EVIDENCE-BASED TRAUMA TREATMENT FOR UNACCOMPANIED YOUNG REFUGEES

Implementation and Dissemination of Trauma-focused Cognitive Behavioral Therapy

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List of Abbreviations

AT	Active Treatment
CBITS	Cognitive-Behavioral Intervention for Trauma in Schools
CBT	Cognitive Behavioral Therapy
CPT	Cognitive Processing Therapy
EBM	Evidence-based Medicine
EBPP	Evidence-based Practice in Psychology
EBT	Evidence-based Treatment
EMDR	Eye Movement Desensitization and Reprocessing
EXIT	Expressive Arts Intervention
KIDNET	Narrative Exposure Therapy for Children
MHC	Mental Health Care
PE	Prolonged Exposure
PTSD	Post-traumatic stress disorder
PTSS	Post-traumatic Stress Symptoms
RCT	Randomized Controlled Trial
TAU	Treatment as Usual
TF-CBT	Trauma-focused Cognitive Behavioral Therapy
TRT	Teaching Recovery Techniques
UYRs	Unaccompanied Young Refugees
VHA	Veterans Health Administration
WL	Waitlist

LIST OF TABLES

PART A.
IMPLEMENTATION AND DISSEMINATION OF EVIDENCE-BASED TRAUMA TREATMENT FOR UNACCOMPANIED YOUNG REFUGEES

1. Abstract

Unaccompanied young refugees (UYRs) encounter a multitude of stressors prior to, during and after their flight. Consequently, they demonstrate elevated levels of psychological distress and are vulnerable to the development of mental disorders, particularly post-traumatic stress disorder (PTSD). A treatment manual that has a broad evidence base and is also suitable for the treatment of young unaccompanied refugees, is trauma-focused cognitive behavioral therapy, which was established by Cohen, Mannarino and Deblinger (2006, 2017). Despite the existence of empirically validated treatment modalities for pediatric PTSD, UYRs frequently fail to receive sufficient psychotherapeutic care. Consequently, there is a necessity to identify factors that can lead to successful psychotherapeutic treatment on the patients, psychotherapists, and the healthcare system level.

The present dissertation sought to explore four main questions. The initial publication is a meta-analysis. We found substantial improvement in PTSD symptoms, depression, anxiety, and grief for young patients who participated in TF-CBT, with favorable post-treatment outcomes when compared to all control conditions. The second publication posits that a web-based training approach for TF-CBT results in substantial knowledge gain among its users and is an accessible training method of training for mental health care professionals. The third publication employed qualitative analysis to ascertain the factors that facilitate effective psychotherapy with UYRs, as perceived by psychotherapists. The identified factors encompass the presence of structured training programs, the availability of supportive caregivers and facilities, and the availability of skilled interpreters. At the patient level, the fourth publication identified age, length of stay in the host-country, and the severity of PTSD symptoms as significant correlates with the intention to utilize psychotherapeutic care. The severity of PTSD symptoms emerged as the sole significant predictor of the intention, and utilization was exclusively associated with the expressed intention.

This dissertation underscores the need for continuous implementation and dissemination of knowledge among all levels of the actors involved in the process of psychotherapeutic care of UYRs. At the practitioner level, the ongoing provision of structured training in evidence-based manuals is imperative, as their efficacy in practice has been well-documented. Addressing individual barriers faced by patients and their caregivers, including self-stigma and a lack of knowledge about mental illness, through targeted interventions and educational initiatives is also essential. Additionally, it is important to address structural barriers that impede the utilization of these services.

2. Introduction

2.1 Evidence-based treatment

«*In order to evaluate the efficacy of ginseng, find two people and let one eat ginseng and run, the other run without ginseng. The one that did not eat ginseng will develop shortness of breath sooner*» (Claridge & Fabian, 2005, p. 548). This quote from Ben Cao Tu Jing dates from 1061 and the Song Dynasty and illustrates a very early example of *evidence-based medicine* (EBM) (Claridge & Fabian, 2005). EBM is a systematic approach to the analysis of research evidence as a basis for clinical decision making in the context of patient care. The term became popular in the 1990s and refers to the deliberate use of treatment methods for which the best evidence is available. Whereby evidence integrates both, clinical expertise and results from systematic research (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). Within EBM, the term *evidence-based treatment* (EBT) [1] is employed to describe clinical interventions in all medical fields that have undergone scientific testing and validation through the utilization of research methodologies, including randomized controlled trials (RCTs), systematic reviews and meta-analyses (Sorensen, Hettema, & Larios, 2009). Another related term that is frequently employed is that of *evidence-based interventions*. Rabin, Brownson, Haire-Joshu, Kreuter, and Weaver (2008, p. 118) defined evidence-based interventions as «*interventions with proven efficacy and effectiveness*».

In the field of psychotherapy, the American Psychological Association (2006) has developed a policy on *evidence-based practice in psychology* (EBPP), which is consistent with the aforementioned definition proposed by Sackett et al. (1996). In accordance with the policy, EBPP is «[…] *the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences*» (American Psychological Association, 2006, p. 273). This definition contributes to the existing body of evidence, which encompasses a range of research designs and methodologies. Additionally, it addresses the need to consider clinical expertise and patient characteristics. It is essential to apply clinical expertise to integrate research evidence with clinical data and patients' characteristics. The authors identify eight distinct components of clinical expertise: assessment and diagnostic skills, clinical decision-making and implementation of treatments, interpersonal skills, self-reflection and

[1] It should be noted that the term evidence-based treatment will be used throughout this thesis to describe interventions with an evidence base as defined here. However, it should be acknowledged that other terms (e.g. evidence-based interventions, evidence-based psychotherapy) exist, which are synonyms of this concept.

ongoing training, evaluation and use of research evidence, awareness of influence of individual and cultural differences on treatment, seeking available resources (e.g. consultation), and awareness of rationale for clinical strategies (American Psychological Association, 2006).

Therefore, it is essential to consider the patient's characteristics to achieve successful treatment outcomes. Psychological interventions are most likely to be effective when they are aligned with and responsive to the patient's needs and circumstances, e.g. attachment style, culture, gender identity, coping style, therapy preferences (Norcross & Wampold, 2018). Psychotherapists are obligated to address each patient individually, conceptualize the patient's symptoms, determine the relative priority of those symptoms, and provide treatment. It is crucial to not only understand the disorder itself but also the individual who is affected by it (American Psychological Association, 2006). Clinical decisions are to be made in a collaborative manner with the patient, based on the most clinically relevant evidence available, with due consideration for the costs, benefits, and available resources and options. Ultimately, it is the responsibility of the clinician to make the final decision regarding the suitability of a particular intervention or treatment plan. But the participation of an informed patient is a key factor in the success of psychological treatment (American Psychological Association, 2006).

Although the rationale behind the use of EBT is straightforward, this approach also presents several challenges. Firstly, there are organizational and structural barriers to overcome. The transition from training to practice may present certain difficulties (Hamm et al., 2015). The effective implementation of EBT necessitates comprehensive training, which is frequently impeded by constraints in terms of resources and time. Clinicians may encounter difficulties in the transition from training to practice due to a lack of ongoing support and the high demands placed on their productivity (Garety et al., 2018; Hamm et al., 2015). Therefore, it is of particular importance to provide ongoing support to guarantee that clinicians retain the requisite skills and knowledge regarding EBTs over time. This is especially the case in settings characterized by high staff turnover or limited access to continuing education (Areán, Raue, Sirey, & Snowden, 2012; Cabaniss, Wainberg, & Oquendo, 2015). Secondly, EBTs frequently lack cultural sensitivity, which limits their efficacy for diverse populations. The necessity for culturally adapted psychotherapies that take into account the distinctive cultural contexts of various groups is evident (La roche, Davis, & D'angelo, 2015). However, evidence suggests that EBTs tend to prioritize individual pathology, thereby failing to adequately address the significant impact of societal and contextual factors on mental health, particularly in marginalized communities (Kousteni, 2022). Thirdly, additional obstacles exist regarding the practitioners. A dearth of accurate information

regarding the efficacy and feasibility of EBTs has led to resistance among some practitioners. This resistance has the potential to hinder the integration of EBTs into standard clinical practices (Cook, Schwartz, & Kaslow, 2017). This resistance may be attributed to concerns regarding the generalizability of research findings, given that the characteristics of RCTs and real-world clinical practice may differ (e.g. underrepresentation of minority populations in RCTs; Cook et al., 2017). Moreover, there is a concern among clinicians that an overemphasis on EBTs could result in the devaluation of other clinical tools, particularly clinical experience. Additionally, the use of EBTs may lead to a significant workload in terms of ongoing training requirements (Cook et al., 2017).

In addition, EBTs also possess a number of advantages and strengths for patients, clinicians, and institutions. There is a substantial body of evidence demonstrating the efficacy and cost-effectiveness of EBTs for a wide range of psychiatric conditions. EBTs ensure that patients receive treatments that are both effective and cost-efficient (Bower, 2003; Cook et al., 2017). Secondly, EBTs represent a framework for clinical practice, facilitating the implementation of research into practice by standardizing treatment protocols and enhancing the overall quality of healthcare (Reynolds, 2000). The utilization of empirical evidence enables the provision of treatments that are less reliant on subjective opinion. The existence of clinical databases facilitates the capacity of clinicians to formulate treatment decisions that are informed by empirical evidence (Cook et al., 2017). In contrast to the concerns of clinicians, EBTs are in fact highly flexible and can be tailored to suit a variety of needs and transdiagnostic characteristics (Norcross & Wampold, 2018). Moreover, EBTs can be utilized in the management of patients with a variety of comorbidities, enabling the formulation of comprehensive treatment plans (Cook et al., 2017). At the therapist level, EBTs result in higher professional and ethical standards. The objective of EBTs is to guarantee that treatments are safe, effective and based on scientific evidence, thus ensuring the highest standards of professional practice and ethical conduct (Kousteni, 2022). Training in EBTs serves to enhance the knowledge base of providers, improves adherence to treatment protocols and fosters overall competence. These outcomes can ultimately lead to better patient outcomes (Valenstein-Mah et al., 2020).

One mental disorder for which there is already a substantial evidence base, yet where EBT is frequently not employed, is post-traumatic stress disorder (PTSD). Given that PTSD is a common condition and has a major impact on millions of individuals worldwide, there is a clear necessity for the utilization of effective treatment methods. Despite the efficacy of trauma-focused interventions, it is notable that the majority of individuals, particularly younger people with PTSD, are not offered an

evidence-based intervention (Smith, Dalgleish, & Meiser-Stedman, 2019). Traumatic experiences are a common phenomenon across the globe. Indeed, it is estimated that approximately 70 % of the global population will encounter a potentially traumatic experience during their lifetime (Benjet et al., 2016; Kessler et al., 2017), and that approximately 3.9 % of the global population has experienced PTSD at some point during their lifetime (Koenen et al., 2017). The probability of developing PTSD is contingent upon the specific traumatic event. The prevalence of PTSD is more than three times (15.3 %) higher among individuals who have been exposed to a violent conflict or war (Charlson et al., 2019). In war-affected populations, the point prevalence of PTSD in adults is 26.51 % (Hoppen, Priebe, Vetter, & Morina, 2021). A recent meta-analysis has indicated that the prevalence of PTSD among refugees resettled in high-income countries ranges from 29% to 37% (Henkelmann et al., 2020). Furthermore, rates of PTSD among refugees and asylum seekers remain high over time (Blackmore et al., 2020). A particularly vulnerable group within the refugee population are unaccompanied young refugees (UYRs) who arrived in the host country without a parent or legal guardian. It has been demonstrated that UYRs display elevated rates of PTSD, depression, and anxiety, frequently exhibiting more severe symptoms than accompanied minors (Bamford, Fletcher, & Leavey, 2021; Hornfeck et al., 2023; Oberg & Sharma, 2023). The aforementioned issues are further exacerbated by the presence of trauma exposure and post-migration stressors, including discrimination, the experience of daily stressors in host countries, an uncertain residence status, and a lack of family contact (Hornfeck et al., 2023; Jensen, Skar, Andersson, & Birkeland, 2019; Oppedal, Keles, & Røysamb, 2022). The significance of these findings is further accentuated when viewed within the broader context of the global refugee population. The latest estimates indicate that approximately 122.6 million individuals have been forcibly displaced from their homes on a global scale, with 47 million of these individuals being children (UNHCR, 2024). In the light of the elevated figures and the high prevalence rates of PTSD among refugees, it is essential to gain insight into the most efficacious means of providing assistance to those affected by traumatic events and to ensure the availability of effective and evidence-based interventions.

2.2 Evidence-based treatment for PTSD

The gold standard treatment for all age groups as set out in international guidelines for PTSD is individual, trauma-focused cognitive behavioral therapy (CBT; National Health and Medical Research Council, 2021; National Institute for Health and Care Excellence, 2018). Meta-analyses and systematic

reviews indicate that CBT with trauma focus, e.g. Cognitive Processing Therapy (CPT), Cognitive Therapy, and Prolonged Exposure (PE), and eye movement desensitization and reprocessing (EMDR) are the most effective treatments for reducing symptoms in adults with PTSD (Lewis, Roberts, Andrew, Starling, & Bisson, 2020; Mavranezouli et al., 2020). For adult patients, guidelines therefore recommend these CBT-based trauma-focused interventions, of which EMDR is solely recommended when the patient has a preference for it (National Institute for Health and Care Excellence, 2018). Similarly, in children and young people, cognitive behavioral interventions with trauma focus have been demonstrated to be the most effective approach for the management of PTSD. While EMDR has also been shown to be an efficacious intervention in young patients, its effectiveness is less pronounced compared to trauma-focused CBT (Hoppen et al., 2024) and should only be used when children and young people do not respond to or engage with trauma-focused CBT (National Institute for Health and Care Excellence, 2018). According to the guidelines of the National Institute for Health and Care Excellence (NICE), the application of trauma-focused CBT to children and young people should be informed by a validated manual, with treatment typically comprising between six and twelve sessions. It is essential that the treatment is adapted to suit the age and developmental status of the child. Parents or caregivers should be involved if appropriate. With regard to treatment components, psychoeducation about reactions to trauma, strategies for managing arousal and flashbacks, and safety planning should be incorporated. Furthermore, the treatment should encompass the elaboration and processing of trauma memories, as well as the processing of trauma-related emotions (e.g. shame, guilt, grief or anger) and the restructuring of trauma-related meanings for the patient. Treatment should also include help to overcome avoidance of trauma-related stimuli. In terms of the termination of treatment, it is essential to ensure that the patient is adequately prepared. The implementation of booster sessions may be considered if deemed necessary to ensure the maintenance of progress achieved through therapy and pharmacological treatment of PTSD is generally not recommended for patients under the age of 18 (National Institute for Health and Care Excellence, 2018). A scoping review by Oberg and Sharma (2023) found various interventions to be effective not only for children and adolescents in general, but also for the particularly vulnerable sample of UYRs. The interventions comprised the following: Trauma-Focused Cognitive Behavioral Therapy (TF-CBT)[2], as established by Cohen, Mannarino and Deblinger (Cohen, Mannarino, & Deblinger, 2006, 2017), «My Way», a TF-CBT combined with a group-

[2] In the literature TF-CBT is employed as a generic term for CBT with trauma-focus, as well as for Cohen et al.'s manual. The term 'TF-CBT' will be used throughout the manuscript when referring to the manual of Cohen, Mannarino & Deblinger.

processing mixed therapy approach (Pfeiffer, Sachser, Tutus, Fegert, & Plener, 2019), Teaching Recovery Techniques (TRT), a manualized intervention based on TF-CBT in a group setting (Yule, Dyregrov, Raundalen, & Smith, 2013), narrative exposure therapy for children (KIDNET; Ruf, Schauer, Neuner, et al., 2010), and expressive arts intervention (EXIT; Meyer DeMott, Jakobsen, Wentzel-Larsen, & Heir, 2017).

A treatment manual that fulfils the aforementioned NICE criteria for evidence-based trauma treatment, has a broad evidence base, and is also recommended for the treatment of young refugees, is TF-CBT (Cohen et al., 2017, 2006). The manual was published in 2006 and revised in 2017. This revision incorporated additional information on the treatment of complex trauma and the delivery of TF-CBT in group settings. The TF-CBT manual is the most extensively studied intervention manual for PTSD in children and adolescents. TF-CBT is comprised of a sequence of nine treatment components that form the acronym PRACTICE, including psychoeducation and parenting skills (P), relaxation (R), affective modulation (A), cognitive coping (C), trauma narrative (T), in vivo exposure (I), conjoint parent-child sessions (C), and enhancing safety and development (E; Cohen et al., 2017, 2006). The authors propose a minimum of eight sessions to cover all the relevant components. Furthermore, the involvement of caregivers is considered an integral component of TF-CBT, as outlined by the developers (Brown, Cohen, & Mannarino, 2020). Typically, a session is scheduled to last for a duration of 90 minutes, with 45 minutes allocated for the child and an equivalent duration for the caregiver (Cohen et al., 2017, 2006). In accordance with the structure of other trauma-focused treatment manuals, the treatment components are divided into three phases: firstly, the stabilization phase; secondly, the trauma narrative and processing phase; and finally, the integration and consolidation phase (Cohen & Mannarino, 2015). The stabilization phase incorporates the PRAC components, with psychoeducation constituting the initial element. In the *psychoeducation* component (P), the psychotherapist provides an overview of common trauma responses and reminders, contextualizing these within the child's individual experiences. The objective is to normalize and validate the child's emotional and behavioral reactions. In the *parenting skills* component (P), caregivers are introduced to strategies for managing the child's behavioral and emotional dysregulation. The psychotherapist instructs and facilitates the practice of techniques such as time-out, praise, and selective attention through exercises and role-plays, underscoring the trauma-related origins of these behaviors. *Relaxation skills* (R) support both children and caregivers in effectively regulating stress. The psychotherapist employs a range of personalized techniques, such as focused breathing or muscle relaxation, which are tailored to the child's age, interests, and developmental level.

