http://dx.doi.org/10.52547/pcnm.12.1.1

Preventive Care in Nursing and Midwifery Journal
2022; 12(1): 1-10

Effect of Group Teaching of Emotional Intelligence Components of Salovey and Mayer (1990) Model on Stigma in Cancer Patients

Maryam Valikhani[1], Atefeh Ghovati[2], Masoud Kashani Lotfabadi[3], Faezeh Mojarad[4], Javad Dehghani[5], Bibi Maryam Hashemi[6*]

[1]Msc in Nursing, Department of Medical-Surgical Nursing, Nursing and Midwifery Care Research Center, Mashhad University of Medical Sciences, Mashhad, Iran
[2]Msc in Psychology, Hekmat Razavi Institute of Higher Education, Mashhad, Iran
[3]Ph.D. Student in General Psychology, Department of Psychology , Torbat-e Jam Branch, Islamic Azad University, Torbat-e Jam, Iran
[4]Msc student in Psychology, Department of Psychology, Torbat-e Jam Branch, Islamic Azad University, Torbat-e Jam, Iran
[5]Msc in HSE (Health, safety and environmental engineering), Neyshabur University of Medical Sciences, Neyshabur, Iran
[6]PhD Student in Counseling, Department of Counseling, Bojnurd Branch, Islamic Azad University, Bojnurd, Iran

Corresponding Author Address: North Khorasan, Bojnourd, Daneshgah Street, Islamic Azad University Bojnourd, Bojnourd Branch
Tel: 0098-9156983896
Email: hashemima1399@gmail.com

Received:25 Nov 2021
Accepted: 9 Des 2021
Published: 8 Jan 2022

Abstract

Background: Cancer stigma is an important issue in cancer patients and affects the follow-up, adherence, and acceptance of treatment. Therefore, it is necessary to take action to reduce cancer stigma.
Objectives: This study aimed to determine the effect of group training of emotional intelligence components of Salovey and Mayer's (1990) model on stigma in cancer patients.
Methods: This clinical trial with a pretest-posttest design was performed on 52 patients with cancer admitted to Omid Oncology Hospital in Mashhad, Iran, during 2018-2019. The participants were selected by the convenience sampling method and randomly allocated to two groups of intervention (n=25) and control (n=27). The intervention group received emotional intelligence group training based on Salovey and Mayer's (1990) model during 10 sessions. The control group received routine care during the study. The data collection tool was the Cancer Stigma Scale. Data analysis was performed by SPSS software (version 25) using the paired t-test and independent t-test. A p-value of less than 0.05 was considered the significant level.
***Results*:** Based on the results, there was no significant difference between the intervention and control groups regarding the mean total stigma score in the pretest (P=0.46). However, there was a significant difference between the two groups regarding the changes in the mean total stigma score after the intervention (P<0.001)
Conclusion: Emotional intelligence group teaching can be effective in reducing stigma in cancer patients. Therefore, it is suggested to use emotional intelligence teaching to reduce stigma in cancer patients in oncology hospitals.

Keywords: emotional intelligence, group teaching, cancer, stigma

Introduction

Cancer is one of the most critical barriers to increasing life expectancy in the 21st century [1]. The increase in cancer incidence rate is associated with a significant global burden [2]. Cancer incidence is estimated to increase from 14 million in 2012 to 24 million in 2035 [3]. According to the National Cancer Population Registry in Iran, this country is among the areas at moderate risk of cancer [4]. It is predicted that the incidence of cancer will increase by 2035 [5].

Cancer is a serious disease and is known as a deadly disease [6]. A fatalistic attitude toward cancer is usually associated with believing in the impossibility of curing and families not willing to choose or receive palliative care in the end-stage phase of the disease [7]. Consequently, one of the major psychosocial challenges of patients with cancer is cancer-related stigma, including fear of disease and death [8].

