RESEARCH ARTICLE

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The Efficacy of Psychoeducational Support Group for Saudi Breast Cancer Survivors

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Abstract

Background: The adverse effects of psychological distress and quality of life are common outcomes in breast cancer survivors. Psychoeducational interventions have been widely used to reduce these adverse outcomes among those patients. This study aims to assess the impact of the Blossom support group on psychological distress and quality of life in breast cancer patients in Saudi Arabia. **Methods:** This study is a retrospective cohort study for the Blossom program, which was held yearly for eight weeks from 2014 until 2018. Data was collected from the survivors' records at the Zahra Breast Cancer Association in Riyadh, Saudi Arabia. Outcome measurements: include the quality of life scale (SF-36) and Hospital Anxiety Depression Scale (HADS) with both were available in the Arabic translated version. Both tools were used as the screening measurement for the assessment of the quality of life, depression, and anxiety before and after the program. The data were analyzed using the Statistical Analytical Software (SAS), version 9.4. Statistical differences in median scores of SF-36 and HADS before and after the program was tested using Wilcoxon signed-rank test. **Result:** A total of 54 breast cancer survivors were enrolled in the Blossom support program over the period 2014 to 2018. Of these participants, only 25 participants completed the full eight weeks program. There were statistically significant differences in the overall quality of life (SF-36) before and after the 8 weeks from baseline of the experiment (W = 60, P-value =0.0125). Moreover, the overall anxiety and depression scores were tested separately and the results reveal statistically significant differences in both dimensions before and after the program (Anxiety: W=132, P-value = 0.0059; depression: W=157, P-value = 0.0002). **Conclusion:** The Blossom support program showed a positive impact on the quality of life and the psychological well-being of breast cancer survivors. It is recommended to utilize this support program across a wide range of health organizations with breast cancer survivors as a baseline of psychological care to improve the quality of life.

Keywords: Saudi Arabia- blossom- psychoeducational support group- breast cancer- survivors- quality of life

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Introduction

Breast cancer (BC) is among the most frequently diagnosed tumor in women worldwide (Fitzmaurice et al., 2017). However, recent years have seen growing survivors' rates of BC patients, especially in developed countries (Maajani et al., 2020). Indeed, survivors who undergo cancer treatments may suffer from physical impairment and psychological distress as side effects of management, which alters their quality of life (Tsaras et al., 2018; Zaker et al., 2022). For instance, Tsaras (2018) indicates that about 38.2% of BC patients developed anxiety and depression symptoms. Increasing attention has been given to improve physical psychosocial intervention at all rehabilitation stages and especially in community-based rehabilitation to improve the quality of life of BC survivors (Younis et al., 2020).

One of the main concerns of rehabilitation is to optimize the quality of life (QOL) for BC survivors using different approaches. Generally, QOL varies according to the individual's physical, psychological and social needs. The literature suggests that interventions provided to improve QOL for cancer survivors are extensive and varied and may include physical activity, yoga, psychoeducational interventions (Duncan et al., 2017). In the context of literature supporting unidisciplinary rehabilitation to improve QOL, several meta-analyses have shown that different approaches of rehab management, which include exercise training, psychological intervention, and yoga have a positive impact on the global QOL (Cramer et al., 2012; Zeng et al., 2014; Younis et al., 2020). However, some of the interventions improved one domain of QOL more than others. For example, Huang et al., (2016) studied a mindfulness-based stress reduction program

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that had a significant positive impact on psychological domains (Huang et al., 2016).

The influence and efficacy of psychoeducational support programs in improving the psychological distress and quality of life among breast cancer patients have since been widely explored in the previous research whereby the majority of the literature has suggested a positive impact and successful interventions, however some show not significant Improvements (Björneklett et al., 2012; Bisseling et al., 2017).

As far as Saudi Arabia is concerned, a psycho-education support group termed 'Blossom' was founded by the Zahra Breast Cancer Association (ZBCA) effective 2014, which is a non-profit organization that was established in 1997 to cater to BC patients and survivors. One of the main goals of ZBCA is to raise awareness about breast cancer and promote healthy living among survivors in Saudi Arabian population. Creating a psycho-educational support group for patients with BC may improve their survivorship, distress, and quality of life. To this end, the impact of the Blossom program in Saudi Arabia has not been carried out previously, which is worth to be explored in the context of Saudi Arabia.

