and conscientiousness by the Cronbach's alpha method to be 0.89, 0.81, 0.79, 0.83, 0.79, respectively (27).

**Internal locus of control questionnaire** (Rotter, 1975) was organized in the form of 29 items based on zero scale (lack of internal locus) and one (having internal locus). The method for calculating the grade was to average the grades of each statement. For confirming the validity of the tool, Rotter (1975) reported the consistency with Cronbach’s alpha method to be 0.86 (28). Saffarian and Ashouri (2014) reported the consistency of the method with Cronbach's alpha to be 0.79 (29).

**Psychological hardiness questionnaire** (Kobasa, 1979) which was organized in the form of 50 items based on 5-grade Likert scale (1-completely false, to 5- completely true). The method for calculating the grade was to average the grades of the statements. Kobasa (1979) reported the consistency of the questionnaire with Cronbach's alpha method to be 0.78 (30). Hamid (1389) reported the consistency of the tool with Cronbach's alpha method to be 0.87 (31).

**Quality of life questionnaire** (World Health Organization, 2004), which was organized in the form of 26 items based on 5-grade scale (1-Very bad to 5- very good). The method for
calculating the grade was to average the grades of the statements. To verify the validity of the tool, the World Health Organization (2004) reported the consistency to be 0.70 in various countries (32) and Sepah Mansour et. al (1391) reported the consistency of the method with Cronbach's alpha method to be 0.84 (33).

Finally, the collected data were analyzed using SPSS-19 software with correlation and multiple regression (step-by-step model).

**Results**

The average age of the nurses in the study was 37.79±5.16 who were mostly female with population 261 (87.88%) and 249 of them were married (83.84%). Two-hundred sixty-two nurses had a bachelor degree (88.22%) and 35 had master’s degree (17.87%). Descriptive indicators of mean, standard deviation, minimum and maximum values of personal characteristics, internal locus of control, psychological hardiness and nurses’ quality of life variables are presented in Table 1.

| Variables            | Mean  | Standard deviation | Minimum value | Maximum value |
|----------------------|-------|--------------------|---------------|---------------|
| Neuroticism          | 2.542 | 0.701              | 1.16          | 3.83          |
| Extroversion         | 2.820 | 0.320              | 2.00          | 3.33          |
| Acceptance           | 2.946 | 0.428              | 2.00          | 3.83          |
| Adjustment           | 3.077 | 0.371              | 2.17          | 3.75          |
| Responsibility       | 3.089 | 0.345              | 2.25          | 3.75          |
| Internal locus of control | 0.480 | 0.062              | 0.36          | 0.61          |
| Psychological hardiness | 2.541 | 0.447              | 1.62          | 3.48          |
| Quality of life      | 3.319 | 0.647              | 2.04          | 4.42          |

Descriptive indicators of study variables are shown in Table 1. Pearson’s correlation coefficients were used to investigate the relationship between personal characteristics, internal locus of control, psychological hardiness with nurses’ quality of life (Table 2).

| Predictor variables/Criterion variable | Quality of life | Significance |
|---------------------------------------|-----------------|--------------|
| Neuroticism                           | -0.655          | 0.001        |
| Extroversion                          | 0.145           | 0.006        |
| Acceptance                            | 0.425           | 0.001        |
| Adjustment                            | 0.403           | 0.001        |
| Responsibility                        | 0.400           | 0.001        |
| Internal locus of control             | 0.246           | 0.001        |
| Psychological hardiness                | 0.679           | 0.001        |

The results of Pearson’s correlations showed that neuroticism had a meaningful negative relationship and extroversion, openness, agreeableness, and conscientiousness had positive relationships with the nurses’ quality of life (Table 2). Multiple regression with step-by-step model was used for investigating the ability of personal characteristics, internal locus of control and psychological hardness variables in predicting the nurses’ quality of life.
Table 3: The summary of multiple regression study with the step-by-step model for prediction of nurses’ quality of life

| Model | Predictor variables                                | R    | R²  | R² variation | F       | df1 | df2 | Sig   |
|-------|----------------------------------------------------|------|-----|--------------|---------|-----|-----|-------|
| 1     | Hardiness                                          | 0.679| 0.461| 0.461        | 252.176 | 1   | 295 | 0.001 |
| 2     | Hardiness and neuroticism                          | 0.761| 0.579| 0.118        | 82.279  | 1   | 294 | 0.001 |
| 3     | Hardiness, neuroticism and internal locus of control| 0.792| 0.627| 0.048        | 37.492  | 1   | 293 | 0.001 |
| 4     | Internal locus of control and acceptance           | 0.804| 0.647| 0.020        | 16.656  | 1   | 292 | 0.001 |

