

# The Effect of EMDR on Childbirth Anxiety of Women With Previous Stillbirth

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Eye movement desensitization and reprocessing (EMDR) therapy is a form of psychotherapy used for individuals who have experienced stress-related injuries. Having an unpleasant experience of previous childbirth can cause anxiety and fear of labor in women during the next childbirth. The aim of this study was investigating the effect of the EMDR therapy on childbirth anxiety among multiparous women in the next normal pregnancy, following a prior stillbirth. A randomized controlled clinical trial was conducted with 30 pregnant women after they were admitted for delivery in an urban hospital in Qazvin, Iran, in 2016. The participants were selected using a convenient sampling method and then were randomly assigned into two groups, EMDR intervention ( $n = 15$ ) and usual treatment control ( $n = 15$ ). The Van den Bergh Pregnancy-Related Anxiety questionnaire was used to collect data before treatment (on admission when recruited for study) and after treatment (within 24 hours after childbirth). The EMDR therapy for the intervention group was performed with a 90-minute session when participants were admitted in hospital for delivery. The control group received only routine care. Data were collected using descriptive and inferential statistics and  $p < .05$  was considered statistically significant. A statistically significant reduction in the mean anxiety in the EMDR intervention group compared to the control group was reported. Also, a reduction in the scores of posttest compared with pretest was observed in the EMDR intervention group ( $p < .01$ ). The EMDR therapy reduced childbirth anxiety in pregnant women during normal pregnancy, following previous stillbirth.

**Keywords:** pregnancy; anxiety; eye movement desensitization and reprocessing (EMDR) therapy; fear of childbirth; stillbirth

**P**regnancy and childbirth are important events in women's lives, and even healthy women experience anxiety due to uncertainties in pregnancy (Madhavanprabhakaran, D'Souza, & Nairy, 2015; Rauchfuss & Maier, 2011). Pregnancy-related anxiety influences the health of pregnant women and increases the probability of preterm labor, prolonged labor, cesarean section, and low birth

weight (Catov, Abatemarco, Markovic, & Roberts, 2010; Lobel et al., 2008).

The prevalence of anxiety is different according to gestational age, with the highest levels of anxiety experienced in the first and third trimester (Teixeira, Figueiredo, Conde, Pacheco, & Costa, 2009). The prevalence of pregnancy-related anxiety is reported to be 14%–54% (García Rico, Rodríguez, Díez, & Real,

2010; Madhavanprabhakaran et al., 2015; Teixeira et al., 2009). It is defined as concerns, worries, and fear related to pregnancy, childbirth, infant health, and parental roles (Huizink, Mulder, Robles de Medina, Visser, & Buitelaar, 2004). One cause of pregnancy-related anxiety is the fear of childbirth, which is a natural phenomenon in many pregnant women (Zar, Wijma, & Wijma, 2001). According to the results of various studies, fear of childbirth is reported in 5%–20% of pregnant women (Storksen, Eberhard-Gran, Garthus-Niegel, & Eskild, 2012).

Several factors are associated with an increase in the prevalence of fear of childbirth, such as maternal age, nulliparity, underlying psychological problems, lack of social support, history of rape or disastrous obstetric events (Bakshi, Mehta, Mehta, & Sharma, 2008; Heimstad, Dahloe, Laache, Skogvoll, & Schei, 2006; Rouhe, Salmela-Aro, Halmesmäki, & Saisto, 2009; Saisto & Halmesmäki, 2003), worries about their own and infant's health (Wijma, 2009), lack of control and distrust in their abilities, external conditions such as staff assistance in childbirth (Sjögren, 1997), and fear of labor-related processes such as pain, medical interventions, abnormal childbirth, death, and traumatic labor experiences (Ryding, 1993).

