Effect of happiness educational program on the level of stress, anxiety and depression of the cancer patients' nurses

Zahra Ghazavi[1], Zahra Mardany[2], Saeid Pahlavanzadeh[1]

ABSTRACT

Background: Nurses face a great amount of stress that can threaten their health and reduce their motivation. Nurses' present working conditions lead to an increase in emotional pressures and depression. Conducting a study on this seems to be necessary, with regard to nurses' stressful working conditions, in order to take steps toward achieving different and non-meditational treatments to treat their stress, anxiety, and depression and, consequently, promote nurses' and patients' health.

Materials and Methods: This is a randomized clinical trial conducted on 52 nurses working in cancer patients wards, who were randomly assigned to intervention and control groups. Happiness educational program was administered for six sessions once a week in the study group and a communication training sessions with the patients in the control group, and DASS-42 questionnaire was completed before, immediately after, and 1 month after intervention by the subjects in both study and control groups. Data were analyzed by Chi-square, independent *t*-test, and analysis of variance (ANOVA) through SPSS 18.

Results: Mean scores of stress, anxiety, and depression showed no significant difference before and after intervention. Meanwhile, independent *t*-test showed that mean scores of stress, anxiety, and depression were significantly lower in the study group compared to the control group immediately after and 1 month after intervention ($P < 0.05$).

Conclusions: Educational planning of happiness can reduce nurses' depression, anxiety, and stress in the cancer patients' wards. Psychiatric nurses can reduce depression, anxiety, and stress of nurses working in other hospitals also through application of this program.

Key words: Anxiety, depression, education program, happiness, Iran, nurse, stress

INTRODUCTION

Nurses work in places where death, life, and the provision of health care are the most important issues, and they will face multiple stresses which could endanger their health and reduce the incentive to work.[1] Research conducted on health care groups working in specialized cancer centers indicates that their high stress is due to physical fatigue, emotional stress, and death of patients.[2] Stress is a multidimensional phenomenon that is focused on dynamic relationship between an individual and the environment. Furthermore, stress is defined as a tension creating factor, individual's response to instigation, and also, the interaction between an individual and the environment, and it must be noted that some degrees of stress can be effective in enhancing and improving the individuals' performance. Evidence shows that most human accomplishments are established in stressful conditions,

[1]Nursing and Midwifery Care Research Center, Faculty of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran, [2]Department of Psychiatric Nursing, School of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran

Address for correspondence: Ms. Zahra Mardany,
Department of Psychiatric Nursing, School of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran.
E-mail: zahra_mardany@nm.mui.ac.ir

