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Research Article

Group art therapy for the management of fear of childbirth

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ABSTRACT

Background: Even though most pregnant women might have some concerns regarding the mode of delivery some women may experience a heightened fear of childbirth (FOC), which may make pregnancy a disturbing and discomforting experience for them. Clinical FOC leads to an increase in C-section demands and the ratio of C-section births. Therefore, management of FOC is essential for improving public health. The objective of this pilot study was to evaluate the efficacy of group art therapy for the management of FOC.

Methods: To understand the effectiveness of group art therapy, we designed a quantitative study. The population studied was pregnant women with subjective complaints of FOC attending an outpatient pregnancy follow-up clinic. Effectiveness of group art therapy intervention was assessed in comparison to group psychoeducation for FOC. The primary outcomes of the study were determined as Wijma Delivery Expectancy/Experience Questionnaire Version A (W-DEQ) scores below 37, Beck Depression Inventory (BDI) scores below 14 and the Beck Anxiety Inventory (BAI) scores below 10 at the end of the 6th session for the art therapy group. We expected to find significant differences in the primary outcome measures between the two groups. The secondary outcome of the study was the difference between the two groups regarding the mode of actual delivery. 30 women volunteers in the third trimester of pregnancy attending a public women's hospital with moderate levels of FOC were included in the study. They were randomly distributed to 2 groups. The first group (n = 15) received six sessions of group art therapy. The second group (n = 15) received six sessions of psychoeducation for FOC.

Results: By the end of the six weeks, Beck depression scale (BDS) scores, Beck Anxiety Scale (BAS) scores, and W-DEQ scores decreased significantly in the art therapy group in comparison to the psychoeducation group ($p < 0.001$). FOC was considerably decreased in the art therapy group in relation to the control group at the end of the treatment. Most of the women (n = 12) in the art therapy group had natural deliveries while those in the psychoeducation group had C-sections (n = 10).

Conclusions: Our findings suggest that art therapy is an efficient method for reducing clinical FOC and levels of anxiety and depressive symptoms in pregnant women in the final trimester. This arts therapy programme enabled these shifts in behaviour by helping women face and express their fears through their artwork (drawing) and then gain control over their fears (mandala-making, puppet-making, taking photographs and collage-making) within a secure base and an on-going social support system provided by the group structure. Group art therapy seems to be a cost-effective therapeutic approach for targeting a larger number of people in a limited time with a limited number of therapists.

Introduction

Even though most pregnant women might have some concerns regarding the mode of delivery some women may experience a heightened fear of childbirth (FOC), which may make pregnancy a disturbing and discomforting experience for these women. FOC may be accepted as a natural reaction especially in nulliparous women. What is called normal fear would not affect the everyday life of the woman and decisions regarding the delivery method. There is no consensus on the definition of FOC. Some authors used the term "tocophobia" to reduce this confusion (Hofberg & Brockington, 2000). They defined tocophobia as a condition where the woman had recurrent and intrusive thoughts about delivery and its possible complications such as harming the baby or not being able to give birth at all, and subsequent avoidance of childbirth. In a recent review "clinical FOC" is described as a disabling fear that intrudes with general functioning affecting the occupational,

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domestic and social life of the woman, and in some cases meeting the definition of specific phobia (Nilsson et al., 2018). In this article, we chose to use "fear of childbirth (FOC)" instead of tocophobia because it is the most commonly used term for this condition in the available literature.

FOC may affect a woman's general well-being and have negative consequences on the mode of delivery (Saisto & Halmesmaki, 2003). The woman may have a fear of giving birth even before getting pregnant. However, the degree of the fear begins to increase by the twentieth week (Rouhe, Salmela-Aro, Halmesm, & Saisto, 2009). Prevalence of FOC depends on cultural variables, the period of pregnancy, and the differences among methods of detecting FOC. However, it is estimated to be observed by 15–20% on average (Fenwick et al., 2009).

The primary reasons for FOC are hearing others' frightening delivery stories (Melender, 2002), history of obstetric complications during delivery (Størksen, Garthus-Niegel, Vangen, & Eberhard-Gran, 2013), lack of knowledge regarding childbirth (Cleeton, 2001), fear of labor pain (Aksoy, Aksoy, Dostbil, Çelik, & Ince, 2014), inadequate psychological and physical support from the spouse throughout pregnancy and during birth (Saisto, Salmela-Aro, Nurmi, Könönen, & Halmesmäki, 2001), lack of trust toward medical staff (Sjögren & Thomassen, 1997), lack of psychological support provided by the obstetrician, a history of anxiety disorders or depression (Saisto et al., 2001), sexual abuse (Boorman, Devilly, Gamble, Creedy, & Fenwick, 2014), lower levels of education, young age pregnancy, unemployment, and low levels of income and social support (Boorman et al., 2014).

Untreated FOC in pregnancy may both prolong the delivery and increase the subjective experience of labor pain which might result in the registration of negative memories in the mother regarding birth (Goodman, Mackey, & Tavakoli, 2004). This disturbing delivery experience may affect the mother's future choice of birth method. Prolonged delivery may also result in medical decisions such as epidural anesthesia use, induction, assisted childbirth and emergency C-sections (Adams, Eberhard-Gran, & Eskild, 2012; Sydsjö et al., 2013). FOC also poses a risk for premature and postmature births and may cause posttraumatic stress disorder (Korukcu, Kukulu, & Firat, 2012) or postpartum depression, sexual dysfunction and lack of harmony in the mother-baby relationship (Fisher, Hauck, & Fenwick, 2006).

