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RESEARCH ARTICLE

Effect of Solution-focused Counseling on Depression and Quality of Life in Women under Mastectomy: A Randomized Clinical Trial

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Abstract:

Objective:

This study was conducted with the objective of determining whether solution-focused counseling reduces depression and increases the quality of life in breast cancer women.

Methods:

This study was a parallel randomized clinical trial on mastectomy women. A total of 100 volunteer participants completed the Beck's Depression Inventory (BDI) depression inventory and the WHO Quality of Life-Brief (WHOQOL- BREF) questionnaire. Fifty-six participants who scored less than the cut-off point in two questionnaires were randomly placed in two intervention and control groups. The participants in the intervention group received the solution-focused counseling method for six sessions (once a week). The control group received routine care. Then both groups filled out the questionnaires again. The results were analyzed by SPSS 22 using independent t-test, chi-square, Fisher's exact, and ANOVA repeated measurement tests.

Results:

The results indicated that the post-intervention depression score in the intervention group decreased after adjusting the variables compared to the control group (p -value=0.001). Moreover, it was revealed that solution-focused counseling increased the post-intervention quality of life after adjusting variables compared to the control group (p =0.001).

Conclusion:

The results of the present study showed that solution-focused counseling improved mood and quality of life. Therefore, it is necessary for midwives/nurses to provide counseling approaches for depression patients to help them pass the treatment process of cancer and have better psychological and physical health by improving their quality of life.

Keywords: Mastectomy, Breast cancer, Education, Counseling, Reproductive health, Beck's Depression Inventory (BDI).

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1. INTRODUCTION

Breast cancer is the most common cancer in women, which accounts for 30% of cancers in women [1]. Studies have reported that the incidence of breast cancer is increasing even in developed countries of the world [2]. Although over 2 million new cases were identified worldwide in 2018 [3], early diagnosis in developed countries has reduced the mortality rate [4, 5]. In Iran, 28.1% of new cases of cancer were reported in 2020, making it the fifth leading cause of death in women

diagnosed with cancer [6 - 8]. Factors, such as family background, older age, menarche age under 12 years old, menopausal age over 54 years old, the age of first delivery over 30 years old, body mass, lifestyle in terms of nutrition, physical activity, smoking, alcohol consumption, and lactation period have associated with higher risks of being diagnosed with cancer [9].

Breast cancer and subsequent treatment are the major sources of anxiety and depression in patients [10, 11]. Mastectomy is considered one of the main and important treatments for breast cancer [12]. However, it can have a profound and lasting negative effect on women's psyche as the

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mastectomy, as a therapeutic option, can cause the feeling of mutilation and decreased self-value, as well as negative feelings about femininity and sexual dysfunction [10, 13, 14]. Women with breast cancer, who are under mastectomy, experience psychological symptoms, such as tension, depression, and anxiety. Surgical interventions can usually threaten women's self-esteem and identity. Studies have shown that the prevalence of depression in patients with this type of cancer in Western countries is twice more than those in Asia (35% vs. 16%) [15, 16]. These symptoms last for a long time after treatment, decreasing women's quality of life. Yang and co-workers (2017), in a study on 40849 women in Sweden, reported that stress emerges 6 months after diagnosis of the disease [14].

Moreover, studies have revealed that depression is at the highest level in the first year of the disease and is associated with younger age, poor social support, treatment, the mental image of the body, worry about death, and fear [10]. Also, inconsistent information about the recurrence of the disease and its progression leads to more psychological problems in patients [17]. There are several studies on the prevalence of depression among breast cancer patients between 35-50% in several regions of Iran [18 - 20]. One meta-analysis study in Iran showed that the prevalence of severe depression in women with breast cancer was 11% (95% CI (7.2, 16.5)). The highest prevalence was 44% (95% CI (31, 57.9)), and the lowest prevalence was 0.8% (95% CI (0.01, 6.2)) [21]. Another meta-analysis of mental health in Iranian breast cancer women showed that stress is the most common psychological symptom (rate of 10% to 30%) [22]. Moreover, side effects of the treatments in these patients increase emotional disorders and dramatically reduce the quality of life, thus leading to extensive psychological consequences. Hosseini (2014) reported that about 76% of Iranian women have a low to moderate quality of life [23].

