

Use and Effectiveness of Creative Art Therapy in the Treatment of Post-Traumatic Stress Disorder – A Scoping Review

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Abstract

Introduction: Creative art therapy (CAT) is a treatment approach that uses art to express inner thoughts and feelings. Existing research indicates that creative art therapies can treat symptoms of post-traumatic stress disorder (PTSD). However, less is known about the types of creative art therapy and their effectiveness in treating patients with PTSD. Therefore, this scoping review aimed to explore the use and effectiveness of creative art therapy in treating PTSD.

Methods: A literature review via Scopus, Web of Science, and PubMed was conducted. By following the PRISMA guidelines, selected articles were screened for the inclusion criteria of being written in English within a time frame from 2010 to 2022 and focusing on creative art therapies as a treatment approach in PTSD. Regarding the type of study, randomized controlled trials, pilot studies, uncontrolled studies, experimental designs, and case studies were included. In total, 13 studies were included in this scoping review.

Results: Across the reviewed articles, three main types of creative art therapies were identified: (1) visual art therapy, (2) expressive writing therapy, and (3) music therapy. The results demonstrated that most studies focused on visual art therapy, specifically drawing and painting. However, most studies lacked standardized protocols and information on how the creative art therapies were applied in their intervention was missing. Moreover, the qualities of most studies were poor, as standardized tests and control groups were missing. Only two selected studies included randomized controlled trials (RCTs). One study reported more significant reductions in PTSD symptoms for the participants who received CAT combined with cognitive process therapy (CPT) compared to CPT alone.

Conclusion: Considering the poor quality of the available studies and only two studies that included randomised controlled trials, it can be concluded that the effectiveness of CAT can partially be supported. Further studies should consider larger-scale RCTs to determine the efficacy of creative art therapies in treating PTSD.

Keywords: Post-traumatic stress disorder, Creative art therapy, effectiveness, scoping review

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Use and Effectiveness of Creative Art Therapy in the Treatment of PTSD – A Scoping Review

A psychological intervention that uses creativity as a method of communication is creative art therapy (CAT) (Chiang et al., 2019). CAT uses creative tasks to express inner thoughts, feelings, and experiences (Farokhi, 2011). It involves various creative processes such as visual art, music, dance, drama and writing (Chiang et al., 2019). CAT has been demonstrated to improve emotional regulation and self-awareness in combination with talk therapy (Kalmanowitz & Ho, 2017).

CAT effectively treats mental disorders, including depression, eating disorders, substance use disorders, and post-traumatic stress disorder (PTSD) (Hu et al., 2021). Previous studies have demonstrated that CAT plays a significant role in treating mental conditions (Hu et al., 2021; Chiang et al., 2019), next to other psychotherapies such as cognitive-behavioral therapy. This review mainly focuses on CAT in treating patients with PTSD, as traumatic memories are stored non-verbally, and verbal therapies often fail to address those nonverbal aspects of traumata (Gantt & Tinnin, 2009).

Based on the theory of the Broca's area being deactivated in patients with PTSD, thus affecting the location in the brain believed to be responsible for giving semantic representation to personal experiences (Peres et al., 2008), traumatic experiences block neurologic pathways in speaking. However, trauma affects verbal and non-verbal aspects of memory (Peres et al., 2008), and CAT has the advantage of communicating the non-verbal memories associated with traumatic experiences. In addition, art therapy sessions allow expressing visual memories in a safe environment and enable the development of positive emotions (Malchiodi, 2012).

However, despite the advantages of art therapy in treating PTSD and promising research, some of the findings on its effectiveness are mixed (Chapman et al., 2001; Lyshak-Stelzer et al., 2007). Yet, only a few literature reviews report findings on creative art therapy interventions in treating mental health disorders (Chiang et al., 2019), which indicates that more research is needed on creative art therapies in treating PTSD. In line with this, some articles are not mentioning CAT as an alternative treatment option for PTSD at all (Bisson et al., 2013), highlighting again the gap in literature regarding the effectiveness of CAT in treating PTSD. Moreover, the rationale of this research stems from the drastic increase of war victims due to the Russia-Ukraine war and displaced refugees in the world and the need for providing non-verbal interventions to deal with their traumatic experiences.

Hence, the present study will explore the application of CAT as a treatment option for reducing symptoms and increasing well-being in patients with PTSD. A scoping review will be conducted to search for studies focused on CAT in patients with PTSD and provide an overview of the use and effectiveness of CAT in treating PTSD. The following sections will review PTSD, its standard therapies, and creative art therapies in treating PTSD.

Post- Traumatic Stress Disorder

Post-traumatic stress disorder (PTSD) is a common condition that arises following traumatic experiences such as sexual or physical abuse, combat, torture, terrorist attacks, serious accidents, natural disasters, serious accidents, or life-threatening illnesses (Wynn et al., 2017). According to the DSM-5, symptoms of PTSD are intrusive memories, avoidance of reminders, adverse changes in cognitions and mood, and apparent alterations in arousal and reactivity (Ehlers et al., 2020). The symptoms, as mentioned earlier, generally occur within a short time after the traumatic event is experienced; however, sometimes, they appear later (Ehlers et al., 2020).

Most individuals experiencing a traumatic event are resilient and recover from it without needing therapy (Wynn et al., 2017). However, risk factors for developing PTSD after exposure to a given traumatic event are the intensity and duration of the threat, personal history, and genetics (Wynn et al., 2017). The goal of treating patients with PTSD is to move them away from their past experiences and bring them back to the present. Several treatment options have been explored for PTSD, including pharmacotherapy and psychotherapy (Feeny et al., 2009).

Common Treatment Approaches in PTSD

Pharmacotherapy is usually the first choice and has demonstrated that medication is effective in treating symptoms of PTSD (Koen, 2022). However, many antipsychotics contribute to poor quality of life and adverse effects (Hu et al., 2021). Hence, the trauma needs to be isolated in a larger perspective of a person's life (van der Kolk et al., 1995).

Besides pharmacotherapy, other treatment approaches are cognitive-behavioral therapy (CBT), including exposure therapy and Eye Movement Desensitization and Reprocessing (EMDR) (Monson & Shnaider, 2014; Rauch & Foa, 2006; Shapiro, 2017). CBT focuses on the relationship between thoughts, behavior, and emotions and how changing one domain can improve another (Monson & Shnaider, 2014). Therapists using CBT reduce symptoms of patients with PTSD by encouraging them to re-evaluate their thinking patterns

(Monson & Shnaider, 2014). In addition, exposure to traumatic events is often used in CBT to help patients reduce avoidance and maladaptive associations with the trauma (Rauch & Foa, 2006). The goal is to increase the patients' self-confidence and reduce avoidance behaviors (Monson & Shnaider, 2014). Eye Movement Desensitization and Reprocessing (EMDR) is a structured therapy that encourages patients to remember the trauma while focusing simultaneously on an external stimulus (Shapiro, 2017). With this, the direction of lateral eye movements is the most used external stimulus (Shapiro, 2017).

