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Does the Integration of Peers into the Treatment of Adults with Posttraumatic Stress Disorder Improve Access to Mental Health Care? A Literature Review and Conceptual Model

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Abstract

Objective: There is a pressing need for interventions that make PTSD treatment more accessible. The aim of this review is to determine if the integration of peers, into the treatment of adults with posttraumatic stress disorder, represents such innovation.

Methods: MEDLINE, PsychINFO, and Ovid were searched using key words: paraprofessional, peer, peer specialist, peer support technician, peer support, peer group, peer counseling and consumer provider. These keywords were searched in combination with PTSD to identify English language reports of relevance published between 1946 and 2012.

Results: We reviewed the existing peer interventions published in the PTSD literature and found they fell into three categories which we name: Peer outreach for those exposed to traumatic events; Paraprofessional peer delivery of a trauma-focused intervention and Peer support for recovery from PTSD. We summarize each of these three categories with regards to how they make PTSD treatment more accessible.

Discussion: Current evidence suggests that integrating peers into the treatment of adults with PTSD can enhance access to treatment. However the limited evidence supporting the effectiveness of peers in improving actual PTSD outcomes represents a significant limitation. This may be, in part, due to a lack of knowledge regarding the mechanisms of action via which peers could improve PTSD outcomes. We present a conceptual model that postulates regarding such mechanisms. Drawing from the broader literature, we also highlight key requirements for the successful future implementation of peers into the treatment of adults PTSD. We conclude with suggestions for future research in this area.

Introduction

Posttraumatic Stress Disorder (PTSD), which has been associated with significant impairment in socio-occupational functioning, continues to be a mental health diagnosis of relevance and importance both domestically in the U.S and globally [1-3]. In the United States, perhaps one of the most current pressing public health concerns is treating PTSD in veterans who served in the recent conflicts in Iraq and Afghanistan. Up to 13% of veterans from the conflicts in Iraq and Afghanistan have combat-related PTSD [3,4] and despite the availability of evidence based treatments, which ameliorate core PTSD symptoms and prevent further negative consequences such as substance abuse and suicide [5,6], help seeking veterans often do not follow up with the recommended course of psychological [7], or pharmacological [8] therapies. This may be, in part, due to problems at the interface between the veteran and the healthcare system [7-10].

It is reasonable to assume that such issues are not limited to this specific population and likely translate into a variety of mental healthcare settings both here, in the U.S., and globally. In light of these challenges, there is a pressing need for innovative interventions that focus on enhancing the reach of PTSD treatment, i.e., making treatments more accessible, easier to engage in and adhere to [11]. In this review, we investigate if integrating peers into the treatment of adults with PTSD improves access to mental healthcare.

The utilization of peers in mental health care settings, in general, is not a novel concept. Historically, they have been employed to enhance the reach of the existing mental health taskforce [12-17]. Peers typically offer services as paraprofessionals i.e. "mental health personnel who are not identified with the core disciplines of psychiatry, psychology, nursing or social work and have an education level below a master's degree" [18]. The group is heterogeneous with "peer" reflecting persons who have a shared occupation with the affected individual e.g. paramedics or firefighters [19-21], come from the same community [13], or share the same mental illness [22-26].

In recent years, the concept of using paraprofessionals, recruited from the local community of the target population, to deliver psychological treatments for depression and anxiety disorders has gained robust momentum as exemplified by the work of Patel and colleagues. This process called, "task shifting" addresses, at it's the core, the need in communities with low or negligible traditional mental health resources for mental healthcare that is accessible and sustainable [27-31].

With regards to the effectiveness of peers: peers in recovery from SMI (Serious Mental Illness), employed to provide services to others with SMI, have, in controlled trials, found to provide at least the same degree of effectiveness on outcomes such as patient social functioning, quality of life and treatment adherence when compared with non-peers [32-34]. Paraprofessionals drawn from the local community, when supported by strong supervisory mechanisms, have been shown to deliver effective treatments for anxiety and depressive disorders [35-37].