## Traumatic Childbirth

One of the factors associated with fear of childbirth is a prior traumatic childbirth. This is defined as an incident in the process of labor and childbirth that causes harmful, actual injury or death for the mother or infant. During the childbirth process, women experience severe fear, lack of help, and loss of control (Beck, 2004). After a traumatic pregnancy, 2%–21% of women experience posttraumatic stress disorder (PTSD; Susan, Harris, Sawyer, Parfitt, & Ford, 2009). In a critical review of studies on postnatal PTSD following traumatic childbirth, James reported that PTSD occurring following traumatic childbirth has the following characteristics: nature of trauma memory, negative appraisal of trauma and/or its sequelae, current threat, and strategies intended to control threat/symptoms (James, 2015). These characteristics are consistent with those of PTSD, including persistent reexperiencing of the traumatic event, persistent avoidable reminders of the trauma, numbing of general responsiveness, and persistent increased arousal (Save, 2000). Reexperiencing is reported as one of the most frequent symptoms of PTSD in traumatic childbirth (Ayers, Rachel, Alexandra, Ylva, & Elizabeth, 2009). Negative appraisals are expressed about the experience leading to the traumatic childbirth,

the process during the traumatic childbirth, and the experience following the traumatic childbirth (Boorman, Devilly, Gamble, Creedy, & Fenwick, 2014). Women's descriptions of current threat are reported as emotional numbing and hyperarousal, anxiety, panic, depression, suicidal, dissociation of the mind and body, vulnerability, confusion, helplessness, low self-esteem, intense bursts of anger, shame, fear, disturbed sleep, feeling threatened, stress, and feeling disconnected (James, 2015).

McKenzie-McHarg et al. (2015) recognized that some populations are at high risk for developing PTSD following childbirth; these include women with preeclampsia, preterm, or stillbirth experiences (McKenzie-McHarg et al., 2015). While childbirth-related PTSD can occur in the absence of medical complications, experiencing this condition is more prevalent among women with medical complications (Ayers, Bond, Bertullies, & Wijma, 2016). Stramrood et al. (2011) reported that 14% of women with preterm birth due to preeclampsia or premature preterm rupture of membranes develop PTSD (Stramrood et al., 2011). Turton, Hughes, Evans, and Fainman (2001) in a cohort study of pregnant women with a history of stillbirth reported that the symptoms of PTSD in these women occurred less than 1 year from the previous unpleasant experience (Turton et al., 2001).

Armstrong (2002) compared 103 couples (40 couples with a history of stillbirth, 33 couples with first pregnancy, and 30 couples with previous successful pregnancies) and reported that couples with a history of stillbirth had higher levels of depression and anxiety, which was higher in mothers than in fathers (Armstrong, 2002). For many women, the experience of childbirth is developed based on previous experiences (Rilby, Jansson, Lindblom, & Mårtensson, 2012). Therefore, pregnant women with a history of stillbirth experience higher levels of anxiety. Anxiety in pregnancy and severe fear of childbirth can increase the harmful consequences for health of the mother and fetus, including hypertension and preeclampsia, preterm childbirth, labor problems and emergency cesarean section, excessive use of palliative drugs in labor and childbirth, low birth weight, prolonged labor, dystocia (slow or difficult labor or childbirth), and increased demand for cesarean section (Alehaugen, Wijma, Lundberg, & Wijma, 2005; Andersson, Sundström-Poromaa, Wulff, Åström, & Bixo, 2004; Dole et al., 2003; Handelzalts et al., 2015; Söderquist, Wijma, Thorbert, & Wijma, 2009). Posttraumatic stress symptoms after childbirth are not always self-limiting, leading to a chronic disorder (Söderquist, Wijma, & Wijma, 2006).

## EMDR

Eye movement desensitization and reprocessing (EMDR) is recognized as a valid psychotherapeutic method for treating psychological trauma and other unpleasant experiences in life (Shapiro & Maxfield, 2002). EMDR therapy is a transdiagnostic, integrative psychotherapy approach, which is intrinsically client-centered at its core (Farrell, 2018). It has been extensively researched and proven effective for the treatment of adverse life experiences (Yurtsever et al., 2018). From her experiences in EMDR therapy sessions, Shapiro developed a unique theoretical model for the pathogenesis and change relating to EMDR therapy (Shapiro, 2001). EMDR therapy can rapidly achieve clinical results, which can be explained according to Shapiro's adaptive information processing (AIP) model. AIP regards that distressing earlier life experiences cause most pathologies. These experiences can lead to a pathological structure of cognition, affects, and behaviors. If at the time of the disturbing event, information processing was insufficient, these pathological structures are stored. When AIP is impaired, various clinical presentations including PTSD, phobias, panic disorders, some forms of depression, dissociation, and personality disorder can be seen (Shapiro, 2018). EMDR therapy can restore AIP by facilitating the access and reprocessing of traumatic memories and other adverse life experience (Chiorino et al., 2016).