In the context of trauma, many children learn to refrain from expressing their emotions, develop a sense of distance from them, or even deny their existence. In the component *affect modulation skills* (A), the child is assisted by the psychotherapist to become more at ease with the expression of a range of emotions and to cultivate competencies for the regulation of adverse affective states. The final component of the stabilization phase is *cognitive processing skills* (C). In this component, the psychotherapist supports the child in recognizing connections between thoughts, emotions, and behaviors (cognitive triangle) and in replacing maladaptive cognitions with more adaptive ones, primarily in everyday contexts. Trauma-related cognitions are addressed later during the confrontation phase. Standard CBT techniques, such as Socratic questioning, responsibility pie charts, and role-plays, are employed to enhance cognitive processing. In caregiver sessions, the cognitive triangle is introduced, and maladaptive beliefs, particularly those related to the child's trauma, are identified. During the *trauma narrative and processing phase* (T), the child recounts traumatic events, including associated thoughts, emotions, and bodily sensations. This process promotes a shift from avoidance to mastery and allows repeated engagement with distressing memories. It supports the development of perspective, enabling the identification and restructuring of maladaptive cognitions using previously learned cognitive strategies. The child creates a written or creative summary (e.g., book, poem, song) to structure the narrative. In parallel caregiver sessions, the psychotherapist shares the narrative content, as caregivers are often unaware of the full extent of the trauma. The narrative is reviewed with the psychotherapist in individual sessions, preparing caregivers emotionally and cognitively for subsequent joint sessions. The final phase of the treatment, the integration and consolidation phase, consists of three further components that follow the termination of the trauma narrative. The *In Vivo Mastery* (I) component, the only optional element of TF-CBT, addresses persistent, maladaptive avoidance of objectively safe situations. When such avoidance impairs functioning, gradual in-vivo exposure is employed, consistent with standard CBT practices, to reduce fear and promote adaptive coping. During the integration and consolidation phase, the psychotherapist conducts *conjoint sessions* (C) to enhance family communication around the child's trauma and related topics before treatment ends. The initial session typically involves the child sharing the trauma narrative. Child and caregivers may exchange questions to foster open dialogue and mutual understanding of emotional and cognitive responses to the trauma. The objective of the concluding TF-CBT component, *enhancing safety* (E), is to recognize the loss of safety and breach of trust that has been occasioned by the traumatic event. Moreover, this component seeks to formulate strategies for enhancing the actual safety of the child, as well as strategies that will fortify the child's sense of security and trust (Cohen et al., 2006; Cohen & Mannarino, 2015; Cohen et al., 2017).

2.3 Evidence on trauma-focused cognitive behavioral therapy

A substantial body of research has been conducted on the effectiveness of TF-CBT in reducing symptoms of PTSD and other mental health conditions, including depression, anxiety, and grief, in children and adolescents following exposure to various types of trauma. To date, a total of 35 randomized controlled trials of TF-CBT are documented, demonstrating its superiority over control conditions in various settings (Schreyer, Thielemann, Kasparik, & Rosner, 2024). The effectiveness and treatment superiority of TF-CBT have been demonstrated by various systematic reviews (e.g. de Arellano et al., 2014) and meta-analyses (e.g. Xiang et al., 2021). In a systematic review of studies comparing TF-CBT with other treatments, Cary and McMillen (2012) reported that, relative to control interventions, TF-CBT is moderately to highly effective (g = .67, 95% CI .53 - .82) for the treatment of PTSD symptoms. However, the study also found that TF-CBT is less effective for treating depression (g = .38, 95% CI .22 - .54) and behavior problems (g = .25, 95% CI .09 - .41). In a subgroup analysis of 18 studies, Gutermann et al. (2016) reported large pre–post effect sizes (ES) for symptoms of PTSD (g = 1.15, 95% CI .92–1.38). Furthermore, a subsequent network meta-analysis by Mavranezouli et al. (2020) suggested TF-CBT to be among the most efficacious treatments for the reduction of symptoms of PTSD in children and adolescents (mean SMD −1.17, 95% CI −1.78 - −0.54). Several reviews have also focused on specific aspects of the manual. These include an examination of the role of the caregiver (Martin, Everett, Skowron, & Zalewski, 2019), an assessment of its effectiveness in low and middle income countries (Thomas, Puente-Duran, Mutschler, & Monson, 2022), and an analysis of its use in children of preschool age (McGuire, Steele, & Singh, 2021). Morroni, Konstantinou, Gkleka, Kassianos, and Karekla (2025) conducted a systematic review to examine the evidence on the effectiveness and acceptability of cognitive behavioral therapy and third wave interventions in improving the quality of life and psychological well-being of UYRs. The results indicate that trauma-focused CBT, including TF-CBT according to Cohen, Mannarino & Deblinger (2006, 2017), is the most effective treatment in reducing symptoms of PTSD, depression, and anxiety in UYRs.

Although TF-CBT was originally developed as an individual treatment in the US, it has since been utilized in low- and middle-income countries, as well as in group settings, yielding encouraging results (e.g. Dorsey et al., 2020). The efficacy of TF-CBT has been demonstrated in several countries across the globe, encompassing diverse populations with a wide variety of cultural backgrounds. In addition to 23 RCTs conducted in Western countries, RCTs have also been carried out in Kenya and Tanzania (Dorsey et al., 2020), Iran (Jaberghaderi, Greenwald, Rubin, Zand, & Dolatabadi, 2004;

Mohajerin, Lynn, & Cassiello-Robbins, 2023), Japan (Kameoka et al., 2020), South Africa (Kaminer et al., 2023), China (Li et al., 2022; Li, Li, Zhang, Wang, & Qu, 2023), in the Democratic Republic of Congo (McMullen, O'Callaghan, Shannon, Black, & Eakin, 2013; O'Callaghan, McMullen, Shannon, & Rafferty, 2015), and Zambia (Murray et al., 2015). As previously referenced, recent studies have demonstrated the efficacy of TF-CBT for a number of different populations, including adjudicated youth, trafficked children, youth diagnosed with complex PTSD, young adults, and inpatient patients (Cabrera, Moffitt, Jairam, & Barton, 2020; Cohen et al., 2016; Hébert & Amédée, 2020; Peters et al., 2021; Wang et al., 2016). The versatility of TF-CBT is further evidenced by a range of implementation manuals, e.g. on conducting TF-CBT in residential treatment facilites (Cohen & Mannarino, 2013), in foster care (Deblinger, Mannarino, Runyon, Pollio, & Cohen, 2016), with self-defined Black youth who experience racial-related stress or trauma (Metzger, Dandrige, Cohen, & Mannarino, 2023), or with LGBTQ youth (Cohen, Mannarino, Wilson, & Zinny, 2018). Furthermore, TF-CBT has been implemented for specific patient groups, including young refugees. To date, five studies on TF-CBT with children and adolescents from refugee backgrounds have been conducted in individual settings (see Table 1). In addition to the RCT by Schottelkorb et al. (2012) with refugee children in the US and three studies by Unterhitzenberger et al. (2015, 2016, 2019) with UYRs in Germany, as already summarized in the systematic review by Chipalo et al. (2021), there is a further uncontrolled trial by Patel et al. (2024) on TF-CBT with unaccompanied migrant children from Central America in the USA. All studies have demonstrated the effectiveness and applicability of TF-CBT in the treatment of traumatized young refugees. In a randomized controlled trial, Schottelkorb et al. (2012) compared TF-CBT to child-centred play therapy within a sample of refugee children living in the US. It was evident that both treatment conditions were effective in reducing trauma symptoms from the baseline assessment to the follow-up assessment, as indicated by both self- and caregiver reports. In their initial study, Unterhitzenberger et al. (2015) evaluated the feasibility of TF-CBT with unaccompanied refugee minors within a larger randomized controlled trial. The authors reported a significant decrease in PTSD symptoms post-treatment with TF-CBT. Furthermore, a clinically meaningful change was observed in 100% of the young refugees treated. A single case report on the treatment of an unaccompanied refugee minor girl from East Africa with TF-CBT, as described by Unterhitzenberger et al. (2016), demonstrated the efficacy of TF-CBT in reducing symptoms of PTSD. The treatment effects demonstrated stability over a period of six months.

Table 1. Overview of TF-CBT studies with refugee children and adolescents in individual settings

Author (year)	Study design	Setting and Sample	*N*	Age	Female	Inter-vention(s)	Outcomes (Instrument)	Results
Schottelkolb et al. (2012)	RCT	Schoolbased treatment of refugee children from Africa (Burundi, Congo, Kenya, Liberia, Rwanda, Somalia, and Tanzania), Asia (Burma, Nepal, and Russia), Europe (Bosnia), and the Middle East (Afghanistan, Iraq, Turkey, and Uzbekistan) in the US	31	range: 6 - 13 *M* = 9.16, *SD* = 2.03	45.20%	TF-CBT (*n* = 17) vs. child centered play therapy (CCPT, *n* = 14)	PTSD (UCLA Index, PROPS)	TF-CBT was effective in decreasing trauma symptoms from the baseline assessment to follow-up assessment, according to reports from both children and parents ($p < .03$). There were no differences between TF-CBT and CCPT.
Unterhitzenberger et al. (2015)	Case series of *n* = 3 RCT patients and *n* = 3 uncontrolled patients with the treatment protocol	Treatment of unaccompanied refugee minors from Afghanistan, Somalia and Iran in an outpatient clinic in Germany	6	range: 16 – 18 *Md* = 17	33.33%	TF-CBT	PTSD (CAPS-CA, PDS)	At baseline assessment, all patients exhibited moderate to severe levels of symptoms, as indicated by PTSD measures. There was a significant decrease in PTSD symptoms in both groups (participants of the RCT and the uncontrolled study arm) with $p < .001$. On an individual level, the percent improvement was > 50%. Clinically meaningful change was observed in 100% of participants.

Unterhitzenberger et al. (2016)	single case report	Treatment of an unaccompanied refugee minor from East Africa in an outpatient clinic in Germany	1	17	100%	TF-CBT	PTSD (CAPS-CA, UCLA-PTSD-RI), Depression (CDI), Anxiety Disorders (SCARED)	Symptom severity diminished in a clinically significant manner with regard to all measures (percent improvement CAPS-CA: 88% at post, 90% at follow-up); by the termination of the treatment , the patient was considered to have recovered from PTSD. The stability of treatment success was maintained over a period of six months.
Unterhitzenberger et al. (2019)	uncontrolled pilot study	Treatment of unaccompanied refugee minors from Afghanistan, Eritrea, Gambia, Iran, Sierra Leone, Somalia, Sudan, Syria in an outpatient clinic in Germany	26	range: 15 - 19 *M* = 17.1, *SD* = 1.0	0%	TF-CBT	PTSD (CATS), Depression (MFQ), Behavioral Problems (SDQ), Physical Symptoms (PHQ-15)	A substantial decline in PTSD symptoms was observed, as indicated by a significant main effect of $F(1, 18) = 11.41$, $p = .003$, and a large effect size ($d = 1.08$). Improvements demonstrated stability at follow-up assessment points (6 weeks, 6 months). 84% of PTSD cases exhibited recovery following treatment with TF-CBT.
Patel et al. (2024)	uncontrolled, pre-post treatment design	Treatment of unaccompanied migrant children from Central America in an outpatient clinic in the US	138	range: 4 - 19 *M* = 14.7, *SD* = 3.2	55.10%	TF-CBT	PTSD (CATS), Behavioral Problems (SDQ)	The results showed significant improvements on most of the self-report rating scales ($p < 0.05$). Within-subjects effect sizes ranged from $d = .07$ to 1.03 for pre- to post-treatment assessments.

Note. UCLA Index = UCLA PTSD Index for DSM–IV, PROPS = Parent Report of Posttraumatic Symptoms, CAPS-CA = Clinical Administered PTSD Scale, Child and Adolescent Version, PDS = Posttraumatic Diagnostic Scale, CDI = Children's Depression Inventory, SCARED = Screen for Child Anxiety Related Disorders, CATS = Child and Adolescent Trauma Screen, MFQ = Mood and Feelings Questionnaire, SDQ = Strengths and Difficulties Questionnaire, PHQ-15 = Patient Health Questionnaire Physical Symptoms

In the context of an uncontrolled pilot study, Unterhitzenberger et al. (2019) provided a demonstration of the efficacy of TF-CBT in addressing PTSD symptoms among a sample of 26 young unaccompanied refugees. The results of the study demonstrated a substantial decline in PTSD symptoms and a considerable effect size (d = 1.08). Furthermore, a significant proportion of the cases displayed recovery following the termination of treatment. Patel et al. (2024) also demonstrated the effectiveness of TF-CBT with the largest sample to date of 138 unaccompanied migrant children. The results show a significant decrease in overall post-traumatic stress symptoms (PTSS) on average, and a significant decrease in behavioral problems.

As the studies referenced demonstrate, the feasibility and effectiveness of the TF-CBT manual for young people with a refugee background have been established. However, the authors made some modifications to the manual to adapt it to the needs of the population of young refugees. For an overview, refer to Table 2. As Unterhitzenberger et al. (2015) reported, there was less caregiver involvement compared to the recommendation in the manual. The psychoeducational component was augmented with information regarding the asylum procedure, the asylum rights in Germany, and, where relevant, dissociation. With respect to relaxation techniques, the authors described the practice of several different relaxation techniques and relaxation practice in almost every session of the treatment. Furthermore, a greater proportion of the session was dedicated to the affective modulation component. In addition, psychotherapists made use of additional material, including feeling face cards and games that teach feelings. The names of feelings were expressed in both languages, and the psychotherapists also employed skills for emotion regulation. The alteration of the trauma narrative component primarily concerned the number of sessions allocated, with more than four sessions being utilized. Moreover, a lifeline was established prior to commencing the narrative. Additionally, diverse methods or materials for discussing the trauma were employed, including audio recording and walking around. The cognitive processing phase exhibited a slightly more directive nature, with a greater proportion of time allocated to trauma-related cognitions. In this trial, the psychotherapists' focus was also on fostering a sense of safety at the conclusion of the therapeutic process. This included fostering a sense of security within the context of Germany and distinguishing between the circumstances present in one's country of origin and those in the host country. In their pilot study from 2019, Unterhitzenberger et al. described that, in addition to psychoeducation on PTSD and traumatic events, the psychotherapists also offered psychoeducation on psychotherapy, on working with translators and on confidentiality in the psychotherapeutic setting.

Table 2. Modifications of TF-CBT for young refugees

Component	Adaptations
P	- Psychoeducation on asylum procedure, asylum rights, immigration, school system in host country - Psychoeducation on psychotherapy and mental health treatment, working with translators and confidentiality. Psychoeducation on TF-CBT components and techniques. - Exploration of youth's views on appropriate treatments for mental health concerns - Psychoeducation on dissociation - Differentiation between chronic trauma exposure in the country of origin and acute traumatic events (stressful events) - Exploration of beliefs about roles and relationships of patients - Less caregiver involvement than indicated in the manual
R	- Implementation of a variety of relaxation techniques, incorporating exercises into nearly every session - Utilizing patient's prevailing culturally significant strategies for relaxation, incorporating spiritual and religious beliefs
A	- More time spent on the affective modulation - Inclusion of additional material (e.g. feeling face cards, games) - Facilitation of the naming of emotions in both the therapist's and the client's languages; to develop an understanding of the child's vocabulary concerning diverse emotional states - Implementation of skills to regulate emotions - In certain cases, also applied in earlier phases of the treatment - Additional sessions required to facilitate the development of the ability to name and recognize emotions
C	No specific adaptations for this component, but cognitive processing techniques are employed in other components as well.
T	- More than 4 sessions spent on this component - Creating a lifeline at the beginning of the trauma narrative to structure traumatic experiences and identify the index event(s) - Using different ways or materials for talking about the trauma (e.g. audiotaping, walking around) - More directive therapist during cognitive processing II
I	No adaptations mentioned.
C	- If refugees are unaccompanied, conjoint sessions may be carried out with any adult with whom the child is connected
E	- Enhancing a sense of security in host country, differentiation between circumstances in the home vs. host country - Strategies for a good future: helpful strategies learnt in treatment, helpful people or sentences, social or healthy living skills - Emergency safety plan (refusal of asylum)
Other, general aspects	- Therapeutic relationship: allocation of additional time for the cultivation of trust - Application of grief-specific components (loss, missing people, homesickness) - Language: utilization of culturally relevant metaphors, proverbs or stories - More discussion on "crisis of the week" (e.g. conflicts due to flight situation/asylum process) - Feedback on therapy

Note. Adaptations are derived from the following sources: Murray, Cohen, Ellis, & Mannarino (2008), Unterhitzenberger et al. (2015, 2019, 2021), Patel et al. (2024)

Another modification was the utilization of the affective modulation component during the initial phase of the treatment. Furthermore, during this trial, the trauma narrative was initiated with a lifeline and developed over a greater number of sessions. Considering experiences of loss and homesickness, a number of grief-specific TF-CBT techniques were employed. In certain instances, an emergency safety plan was formulated and implemented in anticipation of a refusal of asylum (Unterhitzenberger et al., 2019). In a subsequent qualitative study with psychotherapists of the aforementioned pilot study, Unterhitzenberger, Haberstumpf, Rosner, and Pfeiffer (2021) found, that added content to the PRACTICE components mostly focused on the so-called «crisis of the week». This resulted in a more extensive discussion of the daily living difficulties of the UYRs. Only a few challenges related to treatment (e.g. issues with relaxation component), and minimal cultural considerations were reported (e.g. using pride, religion, and metaphors). The implementation of the trauma narrative, in conjunction with the agenda provided by the manual, was frequently reported as beneficial (Unterhitzenberger et al., 2021). In their study of unaccompanied migrants from Central America, Patel et al. (2024) added to the psychoeducation component a distinction between chronic trauma exposure in the country of origin and acute traumatic events to elicit the patient's perspective on stressful and non-stressful events. As Unterhitzenberger et al. (2019) previously described, Patel et al. (2024) also provided information on mental health treatments and their intended recipients, in addition to offering educational material on the US system regarding law and immigration. Furthermore, they explored beliefs concerning roles and relationships (e.g. gender, parenting styles). During the relaxation phase, Patel et al. (2024) made use of the client's existing, culturally relevant strategies for relaxation, whilst also incorporating the spiritual and religious beliefs of the youth. In general, the utilization of culturally pertinent metaphors was observed throughout the treatment. In order to establish a conducive therapeutic relationship, Patel et al. (2024) posited that additional time should be allocated for the purpose of fostering trust.