So what has the role of peers been in the treatment of PTSD to date? The extant posttraumatic stress disorder (PTSD) literature describes the frequent utilization of paraprofessionals who are "peers" to affected individuals either by virtue of a shared occupation, ethnicity, culture, community or lived experience with PTSD [19-

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21,38-55]. Typically underlying such inclusion of peers is the notion that their "peer status" grants them a higher level of credibility, with the traumatized individual, when compared to non-peer mental health professionals [29]. This idea has appeal when we consider that individuals experiencing symptoms of posttraumatic stress can often be avoidant or mistrustful when seeking mental health assistance [9,10,56].

To date, there has been no organizing review of the literature on peer interventions for PTSD. In this article we aim to: review existing peer interventions for adults with PTSD; categorize them according to the specific characteristics of the peer, the target population intended to be the recipient of the peer services and the goals of such interventions and, finally, highlight available evidence supporting the effectiveness of peer interventions in enhancing access to PTSD treatment.

Methods

MEDLINE, PsychINFO, and Ovid were searched using key words: paraprofessional, peer, peer specialist, peer support technician, peer support, peer group, peer counseling and consumer provider. These keywords were searched in combination with PTSD to identify English language reports of relevance published between 1946 and 2012. We intentionally excluded reports which described the use of peers in the treatment of children with PTSD and community based interventions as these were beyond the scope of this review.

We divided the results into three categories: a peer outreach category where the peer typically comes from a similar profession to the individual they are providing outreach to; the paraprofessional peer delivery of trauma-focused intervention category where the peer typically comes from a similar community to the individual they are providing assistance to and often provide services in the aftermath of man-made or natural disasters and, finally, the peer support for recovery from PTSD category where a key characteristic of the peer is that they have a lived experience with PTSD and, now that they are in recovery, can provide assistance to other living with PTSD.

Results

Peer Interventions for Trauma Exposed Populations & PTSD

Peer outreach: Peer outreach is intended to identify people who are either experiencing psychological problems after exposure to a traumatic event or at high risk of being exposed to traumatic events by virtue of their profession (Table 1). A primary goal of peer outreach is to help those in need to access mental health services. Peer outreach has been provided for military personnel, police and in communities affected by disasters [19-21,38-49].

To date, the predominant trend has been to recruit "peers" who have a shared profession with the population who is being provided with outreach, i.e., law enforcement or military personnel [19-21,39,41-43,47,48,55]. The advantages of this model include the proximity (both physically and psychosocially) of the peer to those whom he/she supports [54].

Table 1: Overview of Peer Interventions for PTSD.

Type of intervention	*Peer outreach for those exposed to traumatic events*	*Paraprofessional peer delivery of trauma-focused intervention*	*Peer support for recovery from PTSD*
Examples	• Buddy-to-Buddy • Trauma Risk Management (TRiM)	• Narrative exposure therapy (NET) • Psychological first aid (PFA)	• Operational Stress Injury Social Support (OSISS)
Typical peer characteristics & relationship to mental health team	• Similar profession or background • May or may not work closely with other mental health professionals	• Shared ethnicity and culture and have received specific training • May or may not work closely with other mental health professionals	• Has lived experience with the same or similar illness but is in recovery • Veteran/military background • Operates as part of a treatment team
Typical intervention target	• Adults exposed to trauma who may or may not be having problems • Adults at high risk of being exposed to trauma	• Populations affected by man-made or natural disasters	• Veterans living with the impact of traumatic stress
Intervention goals	• Identify people who need help • Share belief that treatment may be helpful • Facilitate access to treatment	• PFA: reduce initial distress and foster short and long term adaptive functioning	• "Listen, assess and refer" • Role model recovery skills • Provide hope that recovery is possible
Typical peer tasks	• Empathic listening • Provide psychoeducation • Provide information on mental health services	• NET: paraprofessional peer delivers NET as per protocol and receives supervision from professional	• Provide social support, help with conflict resolution, active listening, and crisis management • Run peer groups • "Self disclose" about own history of living with PTSD
Typical peer training	• Buddy-to-Buddy: two days of instruction on how to maintain strong relationships, effective communication, knowing when to seek professional advice	• PFA: one day workshop • NET: 6-week course in general counseling skills as well as specific skills to deliver NET	• Two week mandatory training • Demonstrate competencies
Presumed advantages of using peers	• Credibility of peers • Physical and psychosocial proximity to those whom they support	• Peers drawn from local community • Advantageous in low resource communities • Builds local capacity	• Positive role model • Shared experience of living with PTSD • Instill feelings of "empowerment" and "hope" for recovery • De-stigmatize the decision to seek mental health treatment
Example of an Intervention	• Outreach via telephone or in person in the community	• Provision of supplemental visits to augment care delivered by overburdened providers	• Peer support provider runs groups with a recovery focus
Intended Benefit of Intervention	• De-stigmatizing decision to seek help • Facilitate access to mental health treatment	• Enhance access to mental healthcare in low resource settings	• Provide hope for recovery • Role model coping skills