The results of regression showed that in the first mode, psychological hardiness entered the equation. The correlation coefficient of this variable with the quality of life was 0.679, which this variable could predict 46.1% of the variations in the nurses’ quality of life. In the second model neuroticism entered the equation after psychological hardiness. The correlation coefficient of these two variables with the quality of life was 0.761 and these two variables could predict 57.9% of the variations in the nurses’ quality of life. The third variable, which entered the equation was the internal locus of control. The correlation coefficient of these three variables with the quality of life was 0.792 and these three variables could predict 62.7% of the variations in the nurses’ quality of life. In the fourth model, the last variable, which entered the equation, was openness. The correlation coefficient of these four variables with the quality of life was 0.804 and these four variables could predict 64.7% of the variations in the nurses’ quality (Table 3).

Discussion

The results show that neuroticism has a meaningful negative relationship and extroversion, openness, agreeableness, and conscientiousness have a meaningful positive relationship with the quality of life, which is in accordance with previous studies (8-11). Filipovic et al. (2013) found that neuroticism had a meaningful inverse relationship with the quality of life and extroversion, openness, agreeableness, and conscientiousness had meaningful direct relationship with the quality of life (9). Hamid and Zemestani (2013) reported in a study that neuroticism had a negative relationship and extroversion, openness, and conscientiousness had meaningful positive relationship with the quality of life (11). The result of this study regarding the positive relationship of openness and quality of life was in disagreement with the results of the studies of Lichtenstein et al. (2014), which reported that no meaningful relationship existed between acceptance and the quality of life (8). In order to explain these findings, we can argue that people with neuroticism experience negative events more than others and evaluate them more negatively, since they put themselves in situations to strengthen their negative self-concept. The more these people with neuroticism experience these situations, the more decrease occurs in their quality of life. On the contrary, extrovert, open, agreeable, and conscientious individuals experience positive situation more often and this experience leads to life satisfaction and more favorable quality of life. Also, extrovert, open, and agreeable individuals, having more friends, have higher motivations to establish intimate relations with others and have more optimistic view of themselves and life, consequently lead to increased life quality. Furthermore, conscientious individuals have great tendency of doing their duties and this in turn increases their chance for getting rewards from their managers. This will firstly increase the feeling of respect and prosperity and finally it will increase the positive perception of the quality of life (24).

Other results show that internal locus of control has meaningful positive relationship with the quality of life, which is in line with previous studies (15-17,35). Mohammad Aliha (2015) and Wray et al. (2010) reported that the internal locus of control had a meaningful direct relationship with the quality of life (15,16). Also, Hasanazadeh et al. (2006) found that internal locus of control of health has a meaningful positive relationship with the quality of life (35). In order to explain this finding based on Rotter theory (1975), we can
argue that individuals with internal control can affect the environment and this feature determines social adjustment, interpersonal interactions and problem solving. Therefore, these individuals know themselves effective in the changes of life and when facing challenges, use the compatible coping strategies which increases their quality of life. Also, people with internal control have more self-confidence, self-efficacy and problem solving abilities and face stressful situations less often and experience feeling helpless and mental, professional and family issues much less, which firstly leads to an increase in life satisfaction and efficacy, and finally to higher quality of life (12).

Moreover, other results showed that psychological hardiness has a meaningful positive relationship with the quality of life, which is in consistent with previous studies (21-24,36). For instance, Moradi & Shaker (2015) (21), Gharehazad Azari et al (2015) (22) and Nguyen et al (2012) (36) reported that psychological hardiness had a meaningful direct relationship with the quality of life. In order to explain these findings one can argue that people with hardiness possess a series of personal characteristics which acts as a source of resistance against stressful events. These individuals have the ability to control the life events and find the challenges as an opportunity of growth and development, which in turn enhances their quality of life. Also, individuals with hardiness evaluate the events more positively and more controllable which in turn results in less psychological arousal, which is a results of negative evaluation of events, and this will lead to higher quality of life (37). Other results show that personal characteristics, locus of control and psychological hardiness variables have the ability of meaningful prediction of quality of life. In order to explain this one can argue that individuals with positive personal characteristics (extroversion, openness, agreeableness, and conscientiousness) who achieve higher grades or individuals who get lower scores in negative personal characteristics (neuroticism) or individuals who know themselves as an effective factor in life changes (internal locus of control) or individuals who have high abilities in facing with stressful events and insist on solving them (psychological hardiness), have less stress and issues in their lives and professions, are more satisfied with their job, are often humorous. Facing stressful events, they solve them well either individually or with other’s assistance, and these factors will lead to higher quality of life. Another explanation is that extroversion, openness, agreeableness, internal locus of control and psychological hardiness variables have a positive correlation with various positive psychological indicators such as welfare, hope, resilience, etc., which have the ability of direct prediction of quality of life. The neuroticism has a negative correlation with various negative psychological indicators such as stress, anxiety, depression etc., which has the ability of inverse prediction of quality of life. If all of these variables are considered in a model for predicting the quality of life, they can meaningfully predict the quality of life.