How to cite: Ghazavi Z, Mardany Z, Pahlavanzadeh S. Effect of happiness educational program on the level of stress, anxiety and depression of the cancer patients' nurses. Iranian J Nursing Midwifery Res 2016;21:534-40.
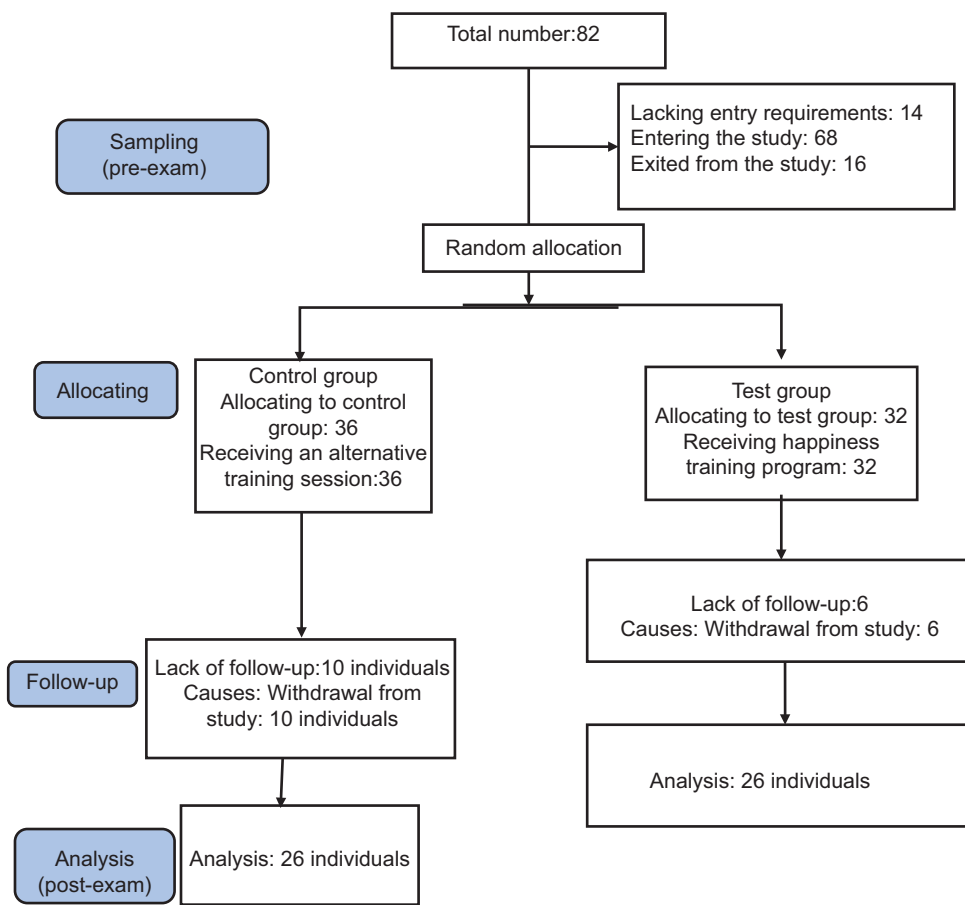
Figure 1: Method CONSORT chart

but high level of stress has several consequences among which are: Physical and mental illnesses including agitation, depression, sleep disorders, restlessness, irritability, amnesia, unusual tiredness, decrease in one's disease resistance and suffering from frequent infections, headache, decrease in concentration, memory impairment, and decreased ability of problem solving.[3]

The professional health and safety institute, which has studied the relation between occurrence of mental illnesses and occupational stress, reports that among 130 studied professions, nurses received rank 27 in the acceptance rate of professional–psychological problems. The United States National Institute for Occupational Safety has introduced nursing at the top of 40 high stress professions.[4] Nurses who take care of cancer patients are exposed to high risk of stress and occupational burnout, in particular. Without a doubt, organizational problems, lack of the feeling of support, job satisfaction, arrival of complicated therapies and new technologies, specialization in care affairs, and expectations of care receiver are among the other factors aggravating stress and occupational burnout for nurses.[2] Based on the results of the study,[2] specific research subjects aimed at determining the diminishing factors of stress in nurses should

be considered. Agitation, displeasure, fatigue, rage, feeling of inadequacy, failure, misery, and desperation are feelings that are accompanied by stress. In the case of these feelings, many daily normal activities such as sleep and feeding pattern might be disturbed and role playing might also be disordered as it is influenced by these feelings.[5] On the other hand, long severe anxiety is harmful and plays an important role in beginning psychosomatic illnesses such as hypertension, coronary heart disease, stenocardia, and also mental disorders such as depression.[6] In various studies, demographic factors such as age, gender, and educational level have been influential in the incidence rate of depression.[7]

For centuries, depression has been recognized as a mental health problem in adults' life. It is believed that 10–20% of the public experience mild to severe depression, and this disorder is such a common disease that 15% of the people encounter at least once in their lifetime. Furthermore, the number of depressed people is increasing due to pressure arising from social changes, environmental changes, and increased incidence of some physical illnesses. The growing number of patients in different age groups suffering from this disorder who go to the health centers is an indication of the high prevalence of depression.[8]