Core principles of peer outreach endorsed by a recent expert consensus panel [49] include the following: 1) recruiting peers who are respected by the population they are targeting; 2) recruiting peers who should be able to listen empathically, identify people at risk, and facilitate access to professional help for those who need it, and; 3) providing adequate training, support, and supervision for those recruited to provide psychological assistance. In addition, support from senior management for such peer outreach programs has been identified as key to their successful uptake [44].

The only randomized study of a peer outreach intervention evaluated Trauma Risk Management (TRiM) in the British Navy [43]. Despite evidence to suggest that the TRIM system appeared generally acceptable to military personnel (44) the study showed no differences in psychological health between crews that did and did not have personnel trained in TRiM. However, ships involved in the study encountered few potentially traumatic events. It is not clear whether TRiM might have had more protective effects if crews had experienced significant trauma.

In the Michigan Army National Guard Buddy to Buddy program returning soldiers receive "check-in" calls from a trained peer who provides support and, if needed, facilitates referrals to mental health professionals [41]. The core messages of the program (e.g., you are not alone, treatment works, it has helped many of your buddies, and pursuing help is a sign of strength) are consistent with research showing that military personnel are more likely to use mental health care if they feel less stigma and believe treatment is effective [57,58]. Initial evaluation results from 926 soldiers and their spouses showed that nearly two-thirds of participants were receiving regular calls from their Buddy, more than half used resources recommended by their Buddy, and 20% were referred for formal treatment with VA, Military One Source or other community resources [41].

Paraprofessional peer early intervention after disaster & delivery of trauma-focused treatment: In the U.S, part of disaster response includes crisis counseling and crisis counselors are often recruited from the local community (in this way they are peers to those affected by the disaster) and the majority of them are typically paraprofessionals rather than licensed mental health professionals [46,50].

Critical Incident Stress Debriefing (CISD) is a single-session early intervention delivered by trained peer paraprofessionals, after a traumatic event or disaster that is no longer recommended. Research has shown that CISD does not prevent PTSD and may even have adverse effects [59]. This said, whilst the CISD intervention, itself, may not have value in the treatment of PTSD it is possible that the peer paraprofessional component may still offer advantage as a mode of delivering early intervention to trauma exposed populations.

Psychological First Aid has been implemented as an evidence-informed modular approach, provided by paraprofessionals, for assisting people in the immediate aftermath of disaster and terrorism [60]. The aim is to reduce initial distress, and to foster short and long-term adaptive functioning. Recently, it has been demonstrated that paraprofessional community residents could be recruited and trained to deliver psychological first aid after a one day workshop [51]. The authors describe training 178 citizens in a model that was reported, in post-test assessments, to be practical and effective. However, it should be noted that the actual effectiveness of such a training in helping peer paraprofessionals to improve outcomes for prospective disaster survivors remains unknown.

There is strong evidence for the effectiveness of trauma-focused psychotherapies delivered by mental health professionals [61]. Narrative Exposure Therapy (NET) is a trauma-focused psychological treatment specifically designed to meet the needs of refugees with PTSD. In randomized controlled studies, NET has produced better PTSD symptom outcomes when compared to other interventions such as supportive counseling or offering psychoeducation [62]. Furthermore, in countries that lack formal mental health resources, NET has been adapted to be effectively delivered by trained local paraprofessionals (local residents who share ethnicity and culture with the affected population) [52] (Table 1). The relevance of this adaptation becomes apparent when we consider the disturbing rural urban healthcare disparities that exist all around the world [63-66].

