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Research article

Art therapy for PTSD and TBI: A senior active duty military service member's therapeutic journey

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ABSTRACT

Art therapy is increasingly being accepted as a form of complementary and integrative care for military veterans affected by trauma and injuries in the line of duty. Less is known, however, about the applications of art therapy for co-morbid traumatic brain injury (TBI) and post-traumatic stress disorder (PTSD). In addition, most studies to date have focused on art therapy with veterans (former military service members) rather than with active duty service members; furthermore, there are no studies that have examined the unique context of PTSD in senior military personnel. This case study presents the therapeutic process through art therapy in the case of a senior active duty military service member (with chronic PTSD and TBI), in the context of an integrated model of care that included medical and complementary therapies.

1. Background

The views expressed in this case study are those of the authors and do not necessarily reflect the official policy or position of the Department of the Navy, Army, or Air Force, the Department of Defense, nor any agency of the U.S. Government.

The symptoms associated with PTSD were not always recognized as one clinical condition. Balfour and Stewart (2015) highlight how post-traumatic stress was characterized as a "syndrome" and first identified as a disorder in the case of Vietnam veterans. PTSD has previously been called shell shock, battle fatigue, soldier's heart, nostalgia, 1000-yard stare, and other descriptive names. Soldiers who complained of symptoms related to this disorder were dismissed as being neglectful of their duty and perceived as emotionally weak and cowardly. Despite the evolving widespread acceptance of PTSD as a serious health condition, this negative historical perception still manifests as a barrier for current service members seeking mental health treatment. Zinzow and colleagues (Zinzow et al., 2013) identified the following barriers: public stigma (the perception and negative reactions of the illness from other individuals), loss of self-esteem through the internalization of and belief in the public stigma, career concerns (lack of advancement or interference with duties), treatment concerns (lack of confidence in and distrust of providers, symptom, medications), lack of confidence in leadership issues (concerns around lack of support, confidentiality and trust in leadership), practical issues (time, cost), confidentiality concerns, legal concerns (firearm issuance and Top Secret clearance), lack of information, lack of peer-support, and varied beliefs about mental health.

Several studies corroborate the apparent deactivation of Broca's area in PTSD patients, thus affecting the area of the brain believed to be responsible for supplying semantic representation to personal experience (Peres, McFarlane, Nasello, & Moores, 2008; Rauch, Savage, Alpert, Fischman & Jenike 1997; Shin et al., 1997). The neurologic pathways in speech production are blocked due to trauma become encoded memories described as "speechless terrors" (van der Kolk, van der Hart & Marmar, 1996). Trauma affects both the verbal and non-verbal aspects of memory. Gantt and Tinnin (2009) opine that art therapy could provide a way to communicate with the non-verbal visual memories associated with trauma. Howie, Burch, Conrad & Shambaugh (2002) provide a clinically informed theoretical framework for military service members with PTSD and TBI that includes witnessing and supporting the development of a coherent narrative from the fragmented memories. Furthermore, art therapy sessions enable this by providing a safe environment

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for authentic expression, opportunities for externalization of the visual and tactile memories, containment of overwhelming emotion, enabling development of positive emotions, and, multimodal ways for reconciling with guilt and trauma (Collie et al., 2006; Malchiodi, 2012). Howie and colleagues Motivated by the incidence of suicides in Vietnam veterans, including cases where the symptoms emerged 15 years post-war, Golub (1985) developed an art therapy intervention to assist veterans in addressing their PTSD symptoms. Golub (1985) stated that the creation and transformation of visual symbols provided veterans a new approach towards achieving self-integration and mastering trauma. In this context, art therapy provided a safe medium in which the sufferer could emotionally process or re-experience the trauma without feeling threatened. She helped veterans specifically with their dual feelings of being alive and dead, victim and agent, and soldier and civilian. Greece (2003) found that art therapy helped a patient experiencing concurrent trauma and medical challenges in hospitalization with a means to examine his past to facilitate living with his current situation.

The literature on art therapy and TBI is limited. Dodd (1975) found that art therapy helped a man with brain injury progress from empty and simplistic drawings to more unified and colorful images. This increasing integration of imagery paralleled improvement in physical symptoms and heightened the psychological awareness about feeling different as a result of the brain injury. Although the improvement in symptoms could not be attributed to art therapy, Dodd (1975) argued that the relationship with the art therapist and occupational therapist helped the patient address the psychological challenges resulting from the brain injury and related disabilities. Individual and group art therapy have been found to be effective in helping patients with TBI in the areas of emotional expression, socialization, emotional adaptation to mental and physical disabilities, and communication during the rigorous rehabilitation and recovery process in an enjoyable and non-threatening way (Barker & Brunk 1991; Lazarus-Leff, 2013).