Today, paying attention to spirituality and using psychological and non-pharmacological methods to improve the quality of life and reduce anxiety and depression due to these crises has an important place [24, 25]. Studies in Iran demonstrated that psychological approaches, such as solution-focused therapy (SFT), are a good approach to relieving psychological issues, such as anxiety and depression [26, 27]. Also, other studies worldwide reported that solution-based therapy is one of the best approaches to mental health [28, 29]. Solution-based therapy is different from many other psychological approaches because counseling with this method does not require a psychologist [30]. Nurses, midwives, and also health providers can help patients in thinking about life problems in different ways [27]. Specialist nurses in psychological care can greatly help solve the problems of patients with chronic diseases by passing the complementary courses of this approach [31]. In Iran, midwife consultants trained at the master level are made familiarized with various counseling approaches, namely solution-centered approach, and they utilize these approaches to prevent women's psychological problems in different periods of life, including adolescence, pregnancy, delivery, and menopause [32]. Moreover, it can be applied in mental health centers, outpatient treatment centers, hospitals, schools, and in various ranges of

populations, including people with mood disorders, couples, teenagers, and children [33 - 35]. This approach focuses more on people's capabilities and achievements and creating supportive relationships during treatment than people's defects and disabilities [36]. It helps the patients to find solutions for their current problems; therefore, it focuses on solutions rather than problems [19, 32]. Breast cancer is the fifth cause of cancer-related death in Iranian women, growing over the last 40 years. In this regard, counseling approaches play a leading role in reducing mental health and quality of life [8]. A phenomenological approach was developed to explore the meaning of living with breast cancer for Iranian women. Participants explained their experiences of living with breast cancer as losing something important, low confidence, perceived fear, emotional dizziness, and negative aspects of breast cancer [37]. Considering that a study with this approach had not been done in Iranian women living with mastectomy, the present study investigated the effect of solution-oriented counseling on depression and the quality of life of women who underwent mastectomy.

2. METHODOLOGY

2.1. The Setting of the Study

The study was conducted at Khansari Hospital in Arak, one of the cities in Markazi Province, Iran. This hospital is the specialized hospital for patients with cancer in this city and has 50 beds. Patients from other cities of the province refer to this hospital for treatment.

2.2. Trial Design and Participants

This study was a randomized clinical trial with a parallel design in two groups as intervention and control. It was conducted in one of the hospitals in Arak, Markazi Province, Iran. Reporting of this study was performed by the Consolidation Standards of Reporting Trials (CONSORT) statement (Suppl-material).

The study population consisted of women, who underwent mastectomies in Khansari Hospital. The inclusion criteria were: the age range of 25-55 years old, radical unilateral mastectomy over the last 1 to 5 years, absence of any other physical diseases, absence of any mental or psychological illnesses, and being under no other psychological treatments. The exclusion criteria were: unwillingness to participate in the study, absence for more than one session of counseling, and incidents, such as the death of relatives during training sessions.

After the proposal was approved by the Research Council and the code of ethics was obtained, the sampling was done by attending Khansari Hospital in Arak and using the patients' records, and making phone calls with them. At first, eligible individuals, who had a mastectomy in the first stage, were selected. The records of women who underwent mastectomies from June to September, 2020, were investigated, and a phone call was made with the women (n=180). They were included in the study if they met the inclusion criteria to participate in the study. Out of 180 patients, 20 died, and 20 did not meet the inclusion criteria. Therefore, a total of 140 patients were invited to attend the hospital education class. Out of 140

patients, 100 attended the hospital after being invited. Due to the low capacity of the hospital class, it was held in 5 stages. A total of 70 patients were assigned to either a control group or an intervention group by block randomization using online statistical software (www.sealedenvelope.com). In the meeting before counseling, 70 patients were invited to an education class in Khansari Hospital and were randomly assigned to one of the groups. The non-transparent envelope-sealed method was then used to hide sequences. Accordingly, several envelopes with aluminum foil protection (to obscure the contents of the envelopes) were prepared, and each random sequence created was recorded on a card, and the cards were placed in order within the envelopes. To maintain a random sequence, the outer surface of the envelopes was numbered in the same way. Eventually, the flap was pasted, and envelopes were placed respectively within a box. At the beginning of the participants' registration process, the envelopes were opened in order, based on the order of the eligible participants' entry into the study, and the respective group was revealed to each participant. Then, the Beck Depression Inventory (BDI) was provided to them. Moreover, the Quality of Life Questionnaire was provided to the patients, but no cut-off point was determined for it. Questionnaires that were completed by the patients before and after the study were delivered by the research assistant, who did not know about the study groups and their allocation. Also, statistical data analysis was carried out without knowing the 2 research groups. Blinding was done by the outcome assessor and the study statistician. So, they were unaware of the participants.

2.3. Sample Size

To determine the minimum sample size at a 95% confidence level, Moradi *et al.* [38] demonstrated that the sample size was determined based on the effect of treatment in the patients ($\alpha=5\%$, $p_2=8.6\%$, $p_1=34.9\%$, $\beta=20\%$) that were 28 subjects for each group.

