Midwifery Counseling Effectiveness with Acceptance and Commitment Approach on Body Image and Breastfeeding Self-efficacy

Abstract

The aim of this study was to evaluate the effectiveness of midwifery counseling with the approach of acceptance and commitment to the mental image of the body and breastfeeding self-efficacy. This study is a randomized controlled clinical trial on 90 pregnant women in Jajarm city and its suburbs. Data collection tools included a demographic and midwifery information questionnaire, a multidimensional body-self relationship questionnaire, and a breastfeeding self-efficacy questionnaire in the form of electronic links. The questionnaires were given before and immediately after the intervention, one month after delivery, and three months after delivery and completed by each group. Data analysis and data entry and processing were performed by SPSS software. According to the findings in this study, the two groups were not significantly different in terms of demographic and obstetric characteristics and were homogeneous. There was no significant difference between the breastfeeding self-efficacy score and body image and intervention group before the intervention (P≥0.05), but between the breastfeeding self-efficacy score and body image and intervention group, immediately after the intervention, one month after delivery. There was a significant difference three months after delivery (P<0.05), and the self-efficacy score of breastfeeding and the body image of the intervention group improved compared to the control group after holding admission and commitment counseling sessions. The results of the present study showed that midwifery counseling with the approach of acceptance and commitment improves the mental image of the body and promotes the breastfeeding self-efficacy of pregnant women.

Keywords: Counseling, Acceptance and commitment, breastfeeding self-efficacy

Introduction

Breast milk is the most suitable food for infants and the most important and effective measure to maintain and maintain the health of infants [1]. In the early 1980s, breastfeeding was introduced as part of UNICEF's "GOBIF" program for child growth and survival. According to this declaration, infants should be exclusively breastfed in the first 4-6 months after birth [2]. In the United Kingdom Millennium Cohort Study, which was conducted on 15,890 infants, 6 months of breastfeeding resulted in a 53% reduction in hospital admissions due to diarrhea and a 37% reduction in respiratory infections per month and relative breastfeeding, respectively, with the reductions were 31 and 35 percent. The results of these studies show that the protective effects disappear quickly after stopping breastfeeding. However, the evidence shows that the benefits of breastfeeding for human babies increase with the increase in the duration of breastfeeding and exclusive feeding with breast milk, but most women stop breastfeeding, especially in the first 6 months of life, that will be harmful for the mother, child, and society [3]. In Iran, even though the Ministry of Health, Treatment and Medical Education has considered the promotion of breastfeeding as one of the important strategies for the growth and survival of children and has taken effective steps in this field, the prevalence of exclusive feeding is very low [4]. Many factors affect the continuation of breastfeeding. One of these factors is the mother's self-confidence and breastfeeding self-efficacy [5]. In other words, in mothers with high self-efficacy, the probability of feeding the baby with breast milk is high by using self-encouraging thoughts in breastfeeding and imagining breastfeeding problems as a positive challenge [6]. Reasons for reduced breastfeeding duration are complex. Although many known factors such as the mother's age, marital status, level of education, and economic and social status are immutable and individual; breastfeeding self-efficacy can play a significant role in this field [7]. Among other variables examined in this research is the mental image of the body. The mental image of the body can be defined as a person's experience of the physical self [8]. According to Thompson (1996), the mental image of the body has three perceptual, mental, and behavioral dimensions [9]. In general, the mental image of the body, both in terms of personal growth and in terms of the relationship with the quality of...
life, is an important dimension for the individual’s identity, and among these the mental image of the body is the most important dimension for self-evaluation for women [10]. The prevalence of dissatisfaction with the mental image of the body is estimated to be high in different countries. Breastfeeding self-efficacy and a mental image of the body are factors that pregnant women deal with after giving birth. In this context, we are looking at whether counseling based on acceptance and commitment can be effective. Counseling based on acceptance and commitment marks six processes related to awareness and behavioral changes: 1- Contact with the present moment, 2- Acceptance, 3- Cognitive failure, 4- Self as an observer of thoughts and ideas, 5- Values, 6- Committed action. In general, research with different methods considers counseling based on acceptance and commitment as a promising perspective that has been effective for different people [11]. Counseling with an approach based on acceptance and commitment can be implemented in both individual and group ways, and in addition to causing a change in behavior, it helps clients to raise their awareness of their behavior [12]. According to the stated contents, the current study seeks to investigate whether midwifery counseling with the approach of acceptance and commitment is effective on the mental image of the body and breastfeeding self-efficacy. So far, very little research has evaluated psychological interventions to reduce negative body image; and since acceptance and commitment counseling has been recognized as a new mindfulness-based intervention aimed at increasing psychological flexibility. Therefore, a research was designed with the aim of "investigating the effect of the counseling method based on Acceptance And Commitment (ACT) on the mental image of the body and breastfeeding self-efficacy."

