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An art therapy intervention for symptoms of post-traumatic stress, depression and anxiety among Syrian refugee children

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ABSTRACT
This study first examined the prevalence of psychological symptoms among Syrian refugee children (N = 64) and assessed the effect of an art therapy intervention on post-traumatic stress, depression and anxiety symptoms. The Stressful Life Events (SLE) Questionnaire was used to measure stressful and traumatic experiences. The main outcome measures were UCLA Post-Traumatic Stress Disorder Parent version, Child Depression Inventory and State-Trait Anxiety Scale. After the baseline assessment, a five-day art therapy intervention, which is based on Skills for Psychological Recovery, was implemented. Findings of the study indicated that 60.3% (N = 35) of Syrian children who participated had high risk to develop post-traumatic stress disorder (PTSD) according to the SLE scale. The 23.4% of the children had PTSD symptoms while the 17.6% showed severe depression symptoms. Moreover, the 14.4% of the children showed severe levels of state anxiety symptoms and the 31.1% showed severe levels of trait anxiety symptoms. Findings of the study indicated that trauma, depression and trait anxiety symptoms of children were significantly reduced at the post-assessment. However, for state anxiety scores, significant differences between pre- and post-assessments did not appear. Therefore, it could be said that art therapy may be an effective method to reduce post-traumatic stress disorder, depression and trait anxiety symptoms among refugee children.

1. Introduction

Previous studies indicate that refugee children are at increased risk for a wide range of psychological problems (Almqvist & Brandell-Forsberg, 1997; Reed, Fazel, Jones, Panter-Brick, & Stein, 2012). Difficulties in each stage of migration (pre-migration, migration and post-migration) can influence the mental health conditions of these children. Children may be exposed to different difficulties at pre-migration (separation from family members and disruptions of education), migration (exposure to violence, the death of family members and poor nutrition) and post-migration (acculturation and discrimination) stages (Berman, 2001; Kirmayer et al., 2011). Prior research demonstrates that refugee children may have somatic complaints, attention problems, social withdrawal, problems in social relations, sleep problems...
and irritability (Almqvist & Brandell-Forsberg, 1997; Mollica, Poole, Son, Murray, & Tor, 1997). More specifically, refugee children show a high prevalence of depression, anxiety, post-traumatic stress disorder (PTSD), aggression and behaviour problems (Yule, 1999).

A recent systematic review study conducted by Attanayake et al. (2009) reported that PTSD (47%) and depression (43%) are prevalent disorders among refugee children. In a large study (N = 14,088), Betancourt and colleagues (2012) examined the prevalence rates of behavioural and emotional problems among refugee children across the United States over a period of six years. Results indicated a prevalence rate of 30.4% for PTSD symptoms, 26.8% for generalized anxiety symptoms, 26.8% for somatization symptoms, 21.4% for traumatic grief and 21.4% for behavioural problems.

A study conducted after the Bosnian War with refugee children between the ages of 8 and 13 years demonstrated that 47% had depression symptoms, 23% had high rates of anxiety symptoms and 28% had high rates of PTSD symptoms (Papageorgiou et al., 2000). Moreover, it is indicated that psychological problems among refugee children persist for many years (Ehntholt & Yule, 2006). A longitudinal study with Cambodian adolescent refugees revealed the overall estimate of symptoms of PTSD to be 50%, and depression 53% 4 years after they had resettled (Kinzie, Sack, Angell, Manson, & Rath, 1986).

Since refugee children are at a high risk for developing many psychological problems, it is important to employ effective interventions (Chemtob, Nakashima, & Carlson, 2002; Pfefferbaum, 1997). If intervention is not provided, psychological symptoms may become chronic. Consequently, early interventions can play a protective role (Husain et al., 1998).

Currently used interventions with children are psychopharmacological treatments, play therapy, cognitive behavioural therapy, psychological debriefing and narrative exposure therapy (Catani, Jacob, Schauer, Kahila, & Neuner, 2008). A review of interventions for war-affected children showed that psycho-social, creative-expressive and recreational intervention programmes were mostly used (Jordans, Tol, Komrooe, & De Jong, 2009). The verbal processing-based intervention was found to be effective in decreasing symptoms of PTSD, depression, anxiety, behavioural and emotional problems, functional impairment, anger, traumatic grief, and peer problems (Barrett, Sonderegger, & Xenos, 2003; Ehntholt, Smith, & Yule, 2005; Kalantari, Yule, Dyregrov, Neshatdoost, & Ahmadi, 2012). Moreover, group-based cognitive behavioural therapy and creative art therapy techniques both include psycho-education, creative techniques and relaxation techniques, which were found to decrease anxiety symptoms among refugees (Barrett et al., 2003). School-based cognitive behavioural group therapy for trauma intervention studies found to decrease PTSD, depression and anxiety symptoms. However, teachers and parents did not observe this decrease in behavioural problems (Layne et al., 2001).

