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Veterans' Reasons for Dropping out of Prolonged Exposure Therapy Across Three Delivery Modalities: A Qualitative Examination

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Abstract

Premature dropout from posttraumatic stress disorder treatment (PTSD) hinders treatment response. Studies have primarily used quantitative methodology to identify factors that contribute to veterans' premature dropout, which has yielded mixed results. Qualitative methods provide rich data and generate additional hypotheses about why veterans discontinue PTSD treatment. This study aimed to understand veterans' reasons for dropping out of prolonged exposure therapy (PE) and to examine if there are differences in reasons for dropout between three delivery modalities: in-home, in-person [IHIP], office-based telehealth [OBT], or home-based telehealth [HBT]. Twenty-two veterans who dropped out of PE from a parent randomized clinical trial participated in individual qualitative interviews about potential contextual and individual factors related to discontinuation. Team based coding was used to conduct open and focused coding. Themes were generated that described factors that influenced veterans' dropout from PE and constant comparison was used to explore differences in reasons between the three modalities. Most veterans had multiple reasons for dropping out and reasons were similar across delivery modalities with few differences. Practical barriers (e.g., scheduling difficulties), attitudes towards mental health providers and therapy (e.g., stigma), psychological and physical health factors (e.g., perceived worsening of symptoms, pain), and the therapeutic context (e.g., disliking aspects of PE) contributed to veterans' decisions to drop out from PE. Veterans in OBT reported more types of practical barriers than veterans in HBT and IHIP. These findings can help generate hypotheses about interventions that may promote engagement and future studies should continue to study how to reduce dropout.

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Keywords

Veterans; PTSD; dropout; retention; engagement

Evidence-based psychotherapies (EBPs) for posttraumatic stress disorder (PTSD), such as prolonged exposure therapy (Foa et al., 2019) can effectively treat PTSD in veteran populations. The VA has invested considerable resources to increase implementation and utilization of PTSD EBPs, which has led to an increase in veterans receiving these treatments (Maguen et al., 2019). However, despite these efforts, engagement in PTSD EBPs remains relatively low; of 265,566 Veterans with PTSD in VA, 22.8% initiated a PTSD EBP and only 9.1 completed an EBP, which was define as completing 8 or more sessions (Maguen et al., 2019). Dropout rates from PTSD treatment have varied across studies but a meta-analysis of dropout from PTSD treatments among Operation Enduring Freedom (OEF)/Operation Iraqi Freedom (OIF) era veterans found the dropout rate to be 36% (Goetter et al., 2015). Other studies with veteran populations have found that 15–68% of veterans drop out of PTSD EBPs (Acierno et al., 2017; Garcia et al., 2011; Morland et al., 2014; Steenkamp et al., 2015). The wide range of dropout rates may be accounted for by varying definitions of dropout across studies (Steenkamp et al., 2015), different patient populations (e.g., Operation Enduring Freedom/Operation Iraqi Freedom era veterans, Vietnam era veterans), and different clinical settings.

While recent studies have found some individuals respond rapidly to treatment (i.e., early responders) and discontinue treatment due to adequate symptom reduction (Szafranski et al., 2017) several studies have found that those who drop out of treatment have fewer treatment gains than those who complete treatment (Doran & DeViva, 2018; Myers et al., 2019; Tuerk et al., 2013). Therefore, it is important to understand the factors that may contribute to veterans prematurely discontinuing treatment so that we can develop strategies to increase retention and improve outcomes.

Several quantitative studies have attempted to identify factors that predict veterans dropping out of PTSD EBPs by examining both demographic (e.g., war era, sex, age) and baseline clinical variables (e.g., PTSD severity). Broadly speaking, quantitative studies have typically yielded mixed results about the impact of sociodemographic factors on dropout (DeViva et al., 2014; Eftekhari et al., 2013; Grubaugh et al., 2016; Holder et al., 2018; Lamkin et al., 2019; Sciarrino, et al., 2021; Schumm et al., 2017) with the exception that younger age has repeatedly been associated with greater dropout (Garcia et al., 2011; Kehle-Forbes et al., 2016; Mott et al., 2014; Sciarrino et al., 2021). In regard to clinical variables, such as baseline symptom severity and PTSD service connection, studies have also largely yielded mixed findings (Chard et al., 2010; Eftekhari et al., 2013; Garcia et al., 2011; Gros et al., 2018; Grubaugh et al., 2016;; Sciarrino et al., 2021). For example, Holder and colleagues (2018) found that higher self-blame cognitions protected against dropout from cognitive processing therapy, perhaps because of the effectiveness of this treatment on these cognitions, but this finding has not been yet been replicated. Overall, aside from age, quantitative studies have not yielded consistent findings about which demographic and clinical factors predict dropout.

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There is a need to examine additional modifiable (i.e. changeable) factors that impact dropout because these factors may be intervened upon to improve retention. For example, therapeutic process variables (e.g., working alliance, perceived credibility of the intervention), attitudes towards mental health and therapy (e.g., perceived stigma, treatment preference congruence), and logistical factors (e.g., scheduling issues) may predict dropout but are less frequently examined to date, particularly in veterans. In regards to therapeutic process variables, one study found that civilians who had a greater early therapeutic alliance with their clinician were more likely to complete treatment (Keller et al., 2010) and another study found that lower perceived credibility of PE contributed to greater dropout (Taylor et al., 2003). One study with active duty soldiers found negative attitudes about their providers contributed to dropout, as well as stigma (Hoge et al., 2017). Studies have also examined individuals' treatment preferences for PTSD (Chen et al., 2013) and a recent study found that individuals randomized to their preferred treatment were more adherent (Zoellner et al., 2019). However, no studies have examined how being matched with one's preferred delivery modality (e.g., how an individual receives care, such as telehealth, online, or face-to-face) impacts retention. Finally, a few studies have found that practical barriers, such as time constraints, scheduling difficulties, and other obligations increase dropout (Hoge et al., 2017; Hundt et al., 2018; Sciarrino et al., 2021).