As can be seen from the literature above, most of the extant studies have focused on the needs of retired veterans, not active duty service members. Little is known also about the process and mechanisms of psychological and physiological change as a result of art therapy. In addition, not much is known about the unique context of symptomatology or treatment needs and outcomes for military service members who hold senior leadership positions. Senior military service members, or individuals in high-ranking leadership positions, often experience multiple deployments. Army Chief of Staff General Ray Odierno issued a national call for the Department of Veteran Affairs to not only offer programs to veterans and active-duty service members but also to leadership staff who may serve in upwards of eight deployments (Lamonthe, 2015). Given the high incidence of TBI in military service members, long-term psychiatric consequences following a TBI can include mood disorders, such as major depression anxiety disorders, such as generalized anxiety disorder and PTSD, aggressive behaviors, and substance abuse disorders (Hesdorffer, Rauch, & Tamminga, 2009) with as increased probability of PTSD with deployment related TBI (Stein et al., 2015). Service members can also experience difficulties readjusting to family life along with PTSD-related symptoms of anger, hyper alertness, and sleep disturbances (Burnam et al., 2008).

Considering the complexity of treating service members suffering symptoms from TBI with post-traumatic stress sustained over multiple deployments (Lamonthe, 2015), we present a case of a senior military service member in which a dynamic use of artwork, personal narratives and brain imaging will highlight the process of change and a journey to recovery in the context of an interdisciplinary integrative medicine model of clinical care.

2. Methods

This case study presents the therapeutic process for a senior military service member who struggled with years of untreated symptoms of PTSD and moderate traumatic brain injury. As required for case study designs, multiple data sources were used (Creswell, 2000; Yin, 2014). The data were sourced from documented electronic medical records: 1) the documented clinical information at the Medical Center where the patient was treated (first during an intensive four-week outpatient program and then for follow-ups as needed), 2) the patient's own reflections shared with the therapist, 3) therapist notes, 4) patient narratives, and 5) patient artwork to create a comprehensive picture of the process of change through art therapy. The data were reviewed to first determine a chronology of the patient's history, events that led up to referral for treatment, and the process of treatment itself. The artwork, narratives, and imaging data were included and integrated to identify key points of self-identified change as a result of the patient's engagement with art therapy and acupuncture and changes in symptoms over time. Specifically, the interactions that helped him overcome some of the resistance to complementary and integrative therapies are discussed through the perspectives of the patient narratives as well as clinicians' and therapists' notes. The patient entered some minor edits and confirmed acceptability of manuscript for publication.

The authors include the art therapist and the psychiatrist who worked with the patient, an art therapy research faculty member, and a physician researcher with patient care oversight. The art therapist compiled data on the patient on site, and the authors reviewed the de-identified data to determine the chronology of events related to the patient's initial resistance to later deep and multi-year engagement with art therapy and acupuncture.

The case study was initiated with explicit permission from the patient. Member checks (Shenton, 2004) were conducted by having the patient review and approve the content of the manuscript. Other than the clinicians who worked directly with the patient, no authors had access to any identifying information about the patient. All data shared for review were de-identified.

3. Case description

3.1. Case overview

The patient will be referred to as Fillmore (pseudonym selected by the patient) in this paper. Fillmore is an active duty service member in his fifties who was referred for evaluation and treatment in an interdisciplinary patient centric intensive outpatient program (IOP) at the National Intrepid Center of Excellence (NICoE), Walter Reed National Military Medical Center, Bethesda, MD, after a noted significant reduction in cognitive and emotional functioning. The patient recognized an increasing inability to focus on his work and sought treatment almost seven years after his initial traumatic experiences, including specific memories of an incident during one of his deployments in a war zone. He then underwent a series of treatments including complementary and integrative therapies, medical and psychiatric care. Art therapy and acupuncture in particular helped the patient manage and partly overcome some of the recurring debilitating symptoms of PTSD and TBI. Specific points of change as a result of acupuncture and art therapy are included in the description of the approximately two years of treatment.

3.2. History, referral and diagnosis

Prior to the deployments, Fillmore reported having a normal and stable life which included a long marriage, and adult children.

His developmental history was also reported as being normal. He grew up in a loving childhood home, and enjoyed good academic performance in school and college. The patient had a successful military career for several decades until a series of incidents that occurred during a wartime deployment. The patient reported last being well just before a combat deployment approximately seven years prior to admission to the NICoE. During this deployment, the patient suffered a moderate TBI when a mortar barrage hit his base with several rounds impacting near him. In the process of taking cover, the patient sustained shrapnel to a leg and experienced loss of consciousness/post traumatic amnesia for 30–45 min. Fillmore reports recalling being on one side of the bunker before the blast, and then returning to consciousness on the other side of the bunker with rescue personnel attending to him. By their account, it was at least 45 min from the time the bunker was hit and the medics reached him. Several other traumatic experiences occurred during that deployment, wherein the patient reported that he had witnessed "death up close." Perhaps the most traumatic experience the patient described was losing a subordinate and good friend in a convoy to an improvised explosive device (IED). The patient was supposed to be on the convoy which took the life of his good friend. "That should have been me," the patient reported, noting that he asked his subordinate to take his seat in the convoy so that he could attend a meeting scheduled at the last minute in the war's Green Zone.

