



Effect of Psychology Internship on Stigma of Psychiatric Disorders in Nursing Students

Saeed Vaghee¹, Masoud Kashani Lotfabadi^{2*}, Azam Salarhaji³, Nastaran Vaghei⁴, Bibi Maryam Hashemi⁵

¹ Instructor of Psychiatric Nursing, School of Nursing and Midwifery, Evidence Based Care Research Centre, Mashhad University of Medical Sciences, Mashhad, Iran.

² Psychiatry and Behavioral Sciences Research Center, Ibn-Sina psychiatric hospital, Mashhad University of Medical Sciences, Mashhad, Iran.

³ Student Research Committee, Faculty of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran.

⁴ Student Research Committee, Faculty of Medicine, Mashhad Islamic Azad University, Mashhad, Iran.

⁵ Department of Psychology, Payam Noor University of Gonabad, Gonabad, Iran.

Article Info

Article Type:

Original Article

Article history:

Received 14 May 2017

Accepted 12 May 2018

Published 21 Jun 2018

Keywords:

Clinical Internship

Nursing Student

Stigma

Psychiatric Disorder

Abstract

Background and Objective: Little attention has been paid to psychiatric disorder stigma and its impact on the selection of occupation of nurses in mental health centers during the mental internship courses, despite its importance in following up and treatment of this type of diseases. This study aimed to determine the effect of psychology internship on the stigma of psychiatric disorders in nursing students.

Materials and Methods: This post-event study had one group and a pretest-posttest design. In total, 93 undergraduate nursing students at the fourth semesters of study, who were passing their psychology internship 1 course in Ebn'e Sina hospital in Mashhad, Iran. Subjects were selected through random cluster and quota sampling methods. Data collection tool was the opening minds stigma scale for health care providers (OMS-HC) by Kassam, filled at 3 different times, including before, on the last day, and 1 month after the psychology internship. Data analysis was performed using repeated measures ANOVA.

Results: In this study, a significant difference was observed in changes among the periods of before (58.0 ± 6.5), on the last day (55.9 ± 5.4) and one month after (54.3 ± 5.6) the psychology internship in terms of the total stigma score ($P < 0.001$).

Conclusion: According to the results of the study, psychology internship had positive impacts on reduced psychiatric disorder stigma in nursing students.

*Corresponding author: Masoud Kashani Lotfabadi, Email: KashaniM1@mums.ac.ir

This article is referenced as follows: Vaghee S, Kashani Lotfabadi M, salarhaji A, Vaghei N, Hashemi B M. Effect of Psychology Internship on Stigma of Psychiatric Disorders in Nursing Students. J Med Educ Dev. 2018; 11 (29) :24-33

Introduction

Psychiatric disorders are among the main public health issues worldwide (1). These disorders are associated with a massive personal, social and economic burden, affecting different areas of the individual's life (2). The prevalence of these disorders has been estimated at 13.4% and their annual prevalence in Iran has been reported at 23.6% (3, 4). Despite the high prevalence and the importance of timely diagnosis and treatment of these disorders, only a few people refer to health centers for treatment (5). In several studies, the stigma toward psychiatric disorders has been recognized as the main cause of lack of follow up and continuation of treatment (6, 7). According to the model of social psychology, psychiatric disorder stigmata has three components of stereotypes, prejudice, and discrimination. In fact, believing in stereotypes, which reflects the agreement of individuals on the characteristics of people with psychiatric disorders (e.g., hazardous and unpredictable), stimulates negative emotional and behavioral responses as prejudices and discrimination, consequently leading to the social isolation of patients and being put in an undesirable social position (8, 9).