The term "stigma" was first coined by Erving Goffman (1963) as "characteristics that transform the individual carrying it from normal to worthless and abnormal" [9]. Cancer stigma might manifest as fear of familial transmission of the disease and responsibility for causing the disease [10]. Cancer stigma might also manifest itself in the form of compassionate attitudes toward cancer, such as shame, suffering, regret, sympathy, and compassion [11]. In some societies, cancer stigma involves unknown causes affected by fate or black magic [12]. Cancer stigma often stems from cultural stereotypes that, in addition to making cancer deadly, include its contagiousness and the punishment of immoral behaviors [13].

Lack of proper response of clinicians to how and why cancer develops has led to different interpretations of this disease. In numerous cultures, uncertainty about the unknown etiology of cancer has led to the interpretation of cancer as a punishment that individuals receive for committing a sin [7]. Cancer stigma is associated with negative psychological states, such as depression, anxiety, anger, low self-esteem, and demoralization, due to the use of ineffective coping techniques, such as self-blame, lack of self-disclosure, and receiving social support.

Feeling ashamed and embarrassed prevents health-related behaviors, such as not following, accepting, and following treatment [14]. In Iran, most cancer patients suffer from the stereotype of cancer stigma, including the impossibility of curing cancer [15]. Most cancer patients equate cancer with death and despair, thereby refusing to accept the disease due to cognitive beliefs and changing social roles. Additionally, cancer patients use defense mechanisms, such as non-disclosure, restricting social interactions, and avoiding new relationships with others to counter it [16]. Accordingly, from the point of view of cancer stakeholders, such as patients and their families, the meaning of cancer stigma is explained with three main themes, including terrible and pathetic disease, communication failure, disease concealment, and identity crisis [17]. In addition to the religious and spiritual contexts of the Iranian individuals at the time of death and mourning, strong family connections are considered a strong point in coping with cancer stigma [18]. Nevertheless, negative attitudes about the impossibility of recovery and discrimination against cancer patients were common among urban Iranians [19].

In Iran, several interventions, including knowledge enhancement, coping skills training, emotional-spiritual support, and counseling, have been suggested as care programs to reduce stigma in cancer patients [20]. However, interventions in this area are limited, and there are conflicting results regarding the relationship between knowledge and stigma reduction [21]. Based on the evidence, emotional intelligence is a supportive factor against stigma acceptance [22]. Moreover, high emotional intelligence can be associated with lower stigmatic attitudes [21]. Additionally, the evidence has confirmed that emotional intelligence teaching can help strengthen performance and health-related behaviors [23].

Different models in the field of emotional intelligence teaching have been designed based on the two main perspectives of emotional intelligence as "ability" or "feature". Among the ability models, Salovey and Mayer's (1990) emotional intelligence teaching model has the highest application and validity because researchers believe that emotional intelligence as ability can be changed and taught. In this model, emotional intelligence includes the ability in four areas of correct perception of emotions in self (i.e., personal intelligence) and others (i.e., social intelligence), using emotions to facilitate thinking, understanding the meaning of emotions, and managing emotions. Emotional intelligence generally involves the processing of emotional information [24].

The focus of the Salovey and Mayer's (1990) emotional intelligence model is on the application of emotional knowledge and specific emotion regulation mechanisms in emotional situations and performance. It seems that education based on this model can help individuals regarding

psychology and stress management [23]. The results of studies showed that cancer patients with higher emotional intelligence are more compatible with cancer diagnosis and treatment and experience fewer symptoms of anxiety and depression following cancer [23,24]. On the other hand, emotional intelligence in cancer patients can be a predictor of quality of life related to health [25] and concerns related to the diagnosis of cancer [26]. Moreover, studies have shown that emotional intelligence can play a supportive role against negative feelings related to self-stigma in family members of individuals with mental disorders [22].

The results of studies in Iran showed that there is a significant positive relationship between emotional intelligence with problem-oriented coping styles and avoidance in cancer patients [27]. In addition, emotional intelligence can be a predictor of psychological well-being in cancer patients [28]. Furthermore, the results of studies showed that emotional intelligence teaching can contribute to the happiness and general health of cancer patients [29]. Considering that most of the studies conducted in the field of emotional intelligence teaching are related to the psychological issues of cancer patients, few studies have been conducted on cancer stigma, especially in Iran. Therefore, this study was conducted for the first time to determine the effect of group training based on Salovey and Mayer's (1990) model on stigma in cancer patients.