The VA has made significant efforts to implement telehealth (Darkins, 2014; Jackson et al., 2011; Rosen et al., 2021) and home-based care to reduce practical barriers to care and increase engagement. Several studies have found dropout rates from office-based telehealth (OBT; i.e., the veteran travels to a VA medical center or other facility and uses the VA's telehealth equipment to meet with a remote provider through video) are comparable to traditional office-based, in-person care (Acierno et al., 2016; Frueh et al., 2007; Morland et al., 2014; Morland et al., 2015) and two studies did not find delivery modality (OBT vs. traditional in-person care) to predict dropout (Gros et al., 2013, Kehle-Forbes et al., 2016). Similarly, two studies have found that dropout rates between home-based telehealth (HBT; i.e., the veteran uses telehealth equipment in their home or another private location to meet with a remote provider through video) and in-person care did not differ (Acierno et al., 2016; Acierno et al., 2017) but one study utilizing survival analysis found HBT had higher dropout (Gros et al., 2017). Morland and colleagues (2019) compared HBT, OBT, and in-home, in-person (IHIP; the therapist drives to the veteran's home or another private location and conducts therapy face-to-face) and found that both HBT and OBT had higher dropout rates than IHIP. Taken together, these results suggest that telehealth has equal to slightly higher dropout rates than in-person care (Gros et al., 2017; Morland et al., 2019). Little research has been conducted to explore reasons for dropout in these varying delivery modalities. Examining dropout as a function of delivery modality and determining if veterans' reasons for dropout differs between delivery modalities is an essential next step to potentially inform how to address these reasons for dropout.

Qualitative studies may yield information that may be harder to assess with quantitative measures (e.g., lack of continuity of care, competing obligations), provide a richer context, offer information about reasons for dropout that have been previously unexamined, and generate hypotheses for how to intervene on modifiable factors. Hundt and colleagues (2018) conducted qualitative interviews with veterans who discontinued PE or cognitive

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processing therapy (CPT) in a Veterans Health Administration PTSD specialty clinic. They found that veterans reported practical (e.g., scheduling, caretaking responsibilities), emotional (e.g., difficulty tolerating the treatment), treatment-related (e.g., lack of buy-in to the rationale), and systems-level (e.g., lack of continuity of care, scheduling) issues as the reasons for discontinuing EBPs. There is a need to build upon this literature to see if findings are replicated and if reasons for dropout from PTSD EBPs may be different in different settings (e.g., randomized clinical trials, telehealth).

This study had two specific aims: 1) to build upon the existing qualitative literature to understand veterans' reasons for dropping out of PE in a randomized clinical trial (RCT) and 2) to explore whether there are differences in predominant themes and factors related to veterans' reported reasons for dropout between Veterans receiving PE via one of three modalities: OBT, HBT, and IHIP.

Method

Participants

Individuals were recruited between 2013–2018 into the parent variable length (i.e., the length of treatment depended on the veterans' PTSD treatment response) RCT of PE in which veterans were randomly assigned to PE delivered via OBT, HBT, and IHIP (see Morland et al., 2020 for detailed procedures). As PE is an evidence-based PTSD treatment that includes psychoeducation about trauma and PTSD, breathing retraining, imaginal exposure (systematically revisiting the trauma memory), and in-vivo exposure (between session practice of previously avoided activities that serve as trauma reminders and can also include activities that they used to enjoy but no longer engage in), and weekly homework assignments. Imaginal exposure started in session 4 of this PE protocol due to session two being split into two sessions to include a brief interview about reasons for seeking treatment, which has been suggested as a method to increase motivation (Foa et al., 2019). For weekly homework assignments, veterans are expected to practice breathing retraining, listen to an audiorecording of the imaginal exposure daily, and participate in-vivo exposures several times per week. Veterans were seen for therapy during standard VA hours, typically 8am-430pm, although some therapists were able to see Veterans later than this on occasion. All veterans were receiving treatment within the Veterans Health Administration.

Veterans were eligible for the parent trial if they met criteria for PTSD based on the DSM-5 (APA, 2013), lived within a 35-mile radius of the VA San Diego Health Care System, had a specific memory of the traumatic event, and access to a telephone (Wi-Fi enabled tablets were provided, as needed), and were on a stable psychotropic medication regimen for 60 days (see Morland et al., 2020, for full inclusion and exclusion criteria for the parent trial).

This qualitative study was devised during the parent trial to better understand why veterans were dropping out of PE. Veterans were recruited for this add-on study in 2018. To be eligible to participate in the qualitative interviews for this study, veterans had to have attended at least four sessions and be considered a treatment dropout from the larger parent trial (discontinuation before 15 PE sessions without a rapid treatment response [Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5) score less than 20 for two

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consecutive sessions]). The criteria for this qualitative study to require a minimum of four sessions prior to dropping out was used to ensure that veterans were exposed to enough of PE (e.g., in-vivo exposure and the imaginal exposure, which started in session 4 in this study) and service delivery modality (i.e., HBT, OBT, or IHIP) to be able to adequately reflect on and describe their experiences with PE and the modality. Veterans must have also previously consented to be re-contacted for future research studies.

The final pool of eligible veterans included 51 veterans. The study staff contacted the 51 eligible veterans and invited them to participate in a semi-structured individual interview to discuss their reasons for discontinuing treatment and their experiences with PE. A random number generator was used to identify the order in which veterans would be invited to participate in order to avoid bias based on time since treatment completion. However, by the end of the recruitment period, study staff contacted all eligible veterans by phone for the qualitative interviews. Of the 51 contacted, 22 (43%) were interested in participating and completed interviews, 10 were uninterested (20%), and 19 could not be reached (37%).

Procedures

Both telephone and in-person interviews were offered for participant convenience. If veterans preferred a phone interview, informed consent was obtained verbally over the phone and then a copy of the informed consent without signature lines was mailed to participants. For those who preferred an in-person interview, the informed consent process and semi-structured interview occurred in-person at the VA medical center. Both in-person and phone interviews were audio-recorded. All participants were compensated $30 for completing the interview. The project was approved by the Institutional Review Boards (IRBs) of San Diego State University, University of San Diego California, and VA San Diego Health Care System.

Semi-structured Interview—Open-ended questions explored veterans' reasons for dropping out of PE. The interview guide began with an open-ended question about why veterans' prematurely discontinued PE so that the interviewers' subsequent questions would not affect the veterans' responses. The remaining open-ended questions were related to theoretically important constructs of interest (e.g., therapeutic alliance process, negative attitudes toward mental health and providers, and logistical challenges) based on literature suggesting that these constructs may be related to initiation or dropout from PTSD treatment or psychotherapy generally (Hundt et al., 2018; Keller et al., 2010; Zoellner et al., 2019). The interview guide was piloted with several veterans, which are included in this sample, and minor modifications were made to increase the clarity of the questions.