According to the modified labeling theory, all

people with or without a psychiatric disorder are well aware of the negative stereotypes of psychiatric disorders in the community and expect discriminating behaviors and loss of social status following the diagnosis of psychiatric disorders (10). Nursing students, who are the main providers of mental health care in hospitals, have the same negative attitudes when entering the educational environment of universities, which is a suitable place to form and change these attitudes (11, 12). Therefore, universities have provided an opportunity to promote nursing students' attitudes towards people with psychiatric disorders by designing theoretical and clinical education of mental health nursing in their undergraduate nursing education programs (13, 14). This is mainly because of the significant impact of continuity of psychiatric disorder stigma in students on selecting the mental health care centers by nurses, which is an important tool for dealing with stigma in general health cares, which prevents the continuation of education of nursing students graduated in the field of psychiatric nursing (15, 16). Therefore, given the fact that education is one of the strategies to deal with stigma (17), it seems that theoretical education of the biological nature of psychiatric disorders and their formation as

a neurological disorder might lead to the continuation of attribution of psychiatric disorder stigma to a part of society and lack of ability to recover from it (18-20).

On the other hand, clinical education can provide a condition for the familiarization and direct interaction of students with the psychiatric disorder before their graduation and enter the workplace. This can be a necessary measure taken to understand psychiatric disorders through eliminating false stereotypes about the notion that those with these disorders are a threat to the society and must be discriminated (21). In fact, clinical exposure of students to patients with psychiatric disorders during the psychology internship leads to the dealing with the demands and complicated clinical conditions of these students. In addition, students can understand their own emotions and use proper adaptive skills to deal with these feelings. By doing so, the early prejudice of students and stigma of psychiatric disorders and psychiatric nursing can be changed at the end of the psychology internship course (22). While Lyons et al. showed in a research in Australia that psychology internship could reduce psychiatric disorder stigma in medical students (23), Kordlou et al. reported conflicting results in Iran (24).

On the other hand, there is a significant relationship between cultural and social characteristics and issues related to psychiatric disorders and associated stigma owing to the different cultural values and norms in various societies. In other words, examples of stigma vary from a country to another country and even a city to another city (25). Despite the importance of psychiatric disorder stigma in the follow up and treatment of this condition, its impact on the selection of occupation in mental health care centers by graduated nurses, presence of conflicting results on this issue, and the apparent effect of culture and society on stigma, little research has been done on the psychiatric disorder stigma in Iran. According to the classification by Benjamin Bloom, one of the main goals of nursing education is strengthening the attitudes of students, which is of paramount importance in mental health due to psychiatric disorder stigma (26). With this background in mind, this study aimed to determine the effect of psychology internship on the stigma of psychiatric disorders in nursing students.

Materials and Methods

This post-event study with a pretest-posttest design was carried out on undergraduate nursing students at the fourth semesters of

study in Ebn'e Sina hospital (which is the location for holding the psychology internship 1 course of all schools in the Razavi Khorasan Province) in Mashhad, Iran in summer of 2016.

At first, the research protocol was approved by the ethics committee of Mashhad University of Medical Sciences with the registration code of IR.MUMS.REC.1395.318. Sample size was estimated at 86 individuals according to the preliminary study and using the "comparison of independent mean" formula through the calculation of the mean and standard deviation of the total stigma score before the onset of the psychology internship course (58.0 ± 6.5) and the mean, which was obtained one month after the course (55.5). However, considering 15% attrition, 99 subjects were selected through random cluster and quota (based on gender) sampling methods. In this respect, 6 out of 12 nursing schools that had psychology internship course in Mashhad in the summer of 2016 were randomly selected, followed by random selection of 2 female and male groups. At the end of the research, 2 male and 4 female students withdrew from the research, which reduced the total number of the participants to 93.