2.4. Description of Intervention

Solution-focused sessions were adopted from a study by Rafie on Iranian women [32]. Participants were invited by nurse-midwife to an education class at the Kansari Hospital. Solution-focused counseling was provided to the intervention group by a nurse-midwife counselor in a group session of 90 minutes in 6 sessions (once a week). The content of the sessions is mentioned in Table 1. One nurse-midwife who passed a solution-focused counseling course held up the counseling sessions. Due to the special conditions made by the coronavirus, the meetings were held with 4 people with masks and appropriate distancing. The 2 groups were provided with an explanation that they might be assigned to either a counseling group or a control group in this hospital. The control group might train in mastectomy care if they need it. However, hospital care training was still provided to the intervention group. These educational programs included wound and drain care, how to sleep, bath duration, reporting any abnormal discharge, and post-operation exercises. This care was also provided to the control group without solution-

centered counseling. After the first session, groups were contacted by making phone calls, and the necessary coordination was made for the next sessions with the intervention group. To comply with the ethical principles, two 90-minute solution-centered counseling sessions were also programmed for the control group.

2.5. Instrument and Outcomes

The instrument used in the present study had two parts. The first part was related to demographic characteristics, including age, education status, employment status, marital status, duration of disease, and job status. The second part included the Beck Depression Inventory, the second version (II- BDI), and WHO Quality of Life-Brief (WHOQOL-BREF). Beck Depression Inventory can be used to diagnose depression in the first outcome. It was completed before and immediately after the intervention in the intervention and control groups, and scores were compared between the two groups. It consisted of 21 items and was scored on a 4-option scale ranging from lack of depression or mild depression (score=0) to severe depression (score=3). The total score of depression was 63, which was obtained by adding the scores. The higher the score is, the more severe depression is. The reliability of the inventory was calculated between 0.85 and 0.75 using Cronbach's alpha coefficient [39, 40].

WHO Quality of Life-Brief (WHOQOL-BREF) questionnaire was used to assess the quality of life as a secondary outcome. It was completed before and immediately after the intervention in the two groups, and scores were compared between the two groups. This questionnaire was also localized in Iran, and its Cronbach's alpha was determined to be 0.82 [41]. The first 2 items examined general health, and the other 24 items examined 4 domains of physical health (7 items), psychological health (6 items), social health (3 items), and environmental health (8 items). The questionnaire assessed the subjects' conditions by a 5-option Likert scale. The subjects' QOL in the first item was scored from 1 (very bad) to 5 (very good) and from 1 (very unsatisfied) to 5 (very satisfied) in the second item [42, 43].

In this study, patients with mild depression (15-32) were sampled. Moreover, the Quality of Life Questionnaire was provided to the patients, but no cut-off point was determined for it. After an initial evaluation, 80 patients were found with mild depression, 5 with moderate depression, and 10 with severe depression. A total of 19 women did not have depression. Patients with moderate to severe depression were referred to a psychiatrist. Out of 80 patients, 56 were assigned into 2 groups using a block randomization method.

2.6. Statistical Tests

Data were analyzed by SPSS software version 22. Analytical statistics were carried out using the chi-square test, Fisher's exact, and t-test. Also, ANOVA repeated measure test was used to assess the effectiveness of the solution-oriented intervention for depression and quality of life using SPSS 21 by identifying the duration of disease.

Table 1. Content sessions of solution-focused counseling in breast cancer women.

Session 1: Introduction and making familiarity between the counselor and the participants and expressing the goals of solution-focused counseling and its approach. The participants were asked to express their goals for life in relation to the disease in the following session.
Session 2: Talking about their aims and aligning them in 3 principles as being positive, specific, and measurable, expressing their issues and worries, expressing solutions for problems, and clearly expressing expectations of life. This session was aimed at finding out what the participants expected and what they liked to achieve in these classes. The homework assigned was the miracle question "If you wake up one day and see that your problem is completely solved, what will be different in your life"?
Session 3: Discussing the solutions and answers of the participants for the question asked in the last session. They were helped to find different aspects of their solutions, <i>i.e.</i> , the aspects that had previously happened in their life. They were also explained that they might have experienced such miracles in their life, but they disregarded them. They were asked to write down their capabilities and send them for the following session.
Session 4: This session was directed to find exceptions in order to motivate the participants to find the positive events in their life and elevate their quality of life based on discovered self-sufficiency and self-efficacy and restrict the problems area. They were also asked to focus on what different acts they would do when they felt higher self-efficiency. As homework for the following session, they were asked to think about the solutions they would suggest to those with similar problems.
Session 5: The purpose of this meeting was to create solutions and choose a suitable solution, to praise the participants for finding different and innovative solutions for their new goals, and to find out that they can use their resources and capabilities in a good way to improve their conditions and quality of life. The participants had to answer these questions as What would you do if you were to take a small step for your problems? What would you do when your problems were solved? What would you do differently to stabilize the desired course of your lives?
Session 6: This session was to make a conclusion. In addition, the participants were asked about what they felt was better than before starting the classes and what motivated them to continue trying. They were also asked to answer what they were going to do after finishing treatment and what changes they would make in their life?

Table 2. Demographic characteristics in control and intervention groups.