Interviews were approximately 60 minutes long and were conducted by the first author who was a doctoral candidate in clinical psychology at the time of the study, had been trained to provide and regularly provided prolonged exposure therapy, completed doctoral-level coursework in qualitative methods, and sought consultation from a qualitative expert (SH), as needed. The first author did not deliver PE on this project. The interviewer also collected field notes that included the date, length of the interview, interview setting (i.e., phone or in-person), and the participant involved.

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Qualitative Data Preparation—Following the interview, a research assistant listened to the audio-recordings and transcribed the interview verbatim (excluding potentially identifying information) into Microsoft Word. A second research assistant listened to the audio-recording while reading the transcript to check the transcription for accuracy and correct any transcription errors. The first author listened to the audio-recordings to reconcile any indiscernible recordings or discrepancies between the two transcribers.

Data Analysis

The current paper utilized a thematic analysis framework (Nowell, Norris, White, Moules (2017) to identify variations within patient responses. To ensure the consistency and reliability of the data analysis process, team-based coding procedures were used. Two coders [S.W., K.J.] met together and coded together in real time to increase validity of interpretation and discuss coding discrepancies in real time). The first author trained the second coder in coding procedures and both coders consulted with a qualitative expert (SH), as needed. The two coders developed a coding schema that was applied to all the interviews collected. Using the internet-based qualitative coding software, Dedoose (Dedoose version 8.0.35, 2018), several rounds of focused coding were conducted to identify descriptive (topics emerging from the subject of the response) and structural or stem codes (responses based on the questions) to explore the patterns and relationships that materialized from the interview dialogue. Structural codes were based on *a priori* questions that were informed by the current literature on veterans' reasons for premature drop out from PTSD treatment (e.g., practical barriers) and theoretically proposed topics of interest (e.g., working alliance). In building the final code book used in Dedoose, a coding schema was piloted on several initials transcripts and then modified, as needed, to clarify the variations in the understanding of how codes would be applied to text. Subsequently a second cycle of focused coding was conducted to refine preliminary codes into a final code book, was used in the final analysis. Codes were then categorized together based on similar content patterns that assisted in identifying global themes.

A constant comparison approach (Boeije, 2009) was used to explore thematic differences across the treatment delivery modalities. The constant comparison approach allows for data to be coded making use of both a priori constructs in the questions as well as emergent ideas in the responses (Hewitt-Taylor, 2001). The codebook was revised during initial rounds of coding until no new themes were identified (Hewitt-Taylor et al., 2001). When conducting a constant comparison approach, the team coded and examined data and then compared it with previously coded data; this was an iterative process in which data across the modalities were compared several times (Boeije, 2002). Conducting comparisons in this way allowed the team to identify similarities and differences within the data (Boeije, 2002).

Results

Twenty-two male ($n = 13$, 59%) and female ($n = 9$, 41%) veterans who dropped out of PE completed interviews. Nine (41%) veterans were in the HBT condition, seven (32%) in OBT, and six (27%) in IHIP. Veterans were on average 43 years of age ($SD = 12.55$; range = 25–67) and had 14.46 years of education ($SD = 1.79$). Forty-six percent of veterans

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identified as white, 41% percent as Black, and 13% percent identified as another race. Sixty-four percent of veterans were partnered, 27% single, and 9% indicated another relationship status. Thirty-percent of veterans were employed, 30% unemployed, and 40% identified as retired, and 37% were current students. Over half of the sample (55%) were Operation Iraqi Freedom/Operation Enduring Freedom veterans (OEF/OIF) and 45% identified as serving in non-OEF/OIF war eras (e.g., Vietnam, Bosnia, Panama, Persian Gulf). Eighteen percent of individuals earned below $15,000 a year, 68% earned between $15,001–75,000 a year, and 14% earned over $75,001 per year. The mean number of sessions attended was 7.27 ($SD =$ 2.83) and the number of sessions completed ranged from 4 to 13.

The majority of veterans interviewed reported multiple reasons for dropping out of PE, which have been organized in the following thematic categories: 1) Practical Barriers to Therapy; 2) Attitudes and Beliefs about Mental Health and Providers 3) Psychological and Physical Health Factors; and 4) Therapeutic Context. Illustrative quotes are provided below; see Table 2 for additional examples.

Aim 1: Veterans Reasons for Dropping out of PE

Theme 1: Practical Barriers to Therapy—Almost half of veterans said that practical barriers impacted their decision to drop out and the types of practical barriers varied across participants.

Scheduling Difficulties.: Several veterans reported that scheduling difficulties affected their decisions to drop out and these difficulties were reported across all modalities. For example, a couple of veterans found it difficult to identify mutually agreeable appointment times that fit both their schedule and their therapist's schedule. In these cases, veterans were referred for alternative care in the VA. Another veteran described that there was confusion between themselves and the VA staff about their appointment times or cancellations, such as not being notified about cancelled appointments.

> *"Honestly, the only reason that I wasn't able to continue was the scheduling."* (HBT participant, female, veteran 1)

Travel Difficulties.: Veterans described difficulties traveling or experiencing frustrations traveling, which impacted their decision to drop out. For example, one veteran in the OBT condition relied on VA transportation services to attend appointments; however, this veteran reported that the VA van often filled up, which resulted in having to use public transportation to get to appointments, which was difficult due to physical reasons (e.g., difficult walking to the bus stop). A few Veterans in the OBT condition also described that going to the VA was stressful due to driving, parking difficulties, and interacting with the front desk staff.

> "I already knew I was going to be irritated by the time I got there because I anticipated parking to be a complete mess and that's what it was every time…it was already starting as a fail (OBT Participant, male, veteran 2)."

Competing Demands.: In addition to scheduling difficulties, a few veterans reported having competing demands, including work obligations and stress from school made it difficult to attend appointments or continue therapy. As one veteran explained it:

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> "We had to buy bus passes and go to school, continue to buy my books, so forth and so on…all of that was emotionally stressful for me. Me worrying about school, worrying about not being able to do my midterm paper, worrying… it's a lot." (OBT participant, female, veteran 3)

Miscellaneous Barriers.: There were also practical barriers that were each infrequently endorsed. A couple of veterans in the HBT condition said that technological difficulties, such as internet freezing and uneven or loss of sound, affected their decision to discontinue treatment. Another veteran also reported that their therapist left the VA during therapy for other employment and the veteran was unable to find a mutually workable time with another study therapist, so they continued with services in the clinic (i.e., outside of the RCT).. A couple of veterans also had to physically relocate (e.g., moved outside of the radius that therapists could feasibly drive to in the IHIP condition, cross country move) while in PE and needed to discontinue therapy.