Inclusion criteria included passing the theory course of mental health, lack of work

experience in psychiatric wards, and lack of mental disorders in first and second-degree family members. Exclusion criteria included lack of participation in the posttest and absence from more than one session of the psychiatric internship course. Moreover, the inclusion criteria of the professors included having a master's degree in psychiatric nursing or a PhD in nursing, more than 5 years of work experience, and being a faculty member in the universities. Research tool included the opening minds scale for health care providers (OMS-HC) designed by Kassam in 2012 (27). This 20-item survey is scored on a 5-point Likert scale (from completely disagree=1 to completely agree=5). In addition, the score range of the questionnaire is 20-100, where the lower score is indicative of less stigma. This questionnaire encompasses 5 domains, including social distance (items 1, 3, 16, 17, & 19), self-disclosure (items 4-7 & 10), recovery (items 8, 9, & 14), social responsibility (items 11-13, 18, & 20) and other concepts (affecting diagnosis and danger) (items 2 & 15).

The OMS-HC has been translated to Farsi and reviewed by 2 individuals with a PhD in English language and a PhD in clinical psychology, who were fluent in English. The

validity of the research was confirmed by 10 faculty members of Mashhad University of Medical Sciences (CVR=81%, CVI=91%) and its reliability was confirmed through internal consistency ($\alpha=87\%$). Before the onset of mental health internship 1 course in Mashhad, the internship schedule and list of professors were obtained from the education department of Mashhad University of Medical Sciences. After coordination with professors, the educational objectives were unified before the start of the courses in case of willingness to participate in the study. Psychiatric health internship was conducted in two weeks and for 51 hours according to previous classifications of the courses (in five-eight-member groups). The activities performed during the internship included an interview with hospitalized patients, participation in occupational therapy sessions and case reports, ECT, educational workshops, and display of educational movies and documentaries on psychiatric disorders and relevant treatments.

Data were collected in three stages of before, on the last day, and one month after the psychiatric internship course. In addition, data analysis was performed in SPSS version 19.5 using repeated measures ANOVA to compare the changes in the stigma variable during the

test stages. In addition, confidence level, test power and P-value were 0.95, 0.80 and <0.05 , respectively.

Results

In this study, 49 participants were female (52.7%), whereas 62 and 83 subjects were married (66.7%) and residing in urban areas (89.2%), respectively. Moreover, 18 students were studying in the school of Gonabad (19.4%), and mean age of the participants was 22.5 ± 1.6 years (Table 1).

Table1: Demographic Characteristics of Nursing Students Participated in Study

Characteristics		Frequency (%)
Gender	Male	44 (47/3)
	Female	49(52/7)
Marital status	single	62(66/7)
	Married	31(33/3)
Residential area	Urban	83(89/2)
	Rural	10(10/8)
Faculty of education	Neshapur	15(16/1)
	Gonabad	18(19/4)
	Esfaraen	15 (16/1)
	Sabzevar	14 (15/1)
	Quchan	13 (14/0)
	Torbat heydarieh	18(19/4)
Age	Mean \pm SD	
	22/5 \pm 1/6	

According to Table 2, results of the repeated measures ANOVA demonstrated a significant difference among the various stages of the test regarding changes in mean score of social distance ($P<0.005$). In this regard, two-by-two comparison of the results at the test stages by

Bonferroni correction showed a significant difference between before and on the last day of the internship ($P<0.001$), between the last day and 1 month after the psychiatric

internship course ($P<0.001$), and before and 1 month after the course in terms of mean score of social distance ($P<0.001$).

Table2: Comparing Total Stigma Mean and Standard Deviation and its Subscales During the Steps before the Onset of Clerkship, the Last Day of Clerkship and 1 Month after Clerkship

Subscales and overall score	test			Repeated measures ANOVA test results
	Before of clerkship	Last day of clerkship	One month after of clerkship	
	N=93	N=93	N=93	
	Mean \pm SD	Mean \pm SD	Mean \pm SD	
Social distance	15/9 \pm 2/6	14/9 \pm 2/4	14/3 \pm 2/3	f(2,160)=84/8 p<0/005 partial eta= 0/51
Diagnostic overshadowing	5/8 \pm 1/4	5/3 \pm 1/2	5/2 \pm 1/2	F(2,160)=38/7 P<0/001 Partial eta= 0/33
Disclosure	13/4 \pm 3/1	13/3 \pm 2/7	13/1 \pm 2/8	F(2,160)=2/4 P=0/10 Partial eta=0/03
Recovery	9/7 \pm 1/9	9/5 \pm 1/7	9/3 \pm 1/6	F(2,160)=3/0 P=0/06 Partial eta= 0/04
Social responsibility	13/4 \pm 2/1	12/9 \pm 1/8	12/4 \pm 1/9	F(2,160)=45/6 P<0/001 Partial eta= 0/36
Total stigma	58/0 \pm 6/5	55/9 \pm 5/4	54/3 \pm 5/6	F(2,160)=77/9 P<0/001 Partial eta= 0/49