Variables	-	Group		P-value
		Control	Intervention	
Age	-	38.89±8.04	38.32±8.73	-
Age of initiation of cancer (Mean ±SD)	-	35.00±7.36	35.67±8.16	0.06
Duration of disease (Mean ±SD)	-	3.21±1.87	2.46±1.17	0.74
Educational level	Diploma	17 60.7%	18 64.3%	±0.74
	Associate's degree	5 17.9%	4 14.3%	
	Bachelor	6 21.4%	5 17.9%	
	Master's degree	0 .0%	1 3.6%	
Job	Employed	4 14.3%	4 14.3%	*1.00
	Housewife	24 85.7%	24 85.7%	
Marriage status	Single	4 14.3%	5 17.9%	0.673
	Married	24 85.7%	23 82.1%	
Depression (pre-intervention)	-	29.57±2.33	30.29±2.72	0.30
Quality of life (pre-intervention)	-	88.04±6.96	90.96±4.84	0.29

Note: ± χ^2 -Test.

*Fisher's Exact-Test.

3. RESULTS

3.1. Samples' Characteristics

A total of 56 samples were included in the study. The results showed that the mean age of mothers in the intervention and control groups was 38.32±8.73 and 38.89±8.04, respectively, which was not significantly different ($p=0.28$). In

addition, 85.7% (24) of women in both groups were housewives. The average age of initiation of cancer in the control and intervention groups was 35.00±7.36 and 35.67±8.16, respectively ($p=0.74$). According to the findings, there was no statistically significant difference between the control and intervention groups in terms of the other individual variables (Table 2).

Table 3. Mean of depression and quality of life and its dimensions in control and intervention groups after adjusted by the duration of the disease.

Variables Adjusted by the Duration of the Disease	Group	Post-Intervention Mean± SD	* p-value	Partial Eta Squared
Depression	Control	29.86±2.32	0.001	0.724
	Intervention	21.89±2.72		
Quality of life dimensions	-	-	-	-
Physical health	Control	19.00±3.41	0.001	0.605
	Intervention	27.11±3.54		
Psychological health	Control	15.21±1.85	0.001	0.830
	Intervention	23.46±2.06		
Social relationship	Control	9.07±2.56	0.001	0.570
	Intervention	13.79±1.54		
Environment	Control	17.61±3.03	0.001	0.883
	Intervention	32.14±2.33		
General Health	Control	4.25±1.04	0.001	0.786
	Intervention	7.71±0.854		
Total Quality of Life	Control	65.14±5.00	0.001	0.943
	Intervention	104.21±5.32		

Note: *ANOVA repeated measurement.

3.2. Intervention’s Effects on Depression and Quality of Life

According to Table 3, results indicated that the depression score was significantly lower in the intervention group (21.89±2.72) than in the control group (29.86±2.32) (p-value=0.001). Moreover, it was revealed that counseling increased the QOL score in the intervention group (104.21±5.32) compared to the control group (65.14±5.00) (p=0.001). Partial Eta Squared for QOL was about 93%, indicating that 93% of changes in the score of QOL were due to the intervention method (Table 3). The mean of physical health in the control and intervention groups was 19.0±3.41 and 27.11±3.52, respectively (p=0.001). Also, the mean of psychological health in the control and intervention groups was 15.21±1.85 and 23.46±2.06, respectively (p=0.001). The other dimensions of quality of life in control and intervention groups are mentioned in Table 3.

4. DISCUSSION

The effect of solution-focused counseling on depression and QOL in women after mastectomy was assessed. The present study pointed out that solution-focused counseling could reduce depression and improve QOL in breast cancer women who underwent a mastectomy. Low quality of life in women after mastectomy could be due to the fact that a change in mental image after mastectomy is inevitable. If this change occurs, it increases mood disorders, decreases self-confidence, and causes fear of social participation, decreased efficiency, and disorders in sexual, family, and social relationships; this negatively affects the person's quality of life [44, 45]. SFT counseling is an approach to providing patients with the skills to cope with mental issues. Conversation between the clients and the counselor is a main part of any counseling approach. The counselor asks questions and motivates the clients to express their needs and worries in their own language. For example: “what will happen if you are able to control your

negative thoughts”, is the question that motivates the clients to express their own needs rather than others' expectations. The clients can also be motivated to consider the future to take the required actions to achieve their goals [32]. Amininasab *et al.* investigated the effect of solution-focused base therapy (SFBT) in depressed women with breast cancer. Eight sessions of solution-focused-based therapy were conducted for the experimental group, and no intervention was performed in the control group. The results showed that SFBT was effective in reducing perceived depression and stress in patients with breast cancer. The results of the study were consistent with the results of the present study. We could achieve the same findings in 6 sessions [27]. A pilot study was done on the efficacy of solution-focused brief therapy (SFBT) for depression, anxiety, and hope among young women diagnosed with cancer. They participated in four planned sessions. They followed at one month, and the results showed that 4 sessions of SFBT improved mental health concerns among young adults diagnosed with cancer [46].