Given the extensive use of TF-CBT and the wide range of treatment options available, it is essential to take the well-conducted efficacy RCTs into account and assess the extent to which these effects are transferable to clinical practice and applicable to specific patient populations, such as UYRs. As has been demonstrated, rigorous RCTs have been complemented by uncontrolled studies to obtain a comprehensive understanding of efficacy in diverse patient populations. The recent crises in Syria, Gaza, Lebanon, Sudan, Burkina Faso, Afghanistan, and numerous other countries have underscored the need for effective treatment options for individuals who have experienced trauma, particularly in the vulnerable population of children and adolescents. Despite the awareness of the high prevalence of

trauma-related disorders, especially in relation to young refugees, and the significant need for treatment, these individuals frequently do not receive adequate care (Blackmore et al., 2020; Dumke, Schmidt, et al., 2024; Oberg & Sharma, 2023). However, the notion of equitable access to affordable and high-quality mental healthcare has been identified as a fundamental prerequisite for the promotion of sustainable development, human rights, and inclusive societies (Patel et al., 2018). Untreated mental health conditions heighten the risk of severe and chronic diseases and late detection of chronic conditions, including psychological problems, which can result in elevated expenditures for inpatient care services among refugees (Priebe, Giacco, & El-Nagib, 2016; Satinsky, Fuhr, Woodward, Sondorp, & Roberts, 2019). The presence of mental health issues has been demonstrated to impede day-to-day functioning and diminish the psychosocial resources necessary for individuals to establish themselves within their host countries (Priebe et al., 2016). As indicated in the literature, the probability of receiving adequate treatment is influenced by patient-related factors alongside structural variables (Satinsky et al., 2019; Stein et al., 2023). Literature draws attention to the absence of evidence-based training with regard to the implementation of therapeutic interventions for populations with distinct needs (e.g. culturally diverse, traumatized patients). This absence is paralleled by psychotherapists' inadequate knowledge and skills in providing specialized care to these groups and therefore a limited number of psychotherapists who offer EBTs (Beidas et al., 2019; Harvey & Gumport, 2015b; Munz & Melcop, 2018). Consequently, there is a pressing need to establish adequate training programs and to educate practitioners in the application of evidence-based trauma treatment and the treatment of traumatized UYRs (Danese, McLaughlin, Samara, & Stover, 2020; Rosen, Ruzek, & Karlin, 2017).

2.4 Implementation of evidence-based treatment approaches

The primary objective of research in health sciences is the provision of clinically relevant information with the aim of generating effective interventions for patients. Nevertheless, a discrepancy exists between evidence-based knowledge and clinical practice in different medical settings. In order to address this discrepancy, a number of implementation strategies have been discussed in recent years (Proctor, Powell, & McMillen, 2013). In light of the growing significance of implementation research, Damschroder et al. (2009) developed a framework to advance implementation science. The «Consolidated Framework For Implementation Research» is composed of five major domains: intervention characteristics (e.g. evidence strength and quality), outer setting (e.g. patient needs and

resources), inner setting (e.g. culture, leadership engagement), characteristics of the individuals involved (e.g. knowledge and beliefs about the intervention, self-efficacy), and the process of implementation (e.g. plan, evaluate, and reflect). The framework can be utilized to guide evaluations intended to improve outcomes and to develop an implementation knowledge base in a variety of studies and settings.

In a current systematic review of experimentally tested implementation strategies, Ashcraft et al. (2024) reported on 129 studies and provided a comprehensive summary of a variety of strategies. The four most frequently implemented evidence-based strategies were the distribution of educational materials, the conduction of educational meetings, the facilitation by an external entity, and the provision of feedback following an audit. The distribution of educational materials and the conduction of educational meetings were the most common strategies employed. The authors identified 19 implementation strategies that demonstrated a positive outcome in at least 75% of cases. The implementation strategies can be classified according to the stage at which they are employed: either in the early or the pre-implementation phase, as opposed to the later stages of implementation. Preparatory strategies that demonstrated robust evidence of effectiveness included educational activities and diagnostic activities. A range of strategies have been developed to address the implementation phase, including those that provide coaching and support, those that involve additional key partners, and those that engage in quality improvement activities (Ashcraft et al., 2024). Furthermore, in their systematic review on the effectiveness of training methods for the delivery of evidence-based psychotherapies, Valenstein-Mah et al. (2020) demonstrated that active EBT training (e.g. in-person, self-paced, distance learning) resulted in significant increases in provider EBT knowledge and adherence as well as satisfaction with the training in comparison to self-guided training (e.g. self-study) or no training. However, the results were inconclusive with regard to the impact of EBT training on provider competence, and no discernible difference was observed in EBT adoption between the two groups. Furthermore, no specific EBT training modality (e.g., in-person, online) was found to be more effective than another in improving provider outcomes. Five of the seven studies which were included in the review and which made comparisons between active modalities (in-person, self-paced, distance learning) found increases in competence across all modalities and no differences between them. A further systematic review was conducted by Frank, Becker-Haimes, and Kendall (2020). The autors looked at training approaches used to train psychotherapists in EBT. A range of training modalities were analysed as part of the review, including workshops, workshops with consultation, online training, train-the-trainer approaches, and intensive training. Studies that evaluated the effectiveness of face-to-face

workshops without additional consultation or follow-up found that knowledge and attitudes towards EBTs improved after the training. The combination of workshops with subsequent consultations was identified as a successful strategy for enhancing self-reported application of the intervention, enhancing provider competence and improving client outcomes. The systematic review also demonstrated that online training, whether with or without consultation, can enhance psychotherapists' knowledge and skills in the short term. This finding aligns with the results observed in in-person workshops. Train the trainer-approaches were found to result in positive outcomes at the psychotherapist level, although not to the same extent as expert-led training. Intensive training approaches have been demonstrated to engender improvements in psychotherapists' knowledge, intervention application, and observer-rated competence. The majority of these studies included formal consultation, and many included expert feedback on recorded therapy sessions. In conclusion, the majority of studies have focused on intensive training, in-person workshops with consultation, or online workshops. Attendance at a workshop has been shown to result in an improvement in psychotherapists' knowledge and attitudes towards EBT. However, it is unlikely that workshops alone would result in an increase in EBT application. Instead, training is more likely to result in increased EBT application and improved fidelity if psychotherapists are supported by consultation after training (Frank et al., 2020). With regard to the subject of the implementation of evidence-based treatments for PTSD, Ackland et al. (2023) conducted a systematic review on the implementation of CPT and PE. The majority of the implementation articles evaluated Veterans Heath Administration's (VHA) national training initiative, which comprises an in-person workshop followed by weekly consultations, for the implementation of these treatment approaches. The implementation strategies employed to augment the utilization of CPT and PE within both VHA and non-VHA contexts primarily encompassed training and educational initiatives, in conjunction with audit and feedback mechanisms. The training and educational components entailed workshops and other provider educational resources, as well as audit and feedback mechanisms that involved the collection and summary of clinical performance data. Examples of this data include fidelity measures and recommendations made during consultation. This data was provided to administrators or clinicians to modify behaviors and enhance fidelity. The VHA's national training programs for CPT and PE have been shown to enhance provider skill, self-efficacy, and perceptions about the treatments. Patients who received CPT and PE from psychotherapists trained by VHA demonstrated clinically significant declines in PTSD and depression. Notwithstanding the implementation of training initiatives, the utilization of CPT/PE remains comparatively low (Ackland et al., 2023).

As is evident from the findings of the aforementioned systematic reviews, online-based training for EBT is a promising approach for the education and training of practitioners. A substantial body of research has demonstrated the efficacy of online training for EBT in enhancing psychotherapists' knowledge and psychotherapeutic skills (Dimeff et al., 2015; Frank et al., 2020; Herschell et al., 2023; Mallonee, Phillips, Holloway, & Riggs, 2018; Quetsch, Herschell, Kolko, Liebsack, & Carroll, 2022; Valenstein-Mah et al., 2020). In a systematic review, Jackson, Quetsch, Brabson, and Herschell (2018) differentiate between five types of web-based training methods for the dissemination of EBTs including a virtual classroom, serial instruction, self-directed learning, simulation training, and ongoing support. The results of the review suggest that web-based training methods have potential as an effective training modality for clinicians. A favorable impact on various outcomes, including completion rates, knowledge gain, attitudes toward treatment, skills development, and adherence to the treatment manual, was found to be evident across all the examined approaches. Despite the fact that serial instruction was the most prevalent training method, the existence of a range of training methods is encouraging, as they can be customized to suit the distinct requirements of clinicians (Jackson et al., 2018). A recent systematic literature review of e-learning in the psychotherapy training context by Mikkonen, Helminen, Saarni, and Saarni (2024) has also demonstrated that e-learning is associated with positive outcomes in terms of knowledge and skills, as well as the implementation of skills in practice, and trainee satisfaction. The results of the review indicated that there were no significant differences between e-learning and standard training methods (Mikkonen et al., 2024). A similar finding was reported in a study by Baumann, McGuier, Rounds, Rumbarger, and Kolko (2023). In this study, the authors compared in-person and simultaneous online training for a trauma-informed, evidence-based treatment aimed at enhancing relationships between children and caregivers in families experiencing conflict, physical aggression, child physical abuse, or child behavior problems. The results of the study indicate that online psychotherapy training is at least as efficacious as in-person training in terms of improvement of evidence-based practice. The degree of participation observed in terms of attendance at workshops and supervision was high for both study groups. Additionally, there were no significant differences between the two groups in terms of self-reported fidelity to the manual or the number of clients with whom it was implemented.

In order to address practical barriers, there has been an increase in the popularity of online training approaches. The primary advantage of these training methods is that they are more easily accessible and allow for greater flexibility during training (Mikkonen et al., 2024). Online training

programs have been shown to exert a smaller impact on both professional and personal domains, thereby affording users the opportunity to progress through the program in a manner that aligns with their individual schedules and pace (Khanna & Kendall, 2015; Rosen et al., 2017). Furthermore, they facilitate access to a more extensive range of clinicians, particularly in rural regions (Rosen et al., 2017). In addition, as previously mentioned, online training programs have been shown to improve skills and change attitudes regarding a treatment procedure. Consequently, these programs can increase healthcare professionals' readiness to provide interventions to patients (Sansen et al., 2019). Another benefit of online formats is that they facilitate the video-based presentation of patient-therapist interactions, which provide authentic insight into therapy sessions (Khanna & Kendall, 2015; Rosen et al., 2017). Web-based training programs enable recurrent access to the material, thereby fostering more sustainable utilization of treatment methods. Moreover, the capacity for regular updating of web-based training programs ensures they remain aligned with the most recent scientific findings (O'Connor, Morgan, Bailey-Straebler, Fairburn, & Cooper, 2018). The utilization of web-based training programs has been demonstrated to foster the sustainable application of the treatment by mental healthcare practitioners (Jackson et al., 2021). Web-based programs that facilitate exchange and promote the development of a network of trained psychotherapists have been demonstrated to be associated with an increase in evidence-based practices (Motamedi et al., 2021). Notwithstanding the numerous advantages of online training, there are also disadvantages. Dimeff et al. (2015) conducted a study to examine the impact of three distinct training modalities for clinicians in Dialectical Behaviour Therapy: instructor-led training, online training, and reading the treatment manual. The findings revealed that the online training group exhibited diminished levels of satisfaction and motivation in comparison to the instructor-led group. Accordingly, other authors also reported lower rates of satisfaction (Baumann et al., 2023; Herschell et al., 2023; Mallonee et al., 2018; Quetsch et al., 2022). Another disadvantage of web-based training approaches that has been identified is a lack of hands-on experience. A factor which can serve to reinforce hesitations among clinicians, in particular those who are inexperienced with technology. This has been shown to result in the prioritisation of immediate concerns over potential long-term benefits of new technologies (Moeller & Kring, 2024). Training approaches that incorporate behavioral rehearsal have been demonstrated to enhance healthcare provider skills (Jackson et al., 2018). Nevertheless, the question remains as to whether training approaches, that exclude behaviroal rehearsal can achieve comparable levels of effectiveness. Moreover, the successful implementation of web-based training programmes necessitates substantial organisational support to facilitate the management of changes in workflows. In the absence of such support, clinicians may encounter significant challenges

in assimilating novel practices into their established routines (Davies et al., 2020). Another difficulty is that almost no studies have examined the impact of these training approaches on patient outcomes, and research in general has shown considerable heterogeneity in this area (Mikkonen et al., 2024).

As demonstrated by the preceding findings, web-based trainings are a promising approach that offers numerous advantages. A web-based training program for TF-CBT has been available in the US since 2005, and a translated and adapted version of this learning program has been available in Germany since 2018. In addition to web-based training, specific efforts to disseminate TF-CBT have utilized various media and formats. These include presentations on a global scale, state collaborations, and intensive learning collaborative methodologies. The latter utilize in-person trainings, ongoing consultation, and supervision (Allen & Johnson, 2012; Cohen & Mannarino, 2008). A systematic review was conducted by Powell et al. (2020) on the determinants of implementing two evidence-based trauma-focused interventions for children and adolescents, TF-CBT and Cognitive-Behavioral Intervention for Trauma in Schools (CBITS). The authors identified determinants at multiple levels and phases that influence the implementation of these interventions. Key determinants from the external context included fidelity monitoring and support, client perception, and patient needs and resources. The following factors were identified as particularly salient within the context of organizational adoption: organizational characteristics, individual adopter characteristics, internal fidelity monitoring and support, staffing, and adaptability. A dearth of research has been observed with respect to the maintenance of implementation. This observation indicates a necessity for further research on readiness for implementation and ability to maintain interventions over time (Powell et al., 2020).

In regard to the implementation of TF-CBT in the US, Amaya-Jackson et al. (2018) evaluated a statewide dissemination model for TF-CBT in North Carolina. In this model, implementation appears to be most effective, when training includes the following components: 1) practice-based education, 2) fidelity coaching, 3) clinical assessment and outcome-based care, 4) organizationel-level capacity building, and 5) the referral of clients to trained clinicians via an online provider directory. The initial training component entailed face-to-face learning sessions, encompassing clinical training, case-based learning, and the cultivation of EBT-specific competencies. Subsequent phases involved periods during which clinicians applied their acquired skills with clients. Additionally, an intranet site was established to facilitate trainer-participant interactions and peer-to-peer learning, and to document the utilization of the model. So called plan-do-study-act cycles were established to address organizational and systemic barriers. The fourth component of the training model involved group and bimonthly fidelity

consultation calls with a trainer. Finally, there was a leadership track to support the agency's administrative leaders in supporting implementation and change within the agency. Strict fidelity competence was achieved by the majority of the 124 clinicians who were trained. At the patient level, there were significant improvements in children's PTSS, depressive symptoms, including suicidal ideation/intent, and general mental health, as well as behavioural difficulties. Moreover, for the treated children's parents a reduction in parental distress was also observed. Treatment fidelity was identified as a significant moderator of treatment outcomes, particularly in child PTSD (Amaya-Jackson et al., 2018). In regard to the implementation of TF-CBT in Europe, Pfeiffer et al. (2024) explored common barriers and successful dissemination and implementation strategies in seven European countries. The most common implementation strategies included the development of training programmes and evidence-based engagement programmes, such as support or incentives for providing EBT, and the provision of country-specific materials. An additional strategy involves the implementation of follow-up consultations with trained psychotherapists and specialized leadership programmes. Certification programmes of TF-CBT therapists are currently available in only three European countries. Training strategies encompass web-based training, the reading of the TF-CBT manual, participation in a 2-3 day workshop, and case consultation. TF-CBT training is predominantly conducted by TF-CBT trainers who have obtained certification from the developers. In all participating European countries, initial training in TF-CBT is typically accompanied by specific TF-CBT case consultations. A variety of dissemination strategies were employed, including TF-CBT specific publications, collaborative learning networks, and websites providing information on TF-CBT. The implementation and dissemination of TF-CBT in European countries encountered various barriers at multiple levels, including the governmental level, the organizational level, the psychotherapist level, the treatment level, and the trauma-related level. The majority of barriers were identified at the treatment level, such as a shortage of trainers or materials. However, barriers at the government level also included a lack of funding.

As demonstrated in the aforementioned literature, a variety of effective strategies exist for the implementation and dissemination of EBT. However, various barriers at different levels appear to hinder the practical implementation of EBT (Harvey & Gumport, 2015a; Pfeiffer et al., 2024). This phenomenon is especially evident among unaccompanied young refugees, who frequently do not undergo adequate mental health assessments. And among those who are diagnosed, only a small percentage receive evidence-based psychotherapy (Boettcher, Nowak, & Neuner, 2021; Führer, Niedermaier, Kalfa,

Mikolajczyk, & Wienke, 2020). It is therefore essential to look at barriers and facilitators for the implementation of evidence-based tretment for UYRs.