Materials and Methods:
The present study is a randomized clinical trial in two groups, including the intervention and control groups, in 2021.

The Research Population in the Study: pregnant mothers with their first pregnancy and gestational age of 28 to 32 weeks, referring to comprehensive health service centers in Jajarm city and its suburbs, who meet the criteria for entering the research project. The necessary sample size was estimated to be 303 samples, which was estimated to be 336 samples considering 10% attrition. For the result of self-efficacy, taking into account, the first type error equal to 0.05 and the power of 85% of the sample size in each group was estimated equal to 34. And for a satisfactory outcome of body image, the sample size in each group was equal to 42 samples. Therefore, based on both results, considering the drop in the sample volume in each group, it was estimated to be equal to 45 samples. Considering that there were 8 comprehensive health service centers in Jajarm city and its suburbs, sampling was done from all these centers. First, all pregnant mothers in the third trimester of pregnancy were selected from the list of pregnant mothers in the Sib system of each center and invited to the same comprehensive health service center for further investigation, obtaining consent, and completing the questionnaires. Then, each pregnant mother who wanted to participate in the study was given a standard questionnaire of multidimensional body-self relationships and self-reported breastfeeding and demographics (electronically) to answer. Then, according to the determined sample size, 90 pregnant mothers with their first pregnancy and gestational age of 28 to 32 weeks who scored 142 or less in the self-body multidimensional relationship questionnaire met the conditions for entering the intervention study. After completing the informed consent form and assigning a code, they entered the intervention study. The block method was used for random allocation with a volume of 4.

According to the previously specified randomization sequence, 45 mothers were assigned to the control group and 45 to the intervention group. And then, the intervention group received 8 counseling sessions based on acceptance and commitment at separate times (due to the spread of the Covid-19 disease in a virtual way and using Adobe Connect software). This consultation was held in the form of the first 4 sessions twice a week and the second 4 sessions once a week, with 10 people in each session for 90 minutes. The project manager organized these meetings. The control group received only routine care. At the end of the counseling sessions, immediately after and one month and 3 months after delivery, both groups completed the questionnaires.

The criteria for entering the study include the following:
First pregnancy, singleton pregnancy, gestational age of 28 to 32 weeks, decision to breastfeed exclusively, obtaining a cutoff score in questionnaires, minimum reading and writing literacy, familiarity with cyberspace, absence of smoking, drug and alcohol addiction, absence of pregnancy problems (including pre-eclampsia, placenta Previa, diabetes, Placental abruption), absence of major psychiatric diseases, absence of breast anomalies, absence of medical contraindications for breastfeeding for mother and baby, previous participation in courses similar to this course, having consent to enter the study and residents of Jajarm city.

Data Collection Tools:
Questionnaire of Multidimensional Body-Self relationships:
In this research, the 68-question body image questionnaire MBSRQ was used to measure the mental image of the body, which was examined four times before the intervention, immediately after the intervention, one month after delivery,
and three months after delivery. This questionnaire was designed by Thomas Cash and colleagues (1986) to evaluate the mental image of the body. [14]

**Breastfeeding Self-efficacy Questionnaire:**
In this research, the standard questionnaire of breastfeeding self-efficacy, which has 33 options, was used to measure breastfeeding self-efficacy [15]. Based on a 5-point Likert scale, it is graded from completely agree (score 5) to disagree (score 1). The total of Tughlaq scores for each item shows the breastfeeding self-efficacy score, in which the lowest and highest scores are 33 and 165, respectively, score 33 to 76 is low self-efficacy, the score 77 to 120 is medium self-efficacy, and the score of 121 to 165 is high self-efficacy. Which was examined four times before the intervention, immediately after the intervention, one month after delivery, and three months after delivery.

**Procedure:**
The intervention group received 8 counseling sessions based on acceptance and commitment at separate times in the form of the first 4 sessions twice a week and the second 4 sessions once a week, 10 people in each session for 90 minutes.