Peer support for recovery orientation: Recovery orientated approaches to PTSD treatment, which facilitate changes in the affected individual so they can improve their overall health and wellness, live a self-directed life, and strive to reach their full potential [67], have been recommended for traumatized adults with deficits in community functioning and are deemed of particular relevance to persons who have experienced multiple traumas or have a more chronic course of PTSD [68].

Peer support is an example of a recovery orientated approach and whilst it has been extensively utilized in the treatment of individuals living with Serious Mental Illness (SMI) [32-34] its use in the treatment of PTSD is a relatively new practice that remains to be comprehensively evaluated and, thus far, has been limited to veteran and military populations [53,54]. Peer support for PTSD is distinguished from other peer interventions, previously outlined, by the fact that a peer support provider has a lived experience with PTSD and, having experienced significant improvements in their own condition, offers formal services and support to a peer considered to be not as far along in their own recovery process (Table 1). Consistent with this definition, and integral to the peer support process, is that the peer support provider shares and self-discloses regarding his/her own experiences with PTSD and, specifically, focuses on what skills, strengths, supports, and resources he/she has used in his/her own recovery.

Another key fact that distinguishes peer support from other peer interventions is that it is viewed as a form of healthcare with peer support providers acting as members of the mental health team [54,69]. In this way peer support is distinct from independently run peer organizations or mutual support groups that typically operate outside of traditional healthcare settings [70,71]. It is also distinct from peer support for veteran recovery from PTSD that has been taking place in Vet Centers (where many staff members also have a military background) since these centers are also considered separate to traditional healthcare settings [72].

Early reports describing the use of peer support, to promote veteran recovery from PTSD, are promising. An anecdotal report [53] describes veterans in recovery from PTSD undergoing 80 hours of peer employment training and the authors observed that treatment approaches, usually utilized to promote recovery from serious mental illness (SMI), could also be successfully used to promote recovery for veterans with PTSD.

A Canadian peer support program called Operational Stress Injury Social Support program has been in place since 2001 [54]. Under this program military veterans, who have suffered traumatic stress themselves, are available to offer assistance to serving and former military members with similar injuries. The program emphasizes that adherence to strict recruitment practices, procedures, and training was crucial to its successful uptake and has demonstrated the feasibility of employing individuals with a history of PTSD to assist those who suffer from similar conditions. In this program "peer support coordinators" provide one-on-one assistance to military members and veterans with their overall goal being to "listen, assess, and refer." They also organize and conduct peer support groups and provide outreach briefings about the program. The training of "peer support coordinators" focuses on developing the following skills: active listening, problem solving, and crisis management. The importance of "peer support coordinators" respecting therapeutic boundaries and engaging in self-care is also emphasized as an integral part of the initial training. A formal evaluation of the impact of this program is pending [54].

Discussion

Whilst we still lack data on the effectiveness of peer outreach interventions for populations with PTSD or who are at high risk of developing PTSD, such interventions have been demonstrated to be feasible across many different studies, particularly for military personnel [41-43,48]. Limitations of the existing peer outreach programs is that they have not necessarily been designed to meet the needs of individuals with an actual diagnosis of PTSD and, more often than not, have been targeted toward individuals at high risk of exposure to traumatic events or people who have been exposed to traumatic events but may not necessarily have PTSD. Peer outreach appears to be particularly valuable in the pre-engagement phase of treatment, such as for individuals who have yet to seek mental health appointment or are ambivalent about doing so. A peer outreach intervention, delivered during this phase, may serve to allay fears and concerns regarding seeking mental healthcare and make treatment more accessible to them.