The results of various studies showed the positive effect of the EMDR therapy in the elimination of physical and psychological symptoms caused by unpleasant experiences of life (Shapiro, 2014). While various studies have shown the effect of psychological interventions on mood and anxiety during pregnancy and postpartum (Ahmadi, Moosavi Sahebalmamani, Ghavami, Shafiee, & Fathi Ashtiani, 2014; Byrne, Hauck, Fisher, Bayes, & Schutze, 2014; Klabbers, Wijma, Paarlberg, Emons, & Vingerhoets, 2014), some studies and clinical expertise suggest that EMDR therapy is a highly successful psychotherapy for women suffering from traumatic birth (Sandström, Wiberg, Wikman, Willman, & Högberg, 2008; Stramrood et al., 2012).

In a pilot study, Sandström et al. investigated the possibility of using EMDR therapy to treat women who experienced posttraumatic stress after childbirth. Assessment was conducted before and after treatment, with 1–3 years follow-up. Four women (one pregnant) with PTSD after childbirth were treated with EMDR. They found that all participants had reduction of posttraumatic stress after EMDR therapy. At the 1–3 years follow-up, three of the four women

reported the beneficial effects of EMDR (Sandström et al., 2008). In the other study, Starmrood et al. reported using EMDR therapy for three women suffering from posttraumatic stress symptoms following the birth of their first child. EMDR therapy was implemented during their second pregnancy. They found that EMDR therapy resulted in participants' reduced posttraumatic stress symptoms and more confidence about their pregnancy and upcoming delivery compared with before the treatment. After EMDR therapy, all three women looked back positively at the second delivery experience (Stramrood et al., 2012).

Due to positive effects of EMDR therapy in treatment of PTSD after previous traumatic childbirth, the present randomized controlled trial was designed to investigate effect of the EMDR therapy on anxiety among multiparous women with previous stillbirth in their second normal childbirth.

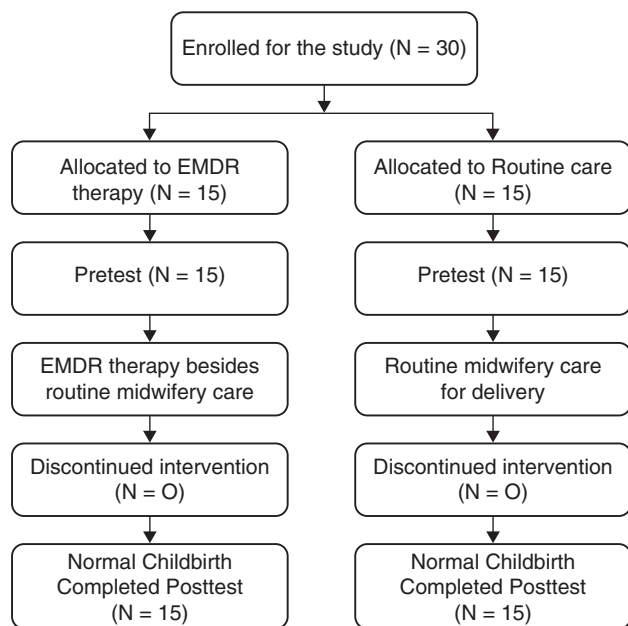
## Method

### Design and Participants

A randomized controlled clinical trial was conducted in 2016 with 30 pregnant women seen in the admission ward of urban hospital. They were recruited to the study when they were admitted for childbirth. They each had a previous experience of stillbirth and now were pregnant, with a normal pregnancy. The participants were selected using a convenient sampling method and then were randomly assigned into two groups, EMDR intervention ( $n = 15$ ) and usual treatment control ( $n = 15$ ). The EMDR therapy for the intervention group was performed with a 90-minute session before childbirth in the labor ward. The Van den Bergh Pregnancy-Related Anxiety questionnaire (PRAQ) was used to collect data before the intervention and within 48 hours after normal childbirth delivery in the hospital. All participants had a normal childbirth with no complication and completed the study. Figure 1 shows the study flowchart.