Although evidence has demonstrated that talk therapies are effective in treating patients with PTSD, it has been stated by several authors that more than 30% of PTSD patients do not benefit from these types of therapies (Bisson et al., 20013; Bradley et al., 2005). There is some evidence that 'talk therapy' may fail in sub-samples of patients in treating symptoms of PTSD due to the process of storing traumatic memories in the brain (Duros & Crowley, 2014). Experiences are sorted out through a staged memory system: the explicit and implicit memory. Explicit memories, and declarative memories, comprise facts, concepts, and ideas and engage the brain's left side. Therefore, verbal language is necessary to retrieve and store explicit memories. For example, when patients describe the contents of their memories, they recall explicit memories. The implicit memory, also called non-declarative, bypasses language and thoughts. It involves storing and placing behaviors performed without talking, such as drawing and writing. For PTSD patients, it seems that the traumatic memories are partly stored in the implicit memory, therefore, having implicit memories that are not linked to explicit memories can be problematic (Rothschild, 2014). Alternative treatment options are creative art therapy approaches, as it appears to fit in with the nonverbal nature of the traumatic experiences (Duros & Crowley, 2014; van der Kolk, 1999).

Creative Art Therapies in Treating PTSD

As mentioned above, verbal expression of inner thoughts and emotions can be challenging for PTSD patients, as 'talk therapy' has been problematic for some PTSD patients due to different brain functions (Talwar, 2007). Creative art therapy (CAT) might be an alternative solution for those patients as it enables communication without necessarily the verbal language needed (Lazar et al., 2018).

In general, using CATs in treating symptoms of PTSD addresses the whole experience of trauma, including mind, body, and emotions. As many patients with PTSD perceive themselves as disconnected or dissociated from their bodies, CAT can help those

patients reclaim their bodies' safety (Stuckey & Nobel, 2010). Traumatized people feel persistently unsafe inside their bodies, therefore, becoming aware of their sensations and how their bodies correspond to the world around them is difficult (van der Kolk, 2014). Therefore, physical self-awareness is crucial in treating patients with PTSD. CAT focuses on bodywork because patients can create and change art outside themselves (Corsetti, 2021). This helps individuals access their physical experiences in a safe environment and relearn that they can feel safe in their bodies again (van der Kolk, 2014).

Types of CATs

Creative art therapy does not always contain components from talk therapies but is often combined with them or other therapies. Generally, the most common types of CATs are visual art, music therapy, dance and movement, drama and expressive/creative writing (Stuckey & Nobel, 2010). Similar to other therapies, CAT can function in a group and individual settings (Prokofiev, 2014). In addition, CAT was launched for the first time online during the COVID-19 pandemic (Miller & McDonald, 2020), demonstrating that online therapy is also possible for CAT. Due to missing information regarding the procedure of CAT treatments, including the number of sessions, duration of the therapy and competence of the therapist, this review intends to collect more information on those details.

Visual art therapy ranges from various types of painting and drawing to clay work, sculpting, collage, and mask making (Nan & Ho, 2017). When using visual art methods, the therapist guides patients by creating art to express their emotions, symptoms, or memories (Talwar, 2007). A study on military veterans with PTSD reported improvements in the patients' ability to process their traumatic memories (Campbell et al., 2016).

Next, music therapy is an alternative form of art therapy that engages patients to produce music or by letting patients listen and respond to music through methods such as lyrical analysis (Aalbers et al., 2017; Chung & Woods-Giscombe, 2016). Music therapy has already demonstrated significant improvements in patients with PTSD symptoms (Pezzin et al., 2018).

Dance therapy uses movement in treating mental disorders and can start with basic movements such as walking (Chen et al., 2016). In contrast to other art therapies, dance therapy focuses on creating mind-body connections and improves mental well-being and physical health (Levine & Land, 2016). A review on dance therapy and treating patients with experienced trauma has demonstrated the potential of accessing emotions and memories with bodily movements (Levine & Land, 2016).

Another creative art therapy is drama therapy. It focuses on using drama and theatre techniques to support patients in resolving conflicts, expressing emotions and improving relationships. Contrary to other creative art therapies, drama therapy can make use of spoken language. Drama therapy includes a range of techniques, such as roleplay, story telling, puppetry and improvisations (Emunah, 2013).

Expressive or creative writing presents another type of art therapy that focuses on personal journaling, poetry, autobiographic, and memoirs (Connolly Baker & Mazza, 2004). Specifically, writing therapy has demonstrated a substantial reduction of symptoms in PTSD (van Emmerik et al., 2013). In contrast to talking, writing allows receptive individuals to express themselves and release their emotions by communicating inherently verbally (Hankir & Zaman, 2015).

The Rationale of the Scoping Review

The present scoping review covers existing literature using CAT in treating patients with PTSD by determining the status of existing research in clinical populations, assets of CAT, and future research directions. Still, there is a gap in the literature that focuses explicitly on the types of CATs used in treating PTSD and their effectiveness. As research on the effectiveness of CAT in treating PTSD is limited, this review will focus on the scope of the already available literature.

The overall objective of this scoping review is to explore the use and effectiveness of CAT in treating PTSD and summarise the evidence for the effectiveness of art therapy in treating symptoms of PTSD. Specifically, the following research questions are formulated:

RQ1: 'What are the different characteristics of creative art therapies used for the treatment of PTSD?'

RQ2: 'How effective is creative art therapy in treating PTSD?'

Methods

Search Strategy

A scoping review was conducted for articles published in English using three scientific databases, namely, Scopus (2010 – 2022), Web of Science (2010 – 2022), and PubMed (2010 – 2022). These databases were selected to cover the extensive field of psychology. The subject “Psychology” in the databases “Scopus” and “Web of Science” was selected to refine the search. The database google scholar was scanned manually for valuable studies. The search was performed in May 2021. As search terms, the following expressions with the Boolean operators “OR” and “AND” were used to find relevant studies “creative art therapy” OR “art therapy” OR “music therapy” OR “dance therapy” OR “movement therapy” OR “drama therapy” OR “writing therapy” OR “visual art therapy” AND “post-traumatic stress disorder” OR “PTSD” OR “trauma” OR “post-traumatic stress syndrome” OR “combat disorder” (Table 1.).

Inclusion and Exclusion Criteria

To specify the dataset, certain limitations were undertaken. The researcher had access to specific articles via the University library; however, articles that had to be paid for were excluded. Therefore, only freely available articles were included, also named “open access articles,” to the researcher. Studies had to be reported in English within a time frame from 2010 to 2022. Purely educational material, such as book chapters, literature reviews, and descriptive articles, were not included. Regarding the type of study, randomized controlled trials, pilot studies, uncontrolled studies, experimental designs, and case studies were included. In addition, only studies describing creative art therapy approaches in treating adults with PTSD or symptoms of PTSD were included.