This study aims to explore how the established Blossom program affects the standing measures of psychological distress and quality of life in BC patients in Saudi Arabia. This study postulates that the Blossom program reduces psychological distress measured by depression and anxiety. It also postulates that this program increases the quality of life of BC patients. The findings of this study may be useful for proposing learning appropriate psychoeducation and Stress management and coping skills.

Materials and Methods

Participates

The study was conducted at the Zahara community group in Riyadh, Saudi Arabia, and participants were recruited from different hospitals. Our inclusion criteria include breast cancer survivals aged 18 years and older who completed treatment (Surgery, Radiotherapy, chemotherapy, or combination therapy). Patients reciving other physotherpaies were excluded from our cohorot. The ethics committee of the Institutional Review Board of King Fahad Medical City has reviewed and approved the study (#IRB00010471) on October 25th 2021. Informed Consent was signed and collected from all the participants for any Data collected by the Zahara community group to be used in reporting and research. The program recruited a total of 54 women during the years 2014-2018.

Research design

This is a cohort retrospective study, which followed the STROBE guidelines for cohort studies and adhered for the ethical guidelines of the Declaration of Helsinki. Data were collected during 2 periods (initial (T1) and after the program (T2)) longitudinally patterned by the Blossom program whose objectives are to intervene in the 3-core aspect of patient's needs (psychological, physical, and educational). During the enrollment, participants received a group session on behavioral Supportive-expressive-interaction and psychological support, plus disease-specific educational activity from other disciplines: nutritionist, physical therapist, OB/GYN consultant, and clinical coordinators. The roles of each of the intervention types are shown in Table 1. Overall the program was acted within 8 weeks period. The research team tracked the patient's progress up to week 24. There was a 45-minute screening session for every breast cancer survivor (entails interview). Participants also received a pre-evaluation Hospital Anxiety and Depression Scale (HADS) and a Medical Outcome Study- Quality of Life (MOS-QoL)(Zigmond and Snaith, 1983). The study design followed the STROBE checklist for cohort studies. The blossom program procedure, authors and content is described in the appendix Sections (1-3).

Measures and analysis

Measurements that were used to evaluate the program were the hospital anxiety and depression scale (HADS), and the MOS-core-36 quality of life scale. All of these self-administered tools were in Arabic-language format and were reviewed and validated by an expert panel to filter sensitive information to conform to Saudi culture. The arabic version for HADS scale was translated and validated from previous study (Terkawi et al., 2017). While the SF-36 scale was translated and validated from the WHO website the form is avalibile in the appendix section 4 (accessed February 2018).

HADS (assesses only anhedonia symptoms of depression) and MOS-core-36 were compared during all the program years (2014-2018). There were 7 items for anxiety and 7 items for depression that must be scored separately. Scores of less than 7 (no-case), 8-10 (mild), 11-14 (moderate), 15-21 (severe) respectively.

The SF-36 quality of life scale was used concurrently with HADS during sample screening. There was 8 quality of life dimensions that are assessed such as physical functioning, physical roles limitation, emotional roles limitation, social functioning, body pain, mental health, vitality, and general health respectively.

There are 2 steps in scoring: First, pre-coded numeric values are recoded based on the standard scoring key of the tool. Each item is scored on a 0 to 100 range (100 means favorable health state and 0 as otherwise). Second, items are arranged as per 8 classifications mentioned above then averaged together.

Data analysis

Data were analyzed using Statistical Analytical Software SAS version 9.4 (Cary, NC, USA) and GraphPad version 8 (San Diego, CA, USA). Descriptive analysis was carried for participants' demographics and clinical data. Nonparametric Testing using Wilcoxon signed-rank test was used to detect the differences in measured variables in treated groups before and after the Blossom program. Variables that were tested include (HADS), and SF-36. A two-sided P value of less than 0.05 was considered significant.

Results

The study enrolled 54 participants, from 2014 to 2018, the study progression diagram is shown in Figure 1. The study lost 54% of participants to follow-up which caused our study sample size to drastically change. The high number of dropouts, can be improved in future studies by engaging and motivating the participants. For example, few of our patients droped out due to thinking that psychotherapies are not as important as physical therapies. In total 25 women were included in the analysis for HADS and SF-36. Participants' demographical and clinical data are shown in Table 2, the mean age for our cohort was 44 years old, who have mostly a diploma degree and higher