In a study measuring depression, anxiety, and stress rate of nurses in elected internship hospitals of Tehran, the results showed that 25.8% of nurses suffer from depression, 21.6% from anxiety, and 47.6% from stress, and according to the research findings, occupational and environmental stressors present in nursing profession increase the possibility of emotional responses such as depression, anxiety, and stress.[9] Current working condition of nurses is in such a way that results in increased emotional pressure and depression. For this reason, researchers believe that hospital nurses benefit from psychiatric nursing graduates as they provide necessary training about coping strategies and managing negative mood, in addition to consulting services.[10] In happiness treatment program, it is recommended to encourage anxious and depressed people to have more positive activities. Happiness therapy could be accomplished in healthy people and depressed patients by increasing positive life events. A positive and happy mood is created by neurotransmitters such as dopamine and serotonin. These transmitters can be activated by medicine and also through activities related to aim.[11] On one hand, being happy and having a joyful mood can contribute to nurses' health and that of their patients. When people feel happy in their work place, not only they themselves have a sense of well-being, happiness, and hope for the future, but also it makes the organization benefit from it. That is because happy employees are creative and beneficial, and can make good decisions and improve their relations with others.[1] Psychiatric nurses can provide necessary training and support in the areas related to mental health in hospitals, health care centers, and homes.[12] Based on the importance of the role of psychiatric nurses in preservation and promotion of individuals' mental health, it can be stated that this group is able to do cognitive–behavioral interventions.[13] Due to the stressful working condition of nurses who care for the cancer patients, it seems that such research is necessary to take a step toward achieving more diverse and non-medicational treatment methods for curing stress, anxiety, and depression in nursing, one that is followed by enhancing nurses' and patients' health level. One of these methods is training happiness program, and the aim of this study is to determine the effect of happiness training program on depression, anxiety, and stress rate of nurses working in Sayed Al-Shohada hospital.

Materials and Methods

This research was a field trial type of study with code of ethics of IRCT2014102814463N3 in two groups and three levels and with a design of before, immediately after, and 1 month later. Having obtained the letter of introduction from the school of nursing and midwifery of Isfahan University of Medical Sciences, the researcher referred to Sayed Al-Shohada hospital management. After giving the letter of introduction and explaining the research objectives to the center's authorities, and also, obtaining the consent and cooperation of them as well as that of the center's nurses, she took measures to select the samples using a simple random method [Figure 1: CONSORT chart]. There were 52 male and female nurses working in Sayed Al-Shohada hospital. The study inclusion criteria were: Working nurses (official, contractual) in pediatric section, internal medicine for men and women section, surgery for men and women section, ER section, special cases with more than a year of working experience in cancer patients' section, no history of neurologic and psychiatric disease that is known to require consumption of psychedelic drugs, lack of acute and chronic illnesses known during the time of study, and lack of simultaneous participation in similar research programs or workshops. The exclusion criteria included: Personal willingness of the participant to withdraw from the study, facing a severe crisis during the study, being absent for more than two sessions in classes.

A two-part questionnaire was used to collect data in this study. The first part is about nurses' personal information including age, gender, educational level, marital status, working shift condition, type of employment, the amount of sleep in a day, and the amount of additional shift per month. The second part included items of questionnaire DASS-42 (Depression, Anxiety, Stress Scale[4]). This questionnaire has 42 questions that can assess stress, anxiety, and depression simultaneously. This tool was designed by Lovibond in 1995 and is increasingly used in different environments. This scale comprises 42 phrases associated with symptoms of negative emotions (depression, anxiety, and stress).[14] Each of the three scales of depression, anxiety, and stress has 14 questions. In this questionnaire, 14 questions are related to depression, 14 are related to anxiety, and 14 questions are related to stress, and the questions are scored from 0 to 3. The test score in each of these subscales is obtained by adding the scores pertaining to all phrases of that subscale. In the subscale of depression, the 14 items include phrases that measure unhappy mood, lack of self-confidence, hopelessness, worthlessness of life, lack of interest for engaging in affairs, not enjoying life, and lack of energy and strength. The subscale of anxiety includes 14 items that have phrases which attempt to assess physiological overstimulation, fears, and situational anxieties. The subscale of stress includes 14 items and consists of phrases like difficulty in achieving peace, nervous tension, irritability, and restlessness. Score ranking in the questionnaire DASS-42 for measuring depression, anxiety, and stress is in the following manner: For the subscale of depression, this ranking is naturally (0–9), mild and moderate (10–20), and severe (higher than 20) and for the