Another intervention programme that helps children decrease trauma symptoms is art therapy. In one study, Rousseau, Drapeau, Lacroix, Bagilishya, and Heusch (2005) found a 12-week art therapy classroom programme helped to improve the self-esteem and maladaptive symptoms of immigrant and refugee children from various cultures and backgrounds. Creative art therapy was found to be effective in decreasing
symptoms of PTSD, depression, anxiety and also emotional and relational problems, helping to increase the well-being of children (Ager et al., 2011).

Art therapy is a dynamic therapy. Through art making, the client participates in his/her own treatment. Therapeutic art making enables clients to express their emotions and thoughts in a personal way. Sometimes it is difficult to describe things with words; however, art making encourages people to express themselves through other means. Using art materials and creative process provides clients to reconcile emotional conflicts, increase self-awareness, social skills, foster coping mechanisms, increase self-esteem, reduce anxiety and enable them to think creatively, improving their problem-solving skills (Malchiodi, 2006).

While working with refugee children language could appear as a barrier. However, through creative art therapy techniques refugee children can express their memories, experiencing the process in an unthreatening way (Bresba, 2009; Rousseau, Lacroix, Bagilishya, & Heusch, 2003). Fitzpatrick (2002) supported that art therapy enables refugee children to feel a sense of control and structure and helps them re-assert their identities and counterbalance their losses. Mohlen, Parzer, Resch, and Brunner (2005) conducted a study with Kosovar refugees and found that relaxation and imagery techniques decreased PTSD symptoms because these techniques helped people reduce their level of arousal.

There are 1,490,034 Syrian refugee children currently living in Turkey, (UNCHR, 2016). It is important to gain knowledge about their psychological needs and to design effective intervention programmes in order both to decrease psychological problems and to strengthen the resilience they have. Given the high rates of behavioural and emotional problems among refugee children (Catani et al., 2008; Montgomery 2011; Reed et al., 2012; Yule, Dyregrov, Raundalen, & Smith, 2013), in this study, it is aimed to study the outcome of art therapy intervention on trauma, depression and anxiety symptoms among Syrian refugee children.

Thus, the purpose of the present study was to determine the prevalence rates of psychological symptoms among Syrian refugee children and to examine whether art therapy is an effective intervention to reduce their post-traumatic stress, depression and anxiety symptoms.

### 2. Methods

#### 2.1. Ethics

The study was reviewed and approved by the Ethics Committee of Istanbul Sehir University (IRB Protocol 06/2014). The sample was created from children whose families were contacted by the Municipality of Sultanbeyli for the current study. The municipality announced the present project to Syrian refugee families. Interested families’ children participated in the study.

#### 2.2. Participants

The eligible participants were Syrian children (aged 7–12) who were living in İstanbul, Sultanbeyli, and whose parents gave permission through consent forms. The mean age
of the 63 Syrian refugee children was 9.2 (SD = 1.7). There were 29 girls (46%) and 34 boys (54%). The 92.7% (N = 58) of the children reported that they experienced war in their country. The 58% (N = 37) were going to a school in Turkey. According to their parents' demographic forms, 30.2% of them have been living in Turkey for approximately six months, 46% of them have been living in Turkey for approximately a year and 12.7% of them have been living in Turkey for more than one year. About 66.7% of the children reported that they were feeling happy about living in Turkey while 7.9% of them reported that they were feeling unhappy about living in Turkey. About 25.4% of them were feeling neutral. On the other hand, 54% of the parents of these children reported that they were feeling happy about living in Turkey, 9.5% were feeling unhappy and 28.6% were feeling neutral about living in Turkey (Table 1).

### 2.3. Measure

#### 2.3.1. The Stressful Life Events (SLE) Questionnaire

The SLE Questionnaire was used to measure stressful and traumatic experiences of the participants. The questionnaire is available in 19 different languages including Arabic. All 'yes' answers are scored as 1, and all 'no' answers as 0. The total score can be split into 4 different clusters; ‘0 stressful life events’, ‘1–3 stressful life events’, ‘4–7 stressful life events’ and ‘8–12 stressful life events’. In the current study, Cronbach’s alpha of the scale was .46.