### Sampling

The effect of EMDR therapy on the reduction of anxiety was examined in previous studies (Moradi, Chatrooz, Sarichlu, & Alipourheidari, 2015; Moradi, Zeighami, Moghadam, Javadi, & Alipor, 2016; Power et al., 2002; Vaughan et al., 1994). Therefore, using the effect size of 1.0 according to the Cohen  $d$  formula, alpha .05 and power 80% led to the determination of the sample size as 11 individuals in each group. Given the probability of dropout, 15 individuals per



**FIGURE 1.** Study flowchart.

group were recruited in this study. The subjects were selected using a convenient sampling method and were randomly assigned into two experimental and control groups ( $n = 15$  in each group). The blocked randomization method was used for random allocation of the participant to the groups.

### Data Collection

A demographic data questionnaire and the PRAQ were used for data collection. The demographic data questionnaire was researcher-made and included questions about age, level of education, occupation, type of pregnancy (wanted, unwanted), pregnancy status, pregnancy history, and childbirth. The validity of this questionnaire was assessed by five midwifery faculty members.

The PRAQ assessed fear and concerns about pregnancy and was created by Van den Bergh in 1989. Exploratory factor analysis of the PRAQ was carried out by Van den Bergh (1990) on 300 pregnant women and led to five factors, including fear of childbirth (14 items), fear of giving birth to a physically or mentally handicapped infant (5 items), fear of changes in marital relationships (13 items), fear of changes in mood and its consequences on the child (16 items), and self-centered fears with fear of changes in the mother's personal life (7 items; Van den Bergh, 1990). The short-form PRAQ had 17 items with the same 5 primary factors. Validity of the Farsi version of this questionnaire was performed by Askarizadeh, Karamoozian, and Darekordi (2017) among a sample of Iranian pregnant women (Askarizadeh et al.,

2017). In addition, the Cronbach's alpha coefficient of this questionnaire in this study was reported as 0.81 for the whole scale, indicating its appropriate reliability. The questionnaire's total score was the summation of each item's score from 1 to 7.1 to 7. Therefore, the total score ranged from 17 to 119. Acquiring higher scores means experiencing higher anxiety. Anxiety of the women in both groups was measured before and after the intervention using the PRAQ.

Also two more scales, the Subjective Units of Disturbance (SUD) Scale and the Validity of Cognition (VOC) Scale, were used as process measures (Shapiro, 2018). The SUD scale is an 11-point self-report scale, where 0 means absence of emotional distress and 10 indicates the maximum distress. As it is a process measure, clients were asked to evaluate and report their subjective disturbance before and after EMDR therapy. The VOC scale was used to assess validity of the positive cognition. Like the SUD scale, the VOC scale is also a self-report measure. It represents an individual's assessment of his or her positive cognition on a 7-point scale, where a score of 1 means lack of belief in that particular cognition, and a score of 7 means full belief in it. At each stage (before and after EMDR therapy) clients were requested to rate their positive cognition according to the VOC scale.

### Data Analysis

Descriptive and inferential statistics were used for data analysis via the SPSS software version 21. The Kolmogorov-Smirnov test was used to assess normality of the data. Covariance analysis was used to examine effect of the intervention on anxiety scores in intervention and control groups. The  $p < .05$  was considered statistically significant.

### Procedure

Participants were randomly assigned to the intervention and control groups. In both groups, anxiety was measured using the PRAQ before the intervention. Routine midwifery care was administered to both groups and EMDR therapy was used for the intervention group.

The EMDR therapy was carried out in a quiet and private place in the labor ward. After eligible participants were admitted for vaginal delivery, EMDR therapy was implemented through one session. The duration of the EMDR therapy was 90 minutes for each participant.