subscale of anxiety, it is naturally (0–7), mild and moderate (8–14), and severe (higher than 14). Furthermore, score ranking for stress is naturally (0–14), mild and moderate (15–25), and severe (higher than 25).[15-17]

After obtaining approval of the research project (number 393176), the required licenses, and the letter of introduction by the research center of nursery and midwifery school of Isfahan University of Medical Sciences and presenting it to the authorities of Sayed Al-Shohadah medical center, permission was obtained for conducting research and the study was started. Based on the accepted criteria in the random sampling method of study (inclusion and exclusion), sampling was done in the center until the determined volume of sample was reached. Next, the researched samples were called to the training hall of Sayed Al-Shohada Hospital and after stating the study objectives, attempt was made to draw their attention to participate and cooperate in this project and written consent was obtained from them. Then personal information (including age, education, working experience, marital status, employment, housing, work shift, amount of sleep, and gender) was collected and the questions of standard DASS questionnaire which includes 42 questions regarding stress, anxiety, and depression were completed by the researched samples. Then, necessary explanations concerning the process of intervention were provided and happiness program training was conducted based on the studies, in six instructional sessions for all individuals. After completing sampling at the end of June 2014, six sessions of training program were conducted for the test group for 60 min and a day in a week. Happiness training began in early July and was held till mid-August in the training classes of Sayed Al-Shohada Hospital. Lecturing methods, group discussion and Q and A, and brainstorming were used during the sessions. At the end of the sixth session held in mid-August 2014, DASS-42 questionnaire was completed again by both test and control groups. And finally, to evaluate the durability of the effect of this intervention, questions of DASS-42 questionnaire were completed for the third time by the test and control groups in Sayed Al-Shohada training and medical center, a month after finishing the intervention in the beginning of September 2014. Meanwhile, the researcher emphasized this point for the test group that they must not give the happiness training which will be provided for them to the control group. It is worth noting that an alternative intervention that was considered for the control group during the study was a training session on skills for interaction with patients, which was carried out in July 2014.

Here are the topics of happiness training sessions: Session one- happiness definition, its necessity and importance,

the results of research and studies conducted regarding happiness, and right and wrong assumptions about happiness; session two- providing the instruction on spending more time in gatherings and social activities, being creative, and doing useful things; session three- providing instruction on principles of better planning and organizing, discarding concerns, lowering the degree of expectations and ideals; session four- providing instruction on principles of positive and optimistic thinking, living for the moment, developing healthy character; session five- providing instruction on principles of sociable and extrovert personality, being your real self, putting aside problems and negative feelings; session six- providing instruction on principles of intimate relationships as the most important source of happiness, valuing happiness.[18]

SPSS software 18th edition and descriptive (IBM) and inferential methods of statistics [Chi-square, analysis of variance (ANOVA) with repeated observations, independent *t*] were used for analyzing data.

Results

Age mean of researched units was 33.9 years with standard deviation 6.8 in the test group and 34.5 years with standard deviation 10.1 in the control group. Independent *t*-test indicated that age mean had no significant difference in the two groups of test and control ($P = 0.75$). Also, the obtained results showed that the two groups had no meaningful difference in terms of marital status, education level, job experience, sleeping hours in a whole day, work shift status, type of employment, and housing, and the two groups were almost similar statistically. Comparison of personal information of the researched units is presented in Table 1.