2.5 Barriers and facilitators accessing evidence-based trauma treatment for refugees

As previously stated, there is a high demand for mental health services among refugees, particularly among unaccompanied refugee minors, who exhibit elevated rates of psychological distress. Notwithstanding the existence of treatment options, the utilization of mental health services among asylum seekers remains limited (Daniel-Calveras, Baldaquí, & Baeza, 2022; Mitra & Hodes, 2019). Although the European Charter of Fundamental Rights explicitly states that all migrants and refugees are guaranteed access to fundamental primary health care, including psychotherapy, numerous challenges have been identified in accessing this care, particularly in the case of mental health services (European Union Agency for Fundamental Rights, 2011). Although well-established mental healthcare systems exist in high-income countries, just a limited number of refugees and asylum seekers appear to profit from them and receive sufficient treatment. Present evidence indicates a substantial discrepancy between mental health requirements and the provision of treatment among refugees and asylum seekers residing in high-income countries (Satinsky et al., 2019). Dumke, Wilker, Hecker, and Neuner (2024) conducted a scoping review of ten systematic and scoping reviews on barriers to accessing mental health care for refugees and asylum seekers in high-income countries. A total of seven overarching themes were identified, which were subsequently categorized into two distinct categories: demand-side barriers and supply-side barriers. The barriers on the demand side include: (1) refugees' understanding of mental illness, which influences the perceived need for care and attitudes towards treatment, (2) the fear of stigmatization, because especially in refugee populations mental health problems are perceived as something shameful, (3) the lack of awareness of services leads to difficulties in understanding and accessing the health care system in the country of resettlement, and (4) attitudes towards formal treatment may lead to not seeking help, as treatment is not perceived as helpful. From a supply-side perspective, (5) practical, structural, and political impediments restrict the availability of specialized mental health services. The (6) presence of language barriers has been demonstrated to impede administrative procedures and the delivery of treatments that align with patients' needs. Furthermore, (7) the attitudes and competencies of service providers, particularly regarding therapeutic and cultural

competence, influence the quality of care. Additionally, clinicians' concerns regarding the therapeutic work with refugees are a salient factor that warrants consideration.

Specifically, the classification of obstacles encountered during the implementation and accessibility of psychotherapeutic treatment for refugees involves the differentiation of barriers at the patient level, the level of psychotherapists, and the structural level. At the patient level, acceptability and lack of trust in health and social care institutions have a substantial impact on refugees' access to appropriate care. These challenges are further compounded by mistrust of health professionals and a fear of authorities in general (Colucci, Minas, Szwarc, Guerra, & Paxton, 2015; Satinsky et al., 2019; Straßmayr et al., 2012; Suphanchaimat, Kantamaturapoj, Putthasri, & Prakongsai, 2015). The lack of awareness of mental health and available treatment options, and the client's uncertainty regarding the intent and nature of these services also hinders the access to treatment (Karageorge, Rhodes, Gray, & Papadopoulos, 2017; Satinsky et al., 2019; Schlechter, Wagner, Morina, & Hellmann, 2023). Furthermore, refugees may not be able to identify when they require treatment and may lack awareness of their rights regarding mental healthcare services (Colucci et al., 2015; Straßmayr et al., 2012). The fear of mental illness and the perceived stigmatization associated with help seeking represent additional significant barriers (Satinsky et al., 2019; Schlechter et al., 2023). Language barriers have been shown to impede effective communication between refugees and healthcare providers (Kiselev, Pfaltz, et al., 2020; Suphanchaimat et al., 2015). Consequently, the presence of uncertainty between mental health care providers and refugees hinders the transparent communication of therapeutic constructs and techniques, and the establishment of trust and understanding is significantly impeded (Asfaw et al., 2020; Karageorge et al., 2017). The implementation of treatments is impeded by specific cultural beliefs (e.g., patriarchal norms in Muslim culture) and disparities in exploratory models of patients (Asfaw et al., 2020; Potter et al., 2023; Suphanchaimat et al., 2015). Individuals who have previously undergone treatment may encounter adverse experiences that can result in a sense of pressure to abandon their cultural beliefs or promptly assimilate into the cultural norms of the country of resettlement (Karageorge et al., 2017). The complexity of refugees' needs, the challenging living circumstances (e.g., housing situation, insecure asylum status), and a lack of social support also impede access to treatment (Gruner et al., 2020; Karageorge et al., 2017; Potter et al., 2023; Straßmayr et al., 2012).

At the psychotherapist level, negative attitudes towards refugee patients, as well as uncertainty regarding the patients' intentions, expectations, and motivation for treatment, have been identified as barriers (Karageorge et al., 2017; Satinsky et al., 2019). The complex nature of these patients' needs,

particularly in primary care settings, often results in clinicians prioritizing physical illnesses over mental health care services, thereby hindering the effective functioning of these services as gatekeepers (Suphanchaimat et al., 2015). The available treatment options are also influenced by the fears of psychotherapists. Clinicians may fear being accused of racism due to cultural misunderstanding or they may fear secondary traumatization due to traumatic experiences of their patients (Gruner et al., 2020; Suphanchaimat et al., 2015). The bureaucratic and organizational demands of mental health care, including administrative tasks, time-consuming contact with patients and other authorities, and the unpredictability of patients, can impede psychotherapists' ability to provide treatment to refugees (Potter et al., 2023).

With regard to the issue of structural barriers, the accessibility of mental healthcare services constitutes a significant obstacle. Treatment uptake is frequently impeded by high transportation costs, as well as lacking financial resources allocated for treatment and the provision of interpretive services (Kiselev, Morina, et al., 2020; Satinsky et al., 2019; Suphanchaimat et al., 2015). In addition, the dearth of culturally sensitive care, in conjunction with the general paucity of resources in services providing mental health care, engenders low rates of treatment uptake among refugees (Colucci et al., 2015; Straßmayr et al., 2012; Suphanchaimat et al., 2015). This situation is further exacerbated by the absence of interdisciplinary collaboration and exchange between physical and mental health services (Satinsky et al., 2019). While interpreters are essential for overcoming language barriers in a therapeutic setting, there is a paucity of interpreters, and conducting interpreter-assisted treatment can be time-consuming and increase the psychotherapist's workload (Satinsky et al., 2019; Suphanchaimat et al., 2015). Additionally, a mismatch between client and interpreter based on gender, age, and ethno-cultural factors can impede treatment uptake (Colucci et al., 2015).

As the research findings demonstrate, there are numerous barriers to the successful initiation and implementation of treatment with refugees, especially with regard to evidence-based treatment. In the context of a statewide implementation initiative in the USA, Ascienzo, Sprang, and Eslinger (2020) conducted a study to assess clinicians' perceptions regarding the challenges associated with implementing TF-CBT. The authors identified provider-related barriers, including skill development and indirect trauma exposure, as well as patient-related barriers, such as difficulties in managing patient avoidance and lack of patient engagement. Additionally, caregiver-related factors, such as a lack of caregiver engagement or difficulty in adopting parenting skills, were identified as significant barriers. Finally, organizational-related factors have the potential to impede the initiation of TF-CBT, including

inappropriate settings (Ascienzo et al., 2020). To date, no systematic evaluation of the implementation of TF-CBT in young refugees has been conducted. However, it can be assumed that the barriers described in Ascienzo's study also apply to the population of young refugees and occur in addition to the general barriers to receiving mental health care.

Despite the numerous barriers encountered, there are also some facilitating strategies that have been identified to overcome these barriers and ensure the successful uptake of treatment among refugees. Satinsky et al. (2019) posit that the delivery of treatment in psychiatric services should be entrusted to healthcare professionals who reflect the ethnic diversity of the patient population. This approach is instrumental in fostering trust and establishing relationships that are culturally acceptable and positive. These relationships are crucial for achieving positive therapeutic outcomes. Moreover, it is essential to manage expectations among refugee patients and to provide psychoeducation about the role of psychotherapists and the limitations of psychotherapy. Additionally, it is imperative to be well-informed about asylum procedures and to be able to refer clients to the relevant authorities as a key strategy (Asfaw et al., 2020). In addressing challenges related to cultural differences, it is advantageous to adopt a client-centered approach by empathizing the client's perspective, feelings, and beliefs (Asfaw et al., 2020). Understanding the client's situation could also be reflected in accommodating refugee clients' difficulties with appointments; it might be helpful to provide reminders about appointments (Potter et al., 2023). However, it is also important to maintain a balance between empathy towards the clients' situation and the needs of the psychotherapist themselves (Potter et al., 2023). In order to address challenges related to communication, the involvement of translators is a potential solution (Asfaw et al., 2020). The efficacy of interpreter-assisted treatment has been demonstrated to result in outcomes that are similar to those achieved in the absence of interpreters (Brune, Eiroá-Orosa, Fischer-Ortman, Delijaj, & Haasen, 2011; Hanft-Robert, Lindberg, Mösko, & Carlsson, 2023; Lambert & Alhassoon, 2015). In the context of interpreter-assisted therapy, as well as therapies that do not involve an interpreter, it has been demonstrated that the repetition of questions, the provision of summaries, and the avoidance of technical language can be beneficial (Potter et al., 2023). Within the context of the therapeutic process, it is advantageous for psychotherapists to adjust their expectations regarding the pace of therapy in accordance with their clients' needs. Additionally, it is essential for psychotherapists to transparently communicate any difficulties that may arise (Potter et al., 2023).

In addition to the structural barriers for refugee access to mental health care (MHC) discussed above, individual-level factors also need to be considered. Some barriers specific to refugee patients have

already been identified, such as reservations about mental illness and psychotherapy. In order to enhance comprehension of young refugees' access to MHC, a more thorough examination of psychotherapy utilization is required. This is particularly noteworthy, as limited utilization of MHC and restricted access to specific EBTs for unaccompanied young refugees lead to elevated levels of unmet needs in comparison to resident peers and accompanied young refugees (Björkenstam et al., 2022; Michelson & Sclare, 2009; Ruf, Schauer, & Elbert, 2010; Sanchez-Cao, Kramer, & Hodes, 2013). In the absence of appropriate treatment for PTSS, long-term impairment may ensue (Hiller et al., 2016). This can result in personal distress and may also impede the integration of UYR, thereby hindering their successful resettlement in the host country (Walther et al., 2021).

2.6 Utilization of evidence-based psychotherapy of unaccompanied young refugees

In light of the fact that a high proportion of UYRs suffering from PTSD and associated distress do not receive adequate treatment, it is essential to identify the factors associated with help-seeking behavior and the utilization of MHC. In recent years, several theories have been employed to explain help-seeking and the use of MHC. One such theory is Ajzen's Theory of Planned Behavior (TPB) (Adams, Gringart, & Strobel, 2022; Ajzen, 1991). The theory posits that individuals deliberately opt to engage or not engage in certain behaviors, influenced by their attitudes, perceived social pressures (subjective norms), and beliefs about their capacity to control these behaviors (perceived behavioral control). The model is designed to predict the intention that will lead to the performance of the behavior (Ajzen, 1991). The intention to seek assistance for mental health concerns can be construed as a manifestation of willingness. This deliberate act of communication with external sources, in conjunction with perceived behavioral control, serves as a predictor of actual utilization of MHC (Tomczyk, Schomerus, Stolzenburg, Muehlan, & Schmidt, 2020). A substantial body of research, including numerous meta-analyses and reviews, has demonstrated the efficacy of the TPB in the context of health behaviors (Adams et al., 2022; McEachan, Conner, Taylor, & Lawton, 2011).

The existing literature identifies several factors that have shown to contribute to an increased utilization of MHC. However, the findings are not entirely consistent. In light of the dearth of data regarding the utilization of MHC among UYRs, a comprehensive examination of the literature concerning utilization behavior in analogous populations is warranted. Such populations include adult refugees, immigrants, and the broader population of adolescents and young adults who share pertinent

characteristics with UYRs. In the context of adolescents and young adults who do not have a refugee or migration background, several factors have been identified as potential contributors to increased utilization of MHC. These factors include externalizing behavior, overall problem level, delinquent behavior, and impairment (Eijgermans et al., 2021). In addition, previous positive experiences with MHC, mental health literacy, and a strong bond with the caregiver were identified as contributing factors to the utilization of MHC (Aguirre Velasco, Cruz, Billings, Jimenez, & Rowe, 2020). Adolescents may be reluctant to seek MHC due to concerns regarding potential social stigma, heightened symptomatology, and unfavorable perceptions of both MHC services and the professionals who provide them (Aguirre Velasco et al., 2020). The impact of gender, socioeconomic status, and ethnic background has not been conclusively demonstrated, as the literature offers inconsistent findings on these factors (Eijgermans et al., 2021). Nevertheless, research indicates that boys may exhibit a higher prevalence of utilization of MHC during early childhood, while girls appear to demonstrate a greater tendency to seek care during adolescence (Raven, Jörg, Visser, Schoevers, & Oldehinkel, 2018; Reijneveld et al., 2014). Huff, Dunderdale, Kellogg, and Isbell (2024) conducted an umbrella review, examining 26 reviews of factors related to help-seeking among young people. The most commonly reviewed factors are trust in professionals, followed by close others' support for treatment, cost, availability, and insurance. Stigma is widely referenced in 18 reviews.

A number of factors associated with the utilization of MHC by immigrants and refugees have previously been identified in research on the general population. However, additional relevant factors were identified for this specific population. The severity of psychological distress and behavioral problems, as well as high levels of symptom severity, have been demonstrated to result in increased utilization of MHC (Selkirk, Quayle, & Rothwell, 2014). Furthermore, an elevated severity of PTSD symptoms, heightened awareness of mental health, and enhanced mental health literacy have been identified as factors associated with increased utilization of MHC among adult refugees and immigrants (Lamkaddem et al., 2014; Mårtensson, Lytsy, Westerling, & Wångdahl, 2020; Satinsky et al., 2019). Additional factors that contribute to higher MHC utilization rates include a higher level of education, female gender, insecure asylum status, and the length of stay in the host country (Boettcher et al., 2021; Bozorgmehr, Schneider, & Joos, 2015; Kohlenberger, Buber-Ennser, Rengs, Leitner, & Landesmann, 2019; Lamkaddem et al., 2014; Mårtensson et al., 2020; Satinsky et al., 2019; Selkirk et al., 2014). Refugees with poor general health status are more likely to utilize MHC services (Bozorgmehr et al., 2015), though migrants tend to seek help predominantly from medical rather than psychotherapeutic services

(Glaesmer et al., 2011; Reich, Bockel, & Mewes, 2015). Provider-related factors also play a role. For instance, the extent to which refugees perceive that their needs are being met and their acceptance of the characteristics of the providers leads to increased use of MHC (Satinsky et al., 2019). Structural factors such as affordability, availability of care and geographical accessibility were found to be associated with MHC utilization (Satinsky et al., 2019). The literature also reveals several factors that tend to have a negative impact on the utilization of MHC by refugees and asylum seekers in general. Fear of stigmatization and other cultural barriers are known to be relevant factors in this regard (Byrow, Pajak, McMahon, Rajouria, & Nickerson, 2019; Satinsky et al., 2019). Lack of awareness and lacking mental health literacy also reduces the uptake of MHC among refugees, as they often do not believe that symptoms are part of a mental illness and therefore require treatment (Jankovic et al., 2011; Mårtensson et al., 2020; Satinsky et al., 2019). In some cultures, mental health and mental illnesses are attributed to religious or supernatural causes, which also inhibits the utilization of MHC (Grupp, Moro, Nater, Skandrani, & Mewes, 2019). In a qualitative study by Jankovic et al. (2011), war-affected individuals in the Balkans described PTSS as a «normal reaction to war» and identified personal coping strategies, such as simply «keeping busy», to supposedly overcome PTSS. MHC uptake may also be hindered by negative attitudes towards providers and treatment in general (Jankovic et al., 2011; Satinsky et al., 2019). Particularly for refugees from collectivist cultures, concerns about arousing disapproval or being perceived negatively by family members may reduce MHC uptake (Byrow et al., 2019). Relative insignificance, if family members are still living in war zones, may also discourage help-seeking, as refugees may perceive themselves as having a comparably safe and better life than their families (Jankovic et al., 2011). Especially for newly arrived refugees, structural barriers such as unstable housing, high transportation costs, and an uncertain visa status are factors associated with reduced MHC utilization (Byrow et al., 2019; Jankovic et al., 2011). As mentioned above, higher PTSD symptom severity may lead to MHC utilization (Lamkaddem et al., 2014), but there is also evidence that higher symptom severity is associated with more limitations in daily functioning and therefore hinders MHC utilization (Boettcher et al., 2021; Byrow et al., 2019).

The existing literature addresses several key elements that contribute specifically to the utilization of MHC by UYRs. Evidence regarding factors that inhibit or facilitate the use of MHC by UYRs is limited. Nevertheless, some relevant factors have already been identified. For example, the extent of social support has been shown to play a crucial role. Help-seeking behavior is largely initiated by caregivers, and referral to appropriate treatment services is controlled by social institutions (Bean,

Eurelings-Bontekoe, Mooijaart, & Spinhoven, 2006; Michelson & Sclare, 2009). In addition, younger age at arrival in the country of resettlement and longer duration of stay in the country of resettlement are associated with higher MHC utilization rates (Björkenstam et al., 2022; Sanchez-Cao et al., 2013). The number of traumatic events experienced, general symptom levels and self-reported need are other relevant factors influencing the utilization of MHC in UYRs (Bean et al., 2006; Björkenstam et al., 2022). As with the refugee population in general, the perception and categorization of symptoms as an unavoidable consequence of traumatic experiences has an inhibiting effect on the uptake of services (Sanchez-Cao et al., 2013). The presence of comorbid depressive symptoms may also lead to lower rates of MHC utilization in UYRs (Sanchez-Cao et al., 2013). In a systematic review of qualitative studies, Demazure, Baeyens, and Pinsault (2022) evaluated the perspectives of UYRs on MHC and mental health professionals in the country of resettlement. UYRs frequently exhibit a degree of mistrust towards mental health professionals and the interventions they propose. This mistrust is often rooted in concerns that the disclosure of certain information to relevant authorities could result in deportation or even imprisonment. The etiology of poor mental health is theorized to be multifactorial, with interlinked problems in life (e.g. poverty or war) or supernatural explanations (e.g. Jinns or ghosts) being potential causative factors. Consequently, healing could be achieved through prayers or herbal medicine, rather than through evidence-based treatments, as practiced in Western countries. A considerable number of young refugees have been found to be unwilling to acknowledge the presence of mental illness, often resulting in their avoidance of MHC. The authors identified additional impediments to the therapeutic process. For instance, UYRs do not prioritize mental health, which may be due to a lack of understanding of mental health. Moreover, some UYRs perceived the MHC as an uncomfortable and impersonal venue. They expressed a desire for a more familiar and non-intimidating place (Demazure et al., 2022). It is essential to consider the perceptions of mental health and MHC among UYRs, as this demographic plays a crucial role in determining the efficacy of MHC utilization. In addition to various barriers at a structural level, these factors appear to be particularly relevant and have a significant influence on utilization.