Theme 2: Attitudes and Beliefs about Mental Health and Providers—Veterans' attitudes and beliefs about mental health, treatment, and providers contributed to dropout in almost a third of veterans.

Delivery Modality Preference Congruence.: A few veterans stated that being matched or not matched with their modality preference affected their decision to discontinue therapy. One veteran preferred IHIP and was randomized to OBT, they stated that not receiving their preference affected their decision to drop out because they did not want to have to drive to the VA hospital. Another veteran who preferred HBT said that not receiving their top choice modality affected their decision to drop out because being assigned to OBT rather than HBT increased barriers to therapy (i.e., transportation), which led to feelings of self-blame when unable to attend appointments. Another veteran who was matched with their preference said that they likely would not have participated in treatment if they had not received his preferred modality:

> "Oh absolutely, yeah it was 100% having in-home, I mean, I probably would not have participated if I had to go in [to the office] (IHIP Participant, male, veteran 4)".

Attitudes Towards Mental Health Providers.: Overall, veterans expressed positive attitudes towards mental health providers. However, a couple of veterans did say that their views about mental health providers affected their decision to drop out. One veteran reported that providers care more about getting information than about the patient themselves. Another veteran stated that they did not think that civilian providers can understand veterans and that they would have remained in therapy if they felt that providers could relate to his experiences.

> "You started thinking of them as a corporation, a business…they're just here to get research…and you're just like, man, they just want information. They're not here for me, they're not here to help, or anything like that." (HBT participant, male, veteran 5)

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Perceived Stigma.: A couple of veterans reported that stigma towards mental health contributed to them dropping out of PE but the remainder of veterans said that stigma did not impact their decision to drop out. Of the veterans that did report stigma as a factor, they stated that they did not want other people to know they were in treatment, were not proud of it, and that they wanted to finish therapy so that people did not find out about the being in treatment.

> The mental note of me trying to hurry up and get it over with before somebody finds out. It was there. And it's just like, you're counting down the sessions… you just kind of want to hurry up and get through those sessions because you feel like you're not necessarily doing it behind somebody's back, but you're doing it in privacy or secrecy, to where you don't want somebody to know and you just kind of want to get back to work, so you can do what appears to be normal, or act normal, or go do normal like things, stuff that everybody else does." (HBT participant, male, veteran 5)

Theme 3: Psychological and Physical Health Factors—Over half of veterans spoke about how psychological symptoms and reactions affected their decision to drop out, and these concerns were reported across all three modalities. A third of veterans described physical health issues that contributed to their decision to drop out and this was consistent across modalities.

Perceived Symptom Change.: An unexpected and emergent finding was that over half of Veterans said perceived changes in their symptoms impacted their decision to drop out. Half of the veterans in this study thought that PE made their symptoms worse or exacerbated symptoms. Veterans described worsening anxiety, anger, irritability, general distress, and depression, which sometimes impacted other symptoms, such as increased social isolation. For example, one veteran reported that they started to want to leave parties early and did not want to be around their wife as much as before. Veterans also perceived re-experiencing symptoms to be increasing, particularly intrusive memories and nightmares. A few veterans thought that their hypervigilant behaviors were also increasing during therapy. For example, a veteran talked about how they were engaging in more hypervigilant safety behaviors, such as scanning rooms to look for exists, looking out windows, and waking up to walk around in the night. Veterans were concerned that their worsening symptoms would negatively impact their lives, such as increased drug use, or functioning.

> "I didn't see how going on would have made it any better. I could see it getting worse. I don't ever want to be a drug addict again and that was the only option that was visibly a possibility that I could achieve because the psych meds weren't helping me anymore and going over and over again [the imaginal exposure] definitely wasn't helping and then there was the option of going back to, you know, street drugs and I did not want to do that. I had to stop the progression before it got worse. It was out of control." (OBT Participant, male, veteran 2)

A couple veterans thought that PE was not impacting their symptoms and one said that PE helped them a lot and they had achieved his goals, so they ended therapy early.

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Avoidance.: Behavioral and experiential avoidance (i.e., avoidance of internal experiences, such as thoughts, memories, feelings, bodily sensations) emerged as a factor that affected some veterans' decision to drop out of PE, and this was consistent across delivery modalities. Veterans described "not being ready" to relive their traumatic event through imaginal exposure and one veteran even stated they had anticipatory anxiety the night before each session. One veteran spoke about how they did not want to engage in the homework assignments (i.e., in-vivo exposures) and this contributed to their dropping out of therapy. Another veteran described how wanting to avoid trauma memories was the primary reason for dropping of out PE:

> "The main thing is I'm not ready to go back to reliving it again. That's the only reason why I did not continue on (IHIP Participant, female, veteran 6)."

Difficulty Tolerating Distress.: Difficulty tolerating and managing distress emerged as a factor that contributed to dropout among several veterans. Several veterans spoke about how PE, particularly the imaginal exposure, elicited difficult emotions and that they found it difficult to deal with these emotions. One veteran talked about how PE brought up feelings from their trauma and that they questioned how they would be able to "handle" these emotions by themselves. Veterans were uncomfortable with the amount of emotion that the imaginal exposure elicited and felt that the imaginal exposure was negatively impacting them. A veteran described how they found the emotions to be too much and that dropping out of therapy was a solution:

> "I couldn't deal with like all of the emotions. It was too much. So, I had to just, I had to either figure out how to fix it, and for me to fix it was to cut off what I felt was the underlying cause of the emotional turmoil." (IHIP Participant, female, veteran 7)

Social Support.: Several veterans expressed that their limited social support during PE contributed to them dropping out of therapy, including a lack of social support generally, discomfort sharing about treatment with loved ones, or living alone and not having people to talk to after session. One veteran said how they did not have any friends or family to talk to after their therapy sessions for support. Another veteran described how they would go home after therapy but were unable to talk openly to their husband about their experience and would need to process his emotions alone. An older veteran in the HBT condition talked about how they would be alone after their sessions when they turned off their computer, which was difficult for them. They contrasted their experience with younger veterans whom they perceived would have more social support:

> "The most important thing is getting riled or fired up and then the computers turning off and your alone, that's the most important thing or the number one thing that affected my decision to withdraw from the program (HBT Participant, male, veteran 8)."