Therefore, treatment of FOC is essential to prevent the aforementioned negative consequences on the child and the mother. The objective in treating FOC is to ensure a comfortable experience of pregnancy, facilitate the adaptation to motherhood and make sure that the mother feels well in the postpartum period. The treatment options to manage FOC include breathing techniques, hydrotherapy, hypnosis, doula assistance, training for childbirth, psychoeducation (Rouhe et al., 2015; Toohill et al., 2014) psychotherapy that focuses on FOC and the four-step PLISSIT (Permission, Limited Information, Specific Suggestions, Intensive Therapy) model that has been adapted to FOC, which is composed of permission for individual sexual issues, limited information, specific suggestions, and intensive treatment when needed (Saisto & Halmesmaki, 2003).

The likelihood of having C-section birth is 5.2 times higher among pregnant women with FOC (Sydsjö et al., 2013). Women requesting C-sections may change their minds and prefer vaginal birth after receiving psychotherapy for FOC (Ryding, 1991; Sjögren & Thomassen, 1997). In a study, it was found that a simple telephone psychoeducation intervention delivered by midwives to pregnant women with high levels of FOC (W-DEQ A ≥ 66) was effective in decreasing levels of fear (Toohill et al., 2014) and the rates of C-sections (Fenwick et al., 2015).

Art therapy seems to be a promising method for managing various antenatal and postnatal psychological problems such as depression, birth trauma or FOC (Hogan, Sheffield, & Woodward, 2017). Art therapy with pregnant women has been shown to create positive effects such as relieving inner tension and decreasing levels of stress, anxiety and depression (Chang, Chen, & Huang, 2008; Demecs, Fenwick, & Gamble, 2011; Shin & Kim, 2011; Swan-Foster, 1989; Swan-Foster, Foster, & Dorsey, 2003). A pregnant woman goes through prenatal bonding before birth and separation and postnatal bonding after birth. However, some women may experience difficulties while going through these stages which might cause psychophysiological dysfunctions in the mother and the infant. Art therapy may help the woman to experience prenatal bonding and expected separation and postnatal bonding through the therapy process and the artwork that is produced. Art therapy encourages the pregnant woman to reconstruct her fears and conflicts into new representations that empower the woman as a mother (Swan-Foster, 1989). Negative emotions are alleviated and re-established in a healthy bonding experience.

One of the first reports of art therapy in pregnancy was by Nora Swan-Foster on four pregnant women. The researcher utilized drawing self-portraits, fear, transformation of fear and closing mandala. These women gained increased self-awareness and decreased energy investment in fears which resulted in higher self-esteem (Swan-Foster, 1989). Demecs et al. (2011), reported their observations regarding Creative Activities in pregnancy program (CAP-Program). The program consisted of six two-hour sessions that used singing, dancing, storytelling and making an art project for the baby. Interviews with seven women who attended this program were reported. The women in the study did not have clinical FOC. Art therapy worked as a basis for social support for them. The participants reported increased connection with self, with the baby and with each other. They found balance in pregnancy and balance in being ready for the upcoming birth and they took the balance home (Demecs et al., 2011). Lee et al. (2014) presented a poster on an art therapy intervention study on 49 high-risk pregnant women who were hospitalized. The number and structure of sessions were not specified because this was a poster presentation. The method used was drawing. They found that stress management, emotional expression and verbal communication were improved with art therapy. In the study by Wahlbeck, Kvist, and Landgren (2017), 21 women with severe FOC as measured by WDE-Q received five sessions of either individual or group art therapy. 19 of these women were interviewed three months after birth. 15 had vaginal delivery. The interviews with the women revealed that they benefited from art therapy in terms of decreased fear and increased self-confidence, strength and hope. Their common difficulties were feelings of carrying a heavy baggage and fear of hospitalization process and physical damage. They acquired new insights and abilities. Art therapy helped them deposit their heavy baggage and facilitate attachment to the baby. The method that was used in the study was painting. Although limited in number, these studies support the efficacy of art therapy for the management of psychological problems in pregnancy.

The Turkish government has been trying to decrease the high rates of C-sections in Turkey by law, threatening the doctors to impose fines (Letsch, 2012). However, according to an article by Betran et al. (2016) the rate of C-sections is still reported to be high in Turkey (47, 5%). Accordingly, we aimed to find a cost-effective and practical psychotherapeutic approach to manage FOC. In the light of all of the available data on art therapy, we hypothesized that art therapy would meet our expectations. The primary purpose of this pilot study was to investigate the efficacy of group art therapy in comparison to a psychoeducation group for the management of FOC. Turkey is a highly populated developing country. The number of available psychotherapists is low compared to the population in need. So, we chose the group therapy approach as a cost-effective method suitable for middle and low-income countries. Our target population was selected from among pregnant women attending a general outpatient pregnancy follow-up clinic. We expected these women to be unfamiliar with psychological concepts and practices of psychotherapy. So, we hypothesized that art therapy would benefit these people without forcing them to speak their minds but instead encouraging them to reconstruct their fears and conflicts into new representations that would empower them as a mothers (Swan-Foster, 1989). We tried to prepare a short-term but intense treatment plan that targeted nearly all of the issues that might have

resulted in or complicated FOC. We thought that psychoeducation would provide a suitable comparison group for art therapy because it is an approach that is commonly used with pregnant women with FOC (Rouhe et al., 2015).

Methods

To understand the effectiveness of group art therapy, we designed a quantitative study. According to the PICO framework (Eden, Levit, Berg, & Morton, 2011) the studied population was pregnant women with subjective complaints of FOC attending an outpatient pregnancy follow-up clinic. The effectiveness of the group art therapy intervention was assessed in comparison to group psychoeducation for FOC. The primary outcomes of the study were determined as Wijma Delivery Expectancy/Experience Questionnaire Version A (W-DEQ) scores below 37, Beck Depression Inventory (BDI) scores below 14 and the Beck Anxiety Inventory (BAI) scores below 10 at the end of the 6th session for the art therapy group. We expected to find significant differences in the primary outcome measures between the two groups. The secondary outcome of the study was the difference between the two groups regarding the mode of actual delivery.