The results of independent *t*-test in the test and control groups before the study showed that in terms of mean score of stress (0.99), anxiety ($P = 0.93$), and depression ($P = 0.96$), there was no significant difference between the two groups. To compare the mean score of stress, anxiety, and depression in the two groups of test and control, independent *t*-test was used immediately after and 1 month after the study. According to the research findings, comparing the mean stress, anxiety, and depression scores of nurses gave no significant difference in the control group before, immediately after and before, and 1 month after the study, while there was a significant difference in mean comparison in the test group before, immediately after and before, and 1 month after the study [Table 2]. ANOVA test with repeated observations showed that in the test group, the mean scores of stress (0.04), anxiety (0.02) and depression (0.04) were statistically meaningful among three periods (before, immediately after, and 1 month

Table 1: Comparing the distribution of personal information, work shift status, employment status, and housing status of the researched units in the two groups of control and test

Individual variables	Groups				Statistical tests	P
	Control		Test			
	Frequency	Percent	Frequency	Percent		
Sex						
Female	23	88.5	23	88.5	χ^2 N^2=0.000	1.000
Male	3	11.5	3	11.5		
Marriage						
Single	10	38.5	8	30.8	χ^2 N^2=1.17	0.55
Married	16	61.5	18	69.2		
Education						
Associate degree	3	11.5	5	19.2	Mann–Whitney U Z=0.91	0.36
Bachelor of science	21	80.8	20	76.9		
Master degree	2	7.7	1	3.8		
The shift						
Fixed	8	30.8	14	53.8	χ^2 N^2=3.76	0.15
Working	18	69.2	12	46.2		
The type of employment						
Official	5	19.2	6	23.1	χ^2 N^2=0.12	0.73
Contractual	21	80.8	20	76.9		
Housing						
Personal	18	69.2	20	76.9	χ^2 N^2=0.39	0.53
Rental	8	30.8	6	23.1		

Table 2: Comparing the nurses' average score of stress, anxiety, and depression before, immediately after, and 1 month after the study in the two groups of test and control

Group	Test group		Control group		Statistical test	
Variable	Mean	Std. deviation	Mean	Std. deviation	T	P
Pre-test stress	14.23	9.9	14.2	7.5	0.01	0.99
Post-test stress	9.7	7.2	14.3	8.4	2.12	0.04
One month after post-test stress	7.9	6.5	14.6	7.1	3.49	0.001
Pre-test anxiety	11.77	9.35	11.96	7.4	0.08	0.93
Post-test anxiety	8.76	8.1	12.15	8.1	1.99	0.04
One month after post-test anxiety	6.65	6.2	12.5	7.8	2.97	0.005
Pre-test depression test	12.9	10.9	12.8	8.1	0.04	0.96
Post-test depression	8.3	7.8	12.7	7.7	2.03	0.04
One month after post-test depression	7.5	6.1	13.6	7.6	3.2	0.002

after intervention), but stress (0.98), anxiety (0.97), and depression (0.98) scores were not significant in the control group among the three periods (before, immediately after, and 1 month after intervention).

DISCUSSION

In the current study carried out with the aim of determining the effect of training happiness program on stress, anxiety, and depression rate of nurses caring for cancer patients, no statistically significant difference was observed between the two groups regarding personal information. In fact, statistical test also confirms random allocation of cases in both groups. Obtained results from this intervention on stress, anxiety, and depression scores in the two groups showed no significant difference before the intervention. In a study was conducted by Farzadfar *et al.* entitled "The effect of happiness training in Fordyce method on reducing depression of derelict women in Isfahan," there was no meaningful difference between the two groups in terms of depression before intervention.[19] Also, another study was conducted by Hmwe *et al.* in Malaysia with the aim of

assessing the effect of acupressure on depression, anxiety, and stress. No meaningful difference was found between the two groups in terms of stress, anxiety, and depression in this study before intervention.[20] In the present study, regarding random allocation of samples in two groups, it was expected that there would be no meaningful difference in terms of stress, anxiety, and depression in the groups before intervention.