A randomized controlled trial investigating the effectiveness of a non-peer outreach intervention designed to increase access to mental health treatment among veterans disabled by chronic PTSD reported an increase in veteran uptake of mental healthcare services as a consequence of the outreach intervention [73]. In light of this, we posit that a peer outreach intervention (i.e., the peer identifies those in psychological distress, provides psychoeducation and connects the peer with formal mental health resources) has the potential to further enhance access to mental health treatment secondary to the greater credibility associated with peers over non-peers. This credibility could serve to reduce stigma surrounding the decision to seek mental health services and thus, increase the access to treatment.

The demonstration that paraprofessional peers can probably learn the competencies needed to provide qualified trauma treatment is vital for communities with low resources and a scarcity of mental health professionals [52,56,62,63]. This said, there remains insufficient evidence to recommend paraprofessional delivered trauma focused therapies when professional treatment is available. Also, more empirical data is needed regarding the effectiveness of paraprofessional delivered trauma focused therapies when compared directly to treatment delivered by licensed mental health professionals.

Whilst peer paraprofessional delivered trauma-focused interventions are likely of limited relevance to individuals with PTSD who live in communities with an adequate mental health infrastructure, this type of peer intervention may still hold value for individuals who live in the rural and remote parts of developed countries, especially if there is a shortage of mental health professionals in that region. In fact, using less specialized workers to deliver mental health services has been cited as a way to reduce healthcare costs and expand care into underserved areas [66]. This may be of particular relevance to the Veteran population when we consider that there are just over 3.4 million rural[1] veterans enrolled in the VA system and men and women from geographically rural and highly rural areas make up a disproportionate share of service members, comprising about one-third (32%) of the enrolled veterans who served in the recent conflicts in Iraq and Afghanistan.

We are not suggesting that paraprofessional peers replace the evidence based psychotherapies and pharmacotherapies for PTSD offered by qualified mental health professionals, but rather provide innovative supplemental services that aim to engage those with PTSD in treatment long enough so they might experience benefit from professionally delivered treatment. In fact, it has previously been proposed that when paraprofessional "non-specialists" work in the communities where they live, and are properly supervised, they can be more effective in the care they provide than professional counterparts who are not indigenous to that area. In such models, the specialist role focuses on treating those with more treatment resistant illness in addition to spending more time training and supervising other healthcare workers [68].

Whilst this inclusion of peers, who have themselves suffered PTSD, as part of the frontline mental health care team may still be considered experimental it is important to note that, in the broader mental health literature, integrating peer support into the treatment of SMI has been extensively implemented and studied [22-26]. The limited literature there is for peer support for recovery from PTSD has been explored in veterans with PTSD [53-54], and there may indeed be many aspects of this model that lends itself favorably to the treatment of this specific segment of the PTSD population in the USA [74-83].

Several factors emerge as being key to the successful implementation of any peer interventions [22,49,84-86]. These include: paying due attention to the recruitment of appropriate peers and employing rigorous screening and hiring procedures [49]; adequate training of peers for the position [52-54,84] with essential components of training, emphasized across reports, appear to be: understanding and respecting therapeutic boundaries [54,85]; active listening [41,54,85], and training in psychological crisis management [43,54,85].

Whilst the importance of training has been emphasized a balance is needed between providing sufficient orientation and training to peers so they may "do no harm" in the services they provide patients and preserving those very qualities that make them a peer. Previous authors have recommended avoidance of rigid didactic training that

1 "Rural" is defined by the U.S. Census as "Territory, population, and housing units not classified as Urban." "Urban" is defined by the U.S. Census as "comprising all territory, population, and housing units in urbanized areas and in places of 2,500 or more persons outside urbanized areas."

may undermine the natural and unique skills that peers bring to the treatment team [14].

Previous descriptive reports [54], have noted the importance of providing scaffolding for peer support providers, to avoid deleterious consequences for the recovery of the peer they have been assigned to provide assistance to. One component of such scaffolding appears to be placing emphasis on peer training in self care [54] and recognition of the potential demands of the work [49]. Furthermore, previous evaluation of disaster mental health programs found that outcomes for the disaster survivor improved as provider (often paraprofessional counselors) job stress decreased [46]. Such findings support the need for peer led programs to have an in built emphasis on peers encompassing self-care as part of their daily roles and responsibilities.