Participants

The two groups were formed from consecutive pregnant women who had applied for a pregnancy training program that was run at a specialized Women's and Children's Disease Training and Research Hospital. We briefly explained the study to all pregnant women who attended the hospital between January 25 and February 9, 2016. A full description of the study was given to women who were interested, and 15 women who were eligible for the study and who gave informed consent were chosen for the art therapy group. A control group was formed by 15 women who wanted to attend the hospital's pregnancy training program. Informed consent was also obtained from the control group participants. The study took place between February 12, 2016, and March 18, 2016. Inclusion criteria were: (1) 28–32 weeks' gestation, (2) complaints of fear of giving birth, (3) not having participated in any childbirth training before, and (4) age older than 20 years. Exclusion criteria for the study were: (1) risky pregnancy diagnosis, (2) hearing or visual impairment (3) any psychiatric or neurological diagnosis, (4) already being involved in a psychotherapeutic process, and (5) using psychiatric medicine.

Group art therapy procedure

The study lasted six sessions, which was based on a previous study of six-session group therapy on FOC (Rouhe et al., 2009). Psychotherapy for issues that are specific for and arise during pregnancy has to be time-limited. Each session was 130 min long.

The structure of the art therapy sessions was as follows: preparation for work (15 min), a warm-up stage that featured sharing the previous week's well-being and unshared products (15 min), a declaration of the new session's topic and activity (10 min), the application of artwork (40 min), sharing the final product (40 min), and closure (10 min). The session structure was adapted from Liebmann and ebrary Inc. (2004).

The scientific background for the different art therapy techniques that were chosen for each session

Listening to music and singing

In all six sessions, the group members listened to music and sang together. Studies have shown that activities of listening to music and singing activities contribute to the development of trust and communication within a group. Music has positive effects on fear, anxiety, and depression in pregnant women (Corbijn van Willenswaard et al., 2017). A study by Shin found that future mothers who listened to music for 25 min/day for 30 days in a group setting became more self-confident by being supported by other group members, their maternal bonding improved, and their anxiety was reduced (Shin & Kim, 2011). A two-week study conducted by Chang et al. (2008) with a treatment group of 116 and a control group of 120 used music. As a result of the study, it was observed that the levels of depression and anxiety in the future mothers were reduced. Toker and Komurcu (2017) studied the effects of Turkish classical music on women with pre-eclampsia. 70 women with pre-eclampsia were randomized into groups of either 30 min of rest or to 30 min of listening to music. In comparison to the control group, the women who listened to the "nihavend" and "buselik" modes of classical Turkish music 5 days before and 2 days after labor had increased satisfaction with nursing care and decreased blood pressure. Classical Turkish music had positive effects on fetal movements and fetal heart rate. In a study that was conducted in Taiwan, 296 pregnant women were randomized in an experiment group of listening to 30 min of pre-recorded music compact discs (CD) in addition to routine prenatal care (n = 145) and a control group that received routine prenatal care (n = 151) (Chang, Yu, Chen, & Chen, 2015). The tempo of the music in the CDs were chosen to imitate the human heart rate of 60–80 beats/min. The trial lasted two weeks. Listening to music reduced pregnancy-related stress levels as measured by the Pregnancy Stress Rating Scale (PSRS). In another recent study, listening to pre-recorded music composed for the pregnancy over a period of twelve weeks reduced anxiety and depression symptoms significantly in comparison to a control group of pregnant women who sat quietly and undisturbed (Nwebube, Glover, & Stewart, 2017).

Mask-making

Masks are a form of therapy and treatment, and they are the means by which one freely expresses their identity within a group and reveals their social roles. Group members are included in the group process without knowing each other, and each member may not have the same ease of expressing themselves or may hesitate to reflect themselves as they are. Masks provide this freedom to individuals (Trepal-Wollenzier & Wester, 2002). Moreover, formation of group cohesion is based on sharing among group members, trust and honest expression. Mask-making was chosen for the members to express themselves honestly without making them feel naked, so that the group is allowed to progress and develop.

Drawing

Emotions and thoughts are reflected as concrete signs through painting. Drawing is useful for enhancing self-reflection and promoting personal growth (Binson & Lev-Wiesel, 2017). Use of drawing has been utilized in previous studies of art therapy with pregnant women (Swan-Foster, 1989; Swan-Foster et al., 2003; Demecs et al., 2011; Wahlbeck et al., 2017). Fears surrounding birth may be expressed through drawing as shown by a study with 60 pregnant women with different degrees of prenatal problems by Foster, Foster, and Dorsey (2003). Cohen-Yatziv, Snir, Regev, Shofar, and Rechtman (2018) examined the drawings of 11 primigravidae who had depressive symptoms. According to the phenomenological analysis of the drawings, color use was limited to a combination of blue and yellow, a rectangular page format instead of circular or oval page formats was preferred more commonly, surroundings and details were lacking in the drawings, and the represented objects were either separated or there was an absence of holding. Some common themes that emerged were feelings of reduction, inadequacy and simplification, and internal conflicts between positive and negative feelings towards motherhood and separation. The study suggested that drawings may provide valuable information for diagnosing the psychological difficulties encountered by pregnant women that are not verbalized or that are not yet clinically dysfunctional. By using drawing, we aimed to help bring forward unspoken or unrealized fears of the women.