Methods

This single-blind randomized controlled clinical trial was conducted with a pretest-posttest design and a control group. This study was performed on 52 patients with cancer admitted to Omid Oncology Hospital in Mashhad, Iran, during 2018-2019 (early June and late November). The inclusion criteria were an age range of 20-60 years, definitive diagnosis of cancer by an oncologist, and class I or II cancer (according to pathology tests). The exclusion criteria were unwillingness to continue participating in the study, absence in one or more sessions of intervention, and failure to participate in the posttest.

All the ethics points in the study approved by the Research Vice-Chancellor of Mashhad University of Medical Sciences related to the present study were observed in all stages of the research. The ethics points included obtaining a written agreement from the University Ethics Committee, obtaining a written letter of introduction from Mashhad University of Medical Sciences and presenting it to the director of Omid Oncology Hospital of Mashhad, obtaining informed written consent from study participants, coding questionnaires to keep participants secret, and assuring participants' withdrawal at any time, if not willing to continue participation.

The sample size was estimated based on a previous study and using the formula comparison of the mean of two communities $\left(\frac{\left(z_{1-\alpha/2}+z_{1-\beta}\right)^2\left(s_1^2+s_2^2\right)}{(\bar{x}_1-\bar{x}_2)^2}\right)$ on 20 cancer patients participating in the present study. The mean values of the total stigma score in the intervention (23.02±3.1) and control (26.84±4.2) groups were calculated after the intervention with a 95% confidence interval and 85% test power for each group of 24 patients. A 15% loss of sample size was considered in each group of 27 patients (54 subjects in total).

The participants were selected by the convenience sampling method and randomly allocated to two groups of intervention and control. After obtaining the approval of the Ethics Committee of Mashhad University of Medical Sciences, a list of patients eligible to participate in the study was prepared through hospital records. A random sequence of participants entering the two groups was determined through a table of random numbers using a computer. Accordingly, a number was randomly selected by the computer and the two digits to the right of it were considered. If the two digits to the right were even, they were assigned to the intervention group. If the two digits to the right were odd, they were assigned to the control group. This process was performed based on the number of the sample size and continued until the sample size was completed.

Data collection tools included a demographic characteristics form (including information, such as age, gender, and marital status) and the Cancer Stigma Scale (patient version). The Cancer Stigma Scale consists of 12 items, each of which is scored based on a Likert scale within a range of strongly agree (4 points) to strongly disagree (1 point). This tool has three subscales of the

impossibility of recovery, social discrimination (items 1,2,3,4,8,9,10,11 and 12), and stereotypes of cancer patients (items 5,6 and 7). The scores are within a range of 12-48. A higher score indicates a higher level of stigma [30]. This scale was translated in the forward-backward method.

The internal consistency of the questionnaire items in a study conducted by Badihian et al. (2017) was satisfactory, with Cronbach's alpha coefficients for the impossibility of recovery, stereotypes, and social discrimination reported as 0.67, 0.38, and 0.66, respectively [19]. In this study, the reliability of this scale was calculated by the internal consistency method (α=0.89). This reliability was confirmed based on the acceptable alpha coefficient (α>0.70).

In the intervention group, emotional intelligence teaching was performed according to the protocol of emotional intelligence components of Salovey and Mayer (1990) [31]. The patients were taught by a PhD student in counseling who was trained in this field. The patients were taught during 10 sessions each of which lasted 90 min twice a week (Saturdays and Wednesdays). The patients were taught in groups of 12 and 13 in the training room located in Omid Oncology Hospital of Mashhad. The educational content of the sessions is presented in Table 1. The control group received routine care during the study. For the observation of research ethics, after completing the study, the control group was invited to receive emotional intelligence teaching. The data were collected in two stages of the pretest and 8 weeks after the intervention.