Following his return home, Fillmore continued to experience marked guilt and recriminations pertaining to his decision, which resulted in his friend's death. Once back from this deployment, the patient reported that he "threw himself into his work" to keep from thinking about things that he had seen during his deployment. The patient also started drinking regularly post return, perhaps two or more hard drinks per night to help him sleep. Uncharacteristically, the patient started becoming depressed, but thought it was normal after a combat tour. He did not seek treatment; rather, he decided that if he could redeploy, he might be able to make amends, particularly if he was killed in an act of saving someone else.

In the meantime, the patient was also promoted and now held a higher leadership position. This, in turn, allowed him to become even more compulsive about working, deny his need for sleep, and continue to make amends for his lost friend. When the opportunity arose for another mission to the war zone, the patient leaped at the chance. The mission was successful, though highly stressful. Fillmore threw himself into his work, sleeping perhaps 2–4 h per night. Approximately half-way through the patient's deployment, he came to the realization that there would not be any further opportunity for career advancement due to military downsizing and promotion timing. While on his mid-tour leave and for the first time in 35 years of distinguished service, he contemplated retirement. With the "lid off" now (implying uncertainty about the future), upon returning to the deployment site the patient reported that "the wheels fell off the wagon."

Complicating the patient's undiagnosed and classical PTSD presentation, in the months leading up to his ultimate decompensation and subsequent medevac out of theater he developed co-morbid depression which also went unchecked. The progression to Major Depression with psychotic features further obfuscated this clinical picture and required initial stabilization with psychotropic medication upon return. Specific symptoms the patient identified himself were becoming more forgetful and distant and having more frequent "flashbacks" associated with his deployment. The flashbacks often included a bloody face of unknown identity in the bunker in which he was injured. Though described as a "flashback," this vision of the face was a hallucination as there was no true memory or event that would represent a recalled image. Over the next several months, the patient's mental health continued to deteriorate. His co-workers reported that his sentences, often pressured and fraught with a flight of ideas, didn't make sense. Fillmore reported experiencing conversations which he was sure took place, however later learned were "all in his head." The member complained of an overactive "rear processor," ostensibly a part of his brain which would not shut down. In order to moderate the effects of the rear processor, the patient imagined "turning a dial" in his frontal area to try and "slow" the rear processor. Though not actively suicidal or homicidal, the patient did disclose that he felt that he should put himself in a situation wherein his life was in jeopardy for the good of his country—and for the sake of turning off his unwanted thoughts. Witnessed to be displaying unusual behavior, he was asked to surrender his weapon by his Chief of Staff and agreed to seek mental health care. Referring to his first foray to seeking help, the patient said:

> *When I was ultimately diagnosed as PTSD and mTBI [mild TBI], I was extremely depressed, ashamed, confused, cognitively impaired, and I felt hopeless. . . A couple hours of sleep a day took its toll over the course of several years. I relied on "self-medication" through alcohol to allow me to sleep and either avoid or not remember my night terrors, morbid visions and daymares.*

Upon assessment, he was diagnosed with PTSD and chronic post-concussive symptoms from his TBI. Concerns around occupation, namely career uncertainty and bereavement, were identified. Fillmore reported periodical racing thoughts, increased energy despite living on 2–4 h of sleep per night, mood congruent impulsivity and irrationality, all in the context of an initial depressive disorder characterized by marked dysphoria, anxiety, and guilt. He also suffered from decreased interest, decreased libido, and varying degrees of anhedonia. Symptoms of anxiety associated with his PTSD (hypervigilance, increased arousal, re-experiencing, and emotional distance/numbing) were found to have been present for years. Fillmore was enrolled in a comprehensive four-week intensive outpatient program for military service members with PTSD and TBI which uses a patient centric interdisciplinary model of care coordinating 17 disciplines resulting in approximately 104 sequenced patient/provider encounters. The program included a structured range of medical and complementary care offerings. The primary diagnosis of PTSD was considered to be the cause of some of the psychotic and depressive symptoms. Cognitive deficits resulting in decreased work performance was thought to be persistent sequela of the TBI in 2007.

Magnetic resonance imaging (MRI) as seen in Fig. 1 revealed three T2 hyperintensities in the L occipital lobe (vision center of the brain), interpreted to be located in tracks associated with transmission of visual information from the occipital lobes to the language centers in the L temporal parietal lobes. MRI was unable to identify any other specific abnormalities in bilateral cerebral hemispheres.