#### 2.3.2. Child Depression Inventory (CDI)

CDI (Kovacs, 1980/1981) was used to measure depression symptoms of children. An Arabic version of the scale was developed by Ghareeb (1995). In the Arabic version, there were 27 items and the total score varies between 0 and 54. In the current study, the internal consistency coefficient of the scale was .63.
2.3.3. **State-Trait Anxiety Scale**

State-Trait Anxiety Scale was developed by Spielberger, Gorsuch, and Lushere (1970). It is an instrument to measure the presence and the severity of current symptoms of anxiety and the general tendency to be anxious. There are two scales. Each has 20 items and the total scores are between 20 and 80 with higher scores showing higher levels of anxiety. A score of 39 or higher indicates clinically significant symptoms. The Arabic version of the scale was developed by Day, Knight, El-Nakadi, Spielberger, and Diaz-Guerrero (1986). In the current study, the internal consistency coefficient scales was .80 for both state and trait anxiety.

2.3.4. **UCLA Post-Traumatic Stress Disorder (UCLA PTSD) INDEX for DSM-IV (parent version)**

UCLA PTSD (Steinberg, Brymer, Decker & Pynoos, 2004) is an instrument to screen for trauma exposure and to assess for DSM-IV PTSD symptoms (American Psychiatric Association [APA], 1994). It is available in many languages, including Arabic. The scale provides diagnostic information about children and PTSD symptoms frequency score. There are 21 items which measure possible reactions to stressful events. The possible range score is 0–84 with a cut-off point of 38.

2.4. **Procedure**

The municipality announced their psychosocial support project including art therapy intervention to Syrian refugee families. Before the intervention, all children and their parents took the baseline assessment. The data collection was carried out by trained Syrian college student. Syrian college students collected data by going to refugees’ houses with the help of Sultanbeyli Municipality members.

The programme was aimed to be prepared in a culturally sensitive way. Therefore, all assessment procedure and art therapy sessions were carried out in Arabic, with the help of Syrian volunteer translators. In order to inform volunteers about mental health problems, trauma and the application of art therapy, before the intervention programme volunteers received a one-day training.

After the assessment procedure, the art therapy intervention programme was given. There were three licenced art therapists who provided separate sessions of music, movement and drawing. Each day, there were three sessions consecutively. Children were divided into three groups based on their ages (7–8, 9–10 and 11–12), and all of them participated in all sessions.

Art therapy directives were used in a 5-day workshop. Skills for Psychological Recovery (SPR) programme which is an evidence-based model was used. SPR programme was developed by the U.S. National Child Traumatic Stress Network and the U.S. National Center for PTSD (2010), with contributions from individuals involved in disaster research and response. SPR can be applied in different intervention programmes and can be used in different populations and with different types of trauma. Previous studies showed effective outcomes (Brymer et al., 2009). The main SPR skills that had been worked upon during the workshop were building problem-solving skills, promoting positive activities, identifying feelings, handing difficult
feelings and managing reactions, promoting helpful thinking, and rebuilding healthy social connections.

Visual art therapy sessions include expressing thoughts and feelings through visual art, reducing stress, encouraging creativity, emotional integration, catharsis, sublimation, improving self-confidence and having respect for self and others, gaining insight, enhancing problem-solving skills and having fun. Dance-movement therapy sessions include learning body check and achieving to be here and know, increasing self-awareness, learning regulation, stimulating feeling, relaxation, and grounding, reestablishing a sense of hope, setting boundaries, playfulness, encouraging self-discovery, developing healthy social interactions and having fun. Music therapy sessions include learning new instruments and gaining instrumental skills, improving motor skills, increasing focus and awareness, sensory stimulation, feelings of security, expressing emotions, distractions from pain, encouraging teamwork, teaching leadership, stimulating imagination and opportunities for social bonding.

There were two assessments: pre-treatment assessment (baseline) and post-treatment assessment (1 week after finishing the intervention). After the 5 days of intervention, we aimed to assess 63 children for post-assessment. However, because of the lack of Arabic interpreters, it was not possible to reach all of the samples. Therefore, 30 children were randomly selected for post-assessment.