3. Description of the dissertation project

3.1 Background and relevance of research questions

In summary, an increasing volume of research on empirically validated treatment approaches for PTSD among children and adolescents has been documented on a global scale over time. One of the approaches that has been subject to rigorous evaluation is TF-CBT. It has been found to be effective in reducing symptoms of PTSD, as well as depression, anxiety, and grief in children and adolescents who have been exposed to various types of trauma in different populations and settings (Cohen, Deblinger, Mannarino, & Steer, 2004; Deblinger, Mannarino, Cohen, & Steer, 2006; Dorsey et al., 2020). In light of the numerous global challenges posed by war, violence, displacement, and flight, there is an urgent need to implement evidence-based treatment manuals for children and adolescents with PTSD in clinical practice. This is of particular significance in the context of this specific population, as it is evident that they frequently do not receive adequate treatment (Lewis et al., 2019). Despite the elevated levels of mental health morbidity observed among UYRs, there is a notable underrepresentation of this population in mental health services (Anstiss, Ziaian, Procter, Warland, & Baghurst, 2009; Lawton & Spencer, 2021). Despite the findings of previous research, the question of how to address the treatment gap for UYRs remains unresolved. This dissertation addresses this gap by focusing on four specific objectives.

In order to overcome the underrepresentation of UYRs in mental health services and to provide evidence-based treatment for this population, barriers at several levels must be addressed. At the practitioner and research level, it is essential to provide reliable evidence, substantiating the efficacy of these interventions. Accordingly, the primary objective of this dissertation is to synthesize and quantify available evidence on TF-CBT. The latest publication on TF-CBT that calculated pooled effect sizes for symptoms of PTSD was published over a decade ago (Cary & McMillen, 2012). Considering this, treatment effects on PTSD and secondary outcomes of depression, anxiety, and grief will be calculated from pre- to post-treatment, as well as in comparison to control conditions. Furthermore, the examination will encompass a range of designs, comparators, and settings. This systematic review and meta-analysis will facilitate a better understanding of the literature on TF-CBT, incorporating individual and group settings, as well as efficacy and effectiveness studies. Second, the dissemination of evidence-based treatment approaches constitutes a significant step in the implementation of these approaches in routine clinical care. A considerable number of practitioners lack the fundamental clinical knowledge

and clinical skills necessary to administer standard treatments for PTSD (Rosen et al., 2017). The underutilization of evidence-based treatments for children and adolescents diagnosed with PTSD can be attributed to several factors. Among these are incorrect assumptions on the part of psychotherapists, such as the overestimation of the efficacy of stabilization without confrontation, as well as inadequate training opportunities and the exclusive availability of time-intensive training programs (Cook, Dinnen, Simiola, Thompson, & Schnurr, 2014; Herschell, Kolko, Baumann, & Davis, 2010). Therefore, the effectiveness and usability of a low-threshold, web-based training approach for TF-CBT will be investigated within a sample of psychotherapists. Thirdly, the implementation of TF-CBT with UYRs in routine clinical care will be explored qualitatively within a multicenter dissemination and implementation trial (Rosner et al., 2020). As previously outlined, a variety of barriers and facilitators exist that impede the uptake of treatment for UYRs (Dumke, Wilker, et al., 2024). The design of the study tackled several barriers to treatment, including those related to funding for treatment or the unavailability of interpreters, with the objective of acquiring a more profound understanding of other underlying barriers. Therefore, qualitative interviews with psychotherapists can provide further insights in this regard. Finally, the utilization of TF-CBT within the dissemination and implementation trial will be evaluated. In light of the limited and inconsistent research on the use of MHC in general and by UYRs in particular, the study seeks to identify factors associated with intended and actual use of MHC by UYRs. Given the existence of evidence-based treatment options and the potential negative consequences of untreated PTSD, it is crucial to identify barriers to MHC on the individual level in order to provide further support to UYRs. The objective of this exploratory study is to examine the influence of sociodemographic variables and symptom scores (PTSD, depression, anxiety) on the intention to utilize MHC, as well as the association between intention and actual utilization of MHC in a sample of UYRs.

3.2 Research questions of the dissertation project

In consideration of these objectives, the following research questions are posited:

1) Is TF-CBT an effective treatment for reducing PTSD, depression, anxiety, and grief in children and adolescents? What is the magnitude of these effects and how do they differ from individual and group settings and from efficacy and effectiveness trials? How effective is TF-CBT compared to control conditions (AT/TAU)? (publication 1)
2) What are the characteristics of practitioners who use a web-based training approach for TF-CBT? Is the web-based training platform TF-CBT Web a user-friendly option for training practitioners? Do practitioners gain knowledge about TF-CBT by working through the TF-CBT Web training? Does knowledge gain differ between the subsample of completers and non-completers of the Web-based training? (publication 2)
3) Are the concerns about treating UYRs expressed by psychotherapists prior to their participation in a TF-CBT implementation trial consistent with the barriers documented in the existing literature? What facilitators and challenges are reported after barriers have been partially removed through project design? Do the reported facilitators and challenges differ between psychotherapists who completed TF-CBT with their patients and those whose patients dropped out? (publication 3)
4) What factors are associated with UYRs' intention to utilize MHC? What factors are associated with actual MHC utilization by UYRs? Are there factors that can serve as predictors of intention to utilize MHC? Does intention to utilize MHC lead to actual MHC utilization by UYRs? (publication 4)

4. Synopsis of the publications

4.1 Executive summary of Publication 1: A systematic review and meta-analysis of trauma-focused cognitive behavioral therapy for children and adolescents

Thielemann, J. F. B., **Kasparik, B.**, König, J., Unterhitzenberger, J., & Rosner, R. (2022). A systematic review and meta-analysis of trauma-focused cognitive behavioral therapy for children and adolescents. *Child Abuse & Neglect*, 134, doi: https://doi.org/10.1016/j.chiabu.2022.10589

Background: Traumatic experiences are prevalent among children and adolescents, frequently resulting in the development of PTSD and co-occurring symptoms of depression, anxiety, and grief. International guidelines recommend the implementation of trauma-focused treatment modalities, with a particular emphasis on TF-CBT according to Cohen, Mannarino & Deblinger. TF-CBT is a structured therapeutic intervention comprising nine sequential components. It incorporates a stabilization phase, the creation of a trauma narrative as the central element of the intervention, and an integration and consolidation phase at the conclusion of treatment. TF-CBT is the most extensively studied treatment manual for pediatric PTSD and has been found to be effective in reducing post-traumatic stress symptoms (PTSS), depression, anxiety, and grief in children and adolescents in different populations and settings. Several systematic reviews are available on trauma-focused cognitive behavioral therapy approaches. However, to the best of our knowledge, only one review has sought to evaluate the TF-CBT manual specifically according to Cohen, Mannarino & Deblinger, and it has calculated pooled ES for PTSS, but this review was published over a decade ago.

Methods: The study was pre-registered with PROSPERO and conducted in accordance with the PRISMA guidelines. A pre-defined combination of search terms was utilized to search for studies published between 1990 and 2021 in seven databases (PsycInfo, MEDLINE, Cochrance Library, PTSDPubs, PubMed, Web of Science, and OpenGrey). The first and second author independently reviewed all titles and abstracts, and any conflicting ratings were resolved through discussion. The final eligibility of each study was assessed through full-text reading by the first author. In instances where the assessment was ambiguous, the first author consulted with the corresponding authors and discussed with the co-authors. First and second author independently assessed the risk of bias. The first and second author extracted data on PTSS, depression, anxiety, and grief. To generate ES for PTSS, depression, anxiety, and grief, all eligible studies were included in the within-group and between-group analysis. A

sub-group analysis was performed within the RCT group, encompassing individual and group settings, efficacy and effectiveness trials, as well as waitlist (WL) and treatment as usual (TAU) / active treatment (AT) conditions.

Results: In total, the final sample comprised k = 28 RCTs, and k = 33 uncontrolled trials, encompassing a total of 4,523 participants. The mean pre-post within-group ES was found to be large for PTSS (g = 1.14, CI 0.97 – 1.30) and grief (g = 1.35, CI 1.21 – 1.48), and medium for depression (g = 0.63, CI 0.51 – 0.76) and anxiety (g = 0.56, CI 0.43 – 0.69). Comparable results were identified for RCTs and individual settings only. Studies conducted exclusively in group settings revealed an even more pronounced ES for PTSS (g = 1.53, CI 1.22 – 1.85). However, similar ESs were observed for symptoms of grief (g = 1.41, CI 1.26 – 1.55), depression (g = 0.65, CI 0.35 – 0.95), and anxiety (g = 0.49, CI 0.29 – 0.68). In comparison with any control condition, the post-treatment between-group ES was medium for PTSD (g = 0.52, CI 0.31 – 0.73), and small for depression (g = 0.40, CI 0.27 – 0.52), anxiety (g = 0.26, CI 0.13 – 0.39), and grief (g = 0.30, CI -0.06 – 0.67). In comparison with waitlist conditions, the ES were large for PTSS (g = 1.18, CI 0.55 – 1.82) and small for depression (g = 0.47, CI 0.27 – 0.68) and anxiety (g = 0.32, CI 0.13 – 0.51). In contrast to TAU/AT conditions, ES were small across all outcomes. Furthermore, the effects on PTSS were more evident in group settings (PTSS g = 0.79, CI 0.38 – 1.20) and effectiveness trials (g = 0.70, CI 0.38 – 1.01).

Discussion: TF-CBT is effective in addressing pediatric PTSS, as well as symptoms of depression, anxiety, and grief. The efficacy of TF-CBT has been demonstrated by its superiority to both WL and AT/TAU conditions, thereby validating its recommendation as a gold standard treatment in international guidelines. The unexpected finding of elevated ES in effectiveness trials can be attributed to the varied composition of control groups, which often incorporated wait-list conditions and group settings that exhibited heightened effects themselves. Conversely, efficacy trials incorporated exclusively AT/TAU conditions as comparators and only one group-setting RCT. Regarding group settings, the small number of efficacy trials and the large ES for PTSS may be further explained by the fact that most studies in group settings targeted medically underserved populations, often in low- and middle-income countries. These populations lack access to MHC and present with elevated baseline symptomatology. However, the strong effect on PTSS found in group settings was not entirely limited to underserved populations, and a specific group factor may be involved, such as a sense of community that supports trauma-focused work and subsequent healing.

4.2 Executive summary of Publication 2: Online training for evidence-based child trauma treatment: evaluation of the German language TF-CBT-Web

Kasparik, B., Saupe, L. B., Mäkitalo, S., & Rosner, R. (2022). Online training for evidence-based child trauma treatment: evaluation of the German language TF-CBT-Web. *European Journal of Psychotraumatology*, 13(1), doi: https://doi.org/10.1080/20008198.2022.2055890

Background: Traumatic experiences adversely affect the development, psychopathology and general functioning of children and adolescents and are a risk factor for psychopathology in later life. Even though traumatic experiences are a common phenomenon, specific assessments and treatments are scarce in clinical practice. In recent years, a considerable number of EBTs for PTSD have been developed and evaluated, including TF-CBT. However, most children and adolescents with PTSD do not have access to EBTs. The limited use of EBTs in clinical practice is also due to practitioners' lack of knowledge and clinical skills to deliver standard EBTs for PTSD, highlighting the need to disseminate effective approaches in routine clinical care. Web-based training programs are a resource-efficient and accessible training approach for improving practitioners' knowledge and psychotherapeutic skills, and when combined with subsequent consultations, they are as effective as face-to-face workshops followed by consultations.

Methods: A German version of the American learning platform TF-CBT Web was developed, incorporating extensions and adapting to the German healthcare system. According to the TF-CBT manual, the German language TF-CBT Web comprises a total of 12 modules and provides additional information on diagnostics. The German language TF-CBT Web constitutes a self-directed learning program, whereby each module is initiated with a knowledge test. After viewing the contents of the module, the same questions are presented as a post-test. The modules provide a comprehensive overview of the techniques, accompanied by detailed step-by-step instructions for their implementation in a therapeutic setting. The modules also include video demonstrations, recommendations for exercises, and worksheets in various languages. The present study comprised a sample of $N = 4{,}020$ mental health practitioners who registered for the German-language TF-CBT Web between 1 January 2018 and 31 December 2020. The acquisition of knowledge in each module was measured by the change in percentage of correct answers from pre- to post-test. A binary logistic regression was performed to evaluate the impact of sociodemographic characteristics on the completion of the program. The user behavior was delineated through the utilization of descriptive statistics. The acquisition of knowledge per module was evaluated through paired sample t-tests.

Results: The web-based learning program was accessed by a sample of users, predominantly of German origin, with a range of professional healthcare backgrounds and mostly less than five years of working experience. A total of 1,410 users (35.1 %) successfully completed the German language TF-CBT Web. The highest rate of program termination occurred between the first and second module. In comparison to psychologists, social workers (OR .60, CI .46, .80, $p < .05$) or nursing staff (OR .61, CI .46, .79, $p < .05$) demonstrated a lower probability of completing the program. The user's highest academic degree did not lead to any additional explanation of variance in the regression analyses. A significant increase in knowledge was observed in each module of the German language TF-CBT Web. The greatest knowledge gain was observed in the modules *Foundations* (M = 29.4%, SD = 28.2%) and *Trauma Narrative* (M = 23.4%, SD = 28.8%). The magnitude of the effects was largely consistent across both the sample of all users and the sample of completers. The program was evaluated as beneficial by the users, who expressed overall satisfaction with its utilization.

Discussion: The German language TF-CBT Web has been demonstrated to be an effective tool for increasing the knowledge of mental health care professionals regarding TF-CBT. One third of the registered users completed all 12 modules. This figure is slightly lower than the completions rates found in other web-based programs. However, when only those users who had started studying the first module were considered, the completion rate exhibits a notable increase to 50%. Users with more years of experience were less likely to complete all modules. This may reflect the fact that older users are less comfortable with a web-based learning program. Although there was a significant increase in knowledge in all modules, the ES were particularly high in the foundations and trauma narrative modules. This may be due to the fact that the content of these modules was highly specific to TF-CBT, while the content of other modules was more general and included less specific treatment techniques. The German TF-CBT Web has been characterized as user-friendly and usable and has been observed to facilitate understanding of TF-CBT methods among practitioners.

4.3 Executive summary of Publication 3: Challenges and facilitators in treating unaccompanied young refugees in a dissemination trial – a qualitative study with psychotherapists

Dietlinger, F. K., **Kasparik, B.**, Unterhitzenberger, J., Saupe, L., & Rosner, R. (2025). Challenges and facilitators in treating unaccompanied young refugees in a dissemination trial: a qualitative study with psychotherapists. *Child and Adolescent Psychiatry and Mental Health*, 19(1), 25. doi: https://doi.org/10.1186/s13034-025-00873-w

Background: UYRs often encounter elevated levels of stress, which can result in high prevalence of PTSD, depression, and anxiety. Consequently, the provision of suitable interventions is imperative, as untreated PTSD has been demonstrated to result in an augmented risk of health complications. Despite the existence of treatment options, the utilization of mental health services among asylum seekers remains low. Difficulties in accessing and dropping out of treatment can be attributed to several barriers at the individual, structural, and practitioner levels. Barriers at the practitioner level include lack of awareness, cultural competence, and capacity. During the psychotherapeutic process, barriers include bureaucratic and organizational burdens and cultural challenges. A stepped-care approach called «BETTER CARE» was employed, encompassing the implementation of TF-CBT. This approach was designed to address the underlying barriers through the provision of comprehensive support, including training and case consultation for psychotherapists, referral to interpreters, and treatment recommendations for UYRs.

Methods: This study employed a qualitative design, incorporating semi-structured interviews with psychotherapists participating in the BETTER CARE project. Twenty psychotherapists were included in the study, with 13 of them being female and 13 having previous experience in treating UYRs. All psychotherapists had been licensed psychotherapists, primarily child and adolescent psychotherapists with a background in cognitive behavioral therapy. Psychotherapists treated a total of 33 study patients, all of whom were diagnosed with PTSD. Six psychotherapists reported that they had completed psychotherapy, while seven reported that they had not completed or were currently in therapy. An analysis was conducted of psychotherapists' previous experience in treating traumatized children and youth, as well as traumatized UYRs. The analysis also encompassed experiences with the stepped-care approach, with a focus on the facilitators and challenges relevant to the implementation of TF-CBT with UYRs, treatment fidelity, and the sustainability of training effects. The data was then analyzed through a combination of deductive and inductive coding methods.