EMDR therapy was provided by one of the researchers (NZ) who was trained about EMDR therapy under the supervision of an expert (a clinical psychologist). Participants assigned to EMDR therapy received this therapy as well as routine midwifery care. Participants assigned to the control group received routine midwifery care.

The EMDR therapy consisted of eight essential steps. EMDR therapy was implemented through the following phases.

**Phase 1—Client history and treatment planning:** In this phase clients are assessed for suitability for EMDR therapy. A major concern in this phase is client's ability to deal with the high levels of disturbance potentially precipitated by processing of dysfunctional information. After clients were selected for EMDR therapy, the history-taking phase entailed an evaluation of the entire clinical picture, including the client's dysfunctional behaviors, symptoms, and characteristics. This helps the therapist to determine the specific target to be reprocessed. The specific target in this study was traumatic experiences regarding previous childbirth memories. To identify this target, women were asked to speak about their memories on previous childbirth and then were asked to specify the traumatic piece which disturbed them.

**Phase 2—Preparation:** This includes establishing therapeutic alliance, explaining EMDR therapy process and its effects, considering clients' concerns, and initiating relaxation and safety procedures.

**Phase 3—Assessment:** In this phase the therapist identifies the components of the target. When the memory has been identified, the client is asked to select the image that best represents that memory. Then the client chooses a negative cognition that expresses the dysfunctional or maladaptive self-assessment related to the event. In this study, negative cognition was anxiety related to having another stillbirth. Then the client was asked to choose a positive cognition to be used to replace the negative cognition during the installation phase. In this case, participants chose having a live infant in a safe and sound condition as their positive cognition. Participants in this phase also provided the pretreatment SUD and VOC scores.

**Phase 4—Desensitization:** In this phase eye-movement sets were used and the negative distressing memory was processed. At the end of the phase, the client reported her level of negative affect using the SUD scale.

**Phase 5—Installation:** This phase focuses on accentuating and increasing the strength of the positive cognition that the client has identified as the replacement

for the negative cognition. The client provides the VOC score.

**Phase 6—Body scan:** After installing the positive cognition, the client is asked to hold in mind both the target event and the positive cognition and then scan her body mentally from top to bottom. The client is asked to identify any residual disturbance in the form of body sensation.

**Phase 7—Closure:** In this phase the client is returned to a state of emotional equilibrium. The client is instructed that disturbing images, thoughts, or emotions might arise between sessions. This should be considered as a positive sign.

**Phase 8—Reevaluation:** This occurs at the beginning of each new session. In this phase, the client is asked to reaccess the previously processed target, and responses are reviewed to determine the maintenance of treatment effects (Shapiro, 2018). In this study, anxiety was assessed using the PRAQ up to 24 hours after childbirth in both groups.

## Ethical Considerations

The research proposal was approved by the Institutional Research Committee; it was also approved by the institutional ethics committee, and permission for the researchers to attend the hospital was obtained. The researcher explained the aim and method of the study to the participants. They were assured of the confidentiality of collected data and the voluntary nature of participation in this study. Written informed consent was signed by those women who willingly agreed to take part in this study.

## Results

The demographic characteristics and anxiety scores are presented in Table 1. No statistically significant differences were reported between the groups in terms of demographic characteristics. Scores of anxiety in the groups were reported in Table 2. Pretest scores of anxiety were used to perform covariance analysis to control the effect of this variable. Analysis of covariance (ANCOVA) test assumptions, including normal distribution of variables (Kolmogorov-Smirnov test), homogeneity of variance of groups (Levin test), and linear relationship between covariate and dependent variable (homogeneity of regression across groups) were assessed. Table 3 showed results of the ANCOVA test for anxiety. In comparison to the control group, the EMDR intervention significantly reduced the total anxiety score and scores of anxiety domains in