Another important piece of scaffolding that has been highlighted as important to address is the preservation of therapeutic boundaries between peers. Whilst dual and overlapping relationships may be unavoidable amongst peers [54], they may increase susceptibility to boundary crossings and violations. Boundary violations can be seen as destructive to the aims of the therapeutic relationship and have the potential to cause foreseeable harm to patients. This situation is further complicated for the peer paraprofessional working in an underserved or rural community where the propensity for additional overlapping roles is high and to be expected [56].

Clinical supervision has been proposed as an important strategy in recruiting and retaining high quality clinical staff [86-88]. We propose it plays a similar role in the training and retention of high quality peers. In the SMI literature, supervision has been identified as essential in helping peer support providers in their specific goals, dealing with dilemmas and in facilitating open dialogue [87].

The need for a conceptual model

The absence of evidence supporting the effectiveness of peers in improving actual PTSD outcomes represents a significant limitation. This may be, in part, due to a lack of knowledge regarding the mechanisms of action, via which, peers could improve PTSD outcomes. A first step to remedy this situation would be to postulate regarding such theoretical mechanisms of action.

Drawing on the theories of Chinman et al. [22], on how consumer provider services address patient and treatment system factors, we propose postulated mechanisms of action via which peer led interventions could contribute to the alleviation of PTSD symptom using, as an example, a peer support for recovery intervention with the target population being veterans with PTSD.

We have named the three postulated mechanisms of action as: promotion of social bonds; promotion of recovery and promotion of knowledge about the healthcare system and we hypothesize that the PTSD C symptom cluster, i.e., a persistent avoidance of stimuli associated with the traumatic event, appears particularly amenable to the effects of such a peer intervention (Figure 1).

Mechanism of action: Promotion of social bonds: We postulate that a good quality peer relationship would result in the promotion of social bonds. Studies of veterans with PTSD show that positive social network interactions can facilitate resolution of PTSD while negative interactions contribute to its' maintenance [78]. Furthermore, research examining the specific role of male veteran-to-veteran