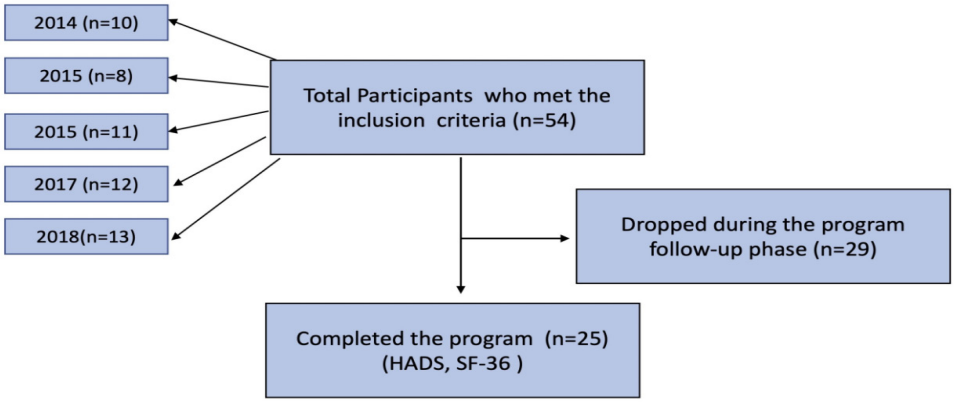

Figure 1. The Study Follow-up Diagram by the Years and Variables Measured. During the program 54 women were enrolled from 2014-2018, 29 were lost during the follow-up process. Overall, 25 women were included in the analysis for HADS and SF-36.

Table 1. Blossom Program Intervention Types and Roles

Types of intervention	Roles
Psychological as a group session	Education & supportive therapy Cognitive behavior training Stress management Coping skills Solving problems
Health education (by Nutrition, physician, physical therapist, Zahra association coordinators)	healthy lifestyle Cancer survivorship Survivors rights and duties Physical therapists' education about Shoulder exercises, lymphedema management

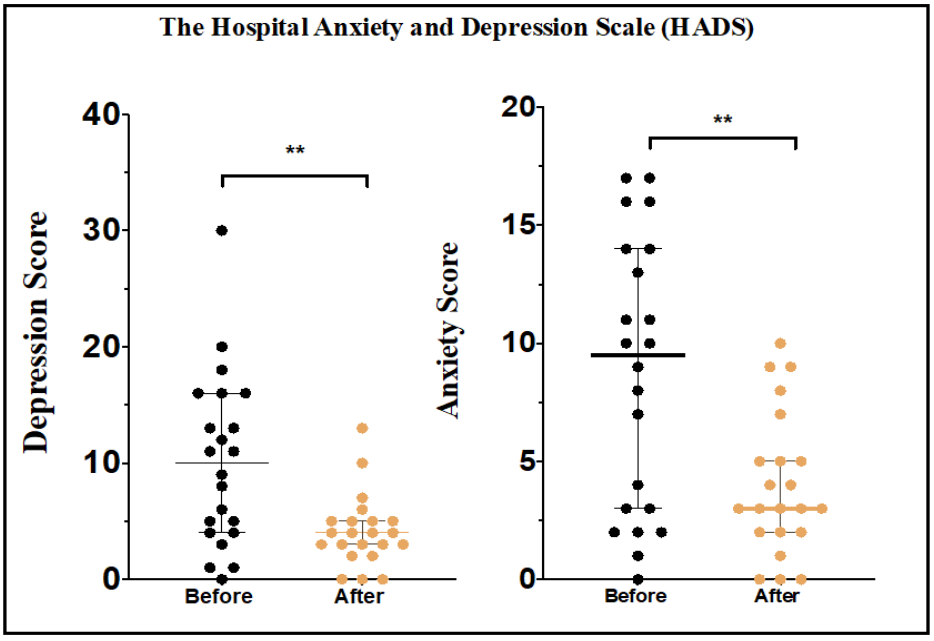

Figure 2. The Quality of life (SF-36) scores in comparison by time frame. Before the program Participants had lower SF-36 scores and after the program the overall mean of scores significantly increase.