In managing depression through solution-focused therapy, a patient is provided with the help to identify and focus on the moments when he/she is not depressed, or the severity of depression is low; therefore, the person realizes that depression is not constant and has the power and ability to appropriately cope with depression and its consequences, leading to great cognitive changes that can stimulate greater and more effective changes and thus improve quality of life [47]. The present study showed that the quality of life of patients improved in the intervention group compared to the control group, and the changes happened in most physical, psychological, social, environmental, and general aspects. In one study, 103 patients who underwent leukemia chemotherapy were divided into two groups based on the intervention method. One group underwent routine nursing intervention, and another group underwent solution-focused nursing. Anxiety Scale, Montgomery-Asberg Depression Rating Scale (MADRS)

scores, Trait Coping Style Questionnaire (TCSQ) scores, cancer-related fatigue, the General Self-Efficacy Scale (GSES) scores, and the Spitzer Quality of Life Index scores were compared between the two groups. Findings showed that solution-focused nursing can reduce patients' negative emotions and cancer-related fatigue, improve their coping styles, and increase their self-efficacy and quality of life in these patients [48]. In another study, cancer-related fatigue was evaluated using the Chinese Fatigue Scale in 160 patients into the control (routine nursing interventions) and intervention (routine nursing interventions and SFT) groups. Analysis was performed at baseline, post-intervention, and post-follow-up intervention. In the intervention group, the fatigue level decreased at post-intervention ($P < 0.05$) and went to a similar level at post-follow-up as that of baseline time [49]. This type of therapy is focused on finding different solutions for patients' problems; it helps in developing different attitudes toward problems in patients and reinforces their sense of hope for the future. Unlike the problem-focused approach, this approach focuses on finding solutions [50]. It highlights the person's capabilities and achievements and helps individuals to make supportive relationships during treatment rather than concentrating on deficiencies and disabilities. The SFT method can improve mental health by helping clients to make their goals tangible, objective, and clear. The clients can have a clear view of their goals and the solutions to achieve them [51]. Low quality of life in women after mastectomy can be due to the fact that change in mental image after mastectomy is inevitable. If this change occurs in an undesirable form in the person's self-concept, it increases mood disorders, decreases self-confidence, and causes fear of social participation, decreased efficiency, and disorders in sexual, family, and social relationships; this negatively affects the person's quality of life [52, 53].

CONCLUSION

The results of the present study showed that solution-focused counseling improved mood and quality of life. Therefore, it is necessary for midwives/nurses to provide counseling approaches for depression patients to help them pass the treatment process of cancer and have better psychological and physical health by improving their quality of life.

Since nurses and counselor midwives have important roles in planning for the patients and their families for rehabilitation programs, their counseling role in adapting to the patients' psychological-mental problems cannot be fulfilled by just simple psychological methods. This study, like other studies, had limitations, including a small sample size, which could affect the generalization of the results. Moreover, the answers were assumed to be real, and it was beyond the researcher's power to ensure the accuracy of the answers. Another limitation was that the subjects were housewives and married; thus, the results must not be generalized to singles and employed women and must be perceived with caution.

LIST OF ABBREVIATIONS

WHOQOL-BREF = WHO Quality of Life-Brief
SFT = Solution focused therapy

CONSORT = Consolidation Standards of Reporting Trials
MADRS = Montgomery-Asberg Depression Rating Scale
TCSQ = Trait Coping Style Questionnaire
GSES = General Self-Efficacy Scale

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The proposal was approved by the Research Council and the code of ethics was obtained, the sampling was done by attending Khansari Hospital in Arak (IR.ARAKMUREC.1398.302).

CONSENT FOR PUBLICATION

Informed consent was obtained from all individual participants included in the study. Patients signed informed consent regarding publishing their data.

STANDARDS OF REPORTING

CONSORT guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

The data supporting the findings of this study are available at the Arak University of Medical Sciences but are not publicly available due to privacy/ethical restrictions. However, data are available from the authors upon reasonable request and with permission from the Arak University of Medical Sciences.

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None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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SUPPLEMENTARY MATERIALS

Supplementary material is available on the Publisher's website.