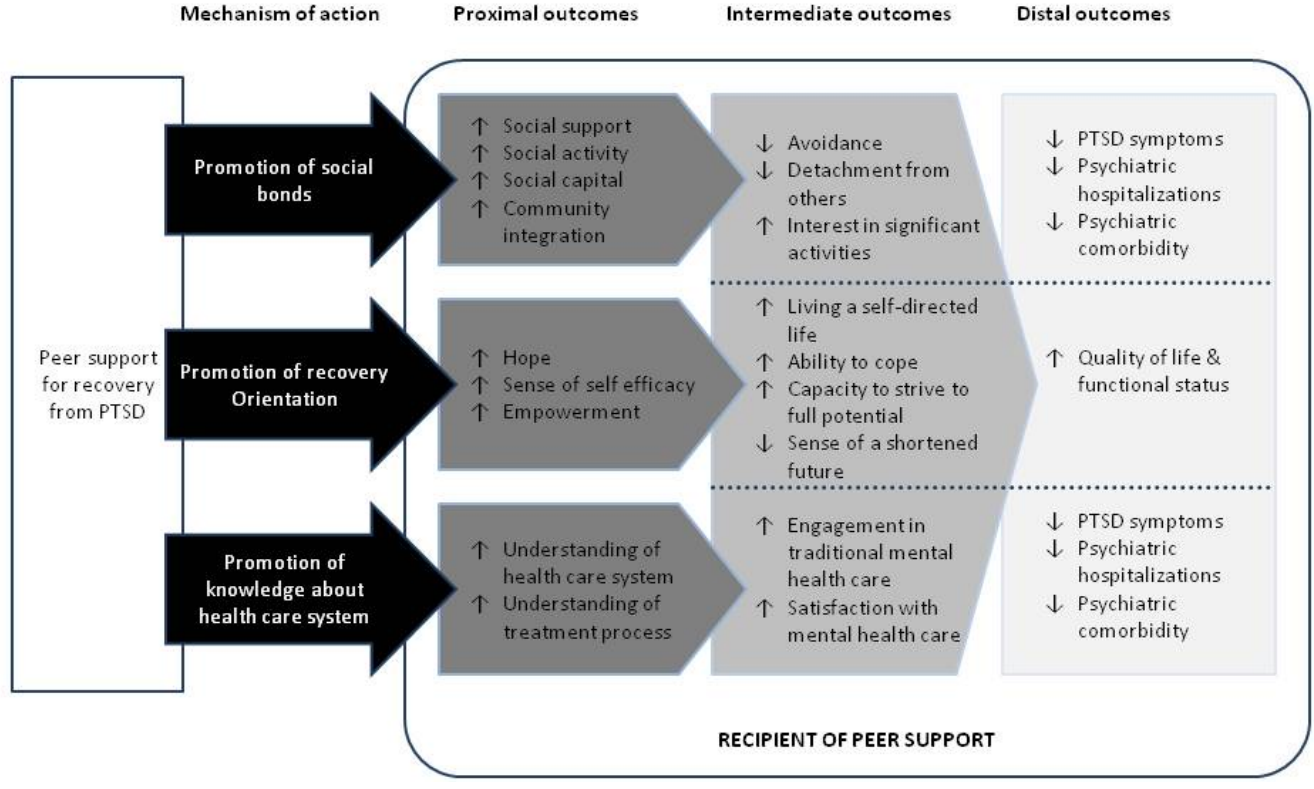

Figure 1: Peer led Interventions: Postulated machanisms of action and outcomes of Peer Support for recovery from PTSD.

support in recovery from chronic PTSD has shown that veteran peers are an important and highly valued component of veteran PTSD patients' social networks and that they are a common source of emotional support. Such relationships are seen as uniquely supportive and undemanding in comparison to support from family and non-veteran friends [79]. In a preliminary study, specifically investigating the impact of peer support on the lives of veterans with PTSD, both male and female veterans endorsed peer support as contributing to their experiencing a valuable feeling of social connectedness [80]. These findings support the notion that it is within such social bonds that individuals may receive or develop a sense of safety essential to PTSD symptom improvement [81].

In Figure 1 we hypothesize that the promotion of such social bonds could, in turn, increase the level of social support and capital available to the patient increasing their level of social activity and, subsequently, enhance their level of integration into the community. Such changes may, in turn, contribute to a decrease in the PTSD symptoms of avoidance and feelings of detachment from others and an increase in their level of participation in day-to-day activities.

Another indirect pathway, via which, promotion of social bonds could enhance treatment outcomes is by influencing the individual, with PTSD, to seek professional mental health assistance. Symptoms such as avoidance, isolation and having little hope for the future can also prevent military personnel from coming forward for help [82]. Peer to peer promotion of social bonds which lead to a reduction in such symptoms could, conceivably, reduce barriers related to seeking evidence based mental health treatment for PTSD and, hence, indirectly, improve PTSD outcomes in this fashion.

Mechanism of action: Promotion of recovery orientation: The broader mental health literature supports the effectiveness of peer support for recovery, offered to individuals living with Serious Mental Illness (SMI), in improving social functioning, quality of life, engagement in mental health treatment [22-24], and in reducing recurrent psychiatric hospitalizations [25,26].

Peers providing this type of intervention for PTSD have, by definition, availed themselves of PTSD mental health services and so are able to self-disclose regarding his/her own experiences with a specific focus on what skills, strengths, supports and resources he/she has used in their own recovery. Additional duties of such peers would involve role modeling of recovery skills and the offering of a unique type of education to their peers that is derived from the experiential experience of living with PTSD. These actions could instill hope for recovery, in an individual with PTSD, who may be feeling pessimistic about their future.

Preliminary data suggests that men and women veterans with PTSD find that a peer support provider acting as a positive role model instilled, in them as the recipient, feelings of "empowerment" and "hope" that they could also recover from PTSD [80]. We postulate that this increase in sense of self efficacy and autonomy could, in turn, lead to an increased ability to: cope with life's stressors; strive to one's full potential, and; live a self-directed life. Together these changes could reduce the sense of a foreshortened future, another key symptom of PTSD and hence, in turn, improve PTSD outcomes (Figure 1).