However, utilization of magnetoencephalography (MEG), an imaging modality that can describe the electrical patterns of the brain by measuring the magnetic fields created by brain at rest, revealed a significant relative reduction in alpha band power (normal wave forms) in the left frontotemporal regions (seen in Fig. 2, Image 2a). These findings of significantly reduced (dark blue) normal wave forms were most prominent in the Broca's area, the area related to the verbal production of speech. The area of the brain in the R hemisphere, particularly the R parietal region, believed to be involved in creation of visual art, showed a significantly better resting wave form pattern.

Given the extreme severity of the PTSD symptomatology, the patient was expected therefore to benefit from non-verbal therapies including art therapy. As result of the all the assessments the primary diagnosis of PTSD was considered to be the cause of some of the psychotic and depressive symptoms for Fillmore. The therapeutic goals for Fillmore were to: 1) "get back to normal," 2) improve

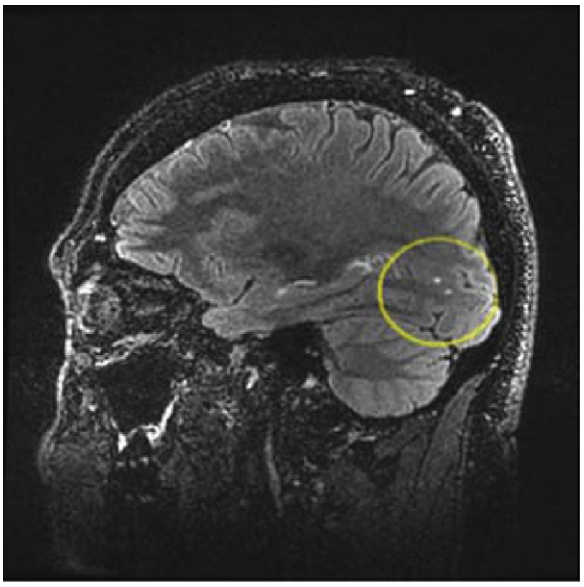

Fig. 1. Left sagittal view of the brain MRI revealing small occipital hyperintensities.

memory and concentration, 3) be able to more effectively manage his guilt/reduce his morbid thoughts and regain trust in self, and 4) not feel the pressure from an overactive "rear processor."

4. Art therapy with the patient

Following the evaluation initiated by the team above following a core team intake with 7 providers in order to reduce the number of times the patient needs to tell their history, a patient-specific intensive evaluation, treatment and educational schedule was developed. When the comprehensive treatment plan was offered to the patient, he was initially resistant to some of the complementary and integrative therapies. He said:

> *I initially told the providers that I did not need (complementary) therapies. My paranoia made me think this was all somehow a trick since I was certain that this stuff did not work and was just provided as a placebo. Then I had my first session with the acupuncture physician. He strongly suggested that I give these alternatives a try, at least. . . I could tell he had a tremendous amount of experience treating warriors with very similar issues and symptoms. His understanding of what was happening to me made me have a bit of trust and confidence in him and after a few weeks, I decided to try the alternative therapies provided.*

This positive experience with reduction of anxiety symptoms as a result of acupuncture helped the patient become more receptive to other complementary and integrative therapies even though, by his own admission, he was a little behind in the schedule of treatment (compared with other patients). The initial treatment plan only included two sessions of art therapy over a four-week period. The patient however eventually sought out ongoing individual sessions for two years. He attended approximately 15 sessions of art therapy with a resident art therapist at the center. The following section describes the process of art therapy treatment for the patient over this two year time period. The process of therapy seems to have clustered into three phases: 1) initial expressions (sessions 1 through 4), 2) delving deeper into traumatic incidents (sessions 5 through 9), and 3) managing self-care through connecting the therapies (sessions 10 through 14).

4.1. Phase 1—initial expressions

4.1.1. Art therapy session 1

Fillmore was first seen for a one-hour art therapy evaluation designed to introduce and promote the use of the art-making as a therapeutic process to aid in emotional regulation as well as increase satisfaction with life. The therapist noted that Fillmore presented with a pleasant affect and seemed curious about the art therapy process and its potential direction. At the first session, based on standard clinical practice at the site, the patient was offered the opportunity to create a mask representing warrior identities. Fillmore shared with the therapist that when he initially saw the masks made by previous patients at the clinic, he immediately was reminded of his recurring vision of a bloody face. The patient had named the flashback's face 'bloody-face-in-bunker' or "BFIB." Fillmore relayed the origin of BFIB and stated that it was a big step for him to tell providers that he had been having the vision for over seven years, but opening up about it was seemingly helpful thus far. He indicated that he'd been thinking of possibly making a mask representing BFIB, but was somewhat nervous about it. The art therapist explained how the externalization of the vision could help him similarly to the way it had helped others move on in the past and invited him to engage if and when he was ready.