The first limitation was the numerous items in the questionnaires, the resulting tiredness could reduce the accuracy. Other limitations were the limited cooperation of some nurses leading to the limitation of samples to the nurses of public hospitals in the city of Urmia. It is recommended to use more concise questionnaires in the future studies or to perform the survey in two stages. Also, some comparative research among male and female nurses or nurses in public and private hospitals or other cities could lead to useful results. Furthermore, as the psychological hardiness has the highest correlation with the quality of life, it is recommended that the hardiness be taught for nurses.

**Conclusion**

Neuroticism has a meaningful negative relationship with the nurses’ quality of life and extroversion, openness, agreeableness, conscientiousness, internal locus of control and psychological hardiness have a meaningful positive relationship with the nurses’ quality of life, and only the psychological hardiness, neuroticism, internal locus of control and openness variables could meaningfully predict the nurses’ quality of life. Therefore, the implementation of an appropriate education program (e.g. psychological hardiness training)
could improve the nurses’ quality of life. Moreover, hospital officials should pay attention to the signs and effects of variables (specifically psychological hardness, neuroticism, internal locus of control and openness) and design some programs to improve the nurses’ quality of life. Undoubtedly, valuing the nursing profession by holding workshops, travel and pilgrimage tours etc.

References
1. Duarte J, Pinto-Gouveia J, Cruz B. Relationships between nurses’ empathy, self-compassion and dimensions of professional quality of life: A cross-sectional study. Int J Nurs Stud 2016; 60: 1-11.
2. Stojkov J, Weary DM, Von Keyserlingk MAG. Nonambulatory cows: duration of recumbency and quality of nursing care affect outcome of flotation therapy. J Dairy Sci 2016; 99(3): 2076-85.
3. Evans D. The quality of life of patients with end stage renal disease. New England J Med 2009; 312(9): 553-59.
4. Figueira HA, Giani TS, Beresford H. Quality of life axiological profile of the elderly population served by the family health program in Brazil. Arch Gerontology Geriatric 2009; 49(3): 368-372.
5. Brown S, Taylor K. Household finances and the ‘Big Five’ personality traits. J Economic Psychol 2014; 45: 197-212.
6. Feggi A, Gramaglia C, Guerriero C, Zegppegno P. Resilience and quality of life in mood disorders and diabetes: correlations with personality traits, coping and self-esteem. Euro Psychiat 2015; 30(1): 28-31.
7. Luchetti M, Barkley JM, Stephan Y, Terracciano A, Sutin AR. Five-factor model personality traits and inflammatory markers: New data and a meta-analysis. Psychoneuroendocrinol 2014; 50: 181-93.
8. Lichtenstein MB, Christiansen E, Elklit A, Bilenberg N, Stoving RK. Exercise addiction: A study of eating disorder symptoms, quality of life, personality traits and attachment styles. Psychiat Res 2014; 215(2): 410-16.
9. Filipovic BF, Randjelovic T, Ille T, Markovic O, Milovanovic B, Kovacevic N, Filipovic BR. Anxiety, personality traits and quality of life in functional dyspepsia-suffering patients. Euro J Internal Med 2013; 24: 83-86.
10. Kenar Barozi S, Shabani R, Mosarrezaii Aghdam A. The relationship between personality traits and coping with quality of life in patients with Multiple Sclerosis. J Urmia Uni Med Sci 2016; 26(10): 872-80. [In Persian]
11. Hamid N, Zemestani M. The relationship between spiritual intelligence, personality traits and quality of life in medical students. Hormozgan Med J 2013; 17(4): 347-55. [In Persian]
12. Pals H, Kaplan HB. The roles of internal locus of control and neighborhood affluence in predicting the continuity of negative self-feelings from adolescence to young adulthood. J Adolescence 2013; 36(5): 807-14.