Furthermore, similar results were obtained for the domain of “other concepts” at the 3 mentioned periods ($P<0.001$). In this respect, two-by-two comparison of test stages using the Bonferroni correction indicated a significant difference between the stages of before and on the last day of the internship ($P<0.001$), between the last day and 1 month

after the course ($P=0.004$), and before and 1 month after the internship course regarding the reduction in the mean score of the domain of “other concepts” ($P<0.001$).

Nevertheless, no significant difference was observed in the domain of self-disclosure at the 3 test stages ($P=0.10$), and results of ANOVA were indicative of no significant

difference in the domain of recovery at the 3 periods ($P=0.06$). Regarding social responsibility, the results demonstrated no significant difference among the 3 stages ($P<0.001$). On the other hand, results of two-by-two comparison of the test stages by Bonferroni correction were indicative of a significant difference between the stages of before and on the last day of the psychiatric internship ($P<0.001$), between the last day and 1 month after the course ($P<0.001$), and before and 1 month after the internship in terms of reduced mean score of social responsibility ($P<0.001$). Similar results were obtained for total stigma at 3 test stages ($P<0.001$). In this respect, results of two-by-two comparison of the test stages by Bonferroni correction indicated a significant difference between the stages before and on the last day of the internship ($P<0.001$), the last and 1 month after the course ($P=0.004$), and before and one month after the psychiatric internship course regarding the total stigma score ($P<0.001$).

Discussion

According to the results of the current research, there was a significant reduction in the total mean score of stigma and domains of social distance, other concepts and social

responsibility during various test stages. In addition, a significant difference was observed between the test stages regarding changes in the mean stigma score and its domains. In other words, a psychiatric internship can reduce mental health stigma and social distance and contribute to changing other concepts about these disorders, which enhances the belief of social responsibility in these patients. In this regard, our findings are in congruence with the results obtained by Lyons et al. (23) and Shen et al. which showed the effect of psychology internship on reduction of stigma and discrimination toward psychiatric disorders (29); results by Sajid et al. (2009) declaring the positive impact of psychiatric internship on the formation of a positive attitude toward psychiatric disorders (29); results by Amini et al., which demonstrated the long-term impact of clinical exposure to psychiatric disorders in internship course on the positive attitude of students toward the social responsibility of individuals with mental diseases and change in the stereotypes about the etiology of these disorders in medical students (30); and results by Ashe et al. which were indicative of the effect of interaction between the personnel with chronic psychiatric disorders and nursing students on the formation of a

positive attitude toward these disorders (31). From the perspective of social psychologists, protest, education, and communication are 3 strategies for reducing the risk of psychiatric disorder stigma. According to studies, it seems that the most promising strategy for reducing stigma is communication (32). In fact, communication is a combination of information provision (education) and an opportunity for direct interaction with patients diagnosed with psychiatric diseases (33). The condition for this strategy is provided by nursing schools through designing psychology internship courses for nursing students (21). Holding these courses leads to the familiarization and interaction of students with individuals with psychiatric disorders during the psychology internship course, which results in the elimination of negative stereotypes (the first structure of stigma) and reduces stigma by combining new information with negative challenging negative ideas.