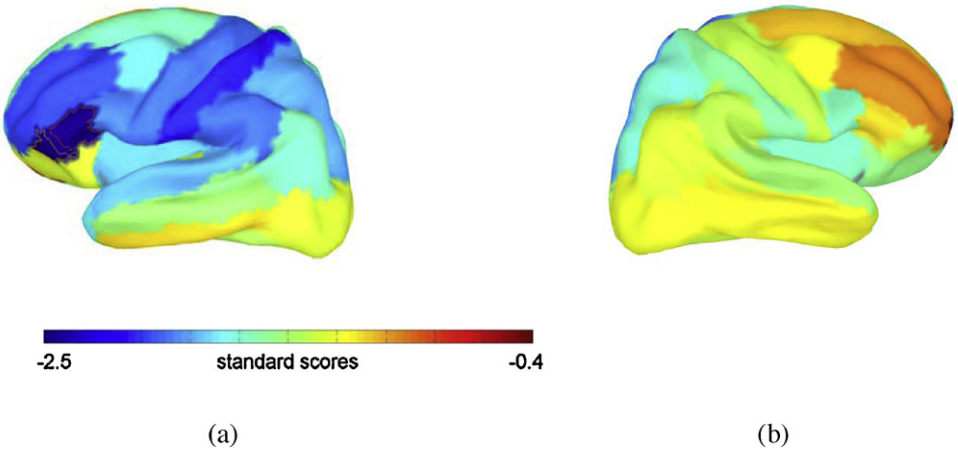

Fig. 2. Magnetoencephalography recording of the patient Fillmore showing the alpha band power throughout the brain. Normal range for alpha activity is commonly identified in the light green through orange side of the scale. The left hemisphere (2a) in the frontal and temporal areas show the greatest reduction in brain wave activity, thought to be related to factors associated with PTSD. The right hemisphere (2b) had relatively better wave forms throughout than the left side (for interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article).

Fig. 3. Patient's mask depicting "BFIB" or bloody face in bunker.

Fillmore immediately began to inquire about how to begin and started by carefully creating bulging eyes out of clay and affixing them to the mask. He then asked how to create dark red paint and, after mixing the desired color, applied it to the background of the mask. The patient then added details to the mask's eyes and lips/mouth. He stood while carefully applying the details to the eyes and later added color to the iris because something seemed to be missing. Afterwards, according to the therapist's notes, Fillmore seemed to be attempting to take it all in, staring at the mask. He shared that he was unsure of how he felt to have the face before him and did have some anxiety in the moment; however, he felt compelled to finish the product during the creative process. Fig. 3 below is the mask created by the patient depicting BFIB:

Describing the experience, the patient said:

> *I thought I would paint one (mask) of myself... but as I started that subconscious piece of my psyche kicked in and I rapidly produced one of my hauntings, BFIB: I would see a bloody face lying on the ground next to me in the bunker where I was wounded during a mortar attack on our compound. I had seen it so often... I named him BFIB (Bee-Fib) which was an acronym for "bloody face in bunker."*

Fig. 4. Patient "leaves" BFIB behind in a container.

Given the patient's narratives and visual responses, the therapist offered potential next steps including creating a box for the mask to be put away/buried in. Fillmore was immediately interested in executing this idea. The patient seemed amazed that within a few weeks he had opened up about BFIB's existence, and now had the image externalized before him. As Fillmore left the session, he joked that the therapists should "take care of him" (the mask). In addition, when the therapist encountered Fillmore a few hours after the session informally at the clinic, he was thankful and shared that the process had been "incredibly therapeutic."

4.1.2. Art therapy session 2

In the second session, the patient was seen for a one-hour follow-up session of individual art therapy. Fillmore presented with a pleasant affect and shared that he felt that the previous session had been surprisingly helpful and that he had relayed this to other clinicians in the facility and his family. Based on the comments made by the patient around the future of the mask, the art therapist provided Fillmore with an oval-shaped box large enough to contain the mask. Fillmore shared an idea to perhaps paint the inside of the box a bright yellow, to symbolize "shedding light" on BFIB and to express his pursuit for understanding who/what/why he exists. Fillmore stated he would then paint the outside of the box grey. He proceeded with this plan with minimal assistance from the therapist and the art therapy intern. The patient stated afterwards that he found the process to be relaxing. Fillmore also took time during the session to pick out magazine clippings (images and phrases) to be collaged onto the outside of the box during the next session. Fig. 4 shows the image of the mask 'contained' in the box.

Fig. 5. Collage and text for the outside of the container with the BFIB mask.