Mandala-making

Mandalas are a practical way to calm an individual's mind and decrease fear and anxiety (Curry, Kasser, & Galesburg, 2005; Drick, 2014). In a study, mandala drawings were found to be more useful in reducing stress than freehand drawing practices (Schrade, Tronsky, & Kaiser, 2011). In another study with 67 adults, mandalas were an effective tool in transforming negative moods into positive moods (Babouchkina & Robbins, 2015). Chetu (2015) used mandala-making as a part of a four-session program designed for pregnant women to optimize prenatal attachment. Mandala-making was chosen to encourage the women to think about their resources and emotional challenges and the effects of these on their relationship with their fetus in pregnancy. However, the effects that are specific for mandala-making were not mentioned in the article. Mandala-making was chosen because there was a need for a practice that would help restructure and reintegrate the fears and other emotions that would have been expressed in the previous session.

Puppet-making

Making puppets and making them talk encourages people to socialize, express themselves and resolve emotional conflicts. A puppet is a projective tool, encouraging the individual to uncover fears, concerns, and conflicts. Moreover, individuals embody their dreams and desires through puppets, so, they have the opportunity to see what they wish to see (Bender & Woltman, 1936). Throughout pregnancy, women dream of what kind of a baby they will give birth to. Expectations arise in many areas from the physical traits of the baby to the way it is raised. The first encounter is a surprise. For this reason, it is important to rehearse this encounter and see in advance what future mothers expect from it and can offer to their babies. One of the most fundamental fears of a woman about birth is the question of "Will my baby be fine?". We wanted to address women's concerns regarding the baby by the way of puppet-making.

Taking photographs

Converting something into a photograph is the equivalent to wanting to own it. The individual has the opportunity to reflect their feelings while establishing a relationship between themselves and the outside environment. The events or situations that are saved in photographs depend on the desire of the person (Sontag, 1973). In a photography study with adults, it was found that the participants were positively affected in aspects such as trust, self-worth, and honesty (Glover-Graf & Miller, 2006). The purpose of photography being used as an art tool in therapeutic communication is to develop self-confidence, self-expression and general well-being (Weiser, 2001). As birth approaches, women need courage and to trust themselves in the act of giving birth.

Collage-making

The product that is created in a collage study depends on the experiences that emerge until that moment and feelings at that moment. Decisions made during the study process ensure that autonomy is regained. Experiencing this autonomy and supporting personal commitment reveal the changes associated with the topic of the study. At the end of the study, individuals feel themselves balanced (Hopf, Elbing, Heußner, & Büssing, 2014). It is important that at the end of the studies that pregnant women depart from the group structure and return to their individual structures and regain their own autonomy. These collages also reveal what pregnant women have gained throughout these six sessions before they leave the group.

Psychoeducation structure

The structure of psychoeducation sessions was as follows: the warm-up stage that featured sharing of the previous week's well-being (20 min); a declaration of the new session's topic (10 min); sharing of every woman's personal thoughts, feelings, and significant memories regarding the topic (30 min); psychoeducational information given by the therapist regarding the topic (40 min); sharing of new thoughts or feelings after psychoeducation (20 min); and closure (10 min).

The same therapist led both groups. She conducted both groups in the same room but on different days of the week. She provided a comfortable environment for the pregnant women, prepared the materials, and gave technical information when necessary. The structure of the sessions and the materials used are summarized in Table 1.

Measures

A sociodemographic questionnaire including age, gestational age, educational status, work status, and childbirth experience (primipara or multipara) was completed by the women before the study.

Both the control group and the study group were assessed using the W-DEQ version A, BAI, and the BDI before starting the group therapy process (T1), after the third session (T2), and after the sixth session (T3).

We measured FOC using W-DEQ version A. The scale had 33 items, with scores from 0 to 5 for each. The higher the scores, the more fearful the pregnant women were about childbirth. Low fear was defined by a WDEQ-A score that was equal to or lower than 37, moderate fear was defined by a score between 38 and 65, and a high level of fear was defined by a score that was equal to or higher than 65 (Wijma, Wijma, & Zar, 1998) In the Turkish validity and credibility study of the scale, Cronbach's alpha was determined as 0.92 (Korukcu et al., 2012).

The BAI is a 0–3 Likert scale of 21 questions developed by Beck to determine the severity of anxiety symptoms (Beck, Epstein, Brown, &

Table 1
Structure of psychotherapy sessions.

Sessions	Content	Art therapy group	Control group
1st session	Meeting of the group members. Forming group rules. Introduction to the group process and setting goals.	Mask making Listening to music and singing	Pen and paper
2nd session	Describing the features of fear of giving birth. Explaining the reasons underlying fear of giving birth. Exploring personal causes for each woman for their fear of giving birth.	Drawing Listening to music and singing	Book reading (Birthing from within by Pam England)
3rd session	Management of fear by becoming aware of different solutions and choosing one that suits best for the individual. Practicing mental imagery guided relaxation breathing.	Mandala making Listening to music and singing	Book reading (Hypnobirthing by Marie F Mongan)
4th session	Bonding with the baby exercise. Defining the attachment theory and features of secure and non-secure attachment. Explaining the effects of skin to skin touch on the interaction between the mother and the baby.	Puppet making Listening to music and singing	Pen, pencil, powerpoint presentation
5th session	Exploring the perceptions of each pregnant women regarding giving birth to a child. Talking about personal thoughts on concepts of success and failure. Encouraging self-compassion, self-confidence, and courage.	Taking photographs Listening to music and singing	Pen, paper
6th session	Clarifying the expectations of the woman from their spouses, family, and medical staff during their delivery. Going through personal gains attained during therapy. Monitoring general mood of the pregnant woman. Closing the group work.	Making collage paintings Listening to music and singing	Pen, paper

Steer, 1988). The Turkish validity and credibility study of the scale showed good psychometric properties (Ulusoy, Sahin, & Erkmen, 1998). The total score of the scale varies between 0 and 63. A score of 0–9 points is classified as "normal or no anxiety," 10–18 as "mild to moderate anxiety," 19–29 as "moderate to severe anxiety," and 30–63 as "severe anxiety."