Therefore, the students exposed to this information are less likely to keep their distance from patients with psychiatric disorders (31, 34) and consider them less dangerous and unpredictable. This can strengthen the belief in the competence and social responsibility of these patients in

students (35). In the research by Kordlou et al. mental health education courses of the nursing field had no effect on the stigma of psychiatric disorders (24), which is inconsistent with our findings. This lack of consistency between the results might be due to the education of the nursing students at different semesters and passing various mental health education courses. In terms of reduced social distance from these patients, our findings are not in line with the results obtained by Amini et al. in Iran, which demonstrated the lack of effect of long-term clinical exposure to patients with psychiatric disorders on the tendency of medical students toward social interaction with these individuals (29), and results by Vaghei et al. which were indicative of lack of impact of mental education on social isolation and experience of the discrimination of families of schizophrenic patients (36). The presence of conflicting results in this regard might be related to different sample populations in terms of culture, society, and interaction with patients since there are various cultural values and norms in different societies and individuals. There might even be some levels of difference in the attitude of individuals in a unified society toward stigma of psychiatric disorders (36).

According to the results of the current study, no significant changes were observed in the mean score of recovery and self-disclosure during the various test stages. In other words, psychology internship had no positive impacts on the recovery and self-disclosure of diagnosis with psychiatric disorders in nursing students. In this respect, our findings were consistent with the results obtained by Amini et al. who demonstrated lack of impact of long-term clinical exposure to psychiatric disorders on the treatment of mental diseases and the tendency toward self-disclosure in medical students in Iran (29). According to the Allport contact hypothesis (1960), simple contact between students and people with psychiatric disorders is not enough to reduce the prejudice of students. Rather, only a pleasant and close interpersonal contact with patients with psychiatric disorders in a proper situation can reduce the prejudice of students (36, 38). Therefore, since most of the nursing students deal with individuals admitted to psychiatric hospitals due to acute diseases, this can lead to decreased discrimination of students from patients and less formation of stigma toward lack of recovery from psychiatric disorders (18).

On the other hand, given the key role of culture in the formation of stigmatic attitudes,

adapting to values, especially in collective societies like Iran, is significantly valuable, and symptoms of patients with psychiatric disorders are easily considered abnormal, which lead to the social isolation of these individuals from communities (39). Therefore, it is normal that nursing students, who are citizens of this society, are significantly affected by this culture and their knowledge and interaction with patients with psychiatric disorders have an insignificant impact on self-disclosure of diagnosis of these diseases. Our findings are inconsistent with the results obtained by Vaghei et al. in terms of the effect of psychology education on the stigma of loneliness and humiliation (36). This lack of consistency might be due to different sample populations. In this regard, education of families of patients with schizophrenia led to the acceptance of this disorder through interactions with these individuals. One of the major drawbacks of this research was the effect of characteristics and attitude of various teachers about the patients with psychiatric disorders, which affected the results of the present study to some extent.

Conclusion

According to the results of the current study,

psychology internship reduced the stigma of psychiatric disorders, specifically in the domains of social distance, other concepts, and social responsibility of nursing students. Meanwhile, the domains of recovery from psychiatric disorders and self-disclosure had no impact in this regard. Therefore, with regard to the impact of culture and society on the psychiatric disorder stigma, the clinical education methods of psychiatric nursing require improvement and further studies must be carried out to confirm our findings. It is recommended that future studies be conducted on larger sample sizes and over a longer durations.

Acknowledgments

This article was approved by the research deputy of Mashhad University of Medical Sciences with the code of 941540/979 on 08/17/2016. Hereby, we extend our gratitude to Mashhad University of Medical Sciences for the financial support of the research. In addition, we would like to thank the students and professors for their cooperation with the study.