Data Extraction

One researcher did the screening independently, following the PRISMA guidelines (Moher et al., 2009). The titles and abstracts were screened for eligibility, and only those that met the inclusion criteria were selected for full-text screening (Figure 1). These full texts were assessed according to the eligibility criteria. Articles that did not meet the eligibility criteria or were not open for access were excluded. After the search was completed and selected articles were included, the researcher decided to include forward citation searching (Xiao & Watson, 2019) for the highest quality studies detected in this review. This allowed the researcher to find all articles cited since the article was reviewed. Studies that did not

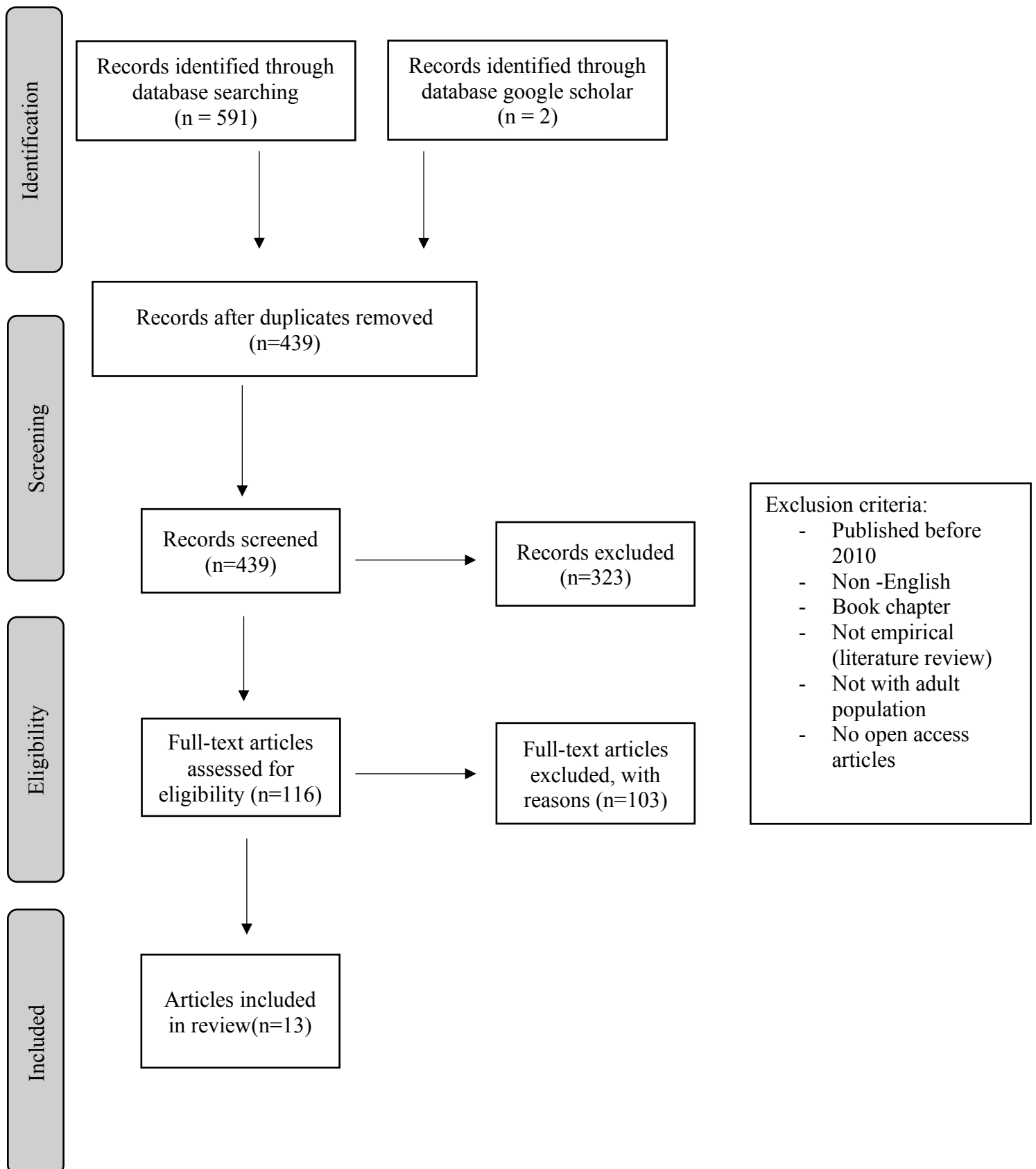
finish their recruitment and published a later study with the same group were excluded and replaced by newer and more recent studies.

Table 1.

Used search string in different databases

Database	Search string
Scopus	("creative art therapy" OR "art therapy" OR "music therapy" OR "dance therapy" OR "movement therapy" OR "drama therapy" OR "writing therapy" OR "visual art therapy") AND ("post-traumatic stress disorder" OR "PTSD" OR "trauma" OR "post-traumatic stress syndrome" OR "combat disorder")
Web of Science	("creative art therapy" OR "art therapy" OR "music therapy" OR "dance therapy" OR "movement therapy" OR "drama therapy" OR "writing therapy" OR "visual art therapy") AND ("post-traumatic stress disorder" OR "PTSD" OR "trauma" OR "post-traumatic stress syndrome" OR "combat disorder")
PubMed	("creative art therapy" OR "art therapy" OR "music therapy" OR "dance therapy" OR "movement therapy" OR "drama therapy" OR "writing therapy" OR "visual art therapy") AND ("post-traumatic stress disorder" OR "PTSD" OR "trauma" OR "post-traumatic stress syndrome" OR "combat disorder")

Figure 1.
Prisma Flow chart



Results

A total of 13 studies met the inclusion criteria for this literature review (Table 2.). All included studies used CAT for the treatment (clinical, subclinical, or mixed populations diagnosed with PTSD). Overall, 593 articles were screened and further assessed by the author for eligibility. Furthermore, 102 articles were excluded because of the exclusion criteria mentioned in Figure 1.

Study Characteristics

Two RCT studies with 127 participants tested the effect of CAT on PTSD. One RCT study compared the effects on PTSD symptoms of CAT and CPT to CPT alone (Decker et al., 2018), whereas the the other study compared CAT to occupational therapy, the standard treatment (Kopytin & Lebedev, 2013). Four studies were case studies with nine participants, two of which were single case studies. The remaining studies were qualitative studies or mixed method studies.

Participants Characteristics

A total number of 767 participants were included in the 13 studies. Overall, all participants suffered from trauma and participated in different creative art therapies. They were aged from 20-to-50 years. Most of the participants in the study were male and veterans or active service members. However, it should be highlighted that the study by Kaimal et al. (2019) with 204 participants did not mention age and gender. Several studies also addressed comorbidities, such as depression and brain injuries. Following Table 2, the relevant research questions in this scoping review will be discussed.

Table 2.

Summary of the studies that focused on creative art therapy in post-traumatic stress disorder

Author and year of publication	Design	Aims within the study	Sample size (n) and age (mean)	Description of creative art therapy approach	Outcome of the creative art therapy approach	Limitations
Allen and Wozniak (2010)	Mixed methods (uncontrolled pre-/post study)	Testing the hypothesis that women can continue their life away from abuse towards healing in stages involving art therapy	N = 11 Age: 35 (mean) Gender: 100% females (Survivors of domestic violence)	Visual art therapy: Ten-week group intervention of drawing and painting (including yoga and mindfulness/meditation)	Significant reduction in PTSD checklist scores pre- to post on 8 out of 11 items.	Small sample size; Lack of comparison and control group
Bensimon et al. (2012)	Mixed method	Exploring the therapeutic process of group music therapy with young	N = 6 Age: (20-23 years old) Gender: 100 % males	Music therapy: 90 minutes weekly sessions of music therapy over ten weeks	Decrease in reflections of traumatic emotions; Increase of	Interfering effect (Researcher was a music therapist);

		soldiers suffering from PTSD			expressions of non-traumatic feelings	Playing Volume was not measured; Small sample size
Decker et al. (2018)	Mixed methods (randomised controlled)	Comparing AT combined with CPT to CPT alone for veteran with combat-related PTSD	N = 38 Age: not reported Gender: 100 % males (Veterans)	Visual art therapy: Drawing and painting; Experimental condition: Eight hours CPT and eight hours AT; Control condition: Eight hours CPT and eight hours supportive psychotherapy	Participants who perceived AT and CPT had greater reductions in PTSD and depression symptoms compared to patients in the control condition	Small sample size; Only veterans and no female participants;
Hass-Cohen et al. (2014)	Single case-study	Reviewing neurobiological	N = 1 Age: not reported	Visual art therapy: Drawing and painting	Increase in insights;	Small sample size

systems involved in trauma processing and demonstrating the Check protocol with the case of a woman diagnosed with PTSD