The BDI is a self-assessment scale of 21 questions developed by Beck to detect depression risk and the level of depressive symptoms (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The total score of the scale varies between 0 and 63. A score of 0–13 points is classified as "no depression," 14–24 points as "moderate depression," and 25 and above as "severe depression." The Turkish validity and credibility study of the BDI showed good psychometric properties (Hisli, 1989).

Statistical analysis

This study used and experimental pre-test (T1), mid-test (T2), and post-test (T3) control group design. This study used frequencies (N), percentages (%), means (± standard deviation), medians (because the data was skewed for the quantitative scale scores), and 25% and 75% percentiles as descriptive statistics. All of the measurements were computed at T1, T2, and T3. The analysis of the categorical data was conducted using the Chi-Squared test (Table 3). The data did not comply with a normal distribution, so, Mann-Whitney *U* test was used for the analysis of the independent variables (art therapy and psychoeducation) and Friedman two-way ANOVA test was used for the analysis of the dependent variables (W-DEQ, BAI, BDI scores) (Tables 4–6). The statistical significance level was accepted as $p < 0.05$.

Ethical considerations

Permission to perform this art group therapy and psychoeducation study was granted by the Training and Research Hospital that this study took place, and the study was conducted after approval from the ethical committee of a Turkish University. The ethical standards of the Helsinki Declaration were followed. The costs of the research were covered by the researchers. All the pregnant women gave informed consent before the study.

Results

Quantitative results

The women in the art therapy group were older (mean = 28, SD = 4.9) than those in the control group (mean = 26.3, SD = 4.8). Five women in the art therapy group were housewives, while eight in the control group were housewives. There were no significant differences between the groups regarding other demographic characteristics and their histories of pregnancy (Tables 2 and 3).

At T1, the median BAI scores were 24 and 22 for the art therapy and control groups, respectively, suggesting moderately increased anxiety. The median BDI scores at T1 were 23 for both the art therapy and control groups, indicating moderately depressive symptoms. At T1, the median W-DEQ scores were 51 and 56 for the art therapy and control groups, respectively, suggesting moderate FOC. There were no statistically significant differences regarding the W-DEQ, BAI and BDI scores between the art therapy and control groups at T1 ($p = 0.345$, $p = 0.461$ and $p = 0.653$, respectively) (Tables 4–6). At T2, the BDI scores were found to be significantly lower in the art therapy group ($p < 0.001$) (Table 6). At T3, the median BAI and BDI scores for the art therapy group (8 and 7, respectively) were both below the cut-off scores. However, the median BAI and BDI scores for the control group (23 and 21, respectively) were both above the inventories' cut-off scores at T3, indicating persistent symptoms of anxiety and depression. The median W-DEQ score for the art therapy group at T3 was 28, which is accepted as a low level of fear. The median W-DEQ scores remained nearly the same at T1, T2 and T3 (56, 55 and 55, respectively) in the control group, suggesting a sustained moderate level of FOC. At T3, the BAI, BDI and W-DEQ scores were found to be statistically significantly lower in the art therapy group ($p < 0.001$) (Tables 4–6) (Figs. 1–3).

More women in the art therapy group (n = 12) than in the control group (n = 5) had vaginal delivery (Table 7). The reasons for C-section in the art therapy group were: baby weighing heavier than 4 kg, fetal distress and prolonged labor. Ten women in the psychoeducation group had C-sections. 7 had elective C-sections because of fear of delivery room, fear of episiotomy, traumatic memory of previous natural delivery and fear of harming the baby because the baby was the result of in vitro fertilization. The remaining 3 C-sections were because of medical conditions (overweight baby, occipital presentation, non-progressive labor).

Table 2
Demographic features of the participants.

	Art therapy group		Control group		
	Mean	SD	Mean	SD	p
Age	28.0	4.9	26.3	4.8	0.354
Number of pregnancy	1.5	0.7	1.3	0.6	0.200
Gestation week	31.2	2.6	31.0	3.0	0.200

*t–test.

Table 3
Demographic features of the participants (Descriptive statistics).

		Art therapy group		Control group	
		N	%	N	%
Education	High-school	4	26.7	4	26.7
	University	11	73.3	11	73.3
Work status	House-wife	5	33.3	8	53.3
	Working	10	66.7	7	46.7
Place of residency	City	15	100	15	100
Type of family	extended	3	20	2	13.3
	nuclear	12	80	13	86.7
Planned pregnancy?	Yes	13	86.7	14	93.3
	No	2	13.3	1	6.7
History of miscarriage, abortion or ectopic pregnancy	Yes	2	13.3	1	6.7
	No	13	86.7	14	93.3

Qualitative findings for the art therapy group

Common concerns of women when they started therapy

Will my baby be healthy? What if delivery harms my baby?

Will I be able to give birth? What if I cannot have a vaginal delivery? What if I will shout too much?

Will I be able to take care of my baby? Will I be a good mother?

What will the delivery process be like? What if I will be alone during delivery?

They had imagined the pain associated with delivery as unbearable. Some women thought they would get so exhausted in labor this would prevent the baby from being born. Some feared that the birth would harm the baby.

Common interpretations of pregnant women regarding group art therapy

Nearly all women said they were at first reluctant to start therapy but admitted that they felt relieved after hearing similar stories from other women which made them feel supported. Some of them said they had doubted the efficacy of art in decreasing their fears. However, as the study progressed, they saw how their fears and conflicts were reflected in their artworks. One woman said, "I saw how all emotions

Table 4
Comparison of WDEQ Scores at T1, T2 and T3 in the art therapy and control group.