**Findings:**
After completing the questionnaires, the collected information was subjected to statistical analysis. Independent t-tests, Khiddo's test, Fisher's exact test, and repeated measurement analysis were used. Also, the hypothesis of the normality of the data was tested using the Shapiro-Wilk test. The results of the tests were also checked at a significance level of 0.05. Data entry and processing were done by SPSS software.

The results of the Chi-square test showed that the control and intervention groups in the variables of age, occupation, education, spouse's age, spouse's education, pregnancy rate, family income, history of pregnancy, pregnancy (wanted/unwanted), method of pregnancy, satisfaction with Baby's gender, wife's support, intention and willingness to breastfeed are homogeneous.

An Independent t-test was used to compare the mental image of the body of the two control and intervention groups in the pre-test immediately after the intervention, one month after delivery, and three months after delivery.

The results of the independent t-test showed that there is no significant difference between the breastfeeding self-efficacy of the intervention (70.96) and control (66.98) groups before the intervention (P≤0.05); But the results of the test showed that there was a difference between the breastfeeding self-efficacy of the two groups immediately after the intervention (intervention = 82.33 and control = 67.13), one month after delivery (intervention = 103.42 and control = 67.89). Three months After delivery (intervention=118/22 and control=68/02), there is a significant difference between the two groups (P≥0.05). And according to the average of the two groups, it was found that the breastfeeding self-efficacy scores were higher in the intervention group.

**Comparison of breastfeeding self-efficacy in two intervention and control groups**
An Independent t-test was used to compare the breastfeeding self-efficacy of the two control and intervention groups in the pre-test, immediately after the intervention, one month after delivery, and three months after delivery.

The results of the independent t-test showed that there is no significant difference between the mental image of the body of the intervention (122/11) and control (118/11) groups before the intervention (P≤0.05). But the results of the test showed that between the mental image of the two groups immediately after the intervention (intervention=157/71 and control=119/18), one month after delivery (intervention=226/31 and control=120/84) and three months after delivery (intervention=266/11 and control=121/74) there is a significant difference between the two groups (P≥0.05). And according to the average of the two groups, it was found that the mental image scores were higher in the intervention group.

**Results of analysis of variance with repeated measures to compare within-group changes in breastfeeding self-efficacy**
Analysis of variance with repeated measures was used to investigate intragroup effects. The results of this test are presented in Table 1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source</th>
<th>sig</th>
<th>F</th>
<th>mean square</th>
<th>DF</th>
<th>sum of squares</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breastfeeding self-efficacy</td>
<td>Time</td>
<td>0/001</td>
<td>168/091</td>
<td>289/22432</td>
<td>1/399</td>
<td>156/31378</td>
<td>0/66</td>
</tr>
<tr>
<td></td>
<td>Time × group</td>
<td>0/001</td>
<td>155/641</td>
<td>795/20770</td>
<td>1/399</td>
<td>067/29054</td>
<td>0/64</td>
</tr>
</tbody>
</table>
The results of the analysis of the variance test with 2 (group) × 4 (time) repeated measures showed that the interactive effects of time and group in the breastfeeding self-efficacy variable are significant (P=0.001). Also, the main effect of the group and the main effect of time in the breastfeeding self-efficacy variable are significant (P=0.001).

Since the interactive effect of time in the group is significant, we use the independent t-test to compare the breastfeeding self-efficacy of the research groups at different times. The results of this test are given in Table 2.

Table 2 Independent t-test results to compare breastfeeding self-efficacy of groups at different times

<table>
<thead>
<tr>
<th>Variable</th>
<th>Time</th>
<th>group</th>
<th>Average</th>
<th>Sig</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breastfeeding self-efficacy</td>
<td>pre-exam</td>
<td>Control</td>
<td>66/98</td>
<td>0/463</td>
<td>0/738</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>intervention</td>
<td>intervention</td>
<td>70/96</td>
<td>0/463</td>
<td>0/738</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>After the test</td>
<td>Control</td>
<td>67/13</td>
<td>0/003</td>
<td>3/033</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>intervention</td>
<td>intervention</td>
<td>82/33</td>
<td>0/003</td>
<td>3/033</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>one month later</td>
<td>Control</td>
<td>67/89</td>
<td>0/001</td>
<td>8/402</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>intervention</td>
<td>intervention</td>
<td>103/42</td>
<td>0/001</td>
<td>13/363</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>Three months later</td>
<td>Control</td>
<td>68/02</td>
<td>0/001</td>
<td>13/363</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>intervention</td>
<td>intervention</td>
<td>228/22</td>
<td>0/001</td>
<td>13/363</td>
<td>88</td>
</tr>
</tbody>
</table>

The results of the independent t-test showed that there is a significant difference between the breastfeeding self-efficacy of the control and intervention groups in the post-test, one month after delivery, and three months after delivery (P≤0.05). And the breastfeeding self-efficacy of the intervention group was better than the control group.