Results of the present study showed that stress, anxiety, and depression scores had significant difference after the happiness program training, such that the average test group score showed a significant reduction as compared with the control group. Approving the obtained results, a study conducted by Song and Lindquist with the aim of investigating the effect of immediacy-based stress reduction on depression, anxiety, stress, and concentration in Korean nursing students showed that after intervention of immediacy-based stress reduction, a significant statistical difference was observed in depression ($P = 0.002$), anxiety ($P = 0.023$), and stress ($P < 0.001$) in the test group compared with the control group.[21] Also, in a study conducted by Kang *et al.* with the aim of investigating the effect of the intervention of stress management training with concentration on stress, anxiety, and depression of nursing students, the results indicated that there was a significant difference in stress ($P = 0.020$) and anxiety ($P = 0.013$) scores after the training, but it was not so in depression ($P = 0.056$).[22] A study conducted by Farzadfar *et al.* showed that after performing the intervention, there was a significant difference in terms of depression between the two groups ($P = 0.001$).[19]

In a study conducted by Apóstolo and Kolcaba on the effect of guiding images on peace, depression, anxiety, and stress in hospitalized depressed patients in psychiatric clinics, the results showed that the total scores of depression, stress, and anxiety in the control group ($P = 0.85$) and test group ($P < 0.001$) after intervention had significant difference.[23] In a survey, Abedi found that 89% of students who participated in Fordyce happiness admitted at the end of the program that this program has helped them to end their turmoil and to deal with it, or to end a sad mood.[24] In the present study also, the subjects in the test group had less stress, anxiety, and depression than the control group even until the follow-up. In general, in keeping with other researches performed around the world, this research corroborated the positive effect of this program on reducing depression, anxiety, stress, and its continuation in subjects. The happiness training program can be reckoned as one of the solutions for reducing stress, anxiety and depression in nurses who care for cancer patients. The results of the present study support the fact that holding workshops of happiness training program

will have an impressive effect on reducing stress, anxiety, and depression. Therefore, focusing on recognition or behavior is not solely responsive to the intended change and the best method is to apply cognitive techniques together with behavioral techniques, a method which is applied in the current research. Nevertheless, training techniques such as increasing one's activity, expressing one's emotions, having a sense of optimism, having social relations, and avoiding anxiety are effective in reducing negative emotions, anxiety, and depression. Furthermore, techniques such as mitigating expectations and prioritizing happiness influence life satisfaction and reduction of stress, anxiety, and depression, things which are the final products of this approach.

CONCLUSION

Therefore, considering the results of the present study, we can state that the training program has managed to be effective on promoting individuals' happiness by increasing their knowledge and enhancing their attitude and performance. However, because of the limitations of this study such as small sample size, having limited time, and lack of long term follow-up, these results may not be generalized to the entire population. Therefore, conducting more studies and research is required in this field so that we can express with certainty the positive effectiveness of intervention of happiness training on the rate of stress, anxiety, and depression through instruction.

Conflicts of interest
There are no conflicts of interest.

REFERENCES

1. Bagheri F, Akbarizadeh F, Hatami H. The relationship between demographic variables nurses' spiritual intelligence and happiness of Alzahra and Bentolhoda city of Bushehr. Biomedical Research Institute of Persian Gulf 2011. Iranian South Medical Journal 1390;4:256-63.
2. Ghanbary A, Bqayy M. Nursing research priorities in the care

of patients with cancer of the nurse's view. Iranian Journal of Nursing 2010;57:87-97.

3. Beddoe AE, Morphy SO. Does mindfulness decrease stress and foster empathy among nursing students? J Nurs Educ 2004;43:305-12.

4. Zandi A, Sayari R, Ebadi A, Sanainasab H. Abundance of depression, anxiety and stress in militant Nurses. Mil Med J 2011;13:103-38.