3. Results

3.1. Baseline of psychological symptoms

To measure traumatic events, SLE scale was used. Results showed that 3 children were in the ‘0 stressful life events’ cluster, 20 children were in the ‘1–3 stressful life events’ cluster and 35 children were in the ‘4–7 stressful life events’ cluster (Table 2). According to the results of the scale, it could be expected that 60.30% (N = 35) of the children, who were in the third cluster, had a higher risk to develop PTSD.

To measure the levels of PTSD symptoms, UCLA PTSD Parent version was used. Sixty parents completed the scale. Results indicated that the mean score of the sample was 26.2 (range from 0 to 55) and the 23.40% (N = 14) of the children had PTSD scores higher than 38 (Table 3).

To measure depression, Child Depression Inventory was used. Research shows that a score between 16 and 23 indicates a higher level of depression symptoms (Roelofs et al.,

<table>
<thead>
<tr>
<th>Event</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you ever experienced a war or an armed military conflict going on around you in your country of birth?</td>
<td>74.10</td>
</tr>
<tr>
<td>Has someone died in your life who you really cared about?</td>
<td>56.90</td>
</tr>
<tr>
<td>Have you ever been involved in a disaster?</td>
<td>55.20</td>
</tr>
<tr>
<td>Have there been drastic changes in your family during the last year?</td>
<td>41.10</td>
</tr>
<tr>
<td>Have you been involved in a serious accident?</td>
<td>37.90</td>
</tr>
<tr>
<td>Did you ever see it happen to someone else in real life? (physical mistreatment)</td>
<td>31.90</td>
</tr>
<tr>
<td>Did you experience any other very stressful life event where you thought that someone else was in great danger?</td>
<td>30.80</td>
</tr>
<tr>
<td>Did you experience any other very stressful life events where you thought that you were in great danger?</td>
<td>26.90</td>
</tr>
</tbody>
</table>
Present findings indicated that the 17.6% ($N = 10$) of children had a score between 16 and 23 (Table 3).

The State-Trait Anxiety Scale was used to measure the anxiety level. A score of 39 or higher indicates clinically significant level of anxiety.

For state anxiety scale, 14.4% ($N = 6$) of children had a score higher than 39, which indicates severe levels of state anxiety symptoms. The 45.3% ($N = 19$) of the children showed moderate levels of state anxiety symptoms and the 38.3% ($N = 17$) of the children showed a mild level of state anxiety symptoms (Table 3).

For the trait anxiety scale, the 31.1% ($N = 13$) of children had a score higher than 39, which indicates severe levels of state anxiety symptoms. The 36.7% ($N = 20$) of the children showed moderate levels of state anxiety symptoms and the 19.2% ($N = 9$) of children showed a mild level of state anxiety symptoms.

### 3.2. Justification of post-test sample

To examine the reliability of the study, paired sample $t$-test was conducted among children who could not participate in the post-assessment part ($N = 33$) and children who participated in the post-assessment part ($N = 30$). Trauma, depression, and state and trait anxiety scores of children were compared. Results of the comparison showed that there were no significant differences between the two groups in terms of mean scores of trauma, depression and anxiety symptoms ($P > .05$). The findings supported that children who participated in the post-assessment part could represent the whole sample.

### 3.3. Outcome of the art therapy intervention

To examine the outcome of the art therapy intervention, 30 children were randomly selected for post-treatment assessment. A paired samples $t$-test was conducted to evaluate the differences between pre-treatment assessments (baseline) and post-treatment assessments.

Results of the study indicated that mean of pre-assessment of trauma symptoms ($M = 29.80$, $SD = 10.50$) was statistically greater than that of the mean of the post-assessment ($M = 15.32$, $SD = 9.59$), $t(24) = 5.45$, $p < .05$, $g = 1.00$, 95% CI [.46, 1.52] (Table 4; Figure 1).