However, no significant difference was observed between the self-efficacy of the control and intervention groups in the pre-test (P≥0.05).

Analysis of variance with repeated measures was used to investigate intragroup effects. The results of this test are presented in Table 3.

Table 3 Results of analysis of variance test with repeated measurement

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source</th>
<th>sig</th>
<th>F</th>
<th>mean square</th>
<th>DF</th>
<th>sum of squares</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>The mental image of the body</td>
<td>Time</td>
<td>0/001</td>
<td>755/1683</td>
<td>648/133542</td>
<td>2/207</td>
<td>342/292725</td>
<td>0/95</td>
</tr>
<tr>
<td></td>
<td>Time × group</td>
<td>0/001</td>
<td>485/1588</td>
<td>606/125986</td>
<td>2/207</td>
<td>342/278049</td>
<td>0/94</td>
</tr>
<tr>
<td>group</td>
<td>0/001</td>
<td>257/976</td>
<td>336/49365</td>
<td>1</td>
<td>336/49365</td>
<td>0/92</td>
<td></td>
</tr>
</tbody>
</table>

The results of the analysis of the variance test with 2 (group) × 4 (time) repeated measures showed that the interactive effects of time and group in the mental image of the body variable are significant (P=0.001). Also, the group's main effect and time's main effect on the body variable's mental image are significant (P=0.001).
Table 4- Independent t-test results to compare the mental image of groups at different times

<table>
<thead>
<tr>
<th>Variable</th>
<th>Time</th>
<th>group</th>
<th>Average</th>
<th>Sig</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>The mental image of the body</td>
<td>pre-exam</td>
<td>Control</td>
<td>118/11</td>
<td>0/010</td>
<td>1/615</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td></td>
<td>intervention</td>
<td>122/11</td>
<td>0/003</td>
<td>13/782</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>After the test</td>
<td>Control</td>
<td>118/18</td>
<td>0/001</td>
<td>39/320</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td></td>
<td>intervention</td>
<td>157/71</td>
<td>0/001</td>
<td>226/31</td>
<td></td>
</tr>
<tr>
<td></td>
<td>one month later</td>
<td>Control</td>
<td>119/80</td>
<td>0/001</td>
<td>49/983</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td></td>
<td>intervention</td>
<td>266/11</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of the independent t-test (Table 4) showed that there is a significant difference between the mental image of the body of the control and intervention groups in the post-test, one month after delivery and three months after delivery (P≤0.05). And the mental image of the intervention group's body was better than the control group. However, in the pre-test, no significant difference was observed between the mental image of the body of the control and intervention groups (P≥0.05).

**Discussion**

The hypothesis "the effectiveness of midwifery counseling with an approach based on acceptance and commitment is different on the average score of the mental image of the body in the intervention and control groups" was confirmed.

The study's results showed no significant difference between the average score of the mental image of the body of the two groups, intervention and control, before the intervention (P≥0.05). However, there was a significant difference between the average body image scores of the two groups immediately after the intervention, one month after delivery, and three months after delivery (P<0.05). According to the average of the two groups, it was found that the scores of the mental image of the body were higher in the intervention group. This finding of the research is consistent with the results of previous studies, such as the research of Jones and his colleagues (2016) [16] and the results of the research of Lindholm and his colleagues (2015) [17]. The study of Farahzadi and her colleagues (2014) showed that the cognitive-behavioral therapy group and the therapy group based on acceptance and commitment similarly improved satisfaction with body image. [13] The study of Rafiei and his colleagues (2015) indicated that the acceptance and commitment approach (ACT) leads to a decrease in dissatisfaction with body image (p < 0.01) and a decrease in anxiety (p < 0.05) in obese women [18]. These studies are in line with the results of the present study.

In a study entitled "Effectiveness of group cognitive-behavioral therapy on self-concept and body image of women with burns", Mehrek Derhirian et al. showed that cognitive-behavioral therapy did not have a stable effect on improving women's self-concept in the one-month follow-up [19], which is not consistent with the result of the present study. After delivery, we followed up and analyzed, which showed that the effectiveness of this counseling continues to improve the body image of mothers.