Gender: 100 % female (Witness of 9 / 11 terror attack)

Decrease in avoidance;
Increase in attuning to child and husband;
Improvement in communication

Jones et al. (2019)	three case-studies	Illustrating the implementation and effects of an art therapy program on military service	N = 3 Age: 23 – 32 years Gender: 100 % males (Active military service members)	Visual art therapy: Drawing and painting, pottery; Expressive writing therapy; Treatment lasted between 15 months to four years	Increase of insight into own symptoms; Increase in communication skills; Decrease in avoidance of traumatic memories;	Small sample size consisting of 3 veterans with traumatic brain injury and PTSD
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					Increase in regulation of emotions; Improvements in their overall quality of life	
Kaimal et al. (2019)	Mixed methods (uncontrolled pre-/post study)	Analyzing participants feedback on short-and long-term AT-services for military service members	N = 204 Age: not reported Gender: not reported (Active service members)	Visual art therapy: Drawing, sculpting and mask making	Overall change in sense of self; Increase of interest in activities; Decrease of anger, depression, guilt; Long-term treatment resulted in higher satisfaction	Feedback from evaluation that provides directions for further treatment but does not deliver new insights regarding AT approach and effectiveness

Kalmanowitz and Ho (2017)	Qualitative study (using focus group, questionnaires, and interviews)	Testing the integration of art therapy and mindfulness	N = 12 Age: 18 – 45 years Gender: not reported (Refugees/asylum seekers)	Visual art therapy: Drawing and painting combined with mindfulness (four full days over the period of nine days including homework)	Improvement in regulation of physical responses, increases in self-awareness, coping and resilience	-
Kopytin and Lebedev (2013)	Randomized control trial	Testing therapeutic effects of AT in groups (experimental group) compared to standard treatment of occupational therapy (control group)	N = 112 Age: 20 – 50 years Gender: 90 % males; 10 % females (War veterans)	Visual art therapy: Drawing and painting; 12 to 14 sessions, three times per week for two hours (Group AT), over one month; Focus on humour in groups	Decreased reflections of traumatic emotions; Increased expressions of non-traumatic feelings; Positive influence quality of life	Study focused more on moderate stress-related disorders

Lobban and Murphy (2017)	four case studies	Exploring the outcomes of art therapy-focused, short-stay, inpatient admission at the veteran’s mental health charity combat stress	N = 4 Age: 50 – 60 years old Gender: 100 % males (Veterans)	Visual art therapy: Drawing and painting, making collages; six session of two hours AT group; four sessions of one-hour individual sessions; two half-day gallery visits over the course of two weeks	All participants reported improved wellbeing	Images have no meaning and the interpretations were selected for the results of the discussion; however one participant decided to do poetry, which interferes with the results of the paper
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Mims (2015)	Mixed methods pre-/post study	Testing the influence of visual journaling on recovery process and impact on subjective well-being	N = 2 Age: 25 years; 50 years Gender: 50 % male; 50 % female (Homeless veterans)	Visual art therapy: Visual journaling AT six sessions for two hours	Increase in self-knowledge and communication	Participants were receiving other mental health treatment in addition; Small sample size;
Walker et al. (2017)	Qualitative study	Analysing mask-making experiences of service members with persistent symptoms from Combat	N = 370 Age: 36, 2 years (mean) Gender: 90% males (Active service members)	Visual art therapy: Mask making over four weeks	Mask making facilitated visual representation of the self, relationships and community	Sample consist of males only

Walker et al. (2016)	Single case – study	Investigating the therapeutic process in art therapy for military service member	N = 1 Age: not reported Gender: 100 % males (Senior military service member with moderate traumatic brain injury)	Visual art therapy: Mask making, making collages; Two group AT sessions; 15 sessions of individual AT for two years	Increase in opening about traumatic events; Decrease of visual flashbacks; Increase in processing feelings of guilt about surviving	Small sample size
Zielona-Jenek et al. (2019)	Quantitative study (pre-/post study, uncontrolled)	Evaluating the effectiveness of arts-based therapy for female survivors of trauma	N = 21 Age: 38 years (mean) Gender: 100 % females (Domestic violence survivor)	Expressive writing therapy: combined with elements from Gestalt Therapy; course of four monthly modules in which each module lasted 16 hours and was conducted over two days on weekends (Saturday and Sunday)	Participants reported a reduction of disturbance in their body experience; Increase in body satisfaction	Small sample size, only females, no control group; Results cannot be generalized

Note. AT = Art therapy. PTSD = post-traumatic stress disorder. CPT = cognitive process therapy.

Types of Creative Art Therapies

The different creative art therapy approaches addressed in the studies are displayed in Table 3, following a frequency order. Overall, most of the 13 articles that examined a specific art therapy approach in treating PTSD focused on visual art therapy combined with other CATs, either as a stand-alone treatment or combined with other therapies (e.g. CPT, mindfulness, yoga).

Table 3.

Frequency of creative art therapies used for PTSD

Creative art therapies	Study (author and date)
Visual art therapy	
Drawing & Painting	Allen and Wozniak (2010); Decker et al. (2019); Hass-Cohen et al. (2014); Jones et al. (2019); Kaimal et al. (2019), Kalmanowitz and Ho (2017); Kopytin and Lebedev (2013); Lobban and Murphy (2017); Zielona – Jenek et al. (2019)
Mask making	Kaimal et al. (2019); Walker et al. (2017); Walker et al. (2016)
Making Collages	Lobban and Murpy (2017); Walker et al. (2016)
Sculpting	Kaimal et al. (2019);
Pottery	Jones et al. (2019)
Visual Journaling	Mims (2015)
Expressive writing therapy	Jones et al. (2019); Zielona – Jenek et al. (2019)
Music therapy	
Listening to music and playing instruments	Bensimon et al. (2012)

Visual Art Therapy

Visual art therapy is a form of creative art therapy that incorporates creative methods of expression using visual art media (Decker et al., 2019). Most of the studies focused on drawing and painting as their creative art therapy approach (Allen & Wozniak, 2010; Decker et al., 2018; Hass-Cohen et al., 2014; Jones et al., 2019; Kaimal et al., 2019, Kalmanowitz & Ho, 2017; Kopytin & Lebedev, 2013; Lobban & Murphy, 2017; Walker et al., 2016; Zielona – Jenek et al., 2019). The subtypes of visual art therapy detected within the selected studies were drawing and painting, mask making, pottery, sculpting, collages, and visual journaling.