Physical Health Factors.: One third of veterans spoke about how their physical health affected their decision to end treatment and physical health factors occurred in veterans in all conditions. For some of these veterans, the physical health problems were unrelated to

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therapy but took precedent over therapy at the time. For example, one veteran found out they had a tumor and needed to have surgery so had to end therapy. In contrast, several veterans thought that PE was worsening their existing physical health issues. A couple of veterans thought that emotional distress from PE was negatively impacting their chronic pain conditions. Aside from exacerbating pain, a veteran with irritable bowel syndrome described how they thought that the stress from PE was worsening their IBS, which affected their decision to end therapy.

> "The stress was making my body really sick. My IBS, the constant adrenaline was making my body breakdown and my gut was turning to liquid on a regular basis (OBT Participant, male, veteran 2)."

Theme 4: Therapeutic Context—The therapeutic context contributed (e.g., components of the therapy, structure of the therapy, relationship with the provider, delivery modality) to dropout in three quarter of Veterans who dropped out of PE.

Veterans Disliked Aspects of PE.: Veterans expressed disliking core components of PE or the structure of the treatment. Over half of veterans stated that the imaginal exposure impacted their decision to drop out. More specifically, several veterans disliked the repetitive aspect of the imaginal exposure and said that it caused more negative emotions, feelings of resentment and irritation, contributed to avoidance, and was tedious to repeat it. A couple disliked the duration and frequency of the imaginal exposures and thought they could be decreased. Several others just found the imaginal exposure to be too distressing and did not want to do it anymore in session or listen to the recording for homework. A couple of veterans also expressed that they felt that the PE protocol was too rigid and did not allow for them to talk about other concerns, which contributed to them dropping out of therapy. And one veteran stated they did not think focusing on a single trauma would be helpful to them.

> "I just didn't like the repetition. Repeating myself over and over again." (HBT participant, male, veteran 9)

Therapeutic Alliance.: Several veterans described a poorer therapeutic alliance and said that the relationship with their therapist had impacted their decision to drop out of therapy. The delivery modality did not seem to impact therapeutic alliance and poorer alliance was typically attributed to interpersonal demeanor or a "rigid" focus on the PE protocol. For example, one veteran stated their therapist irritated them and they found the therapist to be impersonal. A couple of veterans thought their therapists were focused more on the schedule and PE protocol (e.g., doing exposure, moving ahead to the next session's content) than on their needs. A few other veterans said their therapist had "pushed" them to continue to repeat the imaginal exposure or engage in in-vivo exposures when they did not want to, which negatively affected the alliance.

> "I just lost trust. I felt like she expected me to be able to complete those tasks [in-vivos]…maybe she wanted to push me more but by this time I'm already like guarded, like you already lost me so… and I'm telling you I'm really not ready." (HBT Participant, female, veteran 10)

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Credibility and Expectancy.: A few veterans felt that PE was not a helpful treatment or beneficial, and this was noted from veterans in each modality. For example, one veteran said they did not think PE is beneficial for older veterans like themselves because they have already been reliving the traumatic event for years. Another stated they understood the rationale but that their distress did not decrease over time and thought the therapy had done more harm than good. Another veteran said they did not think PE was helpful but it made them more aware of their problems and made them want to seek better treatment. Several veterans expressed that they believed the treatment could be helpful for some veterans but did not think it would help them improve. For example, one veteran said that he had researched the treatment and thought it could work but that it wasn't for them:

> "I can see it working, I told you honestly that I went online and researched it. Like I said it's not just the VA, it's like wide spread through the US and Europe. And the success rate is huge. I'm just not there. Maybe's it's not the best therapy for me." (OBT Participant, male, veteran 11)

Delivery Modality.: The assigned delivery modality also had an impact on veterans' decision to drop out of therapy, although the impact of the modality varied across modalities. Every veteran in the IHIP condition said that the delivery modality had no impact on their decision to discontinue therapy. In contrast, the majority of veterans in the OBT condition expressed that the delivery modality affected their decision to drop out. Veterans in the OBT condition said that driving to the hospital and looking for parking was frustrating, that they had less accountability to the provider due to being on telehealth, were dissatisfied with being on a computer, or had miscommunications about scheduling. For example, a veteran described talking through the screen as robotic and another preferred to talk to someone in person rather than being on a computer. Similarly, they also described feeling self-conscious having to talk on the computer:

> "It was just, everything that happened all at the same time, being in an office, talking about stuff I didn't want to talk about, and then looking through a computer, you know? I think that maybe I was a little bit self-conscious about looking through a computer." (OBT Participant, male, veteran 12)

Almost half of veterans in the HBT condition felt that the modality had a direct impact on their decision to end PE. Some of their reasons were similar to those in OBT but they also had some unique concerns. Similar to OBT, a couple of veterans mentioned that the HBT modality felt impersonal because they were on a screen rather than an in person. One veteran expressed that they usually wind down in their car following appointments but that because he was in HBT, he did not have the time to wind down following therapy and was alone after his therapy appointments. Technological issues were also a problem for veterans in the HBT condition. A veteran described that they had difficulty logging in to the telehealth software from their home, which would cause them to be late to their appointments. Two veterans also described connectivity issues when using the HBT software, such as audio problems.

Aim 2: Differences between Modalities

Veterans' reasons for dropping out of PE were largely similar across the delivery modalities; however, there were a few differences in veterans' reasons to dropout between modalities.

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The majority of Veterans in the OBT condition expressed practical barriers compared to less than half in HBT and only one person in IHIP. Additionally, the types of barriers differed. More specifically, Veterans in OBT expressed more types of practical barriers, such as driving, parking, travel time and cost, compared to veterans in the HBT and IHIP conditions The HBT and OBT conditions largely eliminate practical barriers because treatment was done in their homes. A couple of veterans in the HBT and IHIP conditions reported experiencing scheduling difficulties but veterans in OBT also experienced these barriers so they were not unique to HBT and IHIP. Two veterans in the HBT condition said that technical issues (e.g., freezing, audio issues) did contribute to his decision to drop out but this was not reported in the OBT condition. In sum, IHIP and HBT seem to have fewer practical barriers than OBT.