The hypothesis of "the effectiveness of midwifery counseling with an approach based on acceptance and commitment is different on the average score of breastfeeding self-efficacy in two intervention and control groups" was confirmed.

The study results showed no significant difference between the mean breastfeeding self-efficacy scores of the intervention and control groups before the intervention (P≥0.05). However, there was a significant difference between the two groups in the mean score of breastfeeding self-efficacy immediately after the intervention, one month after delivery, and three months after delivery (P<0.05). According to the two groups' average scores, breastfeeding self-efficacy scores were higher in the intervention group. Although no research has specifically investigated the effectiveness of counseling based on acceptance and commitment to breastfeeding self-efficacy, studies can be mentioned in explaining these results.

Swanson et al. (2017) conducted a study about the body image effect on the relationship between body weight and breastfeeding maintenance in new mothers and indicated that obese women were less likely to breastfeed in the hospital. Health professionals should consider women's body image when discussing breastfeeding. Obesity can negatively affect the initiation and maintenance of breastfeeding, but little is
known about the influence of psychosocial factors on this relationship. Body image may be an important factor, but it has not been studied in relation to maintaining breastfeeding. Interventions should address the positive aspects of women's postpartum bodies.[20] Nomura et al. (2020) conducted a review study entitled "Investigating which categories of maternal body mass index (BMI) are associated with non-initiation or cessation of breastfeeding (BF)" based on a quantitative review of the literature. They found that overweight and obese mothers were associated with increased risk of not continuing BF and exclusive BF, respectively. Mothers with overweight Weight and obesity may increase the risk of not starting or stopping breastfeeding. [21] Agha Babaei and his colleagues (2017) conducted a research titled "Effect of breastfeeding counseling on breastfeeding self-efficacy of mothers" in the form of a two-group clinical trial on 60 primiparous mothers who were referred to women's hospitals in Malayer city. Results indicated that changes in the breastfeeding self-efficacy score of mothers. After the intervention, there was a significant statistical difference in the test group compared to the control group.[22] In Chan et al.'s study (2016), they concluded that the implementation of breastfeeding training increases the self-efficacy of breastfeeding and the amount of exclusive breastfeeding nutrition in mothers.[23] The results of the study by Yang et al. (2016) showed that to increase mothers' breastfeeding self-efficacy, it is necessary that mothers have access to a center to receive the necessary advice. Nurses and midwives should encourage mothers to start feeding as early as possible and create the necessary conditions to facilitate skin-to-skin contact between mother and baby in the shortest possible time.[24] The study results by Mir Mohammadali et al. (2013) showed that face-to-face breastfeeding training with the direct intervention of the instructor was associated with an increase in mothers' breastfeeding self-efficacy in the third month after delivery [25]. The present study's results are inconsistent with those of McQueen et al., which was conducted in Canada under the title "Clinical Trial of Breastfeeding Self-Efficacy Interventions." Because McQueen's study included three sessions of the postpartum self-efficacy program, two of which were conducted in the hospital and one over the phone. In this study, the intervention could not significantly increase self-efficacy in primiparous women which is inconsistent with the results of this study [26].

Bandura in social learning theory expresses self-efficacy with the concept of self-belief, and it expresses a person's confidence about his ability to act if it ends in the desired outcome [27]. Self-efficacy is one of Bandura's (1977) social-cognitive theory structures, which includes a person's belief and confidence in their ability to perform healthy behaviors, including exclusive and successful breastfeeding. [25] Although most women start breastfeeding after giving birth and during their stay in the hospital, unfortunately, in the first weeks or months of the baby's birth, many stop breastfeeding, resulting in a two- or three-fold increase in the rate of malnutrition, and infection, eventually the death of infants.[24] Therefore, training in this field can increase breastfeeding self-efficacy, and the approach based on acceptance and commitment in the present research increased breastfeeding self-efficacy. Although the number of research about counseling based on acceptance and commitment is increasing, there are few pieces of research in this field. For this reason, many aspects of this treatment remain unknown. In general, researchers with different methods consider counseling based on acceptance and commitment as a promising perspective that has been effective for different people. [28]

**Conclusion**

The results of this study showed that midwifery counseling with the approach of acceptance and commitment improved the mental image of the body and, as a result, improved breastfeeding self-efficacy in pregnant mothers. It can be used as an effective psychological intervention on the mental image of the body and breastfeeding self-efficacy. It should be used along with other interventions in comprehensive health service centers.

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In this research, ethical considerations have been observed and there is no conflict of interest, and no financial support has been received from any organization.

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