Results: In retrospect, psychotherapists reported having concerns similar to those documented in the literature on barriers prior to their participation in the project. These concerns included organizational challenges, emotional stress, and uncertainty about working with interpreters. The study revealed that participants identified various factors that either facilitated or impeded the implementation of TF-CBT. These factors included project-related, structural, personal, patient-related, and interpreter-related aspects. The training components offered by the project, including online training, workshops and case consultations, were identified as facilitators. In addition, support from the facility and caregivers, as well as the provision of skilled interpreters who translated accurately and transparently, were seen as facilitators. At the patient level, psychotherapists identified therapy readiness and language proficiency as facilitators and, in cases of absence, as challenges. Completers' psychotherapists were more likely to emphasize the positive aspects of the project, the positive therapeutic alliance, and patients' trusting relationship with the interpreters as facilitators. In contrast, non-completers' psychotherapists were more likely to encounter structural difficulties, such as the lack of primary caregivers, greater distances, and grief symptoms among patients.

Discussion: The present study explores the experiences of psychotherapists working with UYRs in a dissemination and implementation trial and offers new insights into the enabling factors of trauma treatment in a refugee population after addressing various structural barriers. The study offers partial confirmation of the concerns articulated in the literature by psychotherapists regarding structural barriers and psychotherapist-related issues, including organizational and residence law concerns, the involvement of interpreters, cultural competence, and emotional stress. The BETTER CARE project was successful in addressing primary structural barriers, thereby ensuring that the psychotherapists' initial concerns were no longer perceived as challenges. Although problems related to coordination persisted, emotional distress and challenges in dealing with interpreters and cultural competence were less pronounced. The patients' language skills remained a challenge. The provision of support from caregivers, as well as the existence of a supportive infrastructure within facilities, were identified as being important for the treatment of UYRs. The ability to build a strong relationship with patients and a positive therapeutic alliance were identified as important factors for treatment success. The resources provided by the project, including case consultations and the provision of trained interpreters, were found to be beneficial to psychotherapists of treatment completers. By contrast, psychotherapists of non-completers benefited to a lesser extent from these resources.

4.4 Executive summary of Publication 4: Investigating factors influencing utilization of trauma-focused cognitive behavioral therapy among unaccompanied young refugees: an exploratory analysis

Kasparik, B., Farani, M., Pfeiffer, E., Sachser, S., & Rosner, R. (2025). Investigating Factors Influencing Utilization of Trauma-focused Cognitive Behavioral Therapy Among Unaccompanied Young Refugees: An Exploratory Analysis. *Child and Adolescent Psychiatry and Mental Health*, *19*(1), 7.

Background: Unaccompanied young refugees exhibit elevated levels of mental distress, including PTSS, depression and anxiety. Despite the significant psychological burden and the availability of a variety of effective treatments such as TF-CBT, UYRs often lack access to MHC. Given the potential for untreated PTSD to result in chronic impairment, it is imperative to identify and address the factors that contribute to higher rates of treatment utilization among UYRs. To date, these factors remain under-explored, and the findings are inconsistent. Several factors have been identified as associated with MHC use in UYRs. These factors include the duration of residence in the host country, the number of traumatic events experienced, the severity of symptoms, younger age, the availability of help-seeking support from caregivers, and the self-reported need for MHC. Conversely, the presence of depressive symptoms and the perception of symptoms as an unavoidable consequence of traumatic experiences may result in reduced rates of MHC utilization. Based on Ajzen's Theory of Planned Behavior, the aim of this study is to investigate factors associated with the intention and actual utilization of MHC of UYRs living in child and youth welfare facilities in Germany.

Methods: This study is part of the multi-site project BETTER CARE which aims to implement a stepped and collaborative care approach. The initial step entailed the screening of posttraumatic stress symptoms, depression, and anxiety symptoms, as well as the formulation of treatment recommendations. The subsequent step entailed the enrollment of subclinical cases in a preventive group program (*My Way)*. UYRs who exhibited PTSS beyond the clinical threshold were referred to the third step of the study, which entailed the provision of TF-CBT. A sample of $N = 139$ UYRs who had received a treatment recommendation for TF-CBT was analyzed. A binomial logistic regression analysis was conducted to ascertain the impact of age, length of stay in Germany, and PTSD symptom severity on the prediction of the likelihood of individuals intending to use MHC. To examine the association between intention and utilization of MHC, a chi-square test was performed, with Fisher's exact probability test utilized to calculate statistical significance.

Results: Symptom scores indicated a clinically significant level of distress for PTSS, depression, and anxiety. Age ($\eta = 0.25$, $p < .01$), length of stay ($\eta = 0.28$, $p < .01$), and PTSS severity ($\eta = 0.26$, $p < .01$) were significantly correlated with the intention to use MHC. However, only the intention to use MHC demonstrated a significant correlation with actual MHC utilization ($\varphi = 0.92$, $p < .001$). Socio-demographic factors, symptom severity, and probable presence of a comorbid diagnosis did not demonstrate a significant association with MHC utilization. In the logistic regression analysis, PTSS emerged as a significant predictor of intended use (B = 2.66, $p < .05$, OR = 14.32, CI 1.37 – 149.56). The sensitivity analyses demonstrated that factors which significantly contributed to the prediction of the intention to utilize MHC were not influenced by the presence or absence of clinically relevant depressive or anxiety symptoms. The utilization of MHC was found to be closely associated with the initial intention to use ($\chi^2(1) = 88.846$, $p < .001$). In addition, 63% of the UYRs who had an intention to utilize MHC did, in fact, utilize MHC.

Discussion: The findings contribute to an expanding body of literature on the mental health requirements and service utilization patterns among UYRs, offering insights for policymakers, mental health professionals, and child welfare services striving to enhance care for this vulnerable population. In accordance with existing literature, the analysis indicated that PTSS emerged as the sole significant predictor of intention to use MHC. Furthermore, younger age and shorter length of stay exhibited a tendency to increase the intention to use MHC. Contrary to the findings of previous studies, no substantial correlation was identified between potentially traumatic events and intention or utilization in the present study. In summary, the results of this study align with Ajzen's model of planned behavior. According to this model, intention is the primary predictor of behavior, specifically in the context of the utilization of TF-CBT.

5. Discussion and conclusions

5.1 General discussion of study findings

The present dissertation and the four publications presented focused on an evidence-based treatment approach for PTSD, TF-CBT, and its implementation and dissemination in practice, with a particular focus on the population of UYRs. To gain a more profound understanding of the psychotherapeutic care situation of this vulnerable population, four research questions were addressed in four subsequent studies.

The initial research question (publication 1) sought to assess the treatment effects of TF-CBT for pediatric PTSS and secondary outcomes of depression, anxiety, and grief. The findings, derived from a comprehensive analysis of 61 studies, offer substantial support for the efficacy of TF-CBT. The analysis revealed that the effects of TF-CBT on PTSS were more pronounced than those observed for secondary outcomes. Furthermore, the study found that the benefits of TF-CBT were particularly evident in group settings and effectiveness studies, as compared to individual settings and efficacy studies. In addition, the analysis concluded that TF-CBT was found to be more effective in comparison to control conditions, exhibiting greater benefits when contrasted with WL conditions than TAU/AT. These findings are consistent with previous analyses that have confirmed TF-CBT as an effective treatment for pediatric PTSS and comorbid symptoms (Cary & McMillen, 2012; Morina, Koerssen, & Pollet, 2016). The present study's findings concerning the uncontrolled large ES for TF-CBT in relation to PTSS closely align with those reported by Gutermann et al. (2016). In terms of the comparison to control conditions, the findings are also consistent with existing literature, exhibiting small effects when contrasted with TAU/AT conditions and large effects when compared to WL conditions (Lenz & Hollenbaugh, 2015; Mavranezouli et al., 2020; Morina et al., 2016). The efficacy of TF-CBT is further substantiated by the small effect size when contrasting TF-CBT to TAU/AT conditions, which frequently encompass powerful interventions (Frost, Laska, & Wampold, 2014). This observation indicates that the treatment is superior to alternative approaches. The unexpected finding that effectiveness trials exhibited a greater PTSS ES than efficacy trials when compared to control conditions may be explained by the fact that all studies identified as efficacy trials exclusively contained TAU/AT conditions and only one group RCT, while effectiveness trials encompassed a more diverse array of conditions (e.g. inclusion of group-settings, WL control). The large effects observed in group settings may be further explained by the fact that the majority of studies of TF-CBT in group settings have focused on populations that are

underrepresented in the mental health care system, often living in low- and middle-income countries. These populations have limited access to MHC and exhibit a considerable demand for it. Notwithstanding, the pronounced effect on PTSS observed in group settings is a particularly salient finding, particularly in light of the fact that not all of the included studies were conducted in low- and middle-income countries. This finding also contrasts with the results of previous meta-analyses (Gutermann et al., 2016). The substantial uncontrolled effect of TF-CBT on grief suggests the efficacy of TF-CBT in addressing these symptoms. However, the studies included are limited in several ways. First, they were conducted in group settings in low and middle-income countries or by the treatment developers themselves, which makes it difficult to generalize the results. Second, the inclusion of participants with both normal and pathological grief, without a minimum time criterion and thus naturally occurring improvements over time, complicates the interpretation of the results. The evidence base for TF-CBT's impact on grief remains inconclusive due to the limited number of studies, and the absence of a reliable grief assessment tool for children and adolescents. The current body of evidence consists of only two RCTs (Brown, Goodman, Cohen, Mannarino, & Chaplin, 2020; Dorsey et al., 2020) and three uncontrolled studies (Cohen, Mannarino, & Knudsen, 2004; Cohen, Mannarino, & Staron, 2006; O'Donnell et al., 2014), suggesting that further research is necessary to establish the effectiveness of TF-CBT in addressing grief in children and adolescents. TF-CBT showed reliable uncontrolled effects on depression and anxiety in the medium range from pre- to posttreatment and small effects compared to control conditions, consistent with previous findings of positive effects of TF-CBT on comorbid symptomatology (Cohen, Deblinger, et al., 2004; Deblinger et al., 2006).

The second research question (publication 2) sought to evaluate the effectiveness of a web-based training program for TF-CBT. Just over 4,000 people have taken advantage of the German language TF-CBT Web in the first three years of its existence, with a significant increase in new registrations with the onset of the Covid19 pandemic. The course was accessed by a sample of mostly German users with different professional backgrounds in health care and mostly less than 5 years of work experience. One-third of the registered users completed all 12 modules, and about 50% of the users who started with the first module completed the entire program. This is consistent with completion rates for other web-based training approaches (Heck, Saunders, & Smith, 2015). The increased burden during the Covid19 pandemic may have increased the demand for web-based training in mental health services, but it may also have made it more difficult for users to complete the program. The highest dropout rate was found between the first and second modules. Thus, as users progressed through the program, they were more

likely to complete all modules. A dropout analysis was not possible in this case. However, the high rate of user attrition at the program's inception may be indicative of users' realizations regarding the relevance of the content to their clinical practice, its alignment with their specific clinical needs, the appeal of the online learning modality, or their familiarity with the content. A higher probability of noncompletion of all modules was observed among more experienced users, a phenomenon that may be attributable to a combination of work experience and age. This finding suggests that older users may experience discomfort with web-based training programs. Participants in this web-based training program were younger individuals with limited professional experience, a pattern that aligns with findings from previous research on digital training formats (Vona et al., 2014). Nonetheless, the present study demonstrated that the German language TF-CBT Web resulted in a substantial enhancement in knowledge regarding EBT for PTSD. The modules *Foundations* and *Trauma Narrative* exhibited the most pronounced effect sizes for knowledge gain. This phenomenon can be attributed to the specificity of the content in these modules, which is highly tailored to TF-CBT. In contrast, the content of other modules was more general and included less specific treatment techniques, such as relaxation techniques, with which users versed in cognitive behavioral treatment techniques might have already been familiar. A comparison of the effect sizes to the American version of the TF-CBT web-based training program reveals the presence of certain discrepancies. In the US version of TF-CBT Web, a large effect size was identified for the module *Trauma Narrative*. Additionally, substantial effect sizes were observed in the modules *Stress Management* (Controlled Breathing and Thought Stopping). However, in the German version, the effect size was only in the medium range for the Relaxation module. A notable distinction emerged in the psychoeducation modules: in the US version of TF-CBT Web, a medium effect size was identified, while in the German version, a small effect size was observed. The observed differences may be partially attributed to the fact that approximately 75% of the users of the U.S. training program held a master's degree, whereas only 55% of the present study sample possessed a master's degree in clinical psychology. In comparison to the German-speaking sample, the U.S. sample exhibited greater homogeneity. Additionally, the American sample comprised only 15% of students enrolled in mental health programs (Heck et al., 2015). In summary, the German language TF-CBT Web has been demonstrated to be an effective and user-friendly tool in increasing mental health care providers' knowledge of TF-CBT. Its effectiveness is comparable to that of other web-based training programs (Jackson et al., 2018; Kobak, Lipsitz, Markowitz, & Bleiberg, 2017).

The third research question (publication 3) sought to identify challenges and facilitators in the treatment of unaccompanied young refugees within the context of a TF-CBT implementation trial. The study therefore contributes to the current literature by exploring the experiences of psychotherapists working with UYRs. Prior to their participation in the trial, the psychotherapists expressed concerns that were consistent with those documented in the literature. These concerns included organizational and residency issues, cultural competence, and the emotional impact on psychotherapists. They also included patient issues, such as language barriers and attendance reliability (Atiyeh & Gray, 2022; Gruner et al., 2020; Karageorge et al., 2017; Kiselev, Morina, et al., 2020; Satinsky et al., 2019; Straßmayr et al., 2012). As the project sought to address fundamental structural barriers, the study revealed that initial concerns predominantly did not recur as challenges. The integration of the German language TF-CBT Web, workshops, and case consultations into the project resulted in significant advancements in the delivery of MHC services to UYRs. Psychotherapists who expressed a strong interest in acquiring EBT techniques and knowledge about trauma treatment with UYRs exhibited positive responses to the training. The findings align with studies that underscore the importance of formal training for successful treatment outcomes and the efficacy of employing a combination of training strategies (Asfaw et al., 2020; Espeleta, Peer, Are, & Hanson, 2022; Powell, Proctor, & Glass, 2014). The psychotherapists expressed appreciation for the organizational and staff support provided by the project, including assistance during the therapy initiation process. The project was viewed favorably, with minimal challenges reported by nearly half of the participants. In the context of structural challenges, psychotherapists have underscored the significance of caregivers providing support and accompaniment during psychotherapy. This is also a fundamental element of the TF-CBT manual (Cohen et al., 2017, 2006). Moreover, the presence of a supportive infrastructure within the facility, including caregiver compliance and familiarity with PTSD and psychotherapy, was identified as being instrumental in fostering treatment attendance and compliance among UYRs. As online psychotherapy was perceived ambivalently in our study, an initiative involving psychotherapists offering outreach therapy could potentially contribute to the breakdown of structural barriers and the facilitation of caregiver involvement. Van Es et al. (2021) conducted a study with the objective of evaluating an outreach psychotherapeutic approach for UYRs in the Netherlands. The study findings demonstrated that such approaches are capable of partly overcoming barriers to MHC in UYRs. Moreover, the additional benefits of cooperating with intercultural mediators became evident (van Es et al., 2021). In the context of personal factors, psychotherapists highlighted the capacity to establish a therapeutic alliance as an important facilitator. The establishment of a solid therapeutic alliance is essential for the sustainable

reduction of PTSD symptoms, the reduction of dropout rates in UYRs, and the provision of effective treatment in general (Ormhaug, Jensen, Wentzel-Larsen, & Shirk, 2014; Semmlinger, Takano, Schumm, & Ehring, 2021). The most important patient-related facilitators were identified as readiness for psychotherapy and language skills, which aligns with existing literature (Kiselev, Morina, et al., 2020; Satinsky et al., 2019; Straßmayr et al., 2012). The project made a treatment recommendation for UYRs, which may have led to an increase in readiness in some cases. Further promotion of treatment readiness is necessary, and psychoeducation may be a useful tool in this effort (Mewes, Giesebrecht, Weise, & Grupp, 2021). The provision of trained interpreters was identified as a further facilitator, particularly in the establishment of collaborative relationships. However, it should be noted that an overly close bond with the interpreter may pose certain challenges. Given that the majority of patients and interpreters come from collectivist societies that prioritize community over individualism, this may result in a discrepancy with the neutrality expected by individualistic psychotherapists (Colucci et al., 2015; Gryesten, Brodersen, Lindberg, Carlsson, & Poulsen, 2023). A comparison of responses from completers' psychotherapists and non-completers' psychotherapists revealed that the former group benefited from resources such as case consultations, worksheets, videos, and interpreters funded and provided by the project. These psychotherapists also formed stronger alliances with patients and established long-term relationships with interpreters. On the other hand, the challenges experienced by completers' psychotherapists do not invariably result in premature termination. Non-completers' psychotherapists reported a greater prevalence of structural challenges, including the absence of a reliable caregiver and an augmented effort on the part of the psychotherapists. This underscores the critical role of caregivers in facilitating successful trauma treatment, a finding that aligns with research conducted primarily with biological parents. The study's findings indicate that the presence of parents during the initial session and their approval of the treatment received by their children predicted a reduced likelihood of treatment dropout (Ormhaug et al., 2014). Non-completers' psychotherapists also faced the challenge of ongoing grief processes, which is particularly interesting in light of the finding that refugees frequently exhibit comorbid grief symptoms and PTSS (Lechner-Meichsner, Comtesse, & Olk, 2024). Incorporating grief-specific treatment into TF-CBT is vital, as indicated in the manual. While research on treating trauma and grief in UYRs is limited, a recent meta-analysis shows that grief-focused cognitive-behavioral psychotherapies effectively reduce grief and associated posttraumatic stress symptoms in children and adolescents (Hanauer, Telaar, Rosner, & Doering, 2024).