Table 1: Group Training Sessions on Components of Emotional Intelligence of Salovey and Mayer (1990)

Session	Content
1st	Introducing and stating the goals of meetings, defining emotional intelligence and its importance
2nd	Perception and evaluation of emotions (teaching the physical characteristics of different emotions and identifying emotions)
3rd	Expressing emotions (teaching the importance of expressing emotions and presenting new communication methods to increase the ability to express emotions)
4th and 5th	Facilitate thinking by emotion (the importance of emotions in life and how they affect the promotion of personal development, relationship between thinking and emotions, and creating positive and negative moods in individuals by interpreting pleasant and unpleasant real situations)
6th	Understanding and analyzing emotions (relationship between thinking, emotion, and behavior, analyzing the effect of thoughts on the experience of emotions by examining specific emotional states in a real situation and acting on these emotions)
7th	How to use emotional knowledge (empathy training and active listening)
8th and 9th	Reflection of emotion regulation to promote intelligence and emotional development (teaching how the brain works in the expression of emotions, relaxation training to increase the ability to stay calm in conflict situations)
10th	Summary of previous sessions

The data were analyzed by SPSS software (version 25). The Kolmogorov-Smirnov test was used to investigate the normal distribution of quantitative data. The Chi-square, Fisher's exact test, and independent t-test were used to compare the qualitative and quantitative demographic variables of the participants before the intervention. The independent t-test was used for comparison between variables, and the paired t-test was used for comparison within the group. In the performed tests, the confidence level and significance level were reported as 95% and 0.05, respectively.

Results

The final evaluation was performed on 52 cancer patients (25 and 27 in the intervention and control groups, respectively). Two members of the intervention group (due to absence in more than one session of training sessions) were excluded in the final data analysis. The results of the Kolmogorov-Smirnov test showed that all the

quantitative variables of the study had a normal distribution (P>0.05).

In this study, 30 (57.7%) and 22 (42.3%) participants were female and male, respectively, with a mean age of 43.38±16.18 years. In the pre-intervention phase, there was no significant difference between the intervention and control groups regarding the demographic characteristics of cancer patients participating in the study (P>0.05) (Table 2).

Table 2: Comparison of Demographic Characteristics of Cancer Patients Based on Intervention and Control Groups

Group		**Intervention**	**Control**	**Test result**
Variable		**n=25**	**n=27**	
		n (%)	n (%)	
Gender	Female	14(56.0)	16(59.3)	$P^{*}= 0.50$
	Male	11(44.0)	11(40.7)	
Marital status	Married	11(44.0)	16(59.3)	$x^2 =2.14$ df = 3 $P^{*}= 0.54$
	Single	3(12.0)	4(14.8)	
	Divorced	2(8.0)	2(7.4)	
	Widow	9(36.0)	5(18.5)	
Educational level	Secondary	16(64.0)	17(63.0)	$x^2 =0.43$ df =2 $P^{*}= 0.81$
	Diploma	5(20.0)	7(25.9)	
	Academic	4(16.0)	3(11.1)	
Organ with cancer	Intestine	7(28.0)	8(29.6)	$x^2=0.73$ df = 6 $P^{*}= 0.99$
	Breast	6(24.0)	7(25.9)	
	Ovary	1(4.0)	2(7.4)	
	Esophagus	2(8.0)	1(3.7)	
	Stomach	4(16.0)	4(14.8)	
	Bone marrow	1(4.0)	1(3.7)	
	Uterus	4(16.0)	4(14.8)	
Employment status	Government employment	1(4.0)	1(3.7)	$x^2= 0.25$ df = 3 $P^{*}= 0.97$
	Self-employed	7(28.0)	8(29.6)	
	Housewife	11(44.0)	13(48.1)	
	Unemployed	6(24.0)	5(18.5)	
		mean± sd	**mean ± sd**	
Age (year)		42.36 ± 16.80	44.33 ± 15.84	t =0.44 df=50 $p^{***}= 0.66$
Cancer duration (year)		2.84 ± 2.21	3.07 ± 2.54	t=0.35 df= 50 $p^{***} = 0.72$

Fisher test
****Chi-square test**
*****Independent T-test**

The results of the paired t-test for before-after intragroup comparison in the intervention group showed that the mean total scores of stigma and its subscales in the post-intervention phase were significantly lower than those before the intervention (P<0.05). In the control group, the mean score of the stereotypes subscale in the post-intervention phase was significantly lower than that reported after the intervention (P=0.006). There was no significant difference in the mean total score of stigma and subscales of the impossibility of recovery and experience of social discrimination in the pre- and post-intervention in the control group (P>0.05) (Table 3).