5. Smeltzer OS, Byrne B, Hynkl JL, Chyvyr KH. Biophysical and social psychological concepts in nursing 1386. Gila Abedsaidi, ed. Sedigheh Salemi. Tehran, Jameh-negar, Salemi.

6. Peters BM. The Relationship among Psychological and Perceived Stress, Quality of Life, Self Care and Impairment in Doctoral Student. Available from: http://proquest.umi.com. [Last accessed on 2007 Sep 15].

7. Dyrbye LN, Thomas MR, Shanafelt TD. Systematic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian medical students. Acad Med 2006;81:354-73.

8. Compton MT, Carrera J, Frank E. Stress and depressive symptoms/dysphoria among US Medical students: Results from a large, nationally representative survey. J Nerv Ment Dis 2008;196:891-7.

9. Khamse F, Rvhy H, Ebadi A, Hajiamini Z, Suleimi H, Radfar Sh. Survey relationship between demographic factors and stress, anxiety and depression in nurses working in selected hospitals in Tehran city. Holist Nurs Midwifery 2011;21:13-21.

10. Dehghani M, Zoladl M, Boland-Parvaz S, Keshtkaran Z, Mahmoudi R, Jabbarnejad A. A survey on depression and its related factors in Nurses who work in Namazi Hospital of Shiraz University of Medical Sciences. IOH 2009;6:29-34.

11. Gohari M, Neshatdost H, Palahang H, Bahrami F. The Psychology of Happiness. Jahad Daneshgahi (Esfahan):Publication of SID; 2008. p. 317-25.

12. Stouart Gali W. Principles and Practice of Psychiatric Nursing. St. Louis, MO: Elsevier, Mosby; 2009. p. 223.

13. Wheeler K. Psychotherapy for Advanced Practice Psychiatric Nurse. Fairfield University: Mosby, Elsevier; 2008. p. 66-85.

14. Lovibond F, Lovibond SH, The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. Behav Res Ther 1995;33:335-43.

15. Afzali A, Delavar A, Borjali A, Mirzamani M. Psychometric properties of DASS-42 as assessed in a sample of Kermanshah High School students. Journal of Research in Behavioural Sciences 2007;5:81-92.

16. Asgharimoghaddam M, Saed A. Preliminary study validity and reliability of measures of depression, anxiety (DASS) in the general population. Behavior Daneshvar, Iran 2011;31:38-23.

17. Rezaeiadryany M, Azady A, Ahmadi F, Vahedian A. Rates of depression, anxiety and stress and quality of life of male and female students living in student dormitories. J Nurs Res 2008;4:31-8.

18. Moradi M, Jafari S, Abedi M. The effect of education for dyce the increase in happiness teachers of Isfahan. J Med 2008;3:57-62.

19. Farzadfar M, Molavi H, Atashpor H. The effect of for dyce happiness training on depression of sponsorless women in Isfahan. Knowledge and Research in Applied Psychology 2006;3:39-50.

20. Hmwe NT, Subramanian P, Tan LP, Chong WK. The effects of acupressure on depression, anxiety and stress in patients with hemodialysis: A randomized controlled trial. Int J Nurs Stud 2015;52:509-18.

21. Song Y, Lindquist R. Effects of mindfulness-based stress reduction on depression, anxiety, stress and mindfulness in Korean nursing students. Nurse Educ Today 2015;35:86-90.

22. Kang YS, Choi SY, Ryu E. The effectiveness of a stress coping program based on mindfulness meditation on the stress, anxiety, and depression experienced by nursing students in Korea. Nurse Educ Today 2009;29:538-43.

23. Apóstolo JL, Kolcaba K. The effects of guided imagery on comfort, depression, anxiety, and stress of psychiatric in patients with depressive disorders. Arch Psychiatr Nurs 2009;23:403-11.

24. Abedi M. Family Happiness. Tehran, Iran: Tehran Publications Family Studies; 1383. p. 22.