Drawing and Painting

A structured art therapy program was presented in the study by Decker et al. (2018). Participants in the experimental conditions conducted eight hours of AT sessions and eight hours of CPT. Participants created six different images during the eight sessions of AT referring to a specific theme related to the trauma. For the first image, patients were asked to draw or paint a time before the trauma (e.g., positive memory). The second topic aimed to create an image of the last moment before the trauma, and the third focused on creating an image of the happening during the trauma. The fourth image was about a moment after the trauma, and the fifth focused on creating an image of a time when the patients felt safe from physical threats. The last image was about creating an image of a time when patients tried to self-soothe (Decker et al., 2018).

The group art therapy by Kopytin and Lebedev (2013) involved different art-based activities, including warm-up activities and a discussion at the end. Drawing tasks and themes were introduced, such as “my lifeline” and “positive and negative feelings” (Kopytin & Lebedev, 2013). The key component during the AT was humour, including symbols to represent unpleasant memories, such as snakes and cats (Kopytin & Lebedev, 2013). However, no detailed instructions on the AT nor standardized protocols were introduced.

In the study by Allen and Wozniak (2010), the participants followed a ten-week group intervention model that included freely painting and mask-making. In addition patients had the opportunity to participate in meditation and yoga. The case study by Hass-Cohen et al. (2014), included painting and drawing were in a program named ‘The check art therapy protocol,’ which consisted of five themes related to the trauma, such as drawing an autobiographical timeline.

Jones et al. (2019) reviewed three case studies focused on group art therapy, individual art therapy, and open studios, including pottery classes. All three case studies

described drawing and painting as their primary creative art therapy approach by focusing on topics such as narratives and gaining insight into triggers (Jones et al., 2019). Drawing and painting therapies were also introduced in the studies by Kaimal et al. (2019), Kalmanowitz and Ho (2017), in which both studies introduced drawing tasks and themes to allow the participants certain freedom in their creativity.

In the study by Lobban and Murphy (2017), participants first had to draw or paint and afterward discuss and present their art objects in the group. Spontaneous hand painting and coloring surfaces representing one's body to increase body image were presented in the study by Zielona-Jenek et al. (2019).

Mask Making

The creative art therapy approach of mask making was introduced in four of the 14 selected studies in this review (Kaimal et al., 2019; Walker et al., 2017; Walker et al., 2016). The study by Kaimal et al. (2019) introduced mask-making, besides drawing and painting, as a creative art therapy method to increase communication in presenting the consequences of combat-related trauma. The studies by Walker et al. (2017) and Walker et al. (2016) solely focused on mask making as their primary creative art therapy approach. In the study by Walker et al. (2016), one case study was conducted, in which four sessions were introduced. In the first session, the participant was asked to make a mask with aiming of representing a warrior identity. The second session consisted of making a box for the mask to put away and later burying it with the mask. In the two last sessions, the participant made a collage on the box for the mask and lastly created a painting of the stay at the clinic (Walker et al., 2016).

Making Collages

Making collages was presented in two selected studies (Lobban & Murphy, 2017; Walker et al., 2016). In the study by Lobban and Murphy (2017), participants worked on making collages in a two-week program besides drawing to express their emotions. A collage for the box with the mask was created in the study by Walker et al. (2016) to express a new start and say some last words to the mask before it gets buried.

Sculpting

The sculpting method was presented in the study by Kaimal et al. (2019). Sculpting was offered as an optional treatment next to drawing and painting (Kaimal et al., 2019).

However, no further information about how it was incorporated in the intervention and no information about the instruction of sculpting were provided in the study.

Pottery

The study by Jones et al. (2019) introduced pottery as a creative art therapy in addition to drawing and painting. It was described that participants had the opportunity to visit art therapy groups and individual therapy groups once a week for a pottery class. Information and instructions on how pottery was implemented was missing.

Visual Journaling

Another art therapy approach belonging to the group of visual art therapy is visual journaling, presented in the study by Mims (2015). Participants were given journaling supplies, such as a notebook and pens, and were asked to write down or draw their impressions based on the session's themes in their notebooks. In the first session, participants were educated about the purpose of visual journaling. In the second session, the theme 'stress' was introduced, and participants were asked to write down what they think about stress and how they feel when they are stressed. The third session concentrated on anxiety, and the fourth discussed depression. The last two sessions were about writing about their traumatic memories and what their future would look like. In total, the participants participated in six weekly sessions, and the sessions lasted for two hours. The sessions took place in a conference room, and privacy was provided by locking the doors (Mims, 2015).

Expressive Writing

Expressive writing therapy is another form of creative art therapy next to visual art therapy. The expressive writing method was introduced in the studies by Jones et al. (2019) and Zielona-Jenek (2019). Expressive writing consists of writing about intentions and affective states (Zielona-Jenek, 2019). In the study by Jones et al. (2019), expressive writing was used to assist in communication, processing traumatic memories, and improving self-awareness. For example, one participant used expressive writing as a method to narrate his personal story and highlight the experiences he had. In the study by Zielona-Jenek et al. (2019), the victims of domestic violence had to rewrite their story into a fairy-tale to improve optimism, besides drawing, painting, and sculpting. The aim of writing a fairy-tale was to alter negative memories into a new story, in which negatively experienced body parts were

described as a source of strength (Zielona-Jenek, 2019). Instructions and how much time participants had for writing this fairy-tale were missing.

Music Therapy

Lastly, music therapy is another form of creative art therapy and was only introduced in the study by Bensimon et al. (2012). Music therapy includes listening and making music to access traumatic memories, as music affects the areas of the brain connected with posttraumatic experiences (Bensimon et al., 2012). The participants participated in 90 minutes of weekly music therapy sessions over ten weeks. During the sessions, participants and a music therapist sat in a circle with instruments placed around them. Participants had the opportunity to play the instruments and talk spontaneously while actively listening to music (Bensimon et al., 2012). The study did not describe what kind of music instruments were available and whether the participants received instructions on how to play them.

Characteristics of CAT

The creative art therapies did not only differ in the type of CAT but also in other factors such as individual or group therapy, stand-alone or combined therapy, length and duration of the sessions and target groups. All studies focused on face-to-face therapy, and none of the studies considered online therapy or blended therapy.

Individual vs. Group Therapy

According to the selected studies, CAT is primarily used in group settings. In total, 12 of the 13 studies focused on group art therapies, whereas the studies by Jones et al. (2019), Lobban and Murphy (2017) and Walker et al. (2016) combined group art therapy with individual art therapy. Only the single case study by Hass-Cohen et al. (2014) concentrated on individual art therapy.

Stand-alone vs. Combined Therapy

Overall, most studies reported a combination of CAT with other types of therapies, including various ATs, psychiatric medications and other forms of therapy, such as yoga, meditation and mindfulness. The study by Decker et al. (2018) focused on CAT combined with CPT, being the only study that combined CAT with another form of psychotherapy. Zielona-Jenek et al. (2019) mentioned that their type of AT was based on Gestalt therapy but did not further elaborate on it. The studies by Bensimon et al. (2012), Hass-Cohen et al.

(2014), Lobban and Murphy (2017), Kopytin and Lebedev (2013), and Mims (2015) offered creative art therapy only.