There were also differences between delivery modalities in regard to how the modality itself impacted drop out. The majority of veterans in OBT said that the modality itself impacted their decision to drop out compared to less than half in HBT and no veterans in IHIP. A couple of veterans in the HBT and OBT reported preferring face-to-face communication with a therapist compared to being on a computer. However, veterans in the HBT condition expressed more frustrations with technological issues (e.g., poor connectivity, difficulty logging in) than veterans in OBT. One veteran in the OBT condition said that they felt self-conscious on the computer and disliked the sound of their voice through OBT. A veteran in HBT said that they missed the time in their car after appointments to “wind down” and that it was difficult to be home alone after appointments. Another veteran in HBT said she was concerned that their neighbors would hear her crying.

Although physical health factors were reported by veterans in all conditions, a couple of veterans in the OBT condition said that requirements of the condition exacerbation their pain. For example, one veteran said that driving home from OBT appointments caused their back to “flare up”. Another veteran said they had chronic pain and had blood clots in their foot so walking to the bus stop to get to their OBT appointment was difficult for these reasons. One veteran in the HBT condition said that they had severe back pain and that they often laid in bed because of it and though that holding a computer for sessions would be difficult. In contrast, veterans in the IHIP condition did not describe the modality exacerbating their physical health issues.

Discussion

Dropout from PE is a frequent problem within the veteran population and premature PTSD treatment dropout hinders successful treatment response. The current study aimed to understand the reasons why veterans prematurely drop out of PE and if veterans’ reasons for dropout vary by delivery modality. This study found four primary themes that contributed to veterans’ reasons to dropout of therapy and identified several differences in reasons for dropout between delivery modalities.

Consistent with prior studies (Hoge et al., 2017; Hundt et al., 2018; Sciarrino et al., 2021), veterans report dropping out of therapy due to practical barriers to therapy (e.g., scheduling, parking difficulties). The larger study in which these qualitative interviews were nested

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sought to examine the comparative effectiveness of OBT, HBT, and IHIP to deliver PE, which found that all delivery modalities resulted in significant PTSD reductions. The parent trial found that OBT and HBT had higher levels of treatment dropout than IHIP (Morland et al., 2020). Based on this study's findings, the lower dropout rate in the IHIP condition may be because veterans in IHIP described fewer practical barriers compared to HBT and OBT and none of them were related to the delivery modality itself. Additional studies should confirm reasons for dropout between delivery modalities due to the hypothesis generating nature of our study. For example, trauma type (e.g., interpersonal trauma) and the home environment (e.g., safety, other housemates) may influence one's experience with IHIP.

This study found that negative attitudes towards providers, perceived stigma, and not being matched with their preferred delivery modality can increase risk of dropout. These findings are consistent with a prior study with active duty soldiers that found negative beliefs about providers and stigma contributed to dropout (Hoge et al., 2017). Additionally, our findings suggest that matching veterans with their preferred modality may be important to increase retention for some veterans. Future studies should examine if matching veterans with their preferred delivery modality increases engagement.

Veterans also described psychological and physical health reasons for dropping out of PE. Similar to the findings from Hundt et al. (2018), half of the veterans in this study reported concerns that their PTSD symptoms were worsening due to PE and were worried about the negative impact this would have on their mental health and functioning. Quantitative research studies suggest that some individuals will experience a symptom exacerbation during PTSD EBPs but these exacerbations are not associated with poorer outcomes or dropout (Foa et al., 2002; Larsen et al., 2016, 2020). However, findings from our study and Hundt et al. (2018) suggest that veterans' perceptions of symptom worsening, even if the exacerbations may not be considered clinically significant on PTSD self-report measures, may contribute to dropout. Relatedly, those who dropout tend to have fewer treatment gains than completers (Doran & DeViva, 2018; Myers et al., 2019; Tuerk et al., 2013); therefore, veterans who think their PTSD symptoms are not changing may also be more likely to dropout (Doran & DeViva, 2018). As such, clinicians may be able to address thoughts of dropout through assessing veterans' perceptions of their symptom change continually throughout treatment and any urges to dropout from treatment. Relatedly, a recent pilot study demonstrated that simply asking patients if they intended to continue to attend therapy each session reduced treatment dropout rates, suggesting that initiative conversations about these topics holds promise for improving engagement (Shulman et al., 2019). Future studies should further explore symptom exacerbation and factors that may mitigate it, such as a strong therapeutic alliance.

Veterans also described experiential and behavioral avoidance and difficulty tolerating distress as reasons that they dropped out of PE. The findings may suggest that some veterans could benefit from emotion regulation training prior to PE, such as Dialectical Behavioral Therapy (DBT)/PE (Harned et al., 2014) or STAIR (Cloitre et al., 2010), which utilize a phase-based approach to provide skills (e.g., emotion regulation, interpersonal effectiveness) prior to PE. However, additional research is needed to better understand whether these skills-based interventions prior to EBPs improve engagement and for which patients. Therefore,

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clinicians should be mindful to not collude with veterans' avoidance by delaying exposure treatment if it is not clearly clinically indicated because it remains unclear which veterans may benefit from additional skills.

Consistent with prior research (Meis et al., 2019), we found that some veterans reported that inadequate social support during PE contributed to dropout; therefore, increasing social support may increase retention rates. Preliminary research has shown promising results for increasing family support (Thompson-Hollands et al., 2020) and the use of peer-support during PTSD and mental health treatment among veterans (Goetter et al., 2018; Hernandez-Tejada et al., 2017). Nonetheless, additional studies are needed to determine if enhancing social support can increase engagement.

A novel nd unexpected finding was the impact of physical health conditions on dropout, which highlights the importance of interdisciplinary collaboration for physical health problems that can be successfully managed. Increasing retention in PE among veterans with physical health problems is essential because studies have found that PE improves physical health issues (Rauch et al., 2009; van Minnen et al., 2015). Delivering PE in primary care settings may allow for greater interdisciplinary collaboration between mental health and medical providers and reach veterans who also present with physical health issues, such as pain. A recent RCT compared PE in primary care (PE-PC) to a minimal contact control (MCC) and found that active duty personnel receiving PE-PC had significantly greater reductions in PTSD than MCC and gains were maintained six months later (Cigrang et al., 2017). Dropout from PE-PC was also lower (18%) than in other studies (Kehle-Forbes et al., 2016; Morland et al., 2020 Niles et al., 2017). New healthcare models such as the patient centered medical home (Baird et al., 2014) could also be implemented more widely to address co-occurring physical and behavioral health problems. A holistic approach to caring for veterans' mental and physical health across providers could potentially reduce dropout from PE.