**TABLE 1. Distribution of Demographic Variables**

| Variable           | Intervention     |              | Control |              | Statistical Difference |                                  |
|--------------------|------------------|--------------|---------|--------------|------------------------|----------------------------------|
|                    | N                | %            | N       | %            |                        |                                  |
| Age                | 20–24y           | 2            | 13.33   | 2            | 13.33                  | <i>t</i> test <i>p</i> = .871    |
|                    | 25–29 y          | 5            | 33.33   | 6            | 40                     |                                  |
|                    | 30–34 y          | 6            | 40      | 5            | 33.33                  |                                  |
|                    | 35 y<            | 2            | 13.34   | 2            | 13.34                  |                                  |
|                    | Mean ± <i>SD</i> | 29.47 ± 4.87 |         | 29.27 ± 4.66 |                        |                                  |
| Educational Status | Under Diploma    | 8            | 53.34   | 9            | 60                     | $\chi^2 = 2.858$ <i>p</i> = .275 |
|                    | Diploma          | 5            | 33.33   | 2            | 26.67                  |                                  |
|                    | Academic         | 2            | 13.33   | 2            | 13.33                  |                                  |
| Job                | Housewife        | 15           | 93.33   | 14           | 100                    | $\chi^2 = 1.034$ <i>p</i> = .309 |
|                    | Employed         | 0            | 6.67    | 1            | 0                      |                                  |

Note. *SD* = standard deviation.

**TABLE 2. Mean Scores (and Standard Error) on the Pregnancy-Related Anxiety Questionnaire Subscales Among Intervention and Control Groups**

| Anxiety subscales   | Intervention  |               | Control       |              |
|---|---------------|---------------|---------------|--------------|
|   | Pretest       | Posttest      | Pretest       | Posttest     |
| Fear of changes in mood and its consequences on the child             | 10.40 ± 5.58  | 8.67 ± 4.05   | 10.20 ± 4.67  | 12.13 ± 4.32 |
| Fear of giving birth to a child with physical or mental health issues | 12.27 ± 6.47  | 9.87 ± 4.3    | 8.93 ± 4.18   | 9.67 ± 4.85  |
| Fear of childbirth  | 16.07 ± 3.24  | 10.07 ± 3.86  | 13.27 ± 4.82  | 14.07 ± 5.59 |
| Fear of change in the marital relationship                            | 13.73 ± 6.15  | 11.47 ± 4.94  | 10.73 ± 5.81  | 11.73 ± 4.85 |
| Self-centered fear or fear of the changes in personal life of mother  | 11.07 ± 3.50  | 7.67 ± 3.52   | 10.73 ± 5.46  | 12.73 ± 6.24 |
| Total Anxiety Score   | 63.53 ± 17.45 | 47.73 ± 16.76 | 53.87 ± 16.57 | 59.4 ± 19.58 |

pregnant women. An examination of the posttest corrected mean of the groups indicated that the EMDR therapy had the most effect in reducing anxiety of the women in the domain of fear of childbirth. Significant differences in the posttest mean scores of total anxiety in the intervention group compared to the control group (43.12 vs. 64.01) indicated that EMDR therapy reduced anxiety among pregnant women in the intervention group.

## Discussion

This was one of the first randomized clinical trials used the EMDR therapy for reducing anxiety among women with a history of stillbirth. The results of this study showed that the anxiety level of the intervention group was significantly lower compared with the pretest result and the control group after the intervention. This finding suggested that their sensitivity to traumatic events experienced during the previous childbirth was reduced. Reducing anxiety

is due to the effectiveness of EMDR therapy, which accelerates and organizes the information processing system regarding traumatic memories of past events. When adaptive reprocessing occurs as a result of EMDR, traumatic events are desensitized and cognitively reconstructed in an adaptive manner, so bothersome memories are altered and have little emotional power to cause anxiety. Therefore, the women's sensitivity and anxiety toward traumatic incidents disappeared, which reduced anxiety (Shapiro & Forrest, 2016).