Table 3: Before-After Intragroup Comparison of Stigma and Its Subscales' Mean Scores in Both Intervention and Control Groups

Stigma scale		Pre-intervention		Post-intervention		Paired t-test		
		Mean	Standard deviation	mean	Standard deviation	t	df	P-value
Impossibility of recovery and experience of social discrimination	Intervention	18.92 ± 4.31	4.31	16.04	3.30	3.87	24	0.001
	Control	18.04 ± 4.78	4.78	18.04	4.74	0.01	26	0.99
Stereotypes of cancer patients	Intervention	8.12	1.56	6.48	1.66	5.48	24	0.001
	Control	7.96	1.53	7.70	1.64	3.02	26	0.006
Total stigma	Intervention	24.96	4.60	22.52	4.46	7.71	24	0.001
	Control	26.00	5.45	25.74	5.55	1.89	26	0.09

In before-after intergroup comparison, the results of the independent t-test showed that there was no significant difference between the intervention and control groups regarding the mean total stigma score (P=0.46) and subscales of the impossibility of recovery, experience of social discrimination (P=0.49), and stereotypes in the pre-intervention phase (P=0.72). However, the results of the independent t-test showed that there was a significant difference between the intervention and control groups regarding the mean score of total stigma (P=0.03) and subscales of the impossibility of recovery, experience of social discrimination (P=0.001), and stereotypes in the post-intervention phase (P=0.01) (Table 4).

Table 4: Intergroup Comparison of Stigma and Its Subscales' Mean Scores After Intervention in Both Intervention and Control Groups

Stigma scale		Mean	Standard deviation	T	df	P-value (Independent t-test)
Impossibility of recovery and experience of social discrimination	Intervention	16.04	3.30	1.75	50	0.001
	Control	18.04	4.47			
Stereotypes of cancer patients	Intervention	6.48	1.66	2.67	50	0.01
	Control	7.70	1.64			
Total stigma	Intervention	22.52	4.46	2.29	50	0.03
	Control	25.74	5.55			

Discussion

This study aimed to determine the effect of group teaching of emotional intelligence based on Salovey and Mayer's (1990) model on stigma in cancer patients. The results showed that in the pre-intervention phase, there was no significant difference between the control and intervention groups in terms of the mean total score of cancer stigma. However, in the post-intervention phase, the mean total stigma score in the intervention group was significantly reduced, compared to that reported for the control group. Therefore, emotional intelligence teaching can be effective in reducing stigma in patients with cancer.

One of the main goals of emotional intelligence teaching is to strengthen relationships with others and receive empathetic and emotional support from them [25]. The results of a study performed by Banerjee et al. (2020) confirm the results of the present study, stating that receiving empathetic responses from thoracic oncology staff can reduce stigma in patients with lung cancer [32].

Although the stigma of different diseases has different contents, in all cases it is associated with

the experience of negative emotions in individuals with stigmatized diseases, which is the result of cognitive consequences of stereotypes, prejudices, and experiences of discrimination in society [33]. Some studies have investigated the relationship between self-stigma and social stigma with emotional intelligence in various disorders, the results of which are in line with the results of the present study. Trigueros et al. (2020) showed that family members of patients with mental disorders who had higher emotional intelligence reported lower levels of stigma. Therefore, emotional intelligence can play a protective role against the experience of negative emotions caused by a patient's stigma, such as predicting rejection and negative self-image [22].