	Art therapy group			Control group			
	Median	Percentile 25	Percentile 75	Median	Percentile 25	Percentile 75	p
T1	51.00	36.00	56.00	56.00	42.00	58.00	0.345
T2	41.00	31.00	46.00	55.00	41.00	58.00	0.004
T3	28.00	21.00	32.00	55.00	42.00	56.00	< 0.001

*Mann Whitney U.

Table 5
Comparison of the BAI scores at T1, T2 and T3 in the art therapy and control group.

	Art Therapy group			Control group			
	Median	Percentile 25	Percentile 75	Median	Percentile 25	Percentile 75	p
T1	24.00	23.00	25.00	22.00	21.00	44.00	0.461
T2	20.00	19.00	21.00	23.00	22.00	45.00	0.016
T3	8.00	4.00	12.00	23.00	22.00	45.00	< 0.001

*Mann Whitney U.

Table 6
Comparison of the BDI at T1, T2 and T3 in the art therapy and control group.

	Art therapy group			Control group			
	Median	Percentile 25	Percentile 75	Median	Percentile 25	Percentile 75	p
T1	23.00	21.00	24.00	23.00	20.00	26.00	0.653
T2	16.00	14.00	17.00	23.00	21.00	25.00	< 0.001
T3	7.00	6.00	9.00	21.00	19.00	24.00	< 0.001

*Mann Whitney U.

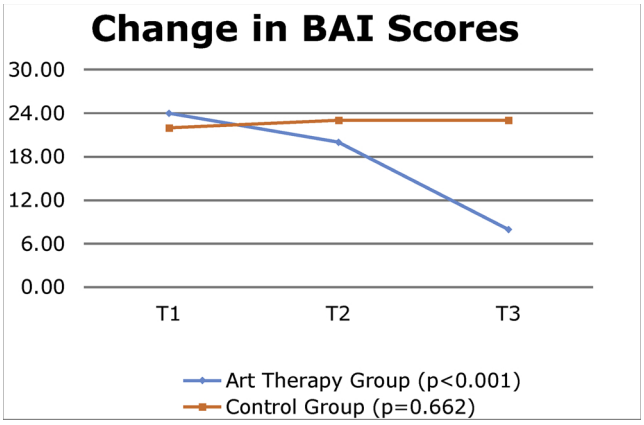

Fig. 1. Change in BAI Scores.

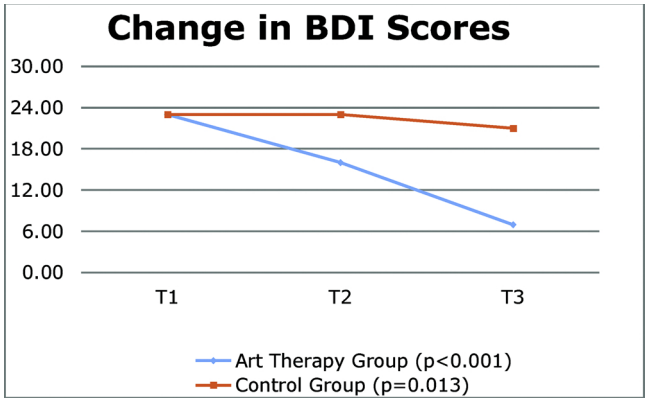

Fig. 2. Change in BDI Scores.

could come to the surface with colors, pictures and music."

The effects of some techniques on women

Those who were concerned about the safety and health of their baby regarding the negative effects of delivery on the baby said they benefited the most from the puppet-making. They said that "meeting the baby through the puppet was like a rehearsal for the real baby." Most women expressed intense emotions during the puppet-making session.

Those who were concerned about having disruptions during the natural course of delivery stated that the mandala technique calmed them. One participant said "Imagining the vagina as a mandala was exciting. Every circle that I drew was like the opening of my cervix for easing the labor, and I got more relaxed with every circle I drew."

The artwork from the art therapy sessions may be seen in Images 1–4 .

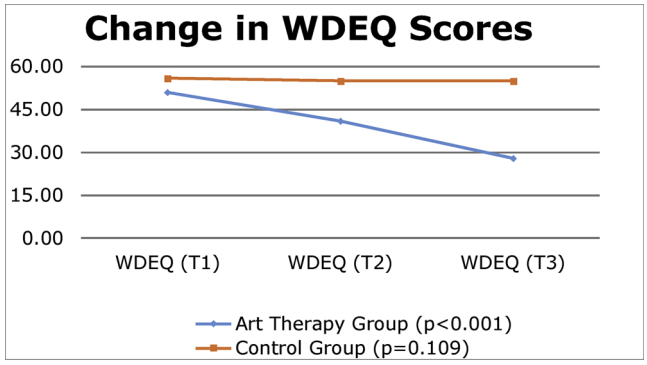

Fig. 3. Change in W-DEQ Scores.

Table 7
Types of delivery in the art therapy and control groups.

	Normal delivery (n)	Caeserian section (n)
Art therapy	12	3
Control group	5	10

Discussion

This study examined the efficacy of six sessions of group art therapy in comparison to a psychoeducation group for managing FOC. The primary outcome of the study was a significant decrease in WDEQ, BAI and BDI scores in the art therapy group in comparison to the control group at the end of the treatment. The secondary outcome was increased rates of natural deliveries in the art therapy group (n = 12) in comparison to the psychoeducation group (n = 5). It may be stated that significant decrease in WDEQ predicted increased rates of vaginal birth. This is consistent with previous studies where women changed their minds about their method of birth after receiving psychotherapy for FOC (Fenwick et al., 2015; Ryding, 1991; Sjögren & Thomassen, 1997). The increased vaginal birth rates may be interpreted as evidence of the efficacy of the group art therapy for managing FOC in our study.