Consistent with current study, Sandström et al. (2008), in a pilot study of EMDR therapy for PTSD after childbirth with four participants, reported reduction of posttraumatic stress after treatment among all participants. After 1–3 years, the beneficial effects of EMDR therapy remained for three of the four women (Sandström et al., 2008). Also Stramrood et al. (2012) reported their experience of implementing EMDR therapy for three women suffering from posttraumatic stress symptoms following the birth of their first

**TABLE 3. ANCOVA Comparing Post Test Scores for the Intervention and Control Groups on the Pregnancy-Related Anxiety Questionnaire, Total and Subscale Scores**

| Variable  | Group        | Adjusted Mean | SE    | F      | p value |
|---|--------------|---------------|-------|--------|---------|
| Fear of changes in mood and its consequences on the child             | Intervention | 8.60          | 0.665 | 14.633 | .001    |
|   | Control      | 12.20         |       |        |         |
| Fear of giving birth to a child with physical or mental health issues | Intervention | 8.71          | 0.691 | 4.500  | .043    |
|   | Control      | 10.83         |       |        |         |
| Fear of childbirth  | Intervention | 8.96          | 0.962 | 19.635 | .000    |
|   | Control      | 15.17         |       |        |         |
| Fear of change in the marital relationship                            | Intervention | 10.46         | 0.750 | 4.472  | .044    |
|   | Control      | 12.74         |       |        |         |
| Self-centered fear or fear of the changes in personal life of mother  | Intervention | 7.51          | 0.682 | 31.152 | .000    |
|   | Control      | 12.89         |       |        |         |
| Total Anxiety Score   | Intervention | 43.12         | 2.22  | 42.382 | .000    |
|   | Control      | 64.01         |       |        |         |

Note. ANCOVA = analysis of covariance; SE = standard error.

child. They reported that treatment with EMDR therapy reduced posttraumatic stress symptoms in these three women. They were all sufficiently confident to attempt vaginal birth rather than demanding an elective cesarean section (Stramrood et al., 2012). While no large-scale randomized controlled clinical trial has been done to date, two protocols have been published by Baas, Stramrood, Dijkman, De Jongh, and Van Pampus (2017) and George, Thilly, Rydberg, Luz, and Spitz (2013), respectively, which aim to implement EMDR therapy for PTSD following childbirth and also for fear of childbirth among participants with no previous experience of childbirth (Baas et al., 2017; George et al., 2013).

Various studies were conducted to investigate the effect of EMDR therapy on reducing anxiety in different groups of patients, which reported consistent results with those of the present study. They showed the positive effects of this therapeutic approach on reducing anxiety after traumatic incidents. Raboni, Tufik, and Suchecki (2006) showed that EMDR therapy significantly reduced the mean anxiety level in patients with PTSD (Raboni et al., 2006). Also, Moradi et al. (2015) reported that EMDR therapy could significantly reduce the mean score of anxiety regarding the pain during wound dressing of burn patients (Moradi et al., 2015). In another study, EMDR therapy was used to reduce anxiety in patients with myocardial infarction. The results of this study also showed a significant reduction in the anxiety level of patients in the intervention group compared with the control group who received routine care (Moradi et al., 2016). In another study by Kemp, Drummond,

and McDermott (2010), a four-session EMDR therapy reduced PTSD symptoms including anxiety in children aged 6–12 years who experienced motor-vehicle accidents. All participants initially met two or more PTSD criteria, but after EMDR therapy, this decreased to 25% in the EMDR group but remained at 100% in the wait-list group (Kemp et al., 2010).

In 2014, Shapiro conducted a systematic review of clinical trials that used EMDR therapy as a treatment for psychological and somatic disorders. The results of this systematic review supported the positive effects of EMDR therapy on the treatment of psychological trauma and other life-threatening experiences. The findings of this systematic review also indicated that EMDR therapy was faster, or even more effective, than cognitive-behavioral therapy focused on trauma. These results indicate that doctors and other service providers can use EMDR therapy as an effective way to treat psychological and physical symptoms due to negative experiences of life (Shapiro, 2014).

## Conclusion

The findings of this study suggested that one session of EMDR therapy could be used as an effective, useful, and noninvasive psychotherapeutic method for treating or reducing the severity of anxiety in pregnant women with previous traumatic experiences. According to the results of this study, EMDR therapy can be used during pregnancy to treat or relieve anxiety and the fear of pregnant women about vaginal childbirth. Therefore, this is an effective strategy to encourage normal childbirth.

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