Kulikowska and Pokorsk showed a negative relationship between emotional intelligence and social stigma of self-harming behaviors in adolescents. Consequently, higher emotional intelligence is associated with a more remarkable ability to tolerate stress and less social stigma regarding adolescent self-harming behaviors [34]. Armstrong (2015) showed a negative correlation between mental patient's stigma and emotional intelligence. Therefore, individuals with higher emotional intelligence are less likely to stigmatize mental disorders [35]. Carmona-Navarro and Pichardo-Martínez (2012) showed a significant negative relationship between nurses' negative attitudes toward suicidal behaviors and emotional intelligence. As a result, nurses with higher emotional intelligence have fewer negative beliefs and attitudes toward suicidal behaviors and are less likely to stigmatize them [36].

One of the goals of emotional intelligence teaching is to increase the ability to regulate emotions [22]. In this regard, Wei et al. (2016) showed that emotion regulation has a mediating role in the relationship between the human immunodeficiency virus (HIV) stigma and emotional state in children with HIV. Emotion regulation by reducing the expression of negative emotions and increasing the degree of resilience might act as a buffer against the negative effects of stigma and help individuals adapt to stigmatization conditions [37].

On the other hand, Valavanis (2019) showed no significant relationship between the stigma of patients with mental disorders and nurses' emotional intelligence [38]. This result is not in line with the results of the present study. This discrepancy could be due to the use of the social distance scale to measure stigma in nurses, which cannot distinguish between implicit and explicit attitudes of nurses about their perceptions of patients with mental disorders and does not measure all aspects of stigma.

The results of the present study showed that in the pre-intervention phase, there was no significant difference between the intervention and control groups regarding the mean of subscales of the impossibility of recovery, social discrimination experience, and stereotypes. Nevertheless, in the post-intervention phase, the results of the intervention group showed that the mean scores of the subscales were significantly reduced, compared to those reported for the control group. Therefore, emotional intelligence teaching can be effective in reducing stigma subscales in patients with cancer. Previous studies employed specific scales appropriate to the content of the studied stigma, composed of different subscales; therefore, it was not possible to compare them with the subscales of the present study.

The results of the present study showed that cancer stereotypes in both intervention and control groups were significantly reduced during the pre- and post-intervention phases. It could be due to the degree of resilience of individuals that is consistent with the stereotypes of stigma over time; however, in this study, it was not measured before the intervention.

Limitations

One of the limitations of the present study was the lack of cooperation of many patients to participate in the study due to unfavorable psychological conditions. Therefore, most of the patients included in the study had better mental conditions and were in more favorable psychological conditions. Some patients also refused to participate in the study due to be in the suburbs and transportation problems; therefore, most of the participants in the present study were selected from the residents of Mashhad. It is suggested to perform the present study again on cancer patients who are in the critical condition of cancer diagnosis and reside in other parts of Iran

Conclusion

The results of the present study showed that emotional intelligence teaching helps reduce

stigma and its subscales in cancer patients. One of the benefits of emotional intelligence teaching is to reduce the expression of negative emotions and increase resilience to stressors, which in Iranian society due to religious beliefs is interpreted as patience in the face of difficult living conditions such as cancer, which is a reward from God. Consequently, emotional intelligence teaching in the present study showed a high level of acceptance among participants due to its relevance to Iranian culture. However, the degree of resilience of individuals could be effective as an intervening variable in regulating emotions and adapting to cancer stigma. In this study, the degree of resilience was not considered an intervening variable in the pre-intervention phase in the intervention and control groups. According to the results of this study, considering that emotional intelligence teaching is effective in reducing cancer stigma, health care providers working in oncology hospitals are advised to use emotional intelligence teaching to reduce stigma in cancer patients. In future studies, it is recommended to study the resilience of individuals before the implementation of emotional intelligence teaching and its effect on cancer stigma.

Acknowledgments
This article was extracted from a dissertation after being approved by the Vice-Chancellor of Research of the Payame Noor University of Gonabad, Iran, and receiving the ethics code (IR.MUMS.REC.1397.047) from the Ethics Committee of Mashhad University of Medical Sciences (with the code IRCT20180509039597N1 in Iran Clinical Trials Center). The authors would like to express their gratitude to the officials of the Payame Noor University of Gonabad, Mashhad University of Medical Sciences for permission to implement the project, officials of Omid Oncology Hospital, and esteemed patients for their cooperation in this research project.