Our findings of decreased anxiety and increased well-being were congruent with those of previous studies on art therapy for pregnant women (Swan-Foster, 1989; Swan-Foster et al., 2003; Chang et al., 2008; Demecs et al., 2011; Shin & Kim, 2011; Chetu, 2015; Wahlbeck et al., 2017). Most reported art therapy studies used the methods of music and drawing. In our study, in addition to music, we used other

Image 2. Drawing from the 2nd week.

Image 1. Lower left image is collage work from the 6th week. Other images are from the mandala session drawings on the 3rd week.

Image 3. Drawing from the second week.

techniques such as making masks, collages, puppets, taking photographs and making mandalas to involve the pregnant women in various perspectives to be able to address different issues related to FOC. Therefore, our report seems to be the first study of group art therapy using different artistic techniques for managing FOC.

The interpersonal neurobiology perspective defines psychopathology in terms of suboptimal integration and coordination in the neural networks of the brain (Cozolino, 2002). Accordingly, psychotherapy is a way of creating and/or restoring neural network integration and coordination. Art therapy stimulates both hemispheres of the brain through sensory, perceptual, emotional and cognitive processing and integration is possible with facilitated attention, increased communication and logical understanding (Hass-Cohen & Findlay, 2015 p.21, p 331). In the light of this knowledge, we propose that the positive primary and secondary outcomes in just six sessions of art therapy were the results of multimodal stimulation of the body and the brain, and we facilitated neural integration by our use of different artistic techniques in each session.

The engaging attitude of the art therapist must have also helped to build a therapeutic alliance with the women. One important factor contributing to change in psychotherapy is the therapeutic alliance between the therapist and the patient. The warmth, empathy, encouragement, and acceptance by the therapist form the basis of this therapeutic alliance (Hubble, Duncan, & Miller, 1999). The art therapist in this study fits into this description.

Although there are studies of art therapy with pregnant women, we could not find another well-structured study that specifically targeted FOC except the study by Wahlbeck et al. (2017). Unlike the case in our study, they recruited women with severe FOC for five sessions of art therapy. The only technique they used was drawing. They also structured every session on a topic relevant to FOC. The vaginal birth rate (15 out of 19 women) in their study was similar to ours. So, it may be stated that even though they had one fewer session than our study and did not use as many art therapy techniques as ours, their outcomes were similar. In a future study, our art therapy structure with various techniques may be compared to a control group where drawing is the only technique used.

Music was commonly used in previous studies and chosen to relax women during the sessions and encourage them to express themselves more freely in a safe and relaxed environment. It was observed that starting the sessions with music helped the women to get involved in their artwork easily. However, we cannot specify if music was the comforting element as we had music in all six sessions. Therefore, to understand the effects of music another study may form an art therapy group for FOC without music as a comparison group.

Image 4. Puppet making session on the 4th week.

We did not find another study where puppet-making was used for FOC. The puppet-making session was highly appreciated by the women. Most of the women had fears concerning the health of their baby and fears of harming the baby during delivery. The puppets that were made by the women might have had a resemblance to the baby that was in a way made by the pregnant women via nurturing and carrying the baby in the womb starting from conception till delivery. So, in a way, they met their possible "product," which made them feel more competent as the future mother of the real baby. In addition to this, it might also have been easier to project fears and fantasies into a puppet baby than an abstract mental representation, which must have decreased the anxiety of uncertainty. Puppets may be similar to the transitional objects (Trimingham, 2010) defined by Winnicott (1953), where puppets help women form a preliminary mental representation of the baby. We suggest puppet-making could be a useful practice in art therapy sessions while working with pregnant women.

The study by Demecs et al. (2011) used the methods of dancing and weaving (as a project for the baby). We did not include dancing because Turkish women are usually ashamed to dance in front of strangers or in unfamiliar places. Knitting or crocheting things for the baby in pregnancy are ordinary activities performed by Turkish women and their relatives. So we did not find it useful to include in our therapy.

We chose group therapy to be able to reach more women. According to Spiegel (1994), group therapy has three advantages. Firstly, the group environment provides its members with social support. Accordingly, in a meta-analysis of 59 studies on postnatal depression, it was concluded that support groups and having someone to talk to were the most effective treatment approaches (Dennis & Chung-Lee, 2006). Secondly, the members have an environment outside of their families where they can objectively share their concerns. Finally, the group system is low cost, and time is used more efficiently. Art therapy, contributing to group cohesion, enables a person to feel less anxiety in the protected structure of a group (Demecs et al., 2011; Shin & Kim, 2011). In our communications with the art therapy group, nearly all women said they were at first reluctant to start therapy but admitted that they felt relieved after hearing similar stories from other women which made them feel supported. The group members became a part of each other's support system. The pregnant women in the art therapy group exchanged their phone numbers and formed a group in an instant-messaging application where they shared their thoughts and feelings after the therapy sessions were over. They asked for help from each other on issues such as breastfeeding or other mutual problems of taking care of their babies through this messaging application. This was not something the therapist suggested. It was their decision. This may indicate that these women who were strangers before the therapies felt the warmth and protective environment of the group and wanted to extend this relationship to their everyday lives. So, it may be stated that the group therapy approach reached its goal of being a safe and protective social support system.

There was no improvement in the psychoeducation group which contradicts the results reported in the literature (Fenwick et al., 2015; Rouhe et al., 2009, 2015; Toohill et al., 2014). The psychoeducation groups in Rouhe et al.'s (2009) study consisted of six pregnant women at most. Our control group included 15 women. This relatively high number in the control group might have decreased the efficacy of the treatment. Group psychoeducation might be more efficient with fewer group members. Psychoeducation might have been experienced like a formal education group that did not focus on the personal concerns of each woman, and the participants might have felt like students. In Turkey, students are not interactive participants of classes, but they are generally passive and obedient takers. On the contrary, art therapy required the women to be interactive. The art therapist engaged with each pregnant woman when she instructed, listened and supported the production of artwork. This might have increased the well-being of the women. We suggest that art therapy could be helpful for cultures where verbalizing feelings and thoughts is difficult.