References

- 1- The WHO World Mental Health Survey Consortium. Prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. *JAMA*. 2004;291(21):2581–90.
- 2- Furber G, Segal L, Leach M, Turnbull C, Procter N, Diamond M, et al. Preventing mental illness: closing the evidence-practice gap through workforce and services planning. *BMC Health Serv Res*. 2015;15(283):2-14.
- 3- Bagalman, Erin, and Angela Napili. "Prevalence of mental illness in the United States: data sources and estimates: Congressional Research Service. (2014).
- 4- Sharifi V, Amin-Esmaili M, Hajebi A, Motevalian A, Radgoodarzi R, Hefazi M, et al. Twelve-month prevalence and correlates of psychiatric disorders in iran: the iranian mental health survey, 2011. *Arch Iran Med*. 2015;18(2):76-84.
- 5- Ay P, Save D, Fidanoglu O. Does stigma concerning mental disorders differ through medical education? *Soc Psychiatry Psychiatr Epidemiol*. 2006;41(1):63-7.
- 6- Beldie A, Boer JAd, Brain C, Constant E, Figueira ML, Filipcic I, et al. Fighting stigma of mental illness in midsize european countries. *Soc Psychiatry Psychiatr Epidemiol*. 2012;47(1):1-38.
- 7- Corrigan P, Druss BG, Perlick D. The impact of mental illness stigma on seeking and participating in mental health care. *Psychol Sci Public Interest*. 2014;15(2):37-70.
- 8- Corrigan PW, Kerr A, Knudsen L. The stigma of mental illness: explanatory models and methods for change. *Appl Prev Psychol* 2005;11(3):11179-90.

- 9- Crespo M, Perez-Santos E, Munoz M, Guillen AI. Descriptive study of stigma associated with severe and persistent mental illness among the general population of Madrid (Spain). *Community Ment Health J*. 2008;44(4):393-403.
- 10- Link BG, Cullen FT, Struening E, Shrout PE, Dohrenwend BP. A modified labeling theory approach in the area of mental disorders: an empirical assessment. *Am Sociol Rev*. 1989;54(3):400-23.
- 11- Sharrock J, Happell B. The consultation-liaison nurse: thriving in a general hospital setting. *Int J Ment Health Nurs*. 2002;11(1):24-33.
- 12- Norfolk T, Walsh DBK. The role of empathy in establishing rapport in the consultation: A New Model. *Med Educ*. 2007;41(6):690-7.
- 13- Hung B, Huang X, Lin M. The first experiences of clinical practice of psychiatric nursing students in Taiwan: a phenomenological study. *J Clin Nurs*. 2009;18(22):3126-35.
- 14- Penn TD. Enhancing student comfort in psychiatric clinical settings. *Teach Learn Nurs*. 2008; 3(2):53-5.
- 15- Sercu C, Ayala RA, Bracke P. How does stigma influence mental health nursing identities? An ethnographic study of the meaning of stigma for nursing role identities in two Belgian psychiatric hospitals. *Int J Nurs Stud*. 2015;52(1):307-16.
- 16- Happell B, Robins A, Gough K. Developing more positive attitudes toward mental health nursing in undergraduate students: part 1d-does more theory help? *J Psychiatr Ment Health Nurs*. 2008;15(6):439-46.
- 17- Couture S, Penn D. Interpersonal contact and the stigma of mental illness: a review of the literature. *J Ment Health*. 2003;12(3):291-305.
- 18- Abbey S, Charbonneau M, Tranulis C, Moss P, Baici W, Dabby L, Gautam M, Paré M. Stigma and discrimination. *Can J Psychiatry*. 2011, 56(10):1-9.
- 19- Schnittker J. An uncertain revolution: why the rise of a genetic model of mental illness has not increased tolerance. *Soc Sci Med*. 2008, 67(9):1370-1381.
- 20- Pescosolido B, Martin J, Long JS, Medina T, Phelan J, Link B: "A disease like any other?" a decade of change in public reactions to schizophrenia, depression, and alcohol dependence. *Am J Psychiatry*. 2010, 167:1321-1330.
- 21- Thornicroft G, Mehta N, Clement S, Evans-Lacko S, Doherty M, Rose D, et al. Evidence for effective interventions to reduce mental health related stigma and discrimination. *Lancet*. 2015;387(10023):1123-32.
- 22- Koskinen L, Mikkonen I, Jokinen P. Learning from The World of Mental Health care: nursing students' narratives. *J Psychiatr Ment Health Nurs*. 2011;18(7):622-8.
- 23- Lyons Z, Janca A. Impact of a psychiatry clerkship on stigma, attitudes towards psychiatry, and psychiatry as a career choice. *BMC Med Educ*. 2015;15:1-10.