Conflict of interest
The authors declare that there is no conflict of interest.

Funding:
No funding.

References

1. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2018; 68(6): 394-424.
2. Ferlay J, Soerjomataram I, Dikshit R, Eser S, Mathers C, Rebelo M, et al. Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. Int J Cancer. 2015; 136(5): E359-86.
3. Pilleron S, Sarfati D, Janssen-Heijnen M, Vignat J, Ferlay J, Bray F, et al. Global cancer incidence in older adults, 2012 and 2035: a population-based study. Int J Cancer. 2019; 144(1): 49-58.
4. Roshandel G, Ghanbari-Motlagh A, Partovipour E, Salavati F, Hasanpour-Heidari S, Mohammadi G, et al. Cancer incidence in Iran in 2014: results of the Iranian National Population-based Cancer Registry. Cancer Epidemiol. 2019; 61: 50-58.
5. Mohebbi E, Nahvijou A, Hadji M, Rashidian H, Seyyedsalehi MS, Nemati S, et al. Iran Cancer Statistics in 2012 and projection of cancer incidence by 2035. Basic Clin Cancer Res. 2017; 9(3): 3-22.
6. Else-Quest NM, Jackson TL. Cancer stigma. The stigma that cancer equals death, which has been attached to the disease for centuries. Washington, DC, US: American Psychological Association; 2014: 165-81.
7. Noronha JL. Cancer stigma–Why don't we sit down and talk about it? Cancer Res Statistics Treat. 2020; 3(2): 167-8.
8. Fujisawa D, Umezawa S, Fujimori M, Miyashita M. Prevalence and associated factors of perceived cancer-related stigma in Japanese cancer survivors. Jpn J Clin Oncol. 2020; 50(11): 1325-9.
9. Goffman E. Stigma: Notes on the management of spoiled identity. New York: Prentice Hall; 1963.
10. Nyblade L, Stockton M, Travasso S, Krishnan S. A qualitative exploration of cervical and breast cancer stigma in Karnataka, India. BMC Womens Health. 2017; 17(1): 58.
11. Tang P-L, Mayer DK, Chou F-H, Hsiao K-Y. The Experience of Cancer Stigma in Taiwan: A