Veterans also described how the delivery modality itself had an impact on their decision to drop out of therapy. Veterans interviewed from the IHIP condition said that the condition was unrelated to their decision to drop out, which suggests that delivering care face-to-face in people's homes may reduce dropout because it overcomes many of the barriers associated with office-based treatment (e.g., distance to the clinic, parking) and telehealth (e.g., connectivity issues). In contrast, the majority of veterans in OBT said that the modality itself had some impact on their decision to drop out of PE. Veterans in OBT had greater logistical barriers, such as traveling to the clinic, parking difficulties, traffic, and travel time, Veterans in OBT and HBT also said that they found telehealth to be more impersonal than in-person care. However, HBT reduced the amount of logistical barriers compared to OBT due to not needing to travel to the office. Given the hypothesis-generating nature of this study, additional study is needed to confirm reasons for dropout between delivery modalities.

Finally, this study found that some veterans who dropped out reported a lack of perceived credibility and buy-in to treatment, such as not believing that exposure is effective or not effective for them personally. This is consistent with prior studies that found veterans were

more likely to drop out if they were skeptical, expressed negative opinions about exposure, or thought exposure was effective but not for them (Doran & Deviva, 2018; Hundt et al., 2018). Increasing buy-in about the rationale for exposure may be important to increase retention in PE. Chen and colleagues (2013) found that individuals who preferred PE over sertraline to treat PTSD preferred PE because of how it worked (e.g., the underlying mechanism) to be important. However, a recent study found that veterans had a hard time distinguishing evidence-based PTSD treatments (i.e., PE, cognitive processing therapy) from other therapies when reviewing marketing materials (Kehle-Forbes et al., 2020). Therefore, clearly communicating the rationale in therapy and marketing materials appears to be critical.

The findings of this paper point to a number of key considerations when designing efforts to deliver PE in a way that may increase retention. Findings are in line with the key frameworks of implementation science that point to ways in which we can implement treatment programs that are based knowledge of the efficacy of and modality such as PE and deliver it a way that allows patients to take full advantage of the intervention (Bauer et al., 2015; Jackson et al., 2020). Our results can be broadly grouped into those that relate to the patients receiving care (e.g., impact of physical, mental, and emotional health), providers who deliver the intervention (e.g., provider impact on therapeutic alliance), the nature of the intervention and delivery modality (e.g., perceived impact of the value of PE and differences in modality of PE delivery); and the healthcare organization (e.g., challenges with scheduling systems and parking). A suggested by the Consolidated Framework for Implementation Research (CFIR), effective implementation of PE, as defined by lack of dropout, our findings indicate that effective implementation will require: 1) addressing the needs of individual patients when making treatment modality decisions (part of the outer setting construct of CFIR); 2) addressing the ability of the provider to respond to patient logistical and therapeutic needs (part of the characteristics of individuals [delivering the intervention] construct of CFIR); 3) building in key aspects of the potential to try and adapt PE/modality to address the often complex aspects of delivering PE (part of the intervention construct of CFIR), and 4) working within the realities of the healthcare environment, both organizational and physical, in which care is delivered (part of the outer setting construct of CFIR (Damschroder et al., 2009). In other words, our qualitative findings point to the need to address multiple levels of delivering PE when developing patient-centered PTSD care, including address factors at the patient, provider, clinic/intervention, and broad organizational levels (Jackson et al., 2020; McLeroy et al., 1988).

Our findings also have potential implications or considerations for clinicians delivering PE and for mental health leaders. Providers may consider utilizing shared-decision making practices to determine which PTSD treatment veterans want and how they prefer to receive that treatment (e.g., in-person, telehealth). Additionally, providers may ask veterans about stigma-related concerns and use Socratic questioning to examine beliefs that may interfere with treatment. Also assessing for comorbid physical health issues early in therapy may allow mental health providers to coordinate with veterans' primary care providers to address physical health concerns and facilitate treatment, as needed. Ongoing discussions about treatment-related concerns (e.g., increased symptoms) may allow providers to address these and review PCL-5 score with patients to see if their scores also reflect an increase.

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Although our study was exploratory, our findings may suggest that delivering care through home-based modalities (e.g., HBT and IHIP) have potential to overcome practical barriers associated with hospital-based modalities that require traveling to the medical center. Thus, mental health leaders may advocate for these modalities within their clinics and support from the larger healthcare system.

The current study has expanded upon the existing literature in regard to why veterans' may choose to drop out from PE early and also had several limitations worth nothing. The qualitative interviews were not conducted immediately following treatment and the time since treatment completion varied among veterans. Therefore, veterans' reported reasons for dropping out may have been affected by recall bias. We also required veterans who participated in the qualitative interviews to have attended at least four sessions of PE prior to dropping out to guarantee that they experienced the imaginal exposure and had adequate exposure to PE and the delivery modality to speak about their experiences. However, our qualitative findings may not be representative of individuals who dropout of therapy before session four, which is one of the most common times to dropout of evidence-based trauma treatments (Gutner et al., 2016). Finally, while our overall sample size for the interviews did not include all participants who dropped from the study, our sample total was sufficient to distinguish substantive contextual patterns in reasons for dropout across the three delivery modalities. Thus, the findings from the qualitative interview provide insight into some of the reasons that veterans may drop out of therapy.

Given the large numbers of veterans in need of PTSD treatment it is important to understand why veterans do not complete therapies so that strategies can be identified to decrease dropout. Overall, veterans drop out for many reasons, often more than one reason, which may be why the literature has been inconsistent thus far. Rather than trying to target a single factor that contributes to dropout, providing comprehensive, interdisciplinary, and flexible care for veterans with PTSD may increase the likelihood of maximum treatment benefit. Finally, future studies should continue to examine the role of emotion regulation and distress tolerance in PTSD treatment completion.

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Clinical Impact Statement

The findings suggest that Veterans typically have multiple reasons to dropout from prolonged exposure therapy (PE) delivered through telehealth and home-based care. Overall, veterans' reasons for dropping out of PE were similar across treatment modalities. However, delivering care in-person within Veterans' homes overcame logistical barriers to treatment that typically increase dropout (e.g., transportation time and cost for Veterans). Findings also suggested that addressing psychological concerns during PE, such as concerns about worsening symptoms, may help to increase retention during PE but studies are needed to determine this.