- 24- Kordloo F, Kabir K, Bahador H, Dehghan-Naieri T. Is mental health training courses in the field of nursing students' attitudes towards stigmatized disorders mental change?. *Journal of Alborz University of Medical Sciences*. 1394;4(4):248-54.
- 25- Abdullah T, Brown TL. Mental illness stigma and ethnocultural beliefs, values, and norms: an integrative review. *Clin Psychol Rev*. 2011;31(6):934-48.
- 26- Ilic M, Reinecke J, Bohner G, Röttgers H-O, Beblo T, Driessen M, et al. Belittled, avoided, ignored, denied: assessing forms and consequences of stigma experiences of people with mental illness. *Basic Appl Soc Psych*. 2013;35(1):31-40.
- 27- Kassam A, Papish A, Modgill G, Patten S. The development and psychometric properties of a new scale to measure mental illness related stigma by health care providers: the opening minds scale for health care providers (OMS-HC). *BMC Psychiatry*. 2012;12(5):2-12.
- 28- Shen Y, Dong H, Fan X, Zhang Z, Li L, Lv H, et al. What can the medical education do for eliminating stigma and discrimination associated with mental illness among future doctors? effect of clerkship training on chinese students' attitudes. *Int J Psychiatry Med*. 2014;47(3):241-54.
- 29- Sajid A, Khan MM, Shakir M, Moazam-Zaman R, Ali A. The effect of clinical clerkship on students' attitudes toward psychiatry in Karachi, Pakistan. *Acad Psychiatry*. 2009;33(3):212-4.
- 30- Amini H, Shoar S, Tabatabaee M, Arabzadeh S. The effect of clinical exposure to patients on medical students' attitude towards mental illness. *Iran J Psychiatry Behav Sci*. 2016;10(3):1-7.
- 31- Ashe J. The effects of personal contact on attitudes toward mental illness in baccalaureate nursing students. Ohio: University of Akron. 2015.
- 32- Corrigan PW, Penn DL. Lessons from social psychology on discrediting psychiatric stigma. *Am Psychol*. 1999;54(9):765-76.
- 33- Allport GW. The nature of prejudice. USA: Addison-Wesley. 1954.
- 34- Byrne L, Happell B, Welch T, Moxham L. Things you can't learn from books: teaching recovery from a lived experience perspective. *Int J Ment Health Nurs*. 2013;22(3):195-204.
- 35- Angermeyer MC, Matschinger H, Corrigan PW. familiarity with mental illness and social distance from people with schizophrenia and major depression: testing a model using data from a representative population survey. *Schizophr Res*. 2004;69(2):175-82.
- 36- Vaghee S, Salarhaji A, Asgharipour N, Chamanzari H. Effects of psychoeducation on stigma in family caregivers of patients with schizophrenia: a clinical trial. *Evid Based Care J*. 2015;5(16):63-76.
- 37- RezaeeDehnavi S, Nori A, Jafari M, Faramarzi S. investigating stigma phenomenon among mothers with down syndrome children in isfahan: a psycho-social approach. *Family Res*. 2008;5(3):401-16. [persion]

38- Trute B, Teff B, Segall A. Social rejection of the mentally ill: a replication study of public attitude. *Soc Psychiatry Psychiatr Epidemiol.* 1989;24(2):69-76.

39- Pettigrew TF, Tropp LR. How does intergroup contact reduce prejudice? meta-analytic tests of three mediators. *Eur J Soc Psychol.* 2008;38(6):922-34.