Length and Duration of Sessions

The number of CAT sessions included in the interventions varied from daily to weekly. The shortest intervention was by Kalmanowitz and Ho (2017), who tested the integration of art therapy, specifically painting and drawing, combined with mindfulness over nine days. This intervention aimed to increase self-awareness and improve resilience and coping strategies. The most extended intervention was by Jones et al. (2019). They administered three case studies in which the treatment of visual art therapy and expressive writing lasted between 15 months to four years. Other interventions included a ten-week group intervention by Allen and Wozniak (2010), 90 minutes of weekly sessions over ten weeks by Bensimon et al. (2012), eight sessions of 75 minutes by Decker et al. (2018), six sessions of two hours of visual journaling by Mims (2015) and four weeks of mask-making by Walker et al. (2017). Overall, the sessions ranged from 75 minutes to eight hours a day.

Target groups

Almost all studies focused on active or senior service members (Bensimon et al., 2012; Decker et al., 2019; Jones et al., 2019; Kaimal et al., 2019; Kopytin & Lebedev, 2013; Lobban & Murphy, 2017; Walker et al., 2016; Walker et al., 2017). Except two studies focused on female domestic violence survivors (Allen & Wozniak, 2010; Zielona-Jenek, 2019), and one focused on a female witness of the 9/11 terror attack (Hass-Cohen et al., 2014). Kalmanowitz and Ho (2017) was the only Asian study and whose sample consisted of refugees and asylum seekers.

The Effectiveness of Creative Art Therapies

In general, all participants reported at least one positive effect after receiving creative art therapy approaches (Allen & Wozniak, 2010; Bensimon et al., 2012; Decker et al., 2018; Hass-Cohen et al., 2014; Jones et al., 2019; Kaimal et al., 2019; Kalmanowitz & Ho, 2017; Kopytin & Lebedev, 2013; Lobban & Murphy, 2017; Lobban, 2014; Mims, 2015; Walker et al., 2017; Walker et al., 2016; Zielona-Jenek et al., 2019). However, four of the studies were case studies. Only two studies included a comparison group; this indicates that few experimental studies were conducted to test the efficacy of creative art therapy in treating PTSD.

Experimental studies

The studies by Decker et al. (2018) and Kopytin and Lebedev (2013) were the only studies from the 13 selected studies that included randomized control trials. Decker et al. (2019) conducted an RCT with a mixed-method analysis to determine whether AT combined with cognitive process therapy (CPT) is more effective in treating PTSD than CPT alone. Participants were randomly assigned to a control group, including CPT and supportive psychotherapy or the experimental group, including AT and CPT. Standardized tests (BDI-II and PCL-M) were conducted to test the efficacy. Results demonstrated more significant reductions in PTSD and depression scores for the participants who received AT and CPT than those who received CPT alone. In addition, participants who received AT and CPT reported that they perceived AT as more beneficial than CPT. Nevertheless, it should be highlighted that the sample size was relatively small and exclusively for combat veterans.

The group art psychotherapy approach by Kopytin and Lebedev (2013) conducted a randomized control trial with 112 war veterans in a Russian hospital. Participants were randomly assigned to the group art therapy (experimental group) or occupational therapy (control group). Different instruments were selected to assess improvements in the participant's conditions. The symptomatic improvements were assessed by using the SCL-90, Questionnaire of Depressive Conditions, and the Integrative Anxiety Test. Moreover, the role of humor in AT was measured with the Humour scale (Silver, 2002). Changes in personal functioning, self-perception, cognitive skills and quality of life were assessed by using the Silver Drawing Test (SDT) and the Draw A Story (DAS) assessment (Silver, 2002). The measures were taken before, after, and after one month. The statistical differences were tested by comparing the pre-and post-test in the two groups, t-test, Mann-Whitney, and chi-square analyses. There were no significant differences in the participant's scores regarding the SCL-

90, Questionnaire of Depressive Conditions and Integrative Anxiety Test between the control and experimental groups. However, an increase in humor was measured with the Humour scale in the experimental group after the treatment and scores on the DAS and SDT significantly increased for the AT group. In contrast, such increases were absent in the occupational therapy group (Kopytin & Lebedev, 2013).

Correlational studies

The study's goal by Zielona-Jenek et al. (2019) was to assess the effectiveness of an arts-based therapy program for female trauma survivors of domestic violence. Participants participated in four two-day modules in a group therapy based on Gestalt therapy. The effectiveness was evaluated in terms of body image and body experience. Measurements were taken with the Body-Self questionnaire, the Affective Body image test, and the Draw-a-Woman test before and after the program and compared. Results from the Body-Self questionnaire indicated significantly fewer problems in emotional regulation (Zielona-Jenek et al., 2019). In line with other selected studies in this review, the study by Zielona-Jenek et al. (2019) did not include a comparison or control group in testing the effectiveness of AT.

Mixed method studies

The study by Allen and Wozniak (2010) aimed to test whether women who experienced domestic violence can decrease their symptoms of PTSD by following a ten-week program including painting and drawing. This study made use of mixed methods. A PTSD checklist was used as a pre and post-test measurement to assess the groups' effectiveness. In addition, structured interviews were conducted (e.g., "Define healing from abuse"). The structured interviews were transcribed and reviewed to assess for consistent themes. The participants reported an improvement in all items on the PTSD checklist. Data analysis was conducted with a two-tailed test. Statistically significant results were obtained for eight out of 17 items. Specific themes, such as creating a safe place and establishing autonomy, were identified in the interview. Overall, a consistent reduction in symptoms of PTSD was demonstrated, and themes of recovery could be identified; however, the study did not include a control or comparison group and included a small sample size (N = 11).

The pilot study by Bensimon et al. (2012) used a mixed-method approach to explore the therapeutic process of group music therapy with young soldiers in their study. The soldiers participated in 16 weekly sessions of 90 minutes. They had the opportunity to play instruments, listen to music, and participate in a structured interview at the end of each

session. The data was collected by filming the session to analyze them verbally and musically, and the open-ended-in-depth interviews were transcribed. A content analysis was conducted of the interviews and records of the sessions. Besides the interviews, the time of each musical instrument played was measured, as well as the intensity and tempo. The participants' level of expertise in music was not measured. The results demonstrated that after receiving music therapy over ten weeks, participants reported a decrease in re-experiencing traumatic emotions and enhanced feelings of openness, hope, and optimism (Bensimon, 2012). However, it should be highlighted that the results cannot be generalized. The sample size was small (N=9) and consisted only of male veterans, and it should be noted that this study was missing a comparison or control group.

Like Bensimon et al. (2012), the pilot study by Mims (2015) used a mixed-method approach to test the effect of a six-week visual journaling art therapy group in reducing stress, trauma, and anxiety symptoms. Two participants participated in the program and completed pre-and post-test Clinical Outcomes on Measure (CORE-OM) and an individual interview. Data from the CORE-OM was analyzed to determine a change in the overall score, and the individual interviews were used to identify specific themes. Results indicated no significant change from the CORE-OM, but the interviews revealed that the two participants benefited from the visual journaling group. The results of this study cannot be generalized due to the small sample size (Mims, 2015).