<table>
<thead>
<tr>
<th>Table 3. Baseline of psychological symptoms.</th>
</tr>
</thead>
<tbody>
<tr>
<td>M (SD)</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>PTSD &gt;38</td>
</tr>
<tr>
<td>Depression</td>
</tr>
<tr>
<td>High(&gt;16)</td>
</tr>
<tr>
<td>Low (&lt;16)</td>
</tr>
<tr>
<td>Trait anxiety</td>
</tr>
<tr>
<td>Severe</td>
</tr>
<tr>
<td>Moderate</td>
</tr>
<tr>
<td>Mild</td>
</tr>
<tr>
<td>State anxiety</td>
</tr>
<tr>
<td>Severe</td>
</tr>
<tr>
<td>Moderate</td>
</tr>
<tr>
<td>Mild</td>
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</tbody>
</table>
Results indicated that the mean depression scores of the children, which were assessed before the art therapy workshop (M = 9.97, SD = 1.01), were statistically greater than the mean depression scores of the children that were assessed after the art therapy workshop (M = 6.0, SD = 4.54), \( t(29) = 3.95, p < .05, g = .72, 95\% \text{ CI} [.20, 1.24] \) (Table 4; Figure 1).

Results of the study showed that the mean of trait anxiety scores of children, which was assessed before the art therapy workshop (M = 36.92, SD = 6.96), was statistically greater than the mean of the trait anxiety scores of children, which was assessed after the art therapy workshop (M = 30.28, SD = 7.39), \( t(24) = 4.37, p < .05, g = .80, 95\% \text{ CI} [.27, 1.32] \). However, results of the study indicated that the differences between pre-state anxiety symptom scores of children (M = 30.52, SD = 8.31) and post-state anxiety symptom scores of children (M = 28.84, SD = 7.15) was not statistically significant (\( p > .05 \)).

### 4. Discussion

This study investigated the prevalence and the severity of psychological symptoms among Syrian refugee children and examined the outcome of the art therapy intervention on psychological symptoms. Trauma, depression and anxiety symptoms of the children were assessed. Compared to prior studies, the prevalence of the mental health disorders was low (Lustig et al., 2004; Montgomery, 2011). Findings of the study demonstrated that the prevalence rate of psychological symptoms, specifically depression and anxiety, among children was not as high as previously reported.

As Papageorgiou et al. (2000) explained, the cut-off scores of scales may differ across cultures. Generally, those scales are developed for western cultures first and are then adapted to other cultures. Due to this, the scales may have low sensitivity to
understanding the mental health problems of our group. Ghareeb (1995) stated the importance of the culture-specific assessment of depression. Depression can be seen in Western cultures as well as non-Western cultures, but the definition and the explanation of the phenomenon can be different. Statements in Child Depression Inventory can be easily understood by Western children. However, for non-Western children, the explanation provided for the same situation or same emotion can be different. Therefore, cultural differences must be taken into consideration. Furthermore, in addition to the self-reports or scales, standardized clinical interviews may be used as more effective tools to identify problems as well as progress in children.

Throughout the intervention programme, it was observed that the majority of the children who participated in the study could not name or explain their emotions. This may be the reason to why the scores of the children on the scales were low. Having not identified their feelings, they might have been unable to give authentic answers. However, they did learn to talk about their emotions following the completion of the programme. Their parents reported that they began to talk more and also became more self-aware and self-confident.

Prior research indicated that compared to PTSD symptoms, depression symptoms of children are mostly affected by current life events (Heptinstall, Sethna, & Taylor, 2004; Hubbard, Realmuto, Northwood, & Masten, 1995; Sack et al., 1993). Sack and friends (1995) suggested that the development and the prognosis of depression and PTSD may have different components. They suggested that PTSD is related to earlier trauma while depression is associated with current stressful life events. The children in the current study were not living in refugee camps, they had houses and generally their fathers had temporary jobs. Most of the children did not need to work, 37 (58%) of them had the opportunity to go to school. Current findings showed that the 66.7% of the children and the 54% of parents are feeling happy about living in Turkey. The low depression and anxiety scores of the children in our sample might be associated with this finding. It could be argued that since most of them were pleased with living in Turkey, depression and anxiety scores of children were not extremely high.

In addition, the efficacy of art therapy on trauma, depression and anxiety symptoms were examined. As hypothesized at the beginning of the study, findings indicated that the mean scores of children were significantly higher at pre-treatment in comparison to post-treatment regarding trauma, depression and trait-anxiety symptoms. However, the scores for state-anxiety did not demonstrate significant differences between pre- and post-treatment. Therefore, it could be argued that art therapy is effective in reducing PTSD, depression and trait anxiety symptoms of Syrian refugee children.

Moreover, to organize effective intervention programmes, these programmes need to be considered as culturally specific. It is necessary to understand cultural differences and also current conditions that refugees live in (Beiser, Dion, Gotowiec, Nhi, & Hyman, 1995). While working with refugees, one must talk in their language. The advantage of this study was the inclusion of Syrian volunteers as interpreters. With the help of Arabic-speaking volunteers, the researchers and other Turkish volunteers learned the Syrian culture in more detail and tried to organize the environment and schedule activities through a combination of Syrian and Turkish habits.