Reflecting back on the sessions later, the patient noted that during the time he worked on the mask, the haunting flashbacks would recur repeatedly. He also reported that the process of working through and 'externalizing' the artwork and keeping it physically 'contained' helped him to overcome the debilitating intrusive images from the past. Referring to working with the art therapist, the patient said:

> *The art therapist worked diligently with me as she saw how emotional this product was. Once finished, she suggested I put him in a box decorated with signs of my feelings and leave it on a shelf at the Medical Center to attempt to make my brain let BFIB go. During the two weeks I worked on the project, I saw BFIB every night and many times a day. I was worried that making this piece of art had exacerbated my problem. As a testament to (the art therapist's) competence, once I was finished with the entire project, and knowing BFIB was safe and contained, I have only seen his vision a few times in a year and a half post-treatment and both times he was smiling and I did not feel anxious...BFIB doesn't bother me anymore.*

4.1.3. Art therapy session 3

On his request, Fillmore was seen the next week for one hour of individual art therapy. He continued work on his mask project, taking the words and images he had collected and applying them carefully to the top, sides, and inside of the box. He shared that he liked the image of the plastic bags blowing in the wind as it represented freedom, yet they are "still attached." He looked through magazines until he found the appropriate phrase, "finding balance." Fig. 5 below includes images of the completed box with the mask contained inside.

The patient stated that externalizing BFIB in physical form had been helpful for him. He said that he was thinking about what he'd like to do next with the box/BFIB, sharing that he was ambivalent about cutting it out of his life completely after the vision had been in his life for so long. He reported still processing what BFIB might represent and did recognize the possibility that it could be a projection of himself but did not elaborate further on this.

4.1.4. Art therapy session 4

Towards the end of his stay at the Medical Center, the patient was seen for a 2-h group art therapy session designed to promote group cohesion, a sense of community among service members, empathy for and understanding of the self and others and to provide an outlet for expression and emotional regulation and increase satisfaction with life. The patients were invited to create montage paintings based on their experiences while at the center.

They were encouraged to process how the program had felt thus far, while focusing on the past, present, and hopes and goals for the future. Fillmore did not do the art task; instead, he presented with a pleasant affect and socialized with the group before leaving for another appointment. He explained later to the therapist that given his known senior position among the service members, he did not want to have his expression overpower the process of the group. He was offered another art therapy project, but he stated he was content with the closure he had gained through the mask-making process. According to the therapist notes, he had decided to leave the mask and box at the center while he continued to work through its meaning.

4.2. Phase 2—delving deeper into the traumatic incidents

Phase 2 included art therapy sessions 5 through 9. After the completion of the 4-week program at the center, Fillmore sought continued individual art therapy in conjunction with a behavioral health provider who provided guided imagery during acupuncture, and a neurologist who initiated cognitive therapy for identified visual processing disturbances. Fillmore came to a series of 1–2 h individual sessions over a span of several months. He interacted openly with this therapist and was pleased to report that he had not seen BFIB in a few months. He attributed this to the care he had received at the Medical Center and to the mask-making experience with the art therapist during which he externalized BFIB.

Fillmore shared that although he did not see BFIB anymore, when he did have flashbacks/nightmares now he saw images of the moments of the mortar attack in which he had sustained his TBI. Fillmore expressed interest in conceptualizing these moments via art, and the art therapist suggested that he paint the scene that he had seen in his visions. Fillmore began the painting first by sketching out the scene, and then began to paint it. Fillmore returned a few days later and stated that he had been thinking about the painting and believed that the creation of the scene in his painting was helping him. He had also reconsidered the perspective of the painting, particularly the main explosion, and spent the duration of the next session (1 h) correcting this and adding detail to the canvas. Fillmore also discussed his interest in adding some three-dimensional materials to include actual dirt/sand from the theater and some shrapnel.

At the next session the patient went right to work on his mortar attack scene, adding more details to include little pieces of shrapnel coming out of the explosion, a figure of an Army man frozen with fear on the ground, and some buildings in the background. Fillmore stated he was enjoying the process and believed it was helping him, as he still saw the images/flashbacks in his mind, though he reported that they were not as intense as before. Fillmore was able to obtain some dirt from the actual blast site and some shrapnel from the attack which included one piece that was taken out of his leg after his injury. These elements, as well as representations of pieces of wood and other debris that were blown up/into him during the attack, were planned to be incorporated as three-dimensional objects into the piece.

Fillmore shared with his therapist that he felt the art-making process was helping decrease his flashbacks or was at least allowing him to view them in a different way. Fillmore used the session to begin to adding dirt from the actual compound where the mortar attack took place, as well as the pieces of shrapnel and various elements to represent the explosion, including pieces of wood from a woodpile that was hit. Fillmore believed a 2×4 piece knocked him unconscious. Fillmore spoke of plans to hang the completed artwork in his home and share his work with his family. At the next session, the patient continued to work on the artwork and also indicated he was feeling somewhat anxious about an impending neck surgery he had learned about recently. He shared that the art therapy directive had been helpful because, when he had flashbacks surrounding the attack, he now thought about the painting and whether or not he had recreated it accurately, or if he would like to add anything. Fillmore reported that he was happy with his work and had enjoyed the process. Referring to the ongoing engagement with art making, he said:

> *I would continue making paintings of my hauntings, and each time I see them less, or not at all. In my opinion, I am bringing some compartmentalized fear into the open and admitting I was in fact afraid. Being afraid is something I have always denied... to other people... and to myself. Realizing fear is not weakness has helped me, and realizing weakness is not failure is something I am still working hard to engrain in my thought process.*

At the next session, Fillmore added finishing touches to his multi-media canvas project, which included a translucent wash to the smoke from the rocket blast, and then declared the piece was complete. Fillmore and the art therapist applied a fixing spray to the project to better hold the dirt from the compound that had been

Fig. 6. Image of blast scene incorporating dirt from the site and shrapnel from the patient's wounds.

integrated into the picture. Fillmore then took the piece with him at the end of the session to hang in his house. Fig. 6 is an image of the completed painting.

4.3. Phase 3—managing self-care and healing through connecting the different therapies

Phase 3 included art therapy sessions 10 through 14. Having experienced reduced occurrences of the haunting image of BFIB and nightmares of memories of the blast, Fillmore next began planning out and discussing ideas for his next art therapy project. He expressed the wish to recreate the memory of his friend who was killed. Referring to wanting to work through this recurring memory of guilt, the patient said:

> *I felt utter failure for the first time in my life. I had horrific visions of past war scenes. I repeatedly saw the man I sent on a mission in my place, in my seat, doing part of my job so that I could attend another event. . . I would constantly see him looking at me as I watched him buckle up . . . and then gave me a thumbs up. Then I would see him after the IED destroyed the vehicle and killed him and others.*

In order to create the painting, Fillmore requested the art therapist to model a 'thumbs up' signal wearing a similar glove to that of his friend who was killed in IED explosion. Using this model of the art therapist sitting in the same posture as his friend, Fillmore painted the image of his friend giving a "thumbs up." He thus recreated the image of his friend saying goodbye before the blast occurred. At the next session, Fillmore discussed his upcoming surgery and inquired about art materials for home, indicating he'd like to begin engaging in art-making on his own time. He completed the painting of the memory of the last moment he saw his friend before he was killed in action. Fillmore expressed enjoyment in the process and chose to take the painting home with him. See Fig. 7 for complete image.

Fig. 7. Image of last memory of "buddy" who died in the blast.

Although some of the flashbacks had reduced, Fillmore's PTSD symptoms were still a clinical concern. At the next session, referring to his current clinical condition, the patient said:

> *I still had many more symptoms of PTSD and mTBI which I had to deal with. One day, the acupuncturist suggested I have an [acupuncture] session to identify the internal and external demons that plagued me. The focused, compressed visions of my past that generate deep inside my head during dragon sessions are truly remarkable. The visages that are portrayed occur so rapidly, yet with such detail, that it takes me several days to comprehend – and weeks to analyze through talk therapy. These sessions have provided me the ability to gain a more comprehensive understanding of my memories, actions, and situations that have caused survivor's guilt, shame, and depression.*

Fillmore spontaneously linked his experiences of acupuncture with art-making, and he shared a desire to depict the faces of individuals he had seen during trauma-focused acupuncture treatment. He sought to explore the meaning behind these faces and memories (good and bad) and how they connected to who he had become. At the next session Fillmore came prepared to try a technique of transferring photocopied images using peppermint oil. The patient and therapist worked together to successfully transfer the image onto a canvas. He also expressed interest in his next art therapy project being masks of the faces/people re-experienced during acupuncture sessions which included traditional Chinese Medicine treatments for clearing negative emotions and experiences. For his first mask in this series, Fillmore used clay to mold it to look more like a local Iraqi leader in the war zone where they both had to work closely together.

In summary, after two years of art therapy and acupuncture, Fillmore was hopeful for continued recovery and improved health. He continues to paint, engages in self-expression at home, and visits the Medical Center for follow-up art therapy and acupuncture sessions regularly.

5. Discussion

True interdisciplinary medicine requires not only all the contributions of many specialists (as evidenced in the authorship of this paper), but the collaboration and orchestration of their service and care. This case study offers an example of how art therapy in conjunction with other integrative therapies helped open an avenue for treatment for an active duty military service member who had struggled both to seek help and manage his symptoms for over seven years. Despite initial resistance and sus-

picion, the patient's positive experience with another integrative therapy (acupuncture) and alleviation of persistent symptoms of visions and hauntings helped him try and then engage deeply with art therapy. This initial resistance could be interpreted as a manifestation of some of the societal stigma (Balfour & Stewart, 2015) surrounding acknowledgment and pursuit of treatment for PTSD. This is especially heightened for senior military service members who might be even more unlikely to seek help. As indicated by General Odierno in a press conference, the needs of military leaders and their families need to be recognized and treated as much as those of more junior service members (Lamonthe, 2015).