Mechanism of action: Promotion of knowledge about the healthcare system: In this peer support for recovery model these peers have a lived experience with PTSD and have firsthand knowledge of how to navigate a complex healthcare system [54]. A key role of such peers is to destigmatize negative attitudes toward mental health seeking by sharing their own experiences of seeking care and, hence, promote treatment accessibility. For example, veterans with PTSD are often suspicious of the system and reluctant to seek help. In this, regard a veteran peer with firsthand experience of the mental health system may be easier to trust that a mental health professional [54].

Previously, we found that peer support providers augmented the professional care provided to veterans with PTSD by de-stigmatizing the decision to seek mental health treatment and acting as a "culture broker", orientating recipients to mental health treatment and providing navigational assistance in a complicated, and often fragmented, health care system [80].

We postulate that enhancing understanding of the healthcare system, and related treatment processes, contributes to an enhanced level of engagement in mental health services and an increase in overall satisfaction with mental healthcare and this, in turn, contributes to better treatment outcomes for PTSD (Figure 1). When we consider that many evidence based psychotherapies and pharmacotherapies may require several weeks before their beneficial effects are experienced by the patient the importance of an intervention, which could potentially enhance engagement in care and reduce drop-out rates, becomes apparent.

Conclusion

The demonstrated feasibility of peer led interventions coupled with the high level of functional burden imposed by PTSD in our societies justifies the development of programs that integrate peers into PTSD treatment. In this paper, we aimed to answer the question does the integration of peers into the treatment of adults with PTSD improve access to mental health care? Whilst conducting this review we found there were three categories of peer interventions described, to date, in the literature and that each category had features that enhance access to care.

In peer outreach, for those exposed to traumatic events, treatment is made more accessible as peers, with whom the recipient shares physical and psychosocial proximity, have presumably more credibility with the recipient and these very peers facilitate access to treatment. However, more empirical data is needed on the actual effectiveness of peer outreach and if it is more potent that outreach efforts conducted by non-peers.

In paraprofessional peer delivery of trauma-focused interventions, peers drawn from the local community provide huge advantage in low resource areas by building local capacity and therefore, literally, increasing the person power available to increase access to therapeutic interventions to those affected by man-made or natural disasters. Still, the training of peer paraprofessionals varies substantially across existing programs as does the scope of their roles and responsibilities. Whilst preliminary reports are encouraging, there remains a need for best practice models for determining what content and intensity of training and ongoing supervision are needed to adequately prepare such workers for their roles.

In peer support for recovery from PTSD, care is made more accessible by the fact that a member of the treatment team is, themselves, in recovery from PTSD. This shared history serves to

de-stigmatize the decision to seek mental health treatment but such interventions are at a relatively early stage of development and testing among those living with PTSD.

We propose that future PTSD research should utilize the categorization of peer delivered interventions for PTSD described in this review. To date, the literature has used heterogeneous terms and has been devoid of an organizing framework. We hope the categorization articulated here will serve to advance scientific research into this field in a meaningful manner. We also propose longitudinal observational studies of each type of peer intervention described in this review.

More data is needed on how to identify what factors predict positive outcomes of peer interventions used for individuals with PTSD, what the unique and useful elements of this relationship are, and what, if any, unhelpful or harmful factors moderate or mediate the outcomes of such a relationship. We need clarity on the exact mechanisms of action, via which, interventions from peers provide therapeutic benefit and a profile of patients for whom such intervention would be most efficacious. Finally, studying the psychological impact of provision of such services on the peers themselves, especially those in recovery from PTSD, would be an important avenue of investigation. Evidence gleaned from such longitudinal studies could help inform the development of robust models of peer interventions for PTSD. Ultimately, we would need data to support that such models improve overall outcomes for those with PTSD when compared to treatment as usual.

Finally, more research is needed to identify which interventions can be delivered safely and effectively by peers. Whilst our current discussion emphasizes peer interventions be predominantly supportive in nature and delivered face to face, future avenues of investigation may call for an expansion of their role to encompass providing more active trauma focused treatment as previously demonstrated [52], and the delivery of their interventions via different modalities such as via web based and telehealth technologies.

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