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13. Heidari Tafreshi GH. Structural equation modeling approach in explaining the relationship between attachment style and locus of control with marital satisfaction in faculty members of Islamic Azad University of Roodehen Branch. Educ Admin Res J 2012; 3(3): 23-44. [In Persian]
14. Sheth J. The effect of marital locus of control on marital adjustment of couples. Int J Indian Psychol 2015; 2(2): 26-31.
15. Mohammad Aliha J. The relationship between quality of life and health locus of control beliefs in hemodialysis patients. Client-Centered Nurs Care 2015; 1(2): 83-90.
16. Wray J, Orrells C, Latch H, Burch M. Quality of life, self-concept and locus of control in paediatric heart transplant recipients. Pediatric Res 2010; 68: 268-69.
17. Ghasemizad AR, Brenjiani Tabrizi H, Abedi MR, Barzideh O. Comparative invastigation of the relationship between quality of life with self-esteem, locus of control, stress and social capital of martyr children in Fars. J New Appr Educ Admin 2010; 1(4): 107-24. [In Persian]
18. Ahmad Gatab T, Vahedi Ghajari A. Comparison of psychological hardness with mental health among male & female students. Euro Psychiat 2013; 28(1):1-6.
19. Phillips J. Hardiness as a defense against compassion fatigue and burnout. J Emerg Nurs 2011; 37(2): 125-31.
20. Mintz-Binder RD. Would hardiness training is beneficial to current associate degree nursing program directors? Teach Learn Nurs 2014; 9(1): 4-8.
21. Moradi S, Shaker A. The relationship between psychological hardness and quality of life among teachers of district one high schools of Urmia city. J Psychol Behav Stud 2015; 3(2): 43-47.
22. Gharehzhad Azari M, Ghorban Shirudi SH, Khaltabari J. Relationship of hardness with anxiety and quality of life of pregnancy women. Soc Behav Sci 2013; 84(9): 1785-89.
23. Pourakbari F, Khajeveyand Khoshti A, Asadi J. Relationship of psychological hardness and quality of life with death anxiety in nurses. J Res Devel Nurs Midw 2014; 11(2): 53-59. [In Persian]
24. Aghayousefi A, Shahandeh M. The relationship between anger, psychological hardness and quality of life in coronary heart disease patients. Heal Psychol 2012; 1(3): 39-49. [In Persian]
25. Dadgar H, Gholamelizhad F, Ashoori J, Arab Salari Z. The relationship leadership styles,

J Res Dev Nurs Midwifery. 2017. Vol 14: No 1
organizational commitment and happiness with job satisfaction of nurses. Sci J Hamedan Nurs Midw 2015; 23(2): 5-14. [In Persian]
26. Kozako AMF, Safin SZ, Abdul Rahim AR. The relationship of big five personality traits on counterproductive work behavior among hotel employees: an exploratory study. J Procedia Econ Fin 2013; 7: 181–87.
27. Shokri O, Daneshvar Pour Z, Askari A. Gender differences in academic performance: the role of personality traits. J Behav Sci 2008; 2(2): 7-8. [In Persian]
28. Owrangi A, Yousliani G, Zarnaghash M. The relationship between the desired disciplinary behavior and family functioning locus of control and self-esteem among high school students in cities of Tehran province. Soc Behav Sci 2011; 30: 2438-48.
29. Saffarian MR, Ashoori J. Investigation the relationship of locus of control, personality traits, self-esteem and religiosity orientation with discipline desired behavior. J Fund Ment Heal 2014; 16(3): 466-475. [In Persian]
30. Delahaij A, Gaillard C, Van Dam P. Hope and hardness as related to life satisfaction. J Posit Psychol 2010; 3(8): 171-79.
31. Hamid N. Relationship between psychological hardness, life satisfaction and hope with academic performance of preuniversity female students. J Appl Psychol 2011; 4(4): 101-16. [In Persian]
32. World Health Organization. The world health organization quality of life (WHOQOL)-BREF. Geneva: World Health Organization; 2004.
33. Sepahmansour M, Shahriyari Ahmadi M, Shahami N. Relationship between quality of life, job satisfaction and job burnout in teachers. Educ Admin Res 2012; 3(1): 91-110. [In Persian]
34. Mojtahedi M, Ashoori J. The role of personality traits and family communication patterns in prediction of quality of life among nurses of Mofatteh and 15 Khordad hospitals in 2015. Pajouhan Sci J 2016; 14(3): 20-29. [In Persian]
35. Hassanzadeh R, Toliati M, Hosseini H, Davari F. Relationship between health locus of control and health behaviors. Iranian J Psychiat Clin Psychol 2006; 12(3): 277-81. [In Persian]
36. Nguyen TD, Shultz CJ, Westbrook MD. Psychological hardness in learning and quality of college life of business students: evidence from Vietnam. J Happiness Stud 2012; 13(6): 1091-103.
37. Souri A, Ashoori J. The relationship between perceived social support, psychological hardness and family communication patterns with quality of life among patients with type II diabetes. J Diabetes Nurs 2015; 3(2): 53-65. [In Persian]