The case also has highlighted how some of the integrative therapies can work in tandem to help patients work through psychological and physiological symptoms. Dodd (1975) referred to the joint role of occupational therapy and art therapy in helping a patient with brain injury regain an integrated sense of self. In the case of Fillmore, acupuncture helped him open up to other therapies. In addition, he used the imagery that emerged during acupuncture treatment to create actual artwork to externalize traumatic wartime memories. Given that therapies do not work in isolation, this case example offers an approach to integrated care, wherein patients are empowered to take charge of their experiences and work through the lead of their own insights and ideas.

Initially the patient responded to each therapy in isolation. For example, the acupuncture served to help him relax and experience better sleep and lowered anxiety. The art therapy helped the patient work through incidents that had been haunting him for several years. Using re-enactment of the memory (modeling with the glove) as well as actual materials (dirt and shrapnel from the war zone and injury), the patient externalized many of the images that were trapped in his mind, creating intrusive thoughts. Later he integrated one of his experiences (visions of faces from the trauma-focused acupuncture treatment) into creating a series of masks in art therapy. The patient took the initiative to create masks of the main image that had been haunting him (BFIB) as well as additional images and faces that emerged during a specific acupuncture session.

This study further reveals the value of using art-making for non-verbal discovery in cases where domains of the brain normally engaged in verbal communications may be compromised. The MEG electrophysiological patterns, though still being used in an exploratory fashion in medicine, clearly showed reduction in normal alpha activity in the language regions consistent with previous reports. This therapeutic process shows promise when identifying those patients with head injury or other neurological or psychiatric disturbance that may compromise fluency skills, and then guiding a course of action that employs the arts to significantly aid in assessment and treatment.

A case such as this reiterates the need for experienced and highly competent art therapists and clinicians coordinating the assessment and treatment plans while engaging in therapeutic work using the arts. The authors caution that clinicians, students, and volunteers without adequate training and experience in the art therapy process should avoid attempting to conjure up traumatic content with patients. Trauma processing through art-making can prove visceral and intense for the patient. For example, during the first few weeks, the patient experienced heightened flashbacks of BFIB as he was working on the mask. The art therapist was experienced and proficient and supported the patient through this process to first externalize and then contain the image. Revelation during the art making was conveyed to the entire treatment team and was essential in coordinating multiple disciplines' support and treatment during recovery. Once the artwork was completed and 'contained' in a box, these flashbacks of BFIB receded, and the patient reported seeing the image only a few times a year and that the image was less haunting. Similarly, the acupuncture treatments also encouraged the patient to explore 'demons' and deep-rooted struggles and conflicts through the trauma-focused acupuncture treatment. This in turn helped the patient grapple with long standing symptoms and link one treatment to another.

Thus, from initially being led by the therapist and psychiatrist, the patient eventually took charge of his ideas for self-expression. He is also aware of his role and implicit effect of his seniority in art therapy group sessions (motivating him to reject the invitation to create a montage picture as a culminating project). In addition, one of the paintings that held intense emotional relevance became one that he wanted to frame and hang in his home. Lazarus-Leff (2013) suggested that the presence of aesthetically meaningful artwork in the home environment helped alleviate some of the cognitive impairments of a young man with brain injury. Art in the external environment became an aesthetic agent for change which helped Fillmore increase frustration tolerance and demonstrate a decreasing propensity towards labile affect.

Given the range of treatments offered, it is not possible to attribute any causal links to art therapy or acupuncture for the changes seen in the patient including biological predispositions that might affect emergence of PTSD symptoms (Lehrner, Daskalakis & Yehuda, 2016) that we were not able to account for. However, given the time the patient spent with these therapies, it is possible they had a role in the resulting changes seen in the patient. This is especially salient for active duty military service members because unlike veterans, they are expected to report back to duty after treatment.

Future research needs to examine whether the mechanisms of change that we found in the analysis of this one case of Fillmore would apply to other patients as well. In addition, there is a need to examine whether military-related PTSD and TBI follow similar patterns concerning symptoms and response to treatment across military ranks and severity of illnesses.

6. Implications

In this paper we presented a case study of the ongoing process of healing for an active duty military service member with symptoms of chronic PTSD and mild TBI. Using multiple data sources we identified how the patient overcame resistance to treatment and used art therapy and acupuncture to externalize and manage recurring intrusive images and traumatic memories. In addition, the study highlights the applications of non-verbal therapies like art therapy to help patients who are unable to express themselves through traditional talk therapies, as well as the ways in which multiple integrative forms of care can help address the needs of a patient especially one with intractable symptoms of PTSD and TBI. Incorporation of these techniques into the broader interdisciplinary team assessment and treatment strategy holds great promise for more rapidly identifying disease and returning service members to improved function.

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