Sometimes it could be difficult for a child to talk about traumatic experiences; an advantage of the art therapy programme was the sharing of emotions and thoughts,
through making art in a safe place. Children shared their traumatic experiences with expressive art therapy techniques like drawing, movement and making music, and those techniques helped them to reduce arousal and intrusion symptoms (Berger, Pat-Horenczyk, & Gelkopf, 2007; Mohlen et al., 2005; Staples, Atti, & Gordon, 2011). Moreover, prior to the intervention programme, in the pre-assessment procedure, it was observed that children did not know and could not express their feelings. However, through art therapy intervention, they began to learn their feelings and gained insight into their problems. In addition, they learned how to relieve negative emotions. As indicated in the previous studies, through creative art therapy, children bring out unique products and this makes them feel happy and relaxed. The creative process helps children to increase their self-esteem and to improve their problem-solving skills (Malchiodi, 2006). Moreover, it was observed that art therapy techniques enable children to feel a sense of control.

On the other hand, through relaxation techniques they learned how to decrease their stress; they gained a sense of control over their symptoms (Staples et al., 2011). All techniques used in the intervention programme were fun for children and helped them increase their mood. They also learned to control themselves and to use those techniques when necessary in their daily life or just for fun.

The intervention programme was conducted in a group setting. Children were divided into small groups according to their ages. The effectiveness of group therapy has been supported in different studies (Staples et al., 2011; Waller & Mahony, 1999). This study also demonstrated the effectiveness of working in groups. Working in group settings enable children to feel socially supported and safe. In their normal daily life, it may not be possible to find an adult as a group leader and other group peers who have similar problems. Yet in group therapies, they have the opportunity to realize that they are not alone, and small groups allow them to share their traumatic experiences through different kinds of art therapy techniques. Moreover, rather than making art, if they prefer to talk about their experiences, that too is possible (Staples et al., 2011).

Most importantly, though, through the intervention programme, children gained many abilities that they can use in their daily life for their fun and also for self-care. For example, making music with daily goods, or expressing emotions through drawing or using relaxation techniques when in stress.

The main limitation of the study was the lack of a control group. Due to the practical and logistic difficulties, we could not form a control group for the present study. Also, the sample size of the study may not be enough to represent Syrian refugee children. Therefore, to reach more reliable results and to generalize results, future studies are needed to be conducted with larger samples. However, due to the difficulty of reaching more refugee children, many studies in the literature have conducted their research with limited sample sizes (Montgomery, 2011). Moreover, as encountered in previous studies, due to the difficulty to contact children again, we could not conduct the four-week follow-up assessments (Staples et al., 2011).

5. Clinical implications

This study contributed to the field of clinical psychology by investigating the prevalence and the severity of psychological symptoms among Syrian refugee children. As also indicated in the previous studies, the present study showed
that refugee children show many different psychological symptoms. Specifically, the PTSD symptoms of the children were high. Research shows that experiencing war trauma leads to the development of psychological problems both in childhood and in adulthood (Batista & Wiese, 2010; Catani et al., 2008; Farhood et al., 1993). Since refugee children experienced many different kinds of traumatic events and developed psychological problems, it is necessary to develop effective intervention programmes for their healthy development (Chemtob et al., 2002; Pfefferbaum, 1997). An important contribution of the study to the clinical area was the examination of the effectiveness of art therapy on trauma, depression and anxiety symptoms. It can be said that art therapy is an effective method to reduce trauma, depression and trait anxiety symptoms among Syrian refugee children.

Additionally, it was observed that compared to children who were attending school, children who were not going to school had difficulties in using materials that are not only stationery but also social materials. Following the study, they learned how to use materials and started to learn cultural differences and became more self-confident. This improvement may facilitate their adaptation process. The study showed that psychosocial programmes not only reduce psychiatric symptoms but also help children to improve social skills and facilitate the adaptation process.

The present study reports promising results for art therapy interventions in reducing psychological problems among Syrian refugee children. However, due to its small sample size, this study could be considered as a pilot study. Since there are increasing numbers of Syrian refugee children living in Turkey, effective intervention programmes need to be developed.

**Disclosure statement**

No potential conflict of interest was reported by the authors.

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