The study by Kaimal et al. (2019) aimed to evaluate long- and short-term art therapy interventions in a care setting for military service members with PTSD and traumatic brain injury. The evaluation included four surveys from 204 service members at intake. The surveys included quantitative and qualitative information on participants' perceptions of art therapy. The data from the surveys were analyzed using EpiData. For the quantitative data, the means and standard deviations were calculated. The qualitative data was summarized using thematic analysis to explain the quantitative findings and offered insight into how participants perceived art therapy. The results demonstrated that short-term art therapy helped with identity issues and improved self-expression. In contrast, long-term AT sessions helped with grief, loss, and guilt. However, no standardized measures were used or validated in the study (Kaimal et al., 2019).

Qualitative studies

The qualitative study by Kalmanowitz and Ho (2017) presents the combination of art therapy and mindfulness by drawing examples from short-term art therapy and mindfulness meditation studio group for refugees showing symptoms of PTSD. The studio workshop took over eight days, and the participants attended art therapy and mindfulness workshops.

Besides participating in workshops, participants had the opportunity to practice by themselves in the studio and were encouraged to do homework. An interpretative phenomenological analysis using questionnaires and interviews was conducted. Findings showed that art therapy and meditation helped participants cope with everyday problems.

The study by Walker et al. (2017) analyzed the mask-making experience of the service member (N = 370) with PTSD. The data from mask images and therapist notes were collected over five years. Grounded theory methods indicated that the therapy approach of mask-making facilitated the representation of the self, relationships, community, and society. The study's insights cannot be generalized but provide an increased understanding of the traumatic experience of service members (Walker et al., 2017).

Case studies

In total, the selected studies included four case studies (Hass-Cohen et al., 2014; Jones et al., 2019; Lobban & Murphy, 2017; Walker et al., 2016), from which two are single case studies (Hass-Cohen et al., 2014; Walker et al., 2016).

The case study by Hass-Cohen et al. (2014) reviews neurobiological systems involved in trauma with the case of a woman with PTSD who had witnessed the attacks on the World Trade Center (NY) in 2001. The participants participated in the check art therapy protocol, compromising five art components presenting different themes. The participant reported that art therapy had helped her manage her anxiety and improved her communication with her partner. Comparing pre-and post-treatment assessment scores on the Beck Anxiety Index demonstrated decreased anxiety and avoidance behavior. Scores on the Centrality of Event Scale demonstrated an increase in resilience. Although the results demonstrated a positive effect of CAT in treating PTSD, control or comparison groups were missing.

In the study by Lobban and Murphy (2017), four veterans participated in a two-week art program. Psychometric measurements, namely: Patient health questionnaire (PHQ-9), Generalised Anxiety Disorder (GAD-7), PTSD Checklist (PCL-5), and Warwick & Edinburgh Mental Well-being Scale (WEMWBS), were taken before and after the treatment.

By comparing the measures, significant progress was seen; however, the measures were not repeated over time.

The case study by Walker et al. (2016) demonstrated the therapeutic process through long-term art therapy in the case of one senior active-duty military service member with chronic PTSD. The data was obtained from documented medical records: patient's reflections shared with the therapist, therapist notes, patient narratives, and patient artwork created in AT sessions. The data sources identified that the participant overcame his resistance to treatment and could use AT to manage traumatic memories and intrusive images (Walker et al., 2016). This study highlights the application of art therapy in helping individuals who cannot express themselves through talk therapies.

The purpose of the case studies by Jones et al. (2019) was to illustrate the implementation of an art therapy program with case reports of three military service personnel diagnosed with PTSD. Participants followed a structured art therapy program including both group and individual sessions. No measurements were taken, and statistical power is missing. However, the therapist's subjective observations and participants' reports showed an improvement in self-awareness and ability to express emotion. In addition, participants described a decrease in avoiding traumatic memories and reported more insight (Jones et al., 2019).

Discussion

This scoping review explored existing literature using creative art therapy approaches in treating individuals with PTSD. More specifically, the two main objectives were identifying the use of different creative art therapy approaches in treating PTSD and the effectiveness of CAT in treating PTSD. Three different types of CAT were found, predominantly visual art therapy, expressive writing therapy and music therapy. The types of CAT were mostly integrated into treatment packages combined with other forms of therapies. Overall they varied in length, duration and frequency but also lacked detailed instructions on how they were implemented. Regarding the effectiveness of CAT, substantial evidence supporting its effectiveness is lacking. One RCT study reported significant reductions in PTSD symptoms in favor of CAT.

Types of Creative Art Therapies

Three creative art therapies were described by answering the first research question, ‘What are the different creative art therapy approaches used for the treatment of PTSD?’. These were (1) visual art therapy (Allen & Wozniak, 2010; Decker et al., 2019; Hass-Cohen et al., 2014; Jones et al., 2019; Kaimal et al., 2019, Kalmanowitz & Ho, 2017; Kopytin & Lebedev, 2017; Lobban & Murphy, 2017; Zielona – Jenek et al., 2019), (2) expressive writing therapy (Jones et al., 2019; Zielona – Jenek et al., 2019), and (3) music therapy (Bensimon et al., 2012).

Findings suggest that visual art therapy is the most prevalent type of CAT used in treating PTSD. The subtypes of drawing and painting were introduced in ten of the 13 studies included in this review, whereas expressive writing and music therapy were only found in one study. Moreover, most studies used more than one type of creative art therapy intervention (Jones et al., 2019; Kaimal et al., 2019; Lobban & Murphy, 2017; Walker et al., 2016; Zielona – Jenek et al., 2019). One study combined CAT with CPT (Decker et al., 2018) and five studies offered CAT only (Bensimon et al., 2012; Hass-Cohen et al., 2014; Lobban & Murphy, 2017; Kopytin & Lebedev, 2017; Mims, 2015). In addition, a combination of other types of therapy such as medication, yoga, meditation and mindfulness was reported.

Regarding individual or group therapy, only one study focused on individual CAT (Hass-Cohen et al., 2014). In contrast, the others offered group therapy or a combination of both, indicating that CAT is mainly used in group settings. All studies focused on face-to-face therapy, leaving out online and blended therapy. Moreover, most studies focused on active or senior members; however, no pattern was detected from the selected studies indicating that specific types of CAT were used on certain populations.

The creative art therapies found in this review align with the most common types of CATs mentioned by Stuckey and Nobel (2010); however, no study on dance therapy and drama therapy in treating PTSD was found. This indicates a noticeable gap in the literature and relatively little empirical research on dance and drama therapy in the treatment of PTSD.

Moreover, it should be noted that most articles did not explain how the creative art therapy was implemented in their intervention and did not provide instructions on the creative art therapy. Although the type of CAT, material (e.g., crayons, pens) and themes were mentioned in the study, descriptions about whether and how patients were guided when being creative was missing. Detailed information on standardized protocols is lacking, making the transferability of their implications difficult. More information about the structure regarding the sessions and themes of CAT is needed for future transferability. Furthermore, no study

compared the effects of different creative art therapies in improving symptoms of PTSD, making it difficult to establish the advantages and limitations of the different creative art therapies.

The Effectiveness of Creative Art Therapies

The theoretical basis for answering the second research question ('How effective is creative art therapy in treating PTSD?') was that CAT has the advantage of communicating the non-verbal memories associated with traumatic experiences compared to traditional talk therapies (Peres et al., 2008). However, results have demonstrated that it was difficult to conclude and answer the question regarding the effectiveness of CAT in treating PTSD due to some further explained reasons.