Table 2. Blossom Program Participants' Demographics and Clinical Data Summary

Participants' Characteristics	N (%)
Age (Mean, SD)	44 (6.8)
Education	
Intermediate School degree	10 (18.5)
High School degree	10 (18.5)
Diploma degree	8 (14.8)
Bachelor's degree	22 (40.7)
Graduate's degree	4 (7.4)
Years of Recovery	
One year or less	19 (35.2)
2-5 years recovery	31 (57.4)
6 years or more	4 (7.4)
Treatment Type	
Hormonal Therapy	2 (3.7)
Surgical Treatment	2 (3.7)
Radiotherapy	1 (1.9)
Hormonal and Surgical Treatment	1 (1.9)
Radiotherapy and chemotherapy	1 (1.9)
Radiotherapy and Surgical Treatment	2 (3.7)
Chemotherapy and surgical treatment	6 (11.1)
More than two combinations of therapies	39 (72.2)
Tumor location	
Right breast	24 (45.3)
Left breast	23 (42.6)
Both breast	6 (12.1)

and joined the program 2-5 years after the treatment. The numerical summary of our study evaluation and its significance in improvements is shown in Table 3.

The overall quality of life measurement scores (SF-36) summary for the participants by phases is showing in figure 2 before the program and 8 weeks post. The improvement in the patient's quality of life score was significant from before and after the program (Wilcoxon sum of the rank score (W) =60, P-value =0.0125).

The Psychological distress (HADS) measured by Anxiety and depression health surveys were conducted. Figure 3 shows the distribution of HADS scores from before and after the program. For Anxiety, participants enrolled had a mean score of 8, and after the program participants had a mean score of 4, which shows a significant improvement of the anxiety measurement

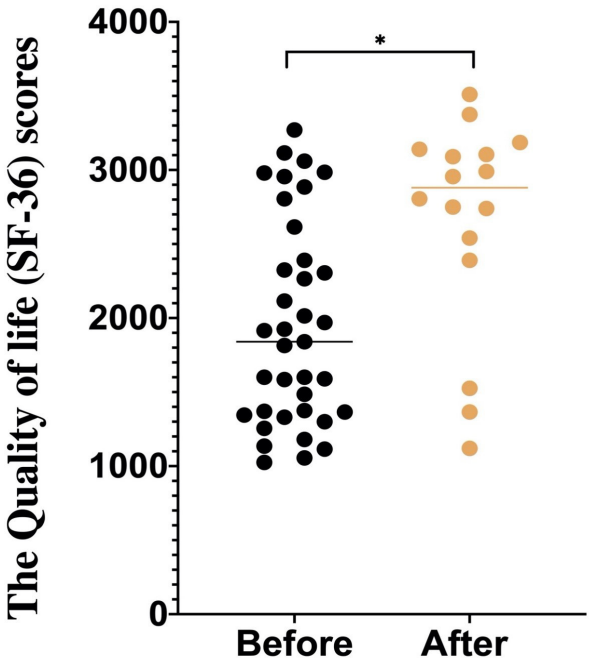

Figure 3. The Distribution of The Hospital Anxiety and Depression Scale (HADS) before and after the Blossom Program. On the lefts side, Depression scale boxplots show that participants decreased their overall scores after the program. On the right side, Anxiety scale boxplots show that participants decreased their overall scores after the program.

(W=132, P-value =0.0059). For depression, participants enrolled had significantly improved and it was reported to be reduced by about 6 points (W=157, P-value =0.0002).

Discussion

The current study aims to assess the efficacy of the Blossom psychoeducational support program on the quality of life and psychological distress among women with breast cancer over the period from 2014 to 2018 in Saudia Arabia. The result of this study indicates that the quality of life measured by SF-36 among BC patients was significantly better after eight weeks of attending the Blossom support program. BC patients scored significantly lower anxiety and depression levels after the Blossom support program in comparison to before the program as well. That is, the Blossom program had significantly improved the quality of life and psychological distress among women in Saudi Arabia.

Similar to some previous research, the present study

Table 3. Summary of the Blossom Program Results from Statistics by the Multiple Assessment Tools Overtime

	Mean of Measurements (Standard Deviation SD)			
Assessment tools	Week 1 (T)	Week 8 (T2)	Week 24 (T3)	P-value
BMI	30 (3.8)	29.1 (3.2)	28.7 (3.7)	0.575
SF-36	1953 (690)	2780 (620)	2781(245)	<0.0001**
Depression	10.1 (7.4)	4.1 (3)	-	0.00025*
ANXIETY	8.6 (5.7)	4.0 (2.9)	-	0.0009*

(*), P value is less than 0.005; (**), P value is less than 0.0001.

tackled depression and anxiety as separate outcomes and the impacts of the psychoeducational intervention on both scales have been assessed separately (Björneklett et al., 2012; Guarino et al., 2020). These studies indicated that support group intervention significantly decreased the levels of anxiety and depression among BC patients.