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Table I.

Demographic and Patient Characteristics of Veterans (*n* =22)

	M (SD)	*n* (%)
Age	44.55 (12.55)	
Years of Education	14.46 (1.79)	
Sex		
Male		13 (59.1%)
Female		9 (40.9%)
Race		
White		10 (45.5%)
Black/AA		9 (40.9%)
Asian		2 (9.1%)
Other		1 (4.5%)
Income		
Less than $15,000 a year		4 (18.2%)
$15,001-$75,000 a year		15 (68.2%)
$75,001 or more a year		3 (13.6%)
Relationship Status		
Single		6 (27.3%)
Partnered		14 (63.6%)
Other		2 (9.1%)
Employment Status		
Employed		6 (30.0%)
Unemployed		6 (30.0%)
Retired		8 (40.0%)
OEF/OIF Status		
Served in OEF/OIF		12 (54.5%)
Did not serve in OEF/OIF*		10 (45.5%)
Student Status		
Student		8 (36.4%)
Non-Student		14 (63.6%)
Previous Therapy		
Yes		4 (18%)
No		18 (82%)
Number of Prior Therapy Sessions+		
10 or less		5 (28%)
11–50		8 (44%)
51–100		2 (11%)
100 or more		3 (17%)
PCL-5 Change Score Baseline to Final Tx Session	–7.7 (15.07)	
Veterans with a PCL-5 above 33 at Final Tx Session		19 (86.4%)
PCL-5 score at Final Tx Session	48.7 (14.2)	

AA= African American; OEF/OIF= Operation Enduring Freedom/Operation Iraqi Freedom; Tx = Treatment

*Other conflicts and eras served in included Vietnam, Persian Gulf, Panama, Bosnia, Somalia, Haiti, and other (not specified)

**A cutoff of a 33 is the threshold for a probable diagnosis of PTSD

+Among those who had sought therapy previously (n=18)

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Table 2.

Illustrative Quotes from Themes and Subthemes.

Theme 1: Practical Barriers to Therapy	Illustrative Quotes for Subthemes
Scheduling Difficulties	I think it's because I was working a part-time job, and it was just we couldn't get the timing together (IHIP, female, veteran 13)
Travel Difficulties	I would have to drive where the building is basically at, go down there, bypass the hundreds of open spots because that's strictly for the VA, even though that there's hundreds of spots open 24/7 and then go all the way around to have to try to find parking, drive around for twenty minutes and then walk all the way to the building. (OBT, male, veteran 14)
Competing Demands	"My company was aware of it…that I had a medical appointment every set day. However, subconsciously speaking, it's a thought that kind of weighs heavy on you because you're like…I got to get this done and have it finished by tomorrow." (HBT, male, veteran 5)
Miscellaneous Barriers	"I just had a couple technical issues…and I had high speed internet…I had some like, you know, freezing. One time it took a while to get volume and it turned off and went back on, turned off and turned back on." (HBT, veteran 15)
Theme 2: Attitudes and Beliefs about Mental Health and Providers	
Delivery Modality Preference Congruence	"I think I put down IHIP for my preference and HBT and then OBT. So, office was basically the last pick, I really didn't want to go all the way down to the hospital" (OBT, male, veteran 14)
Attitudes Towards Mental Health Providers	"If I knew the person understood what I was actually going through, not what they were taught, that I was going through, I would have toughed it out. But I'm talking to someone that don't really understand it, just regurgitating stuff that they were taught. I don't want to be around that." (OBT, male, veteran 12)
Perceived Stigma	"It wasn't something I felt comfortable telling anyone else what I was doing, it wasn't something I was proud about doing but it was something I wanted to give a try." (HBT, male, veteran 9)
Theme 3: Psychological and Physical Health Factors	
Perceived symptom change	"I became depressed, withdrawn, I started to have some nightmares again, and I tried it for about a week, and it kept getting worse and worse and I said this is not worth it. I did not feel physically and mentally able to continue because of those reasons." (OBT, male, veteran 16)
Avoidance	"Cause I wasn't doing those steps (in-vivos). I was not. Not watching that movie and I'm not going to the beach lady. That's just not happening." (HBT, female, veteran 10)
Difficulty tolerating distress	Didn't want it to end but all those feelings that just came back really derailed me. It's like if I didn't remember this, I had not remembered that. It just hit me so fast and like I said you go home, you know, how am I going to handle this by myself again? It was pretty bad. It was difficult. (OBT, male, veteran 11)
Social Support	"I didn't really have anyone in person to talk to. So I didn't really have that support after the classes. So it honestly kind of felt like I was in a way being attacked, I know it wasn't the idea of it, but it was honestly nerve wrecking I had a lot of anxiety. Just when all the appointments started coming up I would just get anxious about it… I didn't really have a lot of support in terms of like family or friends, or relationships around me that were good." (HBT, male, veteran 9)
Physical Health Factors	"I had blood clots in my legs and my foot. I might have had gout. But as it moved to my lungs, I had breathing issues so I couldn't walk." (OBT, female, veteran 3)
Theme 4: Therapeutic Context	
Veterans Disliked Aspects of PE	"The reason why I stopped the treatments is because you wanted me to speak for like 45 minutes about this prolonged exposure…and she wanted me to concentrate more on the hot spot. I'm not going to repeat, and get angry, and tear up my house, because that's what happens when I get angry. I want to destroy things. So, I stopped it because, I didn't want to destroy my home, I didn't want to hurt anybody else that I could have when I finished the session." (HBT, female, veteran 17)
Therapeutic Alliance	"I just didn't like their (the therapist) style about doing things. I just felt they were impersonal and I didn't think that they really understood the way I needed to be talked to about it and kept pushing their way on it. They could tell I was getting frustrated but just kept doing it, didn't really give any consoling or anything like that." (HBT, male, veteran 9)

Credibility and Expectancy	"The base of the program is going over and over it until it doesn't bother you. Well, I've already been doing that for twenty years so fifteen sessions isn't really going to do anything or seven because, you know, I've already had it several thousand times." (OBT, male, veteran 2)
Delivery Modality	"Just knowing that the connectivity might not always be that great, and I had to go through that again, and…the fact that when I would get upset and my neighbors might hear. I didn't want chance to bother any neighbors, and the connectivity might not be that good anyway, yeah." (HBT, female, veteran 128)

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