First, the studies' quality was poor, as control or comparison groups were lacking. Only two studies (Decker et al., 2018; Kopytin & Lebedev, 2013) included randomized controlled trials and only significant differences in PTSD symptoms were found in one study. In the study by Decker et al. (2018), the results demonstrated a significant decrease in PTSD symptoms in the experimental group, indicating that CPT is more effective combined with CAT than CPT alone. Kopytin and Lebedev (2013) reported a significant difference in self-perceptions and personality functioning changes. However, no changes on the SCL-90 and Depression questionnaire were found. Kopytin and Lebedev (2013) found that CAT is effective in some domains compared to occupational therapy but did not find it more effective in decreasing symptoms of PTSD compared to the control group.

Next, most identified studies detailed uncontrolled mixed methods approaches and case studies, generally considered the least robust research designs. In addition, standardized tests were lacking. Four case studies in the present review were identified (Hass-Cohen et al., 2014; Jones et al., 2019; Lobban & Murphy, 2017; Walker et al., 2016). In general, case studies are helpful as they have the advantage of generating hypotheses, however, external validity is low. The case study by Jones et al. (2019) delivered the least robust research design of the identified studies in this paper because no measurements were taken, and only the therapist's observation and participant's report were considered. However, all participants reported improved self-awareness and emotional regulation due to CAT. Only two case studies (Hass-Cohen et al., 2014; Lobban & Murphy, 2017) used standardized questionnaires and compared pre-and post-treatment assessment scores. In both case studies, a positive impact of CAT in treating PTSD was reported; however, the results cannot be generalized due to missing control or comparison groups.

Also, most sample sizes were small, which reduces statistical power of the studies and increases margin of error. Mims (2015), with two participants, and Bensimon et al. (2012), with six participants, had the smallest sample size and no significant outcome change was measured.

Another essential factor that should be highlighted is the confirmation bias that the authors were part of the intervention in almost all the selected studies and the increased risk of bias towards the effectiveness. This confirmation bias influenced how results were interpreted, especially in the studies without standardized tests, and, therefore, a limitation that should be considered. The findings in the study by Bensimon et al. (2012) were based on quantitative and qualitative analyses, including measurements based on the researcher's listening skills. It might have been better to use measurement tools to ensure internal validity. Bensimon et al. (2012) also mentioned this issue in their discussion, as the music therapist was also a researcher: They referred to this as an interfering effect, which means that research considerations were mixed with therapeutic ones (Bensimon et al., 2012).

In the study by Jones et al. (2019), the art therapist's role as a researcher was mentioned, but they failed to discuss the impact of this bias in their discussion. Kopytin and Lebedev (2013) overestimated their findings by highlighting their results regarding the significant increase in the scores on the DAS and SDT for the experimental group, whereas no differences were found for the SCL-90 and Questionnaire of Depression Conditions.

Further, the study results do not apply to all patients with PTSD, as most of the participants were veterans. Nine of 13 studies described their intervention with active or senior service members (Bensimon et al., 2012; Decker et al., 2018; Jones et al., 2019; Kaimal et al., 2019; Kopytin & Lebedev, 2013; Lobban & Murphy, 2017; Walker et al., 2016; Walker et al., 2017). Two studies focused on female domestic violence survivors (Allen & Wozniak, 2010; Zielona-Jenek, 2019), and one focused on a female witness of the 9/11 terror attack (Hass-Cohen et al., 2014). The only Asian study by Kalmanowitz and Ho (2017) described their intervention with refugees and asylum seekers. Hence, the studies did not provide evidence for differential outcomes for specific samples.

Moreover, the length of the intervention might have influenced the results as well. Only one study focused on the difference between short-term and long-term art therapy. The study by Kaimal et al. (2019) was the only study that evaluated long- and short-term art therapy. Results showed that participants suffering longer than others from PTSD symptoms were more likely to benefit from longer-term art therapy focusing on drawing and painting

(Kaimal et al., 2019). This raises the question for the other studies in this review, whether the length of creative art therapy plays a significant role in reducing symptoms of PTSD.

Finally, issues around generalizability also resulted from the treatment interventions offered to the participants. In almost half of the studies, the participants received treatment packages including various creative art therapies, medications, and other forms of therapy such as meditation. Only the studies by Bensimon et al. (2012), Hass-Cohen et al. (2014), Lobban and Murphy (2017), Kopytin and Lebedev (2013), Mims (2015), and Zielona-Jenek et al. (2019) offered creative art therapy only. Therefore, reported changes cannot easily be attributed to the treatment of creative art therapy.

Strengths and Limitations

The current review displays strengths and limitations that need to be considered when making inference and interpreting results. The dominant strength of this review is that, as far known, no scoping review on the use of different creative art therapy approaches for individuals with PTSD or symptoms of PTSD has been performed yet. Therefore, the current state of the art is outlined. Considering the previously identified gap of knowledge within this area and the importance of identifying new approaches to treating PTSD, this review further advances research.

Next to the strengths, several limitations are formulated in this review that must be considered for future research. One limitation of this scoping review is finding relevant literature using only three databases. As a result, valuable articles for the present review might have been missing. Moreover, the inclusion criteria of studies in English published between 2010 and 2022 might have left out findings from significant work written in other languages or published in previous years. As only one researcher investigated the retrieved articles, the absence of a second author increased the probability of selection bias (Traviss-Turner et al., 2017) and could have led to missing some eligible studies for this review. The absence of interrater reliability has to be considered.

Another limitation is the limited number of studies included in the present review because research on art therapy for PTSD is still limited. Only a few studies exist, providing barely statistical power. Moreover, most studies focused on visual art therapy as their primary creative art therapy approach and were case-pilot- or exploratory studies with small sample sizes. Only the study by Decker et al. (2018) and Kopytin and Lebedev (2013) conducted studies including control groups. In particular, the case studies did not provide statistical power, and consequently, the results of the selected studies cannot be generalized.

Future Research

Future research is needed to acquire more knowledge to build a solid research basis for creative art therapy approaches. First, further research should concentrate on conducting more RCT studies with larger sample sizes to validate the effectiveness of creative art therapy approaches in treating PTSD compared to other treatment options. In addition, most of the studies in this review focused on visual art therapy as their primary CAT approach. It might be essential to examine these approaches with other CAT approaches to compare the effectiveness of these practices. Suppose more and larger-scale studies and samples could verify the positive reports of participants in this review. In that case, this means that CAT is an effective treatment option to other approaches in treating patients with PTSD or having symptoms of PTSD. This could also mean that CAT might be an alternative treatment option for individuals not responding to traditional PTSD treatments such as talk therapies. With a new generation of Ukrainian war victims, the world should do everything possible to improve care for treating PTSD; CAT might be an option. It does not necessarily require a trained therapist to be present and is more affordable than other treatment options.

Conclusion

This scoping review demonstrated a variety of creative art therapies in treating PTSD, mainly focusing on visual art therapy for clinical and subclinical populations, specifically male veterans and combat survivors. More detailed information on how the creative art therapies were implemented is necessary for replicating study designs and conducting further research. The effectiveness of CAT was partially supported, as only one of the RCT studies reported significant decreases in PTSD symptoms due to CAT combined with CPT. Moreover, because only a few empirical studies about creative art therapy interventions in treating patients with PTSD exist, it is increasingly important for researchers to investigate this topic.

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