Qualitative Study of Female Cancer Patients. Arch Psychiatr Nurs. 2015; 30: 204-9.
12. Eldeek B, Alahmadi J, Al-Attas M, Sait K, Anfinan N, Aljahdali E, et al. Knowledge, perception, and attitudes about cancer and its treatment among healthy relatives of cancer patients: single institution hospital-based study in Saudi Arabia. J Cancer Educ. 2014; 29(4): 772–80.
13. Oystacher T, Blasco D, He E, Huang D, Schear R, McGoldrick D, et al. Understanding stigma as a barrier to accessing cancer treatment in South Africa: implications for public health campaigns. Pan Afr med j. 2018; 29: 73.
14. Fujisawa D, Hagiwara N. Cancer stigma and its health consequences. Curr Breast Cancer Rep. 2015; 7(3): 143-50.
15. Shiri FH, Mohtashami J, Nasiri M, Manoochehri H, Rohani C. Stigma and related factors in Iranian people with cancer. Asian Pac J Cancer Prev. 2018; 19(8): 2285.
16. Mohabbat-bahar S, Bigdeli I, Mashhadi A, Moradi-Joo M. Investigation of stigma phenomenon in cancer: A grounded theory study. Int J Cancer Manag. 2017;10(2):e6596.
17. Hasan Shiri F, Mohtashami J, Manoochehri H, Rohani C. Explaining the meaning of cancer stigma from the point of view of Iranian stakeholders: A qualitative study. Int J Cancer Manag. 2018; 11(7): e61165.
18. Fallahi S, Rassouli M, Mojen LK. Cultural aspects of palliative cancer care in Iran. Palliat Med Hosp Care Open J. 2017; 1: S44-50.
19. Badihian S, Choi EK, Kim IR, Parnia A, Manouchehri N, Badihian N, et al. Attitudes toward cancer and cancer patients in an urban Iranian population. Oncologist. 2017; 22(8): 944-50.
20. Shiri FH, Mohtashami J, Manoochehri H, Nasiri M, Rohani C. Care Plan for Reducing Stigma in Cancer Disease. Open J Nurs. 2020; 10: 1142-54.
21. El-krab R. The Role of Empathy in Finding an Effective Intervention to Reduce HIV Related Stigma. Arizona: Arizona State University; 2020.
22. Trigueros R, Navarro N, Cangas AJ, Mercader I, Aguilar-Parra JM, González-Santos J, et al. The Protective Role of Emotional Intelligence in Self-Stigma and Emotional Exhaustion of Family Members of People with Mental Disorders. Sustainability. 2020; 12(12): 4862.
23. Campo M, Laborde S, Weckemann S, Colombus A. Emotional intelligence training: Implications for performance and health. Adv Psychol Res. 2015; 101: 75-92.
24. Mattingly V, Kraiger K. Can emotional intelligence be trained? A meta-analytical investigation. Hum Resour Manag Rev. 2019; 29(2): 140-55.
25. Rey L, Extremera N, Trillo L. Exploring the relationship between emotional intelligence and health-related quality of life in patients with cancer. J Psychosoc Oncol. 2013; 31(1): 51-64.
26. Smith SG, Petrides K, Green JS, Sevdalis N. The role of trait emotional intelligence in the diagnostic cancer pathway. Support Care Cancer. 2012; 20(11): 2933-39.
27. Ebadi Vashmeh Sara M, Khademi A. The Study of Comparative and Relationship of Emotional Intelligence and Coping Styles in Cancerous Patient (Woman-Man, Single-Marital) Recourse to Therapeutic Centers in Tehran. Health Psychol. 2014; 3(2): 18-37. [In Persian]
28. Ahoiee K, Faramarzi M, Hassanzadeh R. Psychological well-being of patients with breast cancer and its relationship with emotional intelligence. J Babol Univ Med Sci. 2017; 19(8): 20-27. [In Persian]
29. Abolghsemi Sh. The efficacy of emotional intelligence teaching and coping strategies for stress training on general health and happiness of cancer patients. Social Work. 2017; 6(3): 32-40. [In Persian]
30. Yılmaz M, Dişsiz G, Demir F, Irız S, Alacacioglu A. Reliability and validity study of a tool to measure cancer stigma: Patient version. Asia Pac J Oncol Nurs. 2017; 4(2): 155-61.
31. Mayer JD, Salovey P. What is emotional intelligence? In Salovey P, Sluyter D, editor
s. Emotional Development and Emotional Intelligence: Implications for Educators. New York: Basic Books; 1997.p. 3-31.
32. Banerjee SC, Haque N, Bylund CL, Shen MJ, Rigney M, Hamann HA, et al. Responding empathically to patients: a communication skills training module to reduce lung cancer stigma. Transl Behav Med. 2020; 11(2): 613-8.
33. Link BG, Phelan JC. Stigma and its public health implications. Lancet. 2006; 367(9509): 528-9.

34. Kulikowska A, Pokorski M. Self-injuries in adolescents: Social competence, emotional intelligence and stigmatization. J Physiol Pharmacol. 2008; 59(6): 383-92.
35. Armstrong EN. A study on the relationship between emotional intelligence and mental illness stigma [dissertation]. United States: Walden University; 2015.
36. Carmona-Navarro M, Pichardo-Martínez M. Attitudes of nursing professionals towards suicidal behavior: influence of emotional intelligence. Rev Lat Am Enfermagem. 2012; 20(6): 1161-8.
37. Wei W, Li X, Harrison S, Zhao J, Zhao G. The relationships between HIV stigma, emotional status, and emotional regulation among HIV-affected children in rural China. AIDS Care. 2016; 28(sup2): 161-7.
38. Valavanis S. The relationships between nurses' emotional intelligence, attachment style, burnout, compassion and stigma [dissertation]. Lancaster University (United Kingdom); 2019.