The fourth research question (publication 4) sought to examine the influence of sociodemographic variables and symptom severity (PTSD, depression, anxiety) on the intention to utilize MHC, as well as the association between intention and actual utilization in a sample of UYRs in the context of a TF-CBT implementation trial. Our findings indicated the presence of significant associations between age, length of stay, PTSD, and the intention to seek MHC. The actual utilization of MHC was found to be associated with the initial intention to seek MHC. Furthermore, no associations were identified between the number of PTEs experienced or depressive symptoms and intention or utilization. The regression analysis demonstrated that PTSS was the only significant predictor of intention to use MHC. The study's findings align with existing research, confirming that age and the duration of residence in a resettlement country influence the utilization of MHC services (Björkenstam et al., 2022; Sanchez-Cao et al., 2013). While these factors did not significantly predict the intention to use MHC, a tendency was observed where younger age and shorter residence duration were associated with increased intention. In contrast, Sanchez-Cao et al. (2013) found that longer residence was associated with increased intention and utilization of MHC, and attributed this phenomenon to increased language proficiency, acculturation, and reduced stigma concerns. The trial's integration of language and cultural mediators may facilitate the navigation of these obstacles. In summary, the findings indicate that socio-demographic factors exert a rather small influence on the intention or utilization of MHC among refugees and immigrants, aligning with the conclusions of previous studies (Reich et al., 2015). In accordance with the findings of Lamkaddem et al. (2014), the present research indicated that heightened symptom severity in the domain of PTSD is associated with elevated MHC utilization rates. This result is particularly noteworthy when considered in the context of the fact that only UYRs with clinically relevant PTSD were subjected to analysis. In contrast, other studies have demonstrated that heightened PTSD symptoms are associated with reduced utilization rates, owing to the presence of avoidance behavior and impairment, which engenders difficulties for individuals in seeking help (Boettcher et al., 2021; Byrow et al., 2019). In the present study, the provision of support from youth welfare staff and the implementation of specific interventions may have facilitated the overcoming of these barriers. The average number of traumatic events in our sample was high. In contrast to the findings of our study, which revealed no significant association between PTEs and help-seeking intentions or utilization, Bean et al. (2006) observed that a greater number of PTEs increased the perceived need for MHC. As Sanchez-Cao et al. (2013) previously observed, individuals presenting with more severe symptoms of depression exhibited a reduced tendency to utilize MHC. However, this finding was not replicated in our study. One potential explanation for this discrepancy could be

attributed to the specific treatment options offered and youth welfare support available, which might have counterbalanced any adverse effects of reduced motivation. In summary, the present findings are consistent with Ajzen's model of planned behavior. According to this model, intention is the primary determinant of actual MHC utilization.

In conclusion, the present dissertation has proven that TF-CBT is an efficacious and effective treatment for pediatric PTSD, with promising results on secondary outcomes of depression, anxiety, and grief (publication 1). With regard to dissemination efforts, the available data demonstrate the efficacy and benefits of a web-based training approach for TF-CBT for mental health care professionals (publication 2). In terms of the concrete implementation of TF-CBT in routine clinical care with UMF, numerous barriers and facilitating factors for the psychotherapy with UYRs at the individual, interpersonal, organizational, community, and policy levels were identified (publication 3). Furthermore, the data provide evidence of some variables at the individual level related to intention and actual utilization of TF-CBT of UYRs (publication 4).

5.2 Implications

In light of the aforementioned findings, a number of clinical and policy implications can be drawn. The scientific implications concerning the existence of research gaps are addressed in chapter 5.4. As demonstrated in the systematic review and meta-analysis (publication 1), TF-CBT has been shown to be an effective treatment for children and adolescents who have experienced various traumatic experiences. The intervention has been found to result in a significant reduction in PTSS within a relatively limited number of sessions, irrespective of variations in caregiver involvement, psychotherapist training, and prior treatment experience of psychotherapists. These findings underscore the potential for TF-CBT to be a cost-effective treatment approach for dissemination and implementation in settings with variable resources. In addition, the flexibility of TF-CBT has been demonstrated by the fact that the studies included varied considerably in terms of treatment duration, session length, session frequency, treatment applications (e.g., culture, telehealth, setting, and additional elements), and so forth. These factors are important for the treatment of affected minors with a wide range of traumatic events and specific care settings. The results of the study support the further implementation and dissemination in numerous countries worldwide, including group settings, which have been demonstrated to be cost- and resource-effective. This approach holds particular promise for

refugee populations in low- and middle-income countries, where MHC is often lacking (Bryant, 2023), and TF-CBT might be delivered through schools or other institutions. Another clinical implication is the use of TF-CBT for the treatment of traumatic grief in children and adolescents. While promising results have been observed in the meta-analysis, the evidence for other grief-specific interventions remains limited (Boelen & Smid, 2017).

In terms of dissemination, web-based approaches can thus facilitate the implementation of newly developed methods and can be an effective training tool for teaching EBTs (publication 2). These approaches are effective both individually and in the broader context of blended learning (Ruzek et al., 2014). In this way, the development of web-based training methods could promote the dissemination of EBTs and, in the long run, improve the treatment of children and adolescents with PTSD. On the basis of the results, such forms of education and training can be used more intensively and can be applied to a wide range of disorders and EBTs.

In terms of the concrete implementation of TF-CBT in routine clinical care with UYRs (publication 3), numerous facilitating factors should be addressed at the individual, interpersonal, organizational, community, and especially at the policy level. In order to address the structural barriers that are in place, such as the challenges related to transportation and the lack of caregiver support, an outreach approach might be implemented. This approach would involve psychotherapists meeting with patients in their homes or at a location that is chosen by the patient. The implementation of this approach has the potential to reduce existing barriers and to facilitate greater involvement of caregivers (van Es et al., 2021). A further salient implication concerning implementation relates to the significance of training various stakeholders involved in the therapeutic process. Firstly, further training for psychotherapists is necessary. Therefore, it would be beneficial to work on the willingness of psychotherapists to treat UYRs. If therapies are conducted by psychotherapists who are interested and trained in working with UYRs, it could also help facilitate the process of bringing UYRs into psychotherapy, especially as the willingness of outpatient psychotherapists in Germany to treat refugees is lower than that of non-refugee patients (Dumke & Neuner, 2023). Psychotherapy training for practitioners should also prioritize psychoeducation, recognizing its critical role in fostering effective therapeutic relationships with refugee patients. These patients frequently have diverse cultural backgrounds, alternative explanatory models for mental illness, and varied expectations of psychotherapy (Asfaw et al., 2020). The provision of psychoeducational information has been demonstrated to engender feelings of trust and a sense of safety by offering clear information. Secondly,

it is essential to provide specialized training to professional caregivers and social workers regarding the process and content of trauma-focused psychotherapy. Caregivers fulfill an important function as gatekeepers and thus contribute significantly to the successful placement of patients in therapeutic settings and to their outcome (Brown, Cohen, & Mannarino, 2020). At this point, reservations about trauma-focused interventions may act as an impediment. Consequently, ensuring compliance is of substantial importance. The findings of our study suggest that the participation of the project team in the preparation and initiation of psychotherapy was perceived favorably by the psychotherapists. This outcome underscores the significance of such a mediating role. Kappler, Hornfeck, and Kindler (2025) have also shown that the willingness to work with UYRs with mental health problems is an important factor that contributes to a higher general and innovation-specific capacity for organizational readiness for change and therefore also for the implementation of «new» interventions such as TF-CBT. Thirdly, it is imperative that interpreters receive specialized training in effective collaboration and translation within the treatment setting, with a particular emphasis on trauma-focused interventions. In addition, the provision of support groups in the form of intervision or supervision has the potential to assist interpreters in overcoming the challenges associated with translating trauma-focused psychotherapies (Villalobos, Orengo-Aguayo, Castellanos, Pastrana, & Stewart, 2021).

In consideration of the findings from the study on the utilization of TF-CBT by UYRs (publication 4), it can be posited that identifying UYRs who express the intention to utilize MHC and offering them suitable treatments may prove beneficial. The widespread use of validated screening instruments and the assessment of treatment readiness can be helpful here. Upon articulating an intention, UYRs in our sample availed themselves of treatment offers and attended a minimum of one session with a psychotherapist. Considering these findings, it is imperative to strengthen the role of UYRs' caregivers (e.g., social workers in child and youth welfare facilities). As previously indicated, training professional caregivers is particularly important in this context. By equipping caregivers with the necessary tools and knowledge about mental health and treatment options, they could better support UYRs in initiating evidence-based treatment. As potential gatekeepers, they could be trained to recognize early signs of mental health problems, provide appropriate guidance, and facilitate access to professional help. For individuals who do not intend to use MHC, interventions are recommended to encourage this intention. A major barrier to the use of MHC at the individual level is a lack of knowledge about mental illness and its treatment. In order to increase the intention to seek help and, consequently, the utilization of MHC, it is essential to also prioritize the mental health literacy of UYRs. Mental health

literacy facilitates the ability to recognize one's own perceived need for help and to identify appropriate professional support (Mårtensson et al., 2020). A dearth of mental health literacy constitutes a significant barrier to the utilization of mental health services among refugees (Byrow, Pajak, Specker, & Nickerson, 2020) and trauma survivors in general (Kantor, Knefel, & Lueger-Schuster, 2017). Table 3 shows strategies for improving mental health literacy and awareness of mental illnesses and treatment among refugees. As evidenced by the studies reviewed, the strategies under consideration exhibit several notable similarities. For instance, some of the projects outlined employed peer-supported or peer-led interventions, mentoring approaches and the involvement of cultural mediators, which may be beneficial in terms of reducing barriers to MHC utilization (Bogatzki et al., 2023; Böge et al., 2022; Cardeli et al., 2020; Graaff et al., 2023; Slewa-Younan et al., 2020; van Es et al., 2021). Furthermore, most studies highlighted the significance of educational initiatives and psychoeducational interventions. In order to address this issue, a variety of interventions were implemented, including web-based interventions (Böge et al., 2022; Denkinger et al., 2022; Nickerson et al., 2020), psychoeducation in group settings (Cardeli et al., 2020; Graaff et al., 2023; Mewes et al., 2021), and psychoeducation of community leaders as a form of top-down knowledge dissemination (Slewa-Younan et al., 2020). In addition, stepped care approaches (Böge et al., 2022), and special culturally adapted coordination efforts for the initiation of MHC were described (Bogatzki et al., 2023; Huminuik et al., 2022). Nickerson et al. (2020) underscored the significance of participatory processes in the establishment of structures or interventions designed to enhance MHC utilization among refugee populations. The papers presented offer insights into strategies for reducing barriers to the utilization of MHC by refugees. However, it should be noted that not all studies evaluate the effectiveness of specific strategies or assess outcomes such as attitudes towards MHC and help-seeking in general among refugees. For instance, only the study of Nickerson et al. (2020) evaluated actual utilization in comparison to a control group. One potential explanation for the dearth of data in this area could be the absence of adequate measurement tools to assess attitudes towards MHC among refugee populations. The development and validation of a promising instrument for a refugee population was conducted by Mastrogiovanni, Byrow, and Nickerson (2024). The *Help-Seeking Beliefs Scale (HSBS)* is a tool designed to assess negative beliefs about help-seeking and the utilization of MHC among refugees. It addresses different concepts, including self-stigma of PTSD and help-seeking, perceived stigma, negative help-seeking attitudes, and help-seeking intention.

Table 3. Strategies to enhance mental health literacy and / or MHC utilization among refugees

Authors (year)	Study design	Sample	Strategies / Methods	Results
Böge et al. (2022)	RCT; investigation of a stepped care and collaborative model at reducing depressive symptoms in refugees	*N* = 584 refugees and asylum seekers living in Germany, aged 14-65 years	Non-expert interventions of the stepped care approach: - Smartphone Intervention: videos based on a story-telling approach covering topics of stigma, symptom manifestation, cultural belonging, acculturation and explanatory models of mental illness cross-culturally; modules about disease models; modules on psychological interventions including relaxation and mindfulness techniques, behavioral activation and day structure - Peer-to-peer intervention with trained and supervised peers: sharing of experiences of trans-/intercultural issues and coping strategies, enhancing integration, strategies for conflict resolution, psychoeducation, relaxation techniques	Stepped care model was found to be more effective in reducing depressive symptoms when compared with TAU (ITT analysis: $F(2,940) = 3.35$, $p = .035$, Cohen's $d = 0.23$).
Bogatzki et al. (2023)	Uncontrolled evaluation of the Konstanz model project «Coordinated psychotherapeutic treatment involving trained peer support (KOBEG)»	*N* = 51 refugees living in Germany, aged 15-43	Central coordination office and health mentors: - Refugees with exhibited symptoms of psychological distress are identified by collaborating institutions and are referred to local psychotherapists in private practice via a central coordination office. - Trained peers («health mentors»), bridge the waiting time through regular contact and support the transition to treatment by providing outreach support. They also look after and support the refugees during their therapy (e.g. organization of appointments) - The training of the peers includes information about the German healthcare system, mental disorders, especially PTSD, self-care and boundaries, crisis management, language mediation and conducting questionnaires with patients.	Utilization was high (82,4%). The dropout rate was low (13.5%, *n* = 5). Reduced overall psychological distress of refugees (SCL-27, $p = 0.033$). Positive effects at the psychotherapist level: 93% of the therapists involved in the project would continue to work with refugees in the future.
Cardeli et al. (2020)	Uncontrolled pre-post-evaluation of a 12-week group program	*N* = 34 Bhutanese refugee students living in the US, aged 11-15	Trauma Systems Therapy for Refugees (TST-R): skills-based mental health intervention to target barriers to care for refugee youth and families - stepped care approach: system wide interventions with a broad community focus (primary prevention), targeted group interventions with individuals who might be at risk for mental health problems (secondary prevention),	The establishment of skills-based groups may represent an efficacious strategy for engaging students with supportive services. No statistically significant difference in PTSD symptom

			more intensive, clinical services for individuals with significant needs (tertiary prevention) - TST-R delivered by a clinician and a cultural mediator who work in partnership to provide mental health psychoeducation, reduce acculturative stress for refugee families, increase the safety/stability of the child's social environment, and improve the child's ability to regulate emotions and behavior	scores from baseline to follow-up ($t(26) = 0.60$, $p = .55$), but a statistically significant difference in the severity of students' avoidance symptoms before ($t(30) = 2.39$, $p < .05$).
de Graaff et al. (2023)	RCT to examine the effectiveness of «Problem Management Plus PM+»	*N* = 206 Syrian Refugees living in the Netherlands, aged 18–69	Assessments were conducted by an Arabic-speaking assessor (self-report questionnaires, phone-based interview on health service utilization) Problem Management Plus (adapted for Syrian refugee populations): - five 90-minute weekly face-to-face sessions - psychoeducation, stress management using diaphragmatic breathing, problem-solving, behavioral activation, accessing social support, relapse prevention - PM+ delivered by Arabic-speaking Syrian refugees with at least high school education, professional background in education, social work or a related field, and a certificate of good conduct - Helpers received 8 days of training on common mental disorders, basic counselling skills, delivery of intervention strategies, self-care and supervision	Peer-provided PM+ effectively reduces symptoms of common mental disorders among Syrian refugees [depression & anxiety 3-month follow-up: mean difference of −0.25 (95% CI −0.385 to −0.122; p=0.0001, Cohen's d=0.41), PTSD 3-month follow-up: mean difference of −6.49; 95% CI −10.150 to −2.834, p=0.0005, Cohen's d=0.39)]. Retention at 3-month follow-up was high with 85.4%.
Denkinger et al. (2022)	Uncontrolled study to evaluate a low-threshold psychoeducational intervention (short film «Coping with Flight and Trauma»)	*N* = 134 forcibly displaced persons living in Germany, aged 18–66	10 min psychoeducational film called «*Coping with Flight and Trauma*»: - Fictional characters from a refugee background share their experiences, and fictional psychotherapists provide psychoeducational information about PTSS and introduce the concept of group and individual psychotherapy - Information on further support services is presented	After watching the film, participants reported reduced self-stigma ($t(108) = 2.36$, $p = 0.02$) and increased openness to accessing mental health services ($F(2,113.7) = 6.53$, $p = .002$). 11% of participants reported having started MHC since watching the film.
Huminuik et al. (2022)	Community-based naturalistic study	*N* = 74 refugees living in Canada, aged 31-50	«Settlement-integrated» model of mental health care for refugees - MHC was coordinated through a settlement agency	Results showed significant reductions in anxiety, $t(73) = 12.89$, $p < .001$, $d = 1.9$, depression, $t(73) = 10.77$, $p < .001$, $d = 1.3$, and PTSD,

			- Multilingual, culturally responsive settlement workers and counsellors provided supported referrals and counselling to address psychopathology, and social/cultural adjustment issues - one-day training including trauma-informed settlement service provision and culturally sensitive mental health referral for settlement workers; training for counsellors and interpreters in culturally sensitive, trauma-informed care	$t(73) = 10.77$, $p < .001$, $d = 1.3$. Specialized, culturally responsive mental health services provided in a community setting reduce barriers to MHC.
Mewes et al. (2021)	Uncontrolled pilot trials to evaluate the low-threshold and transdiagnostic group intervention «*Tea Garden*»	Three independent pilot evalu-ations (N's = 31; 61; 20) adult asylum seekers living in Germany	«*Tea Garden*» program - Aims: increasing knowledge about mental disorders and MHC, reduction of stigmatization and increasing openness to psychotherapy, strengthening psychological resources and first reduction of mental distress - Tea Garden consists of four modules: establishing trust and confidence, symptoms of mental disorders, resources and self-care, & treatment options → components: psychoeducation, strengthening resources, giving hope, reducing stigmatization, normalizing, discussing advantages of and barriers to treatments, monitoring the distress level of participants, behavioral experiments (relaxation) - Emphasis on explanatory models/etiological assumptions, and symptom patterns/socially acceptable terms for expressing distress - modules are presented in two 90-minute sessions in a group-setting	Tea Garden was found to be feasible and results showed that it was helpful for asylum seekers from different countries of origin and with different educational levels. Participants reported increased knowledge about MHC, psychotherapy and self-help options, relief from general distress, improved perceptions of distress, and improved perception of resources.
Nickerson et al. (2020)	RCT to investigate the mental health stigma reduction program «*Tell your story*»	$N = 103$ refugee men with PTSD living in Australia, aged 18-65	Online intervention «*Tell your story*» - 11 web-based modules: information, short videos, and activities designed to reduce stigma and increase help-seeking - Focus on formal (i.e. psychologist) and informal (friend, family member) sources of help - Strategies: psychoeducation, social contact, cognitive reappraisal of negative beliefs about mental health and help-seeking - Videos of Arabic, Farsi and Tamil speaking men sharing their personal experiences of overcoming stigma - Computerized algorithm to provide feedback on participants' responses to activities (creating help-seeking plan) - Developed in collaboration with Community Advisory Boards to ensure that materials were optimally culturally relevant	Intervention resulted in a significantly smaller increase in self-stigma for seeking help from post-treatment to follow-up compared to wait-list control (d = 0.42, p = 0.008). Participants showed greater help-seeking behavior at follow-up (B = 0.69, 95% CI 0.19–1.18, p = 0.007).