The results of this study are congruent with various previous overseas research (Cozaru et al., 2014; Urech et al., 2018; Cipolletta et al., 2019). For example, Kang et al. (2018) showed that the program of nurse-led psychological intervention had significantly reduced mood disturbance, depression, and anxiety as well as improved global health status, and physical and emotional functions as compared to the control group among BC patients in Korea who were subject to intervention (Kang et al., 2020). Furthermore, a systematic review and meta-analysis indicated that the psychoeducational intervention programs had significantly improved the quality of life and psychological distress of BC patients (Younis et al., 2020). Nonetheless, Yonis et al. (2020) analyzed different studies of heterogenous content and quality but showed psychoeducational programs improved the quality of life and psychological distress. On the other hand, Bissling et al. (2017) did not find a significant improvement in the quality of life among BC patients after receiving the mindfulness-based stress reduction (MBSR) program, which contradicted our findings (Bisseling et al., 2017). Meanwhile, they showed BC patients had less psychological distress and mindfulness skills after MBSR, which is consistent with our results. These results confirmed the earlier findings of Cramer et al. (2012) and Piet et al. (2012) (Cramer et al., 2012; Piet et al., 2012). No significant improvements in decreasing psychological distress and increasing the quality were also evident amongst other research, which is not consistent with our findings (David et al., 2011; Boesen et al., 2011).

Stigmatization of cancer patients or survivors negatively affects the mental health and the Qol for several types of cancers. Stigmatization of breast cancer is well known, and reported in many Arabic countries, in addition to perception, family, and community support, they highly impact Arabic breast cancer women as reported in a recent systematic review (Fearon et al., 2020). Changing perceptions and positive shift of cancer stigma by improving coping strategies and social support is vital (Sharma et al., 2021). In this study, resilience and coping strategies have been used to facilitate positive change of breast cancer stigma in Saudi Arabia by using psychological support groups which played a positive role psychological, and Qol improvments.

The strengths of this study are the prospective study design and the inclusion of different BC types, stages, and mixed treatments. Furthermore, it is the first study carried out in Saudi Arabia for breast cancer survivors the best of the authors' knowledge. However, this study was subject to potential limitations. First, a high proportion of participants dropped out of the study during the intervention program. The lack of extensive discussion by a psychological therapist or the researcher on possible reasons for dropping out from the study, which limits the attempts to discuss possible reasons. The high number of dropouts, can be also improved by engaging and motivating the participants by focusing on therapeutic alliance and motivation for treatment.

Indeed, various research pointed out that physical impairment, fear, and feeling well or do not need support (Bisseling et al., 2017). Finally, the current study examined the overall context of the Blossom support program regardless of disparities among various factors including age, BC stage, treatment, levels of anxiety, and depression at the onset. Another limitation in our behalf, could be the length of the program, as the study follow-up was 24 months. It might be that some intervening variables affected the outcomes of our study, not only the program. To better assess the psychoeducational support program, it is therefore needed to conduct an initial screening; before the intervention, of the quality of life and psychological distress and select those with high symptoms, and then assess the efficacy of the psychoeducational support programs.

Finally, further research is needed to evaluate the efficacy of the Blossom support program using a larger sample size and prospective randomized control trials to ensure more robust results as well as assessing its efficacy on survival time and prognosis of BC. As our study is still a pilot and outcomes should be interpreted with caution till we increase our sample size.

In conclusion, the current study showed that the Blossom support program was successful in reducing psychological distress and increasing the quality of life among BC women in Saudi Arabia over the study period. This concludes that the Blossom support program is an effective tool that can be widely used in health organization with breast cancer survivors as a standard of care to improve the quality of life. It is important to inform BC patients at an earlier stage of the disease about the Blossom support program so that they can participate too early and thus may fully benefit from this program. Finally, the results of this study may be useful for suggesting learning appropriate and effective communication and coping skills.

Author Contribution Statement

AH.1 and AH. 2 contributed to the study conception and design. The study was performed by AH.1, AH.2, and AA. The data analysis was conducted by OD. All authors wrote and reviewed the final manuscript.

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Ethical Considerations

The ethics committee of the Institutional Review Board of King Fahad Medical City has reviewed and approved the study (#IRB00010471) on October 25th 2021.

Availability of data

This study's data are available upon reasonable written request to the corresponding author.

Conflict of interest

The authors declare that we have no conflicts of interest.

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