Hypnobirthing is a popular technique for supporting natural delivery (Mongan, 2005), but it is rarely used in Turkey due to the lack of educated staff trained on this technique. Hypnobirthing does not focus on the personal concerns of the individual pregnant women but on relaxation exercises and education of women regarding the process of delivery in similarity to the psychoeducation group. Therefore, art therapy may seem superior concerning its focus on the psyche of the woman in various aspects.

In line with the available literature, as the level of FOC measured by W-DEQ increased, so did the symptoms of anxiety and depression in both groups (Erkaya, Karabulutlu, & Çalık, 2017; Størksen et al., 2013). We used BDI and BAI to check for depressive and anxiety symptoms, and the BDI and BAI scores were above their cut-off points before starting the treatment in both groups. These women did not have a prior psychiatric disorder. Therefore, we attributed the increased BDI and BAI scores to FOC. The BDI score measurements began to show significant decreases starting from T2, and the BAI score measurements were significantly lower at T3 in the art therapy group. So, as the fear of giving birth decreased, the women's overall psychophysiological functioning improved, and the vaginal birth rates among the women increased consequently. These findings may suggest two things. Firstly, it may be stated that clinical FOC is a separate condition from anxiety or depressive disorders. Therefore, during treatment, specific issues related to FOC need to be addressed. Secondly, the decrease in WDEQ scores may predict both the efficacy of treatment and the subsequent mode of delivery. So, if the WDEQ scores do not decrease considerably when the treatment is finished, further therapeutic work with the addition of other techniques may need to be planned, which complies with the PLISSIT model (Saisto & Halmesmaki, 2003).

Previous research included women with severe FOC (W-DEQ > 66) (Fenwick et al., 2015; Rouhe et al., 2015; Toohill et al., 2014; Wahlbeck et al., 2017). However, our study and control groups included women with moderate levels of FOC. Therefore, our results may not be comparable to those in previous research. Moderate levels of FOC may also be disturbing for the women as reflected in the increased levels of anxiety and depressive symptoms in our groups. The importance of moderate levels of FOC on delivery methods has not been studied exclusively. Moderate FOC may go unnoticed and undealt with. However, the ten women in the psychoeducation group with moderate FOC had C-section deliveries, which might suggest a possible impact of moderate FOC on the delivery method. Our study highlights the need for questioning FOC in every pregnant woman and targeting not only those with severe FOC but also those with moderate FOC as well.

This study had some limitations. The research was based on one art therapy and one control group with a sample from only one hospital. There was only one therapist conducting the therapy sessions. This might have caused a positive bias toward art therapy because art therapy requires the therapist to interact with the participants in an in-depth manner. This could have created a better therapeutic alliance between the therapist and the participants, and the therapist might have subconsciously favored those in the art therapy group over the psychoeducation group. The art therapy and control groups were limited to 15 women each. Although our sample was small, it might be a good representation of Turkish pregnant women because the Hospital where the study took place is a venerable and well-known hospital among Turkish people that specializes in obstetrics and gynecology care for women from low- and middle-income backgrounds in a central area of Istanbul. The research included only pregnant women in their final trimester. Fear of giving birth is not confined to the final trimester, and some women may avoid getting pregnant due to FOC. Therefore, the efficacy of art therapy needs to be studied in different trimesters and before pregnancy as well. The prevalence of domestic violence in Turkey is high (57.2%) (Özcan, Günaydın, & Çitli, 2016). Domestic violence in pregnancy was reported to be 39.8% in a Central-Anatolian city of Turkey (Alan, Koc, Taskin, Eroglu, & Terzioglu, 2016). Domestic violence in pregnancy may increase or cause FOC (Hossieni, Toohill,

Akaberi, & HashemiAsl, 2017). We asked the participants about the occurrence of any new adverse events in their lives at T2 and T3 to exclude any factors that may interfere with their psychological well-being. No adverse events were reported. However, domestic violence was not questioned directly. Women may be ashamed or afraid of talking about their domestic violence experience, or they might have normalized it. Occurrence of domestic violence needs to be addressed in pregnant women with FOC.

Conclusion and recommendations

To conclude, our findings suggest that art therapy is an efficient method for reducing FOC and levels of anxiety and depressive symptoms in pregnant women in their final trimester. This art therapy program enabled these shifts in behavior by helping the women face and express their fears through their artwork (drawing) and then gain control over their fears (mandala-making, puppet-making, taking photographs and collage-making) within a secure base and an on-going social support system provided by the group structure. Art therapy can be used to change perceptions regarding delivery. Art therapy may be employed as a method of relaxation, relief and encouragement through self-expression for pregnant women in preparation for childbirth. Personalized treatment that focuses on a pregnant woman's individual needs might be more productive. However, group therapy may be more cost-effective for larger groups, especially in developing countries or for women from low-income backgrounds. We suggest that pregnant women receive psychological support in the process of preparation for delivery. A birth psychologist specializes in issues regarding birth psychology, birth physiology and interpersonal relationships of pregnant women and offers psychotherapeutic approaches to problems that arise in pregnancy (Karabekir, 2016). The effectiveness of the birth psychologist may increase in the course of overcoming FOC, which impedes the rates of vaginal births.

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Declarations

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The presented paper includes some of the findings from the Master's Thesis of the second author.

The second author designed the structure of art therapy sessions and also conducted the group therapies.

The first author planned the methods of the study and interpreted the findings of the study. The first author wrote this manuscript.

The nurses in the hospital helped with the referral of the pregnant women, and they also provided a comfortable space for group therapies.

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