Slewa-Younan et al. (2020)	Uncontrolled pre-post study design to evaluate a mental health literacy course	*N* = 54 Arabic speaking religious and community leaders living in Australia	Culturally sensitive mental health literacy training program - 6-hour, classroom-style training program - Content: mental health specific knowledge (e.g. recognition of mental health problems, treatment approaches), negative attitudes and stigma towards mental health problems - presentation of information within a cultural valid framework - content was linked to the role of community and religious leaders as a first point of contact and their ability to promote professional help-seeking within their community	Significant post-training differences were found in the ability to identify mental health problems ($p = 0.035$). There was also an improvement in negative attitudes such as a desire for social distance ($p = 0.042$), and participants reported more helpful strategies consistent with encouraging professional help-seeking ($p = 0.032$).
van Es et al. (2021)	Uncontrolled study to evaluate a multimodal trauma-focused treatment approach	*N* = 41 UYRs living in the Netherlands, aged 12-19	Multimodal, culturally sensitive, trauma-focused treatment approach: - Outreach care - Psychoeducation prior to the actual treatment - Content of psychoeducation phase: PTSD symptoms and trauma-focused treatment approaches, emphasis on explanatory models of the UYRs, explanation of the treatment rationale - Culturally sensitive adaptations: working with intercultural mediators before and during the sessions; Integration of intercultural mediators to reduce fear of stigma and to increase UYRs' trust in MHC - offered interventions: KIDNET, EMDR	The findings highlight the added value of working with intercultural mediators and providing outreach services. There was a statistically significant reduction in PTSD scores ($t(16) = 5.43$, $p < .001$, Cohen's $d = 1.32$), and no significant change in depression scores ($t(10) = 0.68$, $p = .51$, Cohen's $d = 0.20$).

Note. The literature search for this table was not systematic, results are therefore an extract from the literature and not comprehensive. Studies were found by searching for the terms «refugee», «help-seeking», «stigma», «mental health care», «mental health service utilization», and «mental health literacy». Studies investigating approaches already described were excluded, e.g. Spaaij et al. (2022), who also evaluated PM+ in a sample of Syrian refugees.

It is particularly important to consider the fear of stigmatization, as research has demonstrated an association between personal stigma, defined as «dangerous» or «unpredictable», and elevated psychological distress scores among a sample of Arabic-speaking refugee and migrant populations in Australia (Chimoriya et al., 2023). In a sample of Syrian refugee adolescents living in Turkey, Özaslan, Yildirim, Guney, İlhan, and Vostanis (2024) discovered that stress, anxiety, and depression exhibited significant and positive predictive effects on self-stigma, yet these effects were not observed in relation to help-seeking behaviors. Conversely, self-stigma demonstrated a substantial negative predictive effect on help-seeking behaviors. The findings further indicated that self-stigma fully mediated the associations between stress, anxiety, and depression and help-seeking behavior.

5.3 Strengths and limitations

The publications of this dissertation have been shown to possess several strengths and limitations. In addition to the findings illustrated in the preceding chapters, which have demonstrated TF-CBT's effectiveness and effective pathways of dissemination, it is the effectiveness of TF-CBT was confirmed by both a meta-analysis and qualitative interviews with psychotherapists. A notable strength is the noteworthy finding of the meta-analysis that TF-CBT administered in a group setting is superior to individualized treatment. This is particularly salient in light of the elevated needs of UYRs and the limited treatment capacities. Additionally, the web-based training program under examination was found to be capable of reaching a wide range of practitioners and resulting in a substantial enhancement in their knowledge. This low-threshold approach is therefore suitable for the extensive dissemination and implementation of TF-CBT in German-speaking countries. A notable strength of the reported interviews was their sample, with twenty psychotherapists participating from a diverse range of backgrounds and experiences with UYRs. With regard to the investigation of the MHC utilization in UYRs, it is noteworthy that the study was conducted with a challenging-to-reach sample and examined the utilization within the context of a stepped care approach for trauma-focused EBT, which is a promising approach as outlined above. A descriptive analysis of the data indicates that the vast majority of UYRs who expressed an intention to seek MHC had at least one session with a psychotherapist. This is particularly noteworthy in the context of the care situation of refugees.

On the other hand, limitations can be identified. Firstly, it is possible that publication bias influenced the meta-analysis. It is conceivable that studies with smaller effects may not have been

published; we employed appropriate methods to address this possibility, but it is impossible to ascertain the true results. Additionally, it is possible that certain studies not encompassed by the search terms were overlooked. Furthermore, other studies may have been excluded due to the unavailability of data. With regard to the instruments employed in the meta-analysis, it should be noted that categorical instruments were utilized in preference to dimensional instruments. Furthermore, a considerable variety of instruments was employed to assess outcomes. With regard to the web-based training, we are only able to report on self-reported knowledge gain. The extent to which users intend to apply TF-CBT in practice remains unknown. Moreover, the representativeness of the findings is constrained due to the selective nature of the sample. The sample is comprised of mental health practitioners who are highly motivated and a subsample of students who were compelled to complete the survey as a component of their curriculum. Due to the single-group pre-post design of the study, a comparison of the learning program with face-to-face training or other training approaches is not possible. Also the qualitative interview study is subject to certain limitations that may influence the findings. Firstly, there is a potential for bias due to the selective sample, as the study included only psychotherapists who were interested in treating UYRs. Those who lacked interest in online training or UYR trauma treatment did not participate in the study. Additionally, interpreter-related findings should be interpreted with caution. The mode of interpretation varied across treatment cases, including video, phone, and face-to-face, which may have influenced the outcomes. Moreover, the interpreters involved had different levels of training, as there was no standardized training protocol in place, which could have led to variations in their work experience and, consequently, differences in the interpretation process. Finally, patient outcomes were not included in the comparison between psychotherapists who participated and those who did not. In relation to the examination of utilization, it is evident that the study's sample presented certain limitations, which must be taken into account during the interpretation of the results. Primarily, the sample size was relatively small, and the sample exhibited notable homogeneity with respect to specific variables, including gender, religion, and country of origin. Consequently, the study was unable to fully explore the influence of these variables on the intention to access mental health services and the utilization of such services. Furthermore, the sample may have been somewhat selective, as it was conducted with facilities that were already open to providing mental health services, aware of the psychological needs of UYRs. Consequently, no conclusions can be drawn about the factors contributing to the use of MHC by UYRs who do not have supportive caregivers or those who are not participating in a stepped care approach with explicit treatment recommendations. The therapeutic recommendations of this study focused exclusively on trauma-focused interventions. However, these

results cannot be generalized to interventions targeting other issues, such as depression, without further investigation. Finally, the characteristics of the support provided to UYRs or the quality of their relationships with caregivers were not explored in this study.

5.4 Future directions

In recent years, there has been a substantial expansion in the knowledge base concerning psychotherapeutic treatment approaches for UYRs. Nevertheless, there are several domains that necessitate further research efforts. The implications for future research outlined here were derived from the four studies conducted and the existing literature in the field of psychotherapeutic treatment approaches for UYRs.

Firstly, further evaluation is required to determine the effectiveness of TF-CBT with UYRs, especially in group settings. In light of the results of the meta-analysis, it is necessary to examine whether the superiority compared to individual settings can be replicated. With respect to UYRs, the implementation of TF-CBT in group settings, such as the preventive group program «My Way» (Pfeiffer et al., 2019), holds particular significance. This approach facilitates the delivery of treatment to large groups, and in settings characterized by limited MHC utilization. In general, the efficacy of treatment approaches for UYRs may no longer be best determined by RCTs alone. Rather than a «one-size-fits-all» approach of RCTs, a more nuanced, personalized approach that aims to improve well-being and functionality among UYRs might be more beneficial (Morroni et al., 2025). Furthermore, the analysis of change processes and the implementation of within-person longitudinal approaches have the potential to elucidate the impact of distinct treatment elements on UYRs. These methodological approaches have the capacity to generate high-quality data and to provide clinicians with detailed insights into UYR's needs, thereby enhancing their quality of life (Morroni et al., 2025).

Secondly, the treatment of symptoms of prolonged grief in UYRs should be evaluated, and the efficacy of TF-CBT in this regard should be examined. To conduct meaningful research in this area, a reliable instrument to assess symptoms of prolonged grief in children and adolescents in general, but also in UYRs, is necessary. RCTs should focus on treatment effects of TF-CBT on grief and compare TF-CBT to other grief-related treatment approaches (Boelen, Lenferink, & Spuij, 2021). Furthermore, the role of comorbid prolonged grief disorder symptoms and their influence on trauma treatment processes in UYRs should be evaluated.

Thirdly, within the domain of the implementation and dissemination of TF-CBT and research on web-based training for psychotherapists, a systematic examination of attrition patterns should be undertaken to ascertain the underlying causes of participants' disengagement from EBT online programs. Subsequent studies should prioritize the investigation of TF-CBT treatments administered by program completers. This inquiry should encompass the assessment of practitioners' adherence to the EBT techniques they have been trained to implement and their adherence to the prescribed manual in clinical practice. In the future, implementation research should aim to further integrate evidence-based interventions into the standard healthcare practice of local providers (Bryant, Nickerson, Morina, & Liddell, 2023).

Fourthly, the provision of TF-CBT for young adult refugees should be evaluated, as preliminary evidence suggests that TF-CBT is a feasible treatment for PTSD in young adults. Peters et al. (2021) evaluated the effectiveness of TF-CBT in treating interpersonal trauma in transitional-aged youth. Their findings indicate that TF-CBT results in significant improvement in terms of PTSS and was found to be tolerable and acceptable within this particular sample. A flexible and adaptable treatment manual such as TF-CBT can be particularly beneficial in relation to different language skills and educational backgrounds in UYRs and may be more acceptable compared to more complex treatment manuals such as CPT. Furthermore, an analysis of the adaptations that psychotherapists have made to the TF-CBT manual when working with UYRs is necessary in order to determine the application of TF-CBT with refugees in general. The development of an implementation manual for TF-CBT with children, adolescents, and young adults with a refugee background and UYRs could be a subsequent step based on these results.

Fifthly, future research efforts should be directed towards investigating the utilization of MHC in UYRs. Subsequent studies should prioritize the examination of UYRs who articulate an intention yet ultimately do not utilize MHC. The mediating factors in this context are of particular importance; however, their nature remains to be investigated. In the context of future studies, a range of variables warrant consideration. These include, but are not limited to, the mental health literacy of UYRs, UYRs' attitudes toward MHC, and the fear of stigmatization (Aguirre Velasco et al., 2020; Mårtensson et al., 2020; Satinsky et al., 2019). On the one hand, it is necessary to collect data on these variables and evaluate their influence on the MHC utilization behavior. The instrument on mental health and help-seeking beliefs developed by Mastrogiovanni et al. (2024) could prove beneficial in this context; however, its validation for the population of UYRs is essential prior to its implementation. On the other hand,

interventions to reduce barriers resulting from these variables should be designed or adapted for UYRs. Approaches to address stigma should be culturally tailored to specific groups (Bryant et al., 2023). As previously delineated, psychoeducational, web-based services are particularly well-suited for this purpose, given their capacity to reach a substantial population of young refugees.

Finally, it is essential to acknowledge that the maintenance of UYRs in treatment constitutes a critical component in achieving a sustained reduction in symptoms (Semmlinger et al., 2021). Consequently, future studies should also focus on the investigation of strategies to prevent premature termination of MHC by UYRs. In this context, the role and influence of professional caregivers should be given particular consideration. The utilization on the one hand and the retention on the other hand are fundamental strategies for achieving long-term positive outcomes on both an individual and societal level.

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PART B.
THE PUBLISHED PAPERS

Publication 1. Systematic review and meta-analysis of TF-CBT

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Invited Review

A systematic review and meta-analysis of trauma-focused cognitive behavioral therapy for children and adolescents

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ABSTRACT

Background: Among minors, posttraumatic stress symptoms (PTSS) are a common consequence of traumatic events requiring trauma-focused treatment.
Objective: This meta-analysis quantified treatment effects of trauma-focused cognitive behavioral therapy (TF-CBT) with PTSS as primary outcome and symptoms of depression, anxiety, and grief as secondary outcomes.
Participants and setting: Inclusion criteria for individual settings: (1) patients aged between 3 and 21, (2) at least one traumatic event, (3) minimum 8 sessions of (4) TF-CBT according to Cohen, Mannarino and Deblinger (2006, 2017), (5) a quantitative PTSS measure at pre- and post-treatment, (6) original research only. Inclusion criteria for group settings: had to involve (1) psychoeducation, (2) coping strategies, (3) exposure, (4) cognitive processing/restructuring, (5) contain some reference to the manual and no minimum session number was required.
Methods: Searched databases were PsychInfo, MEDLINE, Cochrane Library, PTSDPubs, PubMed, Web of Science, and OpenGrey.
Results: 4523 participants from 28 RCTs and 33 uncontrolled studies were included. TF-CBT showed large improvements across all outcomes from pre- to post-treatment (PTSS: g = 1.14, CI 0.97–1.30) and favorable results compared to any control condition including wait-list, treatment as usual, and active treatment at post-treatment (PTSS: g = 0.52, CI 0.31–0.73). Effects were more pronounced for group settings. We give pooled estimates adjusted for risk of bias and publication bias, which initially limited the quality of the analyzed data.
Conclusions: TF-CBT is an effective treatment for pediatric PTSS as well as for depressive, anxiety, and grief symptoms. It is superior to control conditions, supporting international guidelines recommending it as a first-line treatment.

1. Introduction

Traumatic experiences are common among minors with 57.7 % reporting exposure to at least one type of traumatic event in the past year (Finkelhor, Turner, Shattuck, & Hamby, 2013). For posttraumatic stress disorder (PTSD), an estimated conditional prevalence rate of 15.9 % was found for children exposed to any traumatic experience (Alisic et al., 2014). Co-occurring symptoms of depression

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and anxiety are common (American Psychiatric Association, 2013) with evidence of comorbid diagnoses in almost one in two children and adolescents with PTSD (Kar & Bastia, 2006). In addition, comorbidity may be further complicated by unresolved grief symptoms when the trauma involves the death of a loved one (Cohen, Mannarino, & Staron, 2006). International guidelines recommend the use of manualized trauma-focused cognitive behavioral therapy (TF-CBT)[1] with caregiver participation for the treatment of pediatric PTSD (Forbes, Bisson, Monson, & Berliner, 2020; National Institute for Health and Care Excellence, 2018; Phoenix Australia Centre for Posttraumatic Mental Health, 2013).

TF-CBT according to the manual of Cohen, Mannarino, and Deblinger (2006, 2017) and its earlier versions (Cohen & Mannarino, 1993; Deblinger & Heflin, 1996) is the single most extensively studied intervention manual for pediatric PTSD. It is a widespread, easy-to-learn, and cost-effective treatment employing standard cognitive behavioral therapy (CBT) techniques, and has been used in several countries worldwide. The official manual was published in 2006 (Cohen, Mannarino, & Deblinger, 2006) and revised in 2017 (Cohen, Mannarino, & Deblinger, 2017) to reflect advances made in research, application to complex trauma and group settings, as well as updates for DSM-5. TF-CBT according to Cohen et al. contains a sequence of nine components that form the acronym PRACTICE including psychoeducation and parenting skills (P), relaxation (R), affective modulation (A), cognitive coping (C), trauma narrative (T), in vivo exposure (I) conjoint parent-child sessions (C) and enhancing safety and development (E). The authors suggest a minimum of eight sessions to cover all the relevant components. Additionally, caregiver participation is seen as an integral part of TF-CBT according to Cohen et al. Typically, a session lasts 90 min with 45 min dedicated to the child and caregiver, respectively.

TF-CBT according to Cohen et al. has been well-evaluated and found to be effective in reducing posttraumatic stress symptoms (PTSS) as well as symptoms of depression, anxiety, and grief in children and adolescents after exposure to various types of trauma in different populations and settings (Cohen, Deblinger, Mannarino, & Steer, 2004; Deblinger et al., 2006; Dorsey et al., 2020). As a result, it has been extensively disseminated in the US also using the National Child Traumatic Stress Network Initiative (National Child Traumatic Stress Network, 2012). Furthermore, it has been applied to new patient groups such as refugees (Unterhitzenberger, Wintersohl, Lang, König, & Rosner, 2019) and trafficked children (Wang et al., 2016), as well as complex PTSD cases (Hébert & Amédée, 2020). In addition, several implementation manuals for specific settings have been developed including residential treatment facilities (Cohen & Mannarino, 2013), military families (Cohen, Mannarino, & Cozza, 2014), foster care (Deblinger, Mannarino, Runyon, Pollio, & Cohen, 2016), and LGBTQ youth (Cohen, Mannarino, Wilson, & Zinny, 2018). Although TF-CBT according to Cohen et al. was originally developed in the US as an individual therapy, it has also