REFERENCES

- [1] Siegel R, Miller K, Jemal A. Cancer statistics, 2020. *CA Cancer J Clin* 2020 Jun; 70(1): 7-30.
- [2] Fitzmaurice C, Allen C, Barber RM, et al. Global, regional, and national cancer incidence, mortality, years of life lost, years lived with disability, and disability-adjusted life-years for 32 cancer groups, 1990 to 2015: A systematic analysis for the global burden of disease study. *JAMA Oncol* 2017; 3(4): 524-48. [<http://dx.doi.org/10.1001/jamaoncol.2016.5688>] [PMID: 27918777]
- [3] 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. [<http://dx.doi.org/10.3322/caac.21492>] [PMID: 30207593]

- [4] Huang J, Ngai CH, Deng Y, *et al.* Cancer incidence and mortality in asian countries: A trend analysis. *Cancer Contr* 2022; 29 [http://dx.doi.org/10.1177/10732748221095955] [PMID: 35770775]
- [5] Nguyen SM, Deppen S, Nguyen GH, Pham DX, Bui TD, Tran TV. Projecting cancer incidence for 2025 in the 2 largest populated cities in vietnam. *Cancer Contr* 2019; 26(1) [http://dx.doi.org/10.1177/1073274819865274] [PMID: 31331188]
- [6] Farhood B, Geraily G, Alizadeh A. Incidence and mortality of various cancers in Iran and compare to other countries: A review article. *Iran J Public Health* 2018; 47(3): 309-16. [PMID: 29845017]
- [7] Iran-Islamic-Republic-Of Fact Sheets 2020. World Health Organization 2021.
- [8] Daneshvar M, Vakilian K, Zadeh-Emran AH, Zadeh RH. The effect of ACT on self-esteem and self-efficacy of women with breast cancer in iran. *Curr Womens Health Rev* 2020; 16(1): 74-80. [http://dx.doi.org/10.2174/1573404815666191121150647]
- [9] Vakilian K, Mohaghegh P, Mirzaei F, Taheri M, Zahiri R, Roozbahani N. Reproductive, lifestyle, and genetic risk factors in breast cancer among iranian women : A cross-sectional study during the breast cancer screening in a community in Iran. *Open Public Health J* 2020; 13(1): 350-6. [http://dx.doi.org/10.2174/1874944502013010350]
- [10] Tsaras K, Papathanasiou IV, Mitsi D, *et al.* Assessment of depression and anxiety in breast cancer patients: Prevalence and associated factors. *Asian Pac J Cancer Prev* 2018; 19(6): 1661-9. [PMID: 29938451]
- [11] Puigpinós-Riera R, Graells-Sans A, Serral G, *et al.* Anxiety and depression in women with breast cancer: Social and clinical determinants and influence of the social network and social support (DAMA cohort). *Cancer Epidemiol* 2018; 55: 123-9. [http://dx.doi.org/10.1016/j.canep.2018.06.002] [PMID: 29940418]
- [12] Headon HL, Kasem A, Mokbel K. The oncological safety of nipple-sparing mastectomy: A systematic review of the literature with a pooled analysis of 12,358 procedures. *Arch Plast Surg* 2016; 43(4): 328-38. [http://dx.doi.org/10.5999/aps.2016.43.4.328] [PMID: 27462565]
- [13] Cobo-Cuenca AI, Martín-Espinosa NM, Sampietro-Crespo A, Rodríguez-Borrego MA, Carmona-Torres JM. Sexual dysfunction in Spanish women with breast cancer. *PLoS One* 2018; 13(8): e0203151. [http://dx.doi.org/10.1371/journal.pone.0203151] [PMID: 30169506]
- [14] Yang H, Brand JS, Fang F, *et al.* Time-dependent risk of depression, anxiety, and stress-related disorders in patients with invasive and *in situ* breast cancer. *Int J Cancer* 2017; 140(4): 841-52. [http://dx.doi.org/10.1002/ijc.30514] [PMID: 27859142]
- [15] Ng CG, Mohamed S, See MH, *et al.* Anxiety, depression, perceived social support and quality of life in Malaysian breast cancer patients: a 1-year prospective study. *Heal Qual Life Outcom* 2015; 13(1): 205. [http://dx.doi.org/10.1186/s12955-015-0401-7] [PMID: 26715073]
- [16] Ghashghae A, Mejareh ZN, Abdollahi B, *et al.* Global, regional, and national prevalence of depression among cancer patients: A systematic review and meta-analysis. *Indian J Psychiatry* 2021; 63(6): 527-35. [http://dx.doi.org/10.4103/indianjpsychiatry.indianjpsychiatry_77_21] [PMID: 35136248]
- [17] Yu Y, Sherman KA. Communication avoidance, coping and psychological distress of women with breast cancer. *J Behav Med* 2015; 38(3): 565-77. [http://dx.doi.org/10.1007/s10865-015-9636-3] [PMID: 25804374]
- [18] Yarahmadi M, Heidarrad H, Shafiei M. Evaluation of prevalence of depression and its related factors among women with breast cancer referred to the radiotherapy center of Tawhid Hospital of Sanandaj, Iran in 2017. *Scient J Nur Midwif Paramed Facul* 2018; 4(2): 39-49.
- [19] Shakarami M, Davarniya R, Zahrakar K, Taleaian R. Effectiveness of brief solution-focused group couple therapy on improving marital quality in women. *Razi J Med Sci* 2015; 22(131): 1-13.
- [20] Musarezia A, Momeni-GhaleGhasemi T, Gorji M. Survey the anxiety and depression among breast cancer patients referred to the specialized Isfahan hospital of cancer. *Iran J Health Syst Res* 2014; 10(1): 39-48.
- [21] Isfahani P, Arefy M, Shamsaii M. Prevalence of severe depression in Iranian women with breast cancer: A meta-analysis. *Depress Res Treat* 2020; 2020: 5871402. [http://dx.doi.org/10.1155/2020/5871402]
- [22] Refaee Saeedi N, Aghamohammadian Sharbaf H, Asghari Ebrahimabad MJ, Kareshki H. Psychological consequences of breast cancer in Iran: A meta-analysis. *Iran J Public Health* 2019; 48(5): 816-24. [http://dx.doi.org/10.18502/ijph.v48i5.1796] [PMID: 31523637]
- [23] Hosseini SM. Quality of life, pain and treatment acceptance in women with breast cancer in Chaharamahal and Bakhtiari. *Iran Quart J Bre Dis* 2014; 6(4): 52-9.
- [24] Narenji F, Nahidi F, Ebadi A, Nasiri M. Maternal care for spiritual health of unborn child during pregnancy: A qualitative study with content analysis approach. *Spiritual Clin Pract* 2018; 5(4): 251-60. [http://dx.doi.org/10.1037/scp0000178]
- [25] Narenji F, Nahidi F, Ebadi A, Nasiri M. Spiritual health care during pregnancy from Iranian mothers' perspective: A qualitative study with content analysis approach. *Ment Heal Relig Cul* 2018; 21(1): 458-69.
- [26] Baghernezhad O, Hasanzadeh R, Abbasi G. Comparing the effectiveness of acceptance and commitment therapy and solution-focused brief therapy on pain catastrophizing and psychological well-being of patients with breast cancer. *Avicenna J Neuropsychophysiol* 2019; 6(1): 27-36. [http://dx.doi.org/10.32598/ajnpp.4.3.320]
- [27] Aminnasab A, Mohammadi S, Zareinezhad M, Chatrouz T, Mirghafari SB, Rahmani S. Effectiveness of solution-focused brief therapy (SFBT) on depression and perceived stress in patients with breast cancer. *Tanaffos* 2018; 17(4): 272-9. [PMID: 31143218]
- [28] Perry V. A Solution Focused Narrative Therapeutic Approach to Improving Quality of Life with Cancer Patients Participating in Group Therapy. Texas Wesleyan University 2020.
- [29] Javid N, Ahmadi A, Mirzaei M, Atghaei M. Effectiveness of solution-focused group counseling on the mental health of midwifery students. *Rev Bras Ginecol Obstet* 2019; 41(8): 500-7. [http://dx.doi.org/10.1055/s-0039-1693741] [PMID: 31450257]
- [30] Hsu KS, Eads R, Lee MY, Wen Z. Solution-focused brief therapy for behavior problems in children and adolescents: A meta-analysis of treatment effectiveness and family involvement. *Child Youth Serv Rev* 2021; 120: 105620. [http://dx.doi.org/10.1016/j.childyouth.2020.105620]
- [31] Alshammari F, Sim J, Lapkin S, Stephens M. Registered nurses' knowledge, attitudes and beliefs about end-of-life care in non-specialist palliative care settings: A mixed studies review. *Nurse Educ Pract* 2022; 59: 103294. [http://dx.doi.org/10.1016/j.nepr.2022.103294] [PMID: 35078071]
- [32] Rafie Z, Vakilian K, Zamanian M, Eghbali H. The effect of solution-oriented counseling on coping strategies in mental health issues in women with gestational diabetes. *Adm Policy Ment Health* 2021; 48(6): 983-91. [http://dx.doi.org/10.1007/s10488-021-01111-z] [PMID: 33559816]
- [33] Bani S, Hosseini K, Hasanpour S, Valizadeh S, Abedi P. Awareness, attitude and participation rate of men in family planning programs in Iran. *INT JWOM HEAL REPROD SCI* 2014; 2(1): 130-3.
- [34] Rodriguez JL. Difference that creates differences: Integrating solution-focused therapy and mindfulness for co-occurring disorders. Barry University 2017.
- [35] Abdulla A, Woods R. Comparing the effects of a problem-focused, solution-focused and combined approach on perceived goal attainability and commitment. *Int J Appl Posit Psychol* 2021; 6(2): 175-94. [http://dx.doi.org/10.1007/s41042-020-00044-6]
- [36] Abdulla A, Woods R. The Effect of Solution-Focused Scaling and Solution-Focused Questions on Expectancy and Commitment. *School Psych Rev* 2021; 1-12. [http://dx.doi.org/10.1080/2372966X.2021.1942196]
- [37] Joolaee A, Joolaee S, Kadivar M, Hajibabae F. Living with breast cancer: Iranian women's lived experiences. *Int Nurs Rev* 2012; 59(3): 362-8. [http://dx.doi.org/10.1111/j.1466-7657.2012.00979.x] [PMID: 22897187]
- [38] Moradi Ahmar M, Azadi M. Effectiveness of the solution focused group intervention on body image after mastectomy. *Razi J Med Sci* 2018; 25(170): 38-45.
- [39] Toosi F, Rahimi C, Sajjadi S. Psychometric properties of beck depression inventory-II for high school children in Shiraz City, Iran. *Int j sch heal* 2017; 4(3): 1-6.
- [40] Hojat M, Shapurian R, Mehryar AH. Psychometric properties of a persian version of the short form of the beck depression inventory for iranian college students. *Psychol Rep* 1986; 59(1): 331-8. [http://dx.doi.org/10.2466/pr0.1986.59.1.331] [PMID: 3737815]
- [41] Usefy AR, Ghassemi GR, Sarrafzadegan N, Mallik S, Baghaei AM, Rabiei K. Psychometric properties of the WHOQOL-BREF in an Iranian adult sample. *Community Ment Health J* 2010; 46(2): 139-47. [http://dx.doi.org/10.1007/s10597-009-9282-8] [PMID: 20063062]

- [42] Nejat S, Montazeri A, Holakouie Naieni K, Mohammad K, Majdzadeh S. The world health organization quality of life (whoqol-bref) questionnaire: Translation and validation study of the iranian version. *J Sch Public Health Inst Public Health Res* 2006; 4(4): 1-12.
- [43] THE WHOQOL GROUP. Development of the world health organization whoqol-bref quality of life assessment. *Psychol Med* 1998; 28(3): 551-8.
[<http://dx.doi.org/10.1017/S0033291798006667>] [PMID: 9626712]
- [44] Abebe E, Demilie K, Lemmu B, Abebe K. Female breast cancer patients, mastectomy-related quality of life: Experience from Ethiopia. *Int JBreast Cancer* 2020; 2020: 8460374.
[<http://dx.doi.org/10.1155/2020/8460374>]
- [45] Lane M, Kirsch MJ, Sluiter EC, *et al.* Prevalence of psychosocial distress in transmen seeking gender-affirming mastectomy. *Plast Reconstr Surg* 2020; 146(6): 1376-80.
[<http://dx.doi.org/10.1097/PRS.00000000000007357>] [PMID: 33234973]
- [46] Zhang A. Solution-focused brief therapy for depression among adolescents and young adults diagnosed with cancer: An open pilot trial. *Res Soc Work Pract* 2022; 32(4): 388-401.
[<http://dx.doi.org/10.1177/10497315211062508>]
- [47] Zhang A, Franklin C, Currin-McCulloch J, Park S, Kim J. The effectiveness of strength-based, solution-focused brief therapy in medical settings: A systematic review and meta-analysis of randomized controlled trials. *J Behav Med* 2018; 41(2): 139-51.
[<http://dx.doi.org/10.1007/s10865-017-9888-1>] [PMID: 28975531]
- [48] Wang J, Yin Y, Li Y, Yue X, Qi X, Sun M. The effects of solution-focused nursing on leukemia chemotherapy patients' moods, cancer-related fatigue, coping styles, self-efficacy, and quality of life. *Am J Transl Res* 2021; 13(6): 6611-9.
[PMID: 34306404]
- [49] Liu W, Geng H, Ma L, *et al.* Effect of the solution-focused brief therapy on cancer-related fatigue in breast cancer patients under adjuvant chemotherapy: A randomized trial. *Transl Cancer Res* 2020; 9(12): 7405-14.
[<http://dx.doi.org/10.21037/tcr-20-2734>] [PMID: 35117341]
- [50] Mohr DC, Riper H, Schueller SM. A solution-focused research approach to achieve an implementable revolution in digital mental health. *JAMA Psychiatry* 2018; 75(2): 113-4.
[<http://dx.doi.org/10.1001/jamapsychiatry.2017.3838>] [PMID: 29238805]
- [51] Rafie Z, Vakilian K, Zamanian M, Eghbali H. The effectiveness of solution-focused counseling on the mental health of mothers with gestational diabetes under treatment with insulin—A randomized clinical trial. *Int J Healthc Manag* 2022; 1-7.
- [52] Erturhan Turk K, Yilmaz M. The effect on quality of life and body image of mastectomy among breast cancer survivors. *Eur J Breast Health* 2018; 14(4): 205-10.
[<http://dx.doi.org/10.5152/ejbh.2018.3875>] [PMID: 30288494]
- [53] Huang J, Chagpar AB. Quality of life and body image as a function of time from mastectomy. *Ann Surg Oncol* 2018; 25(10): 3044-51.
[<http://dx.doi.org/10.1245/s10434-018-6606-3>] [PMID: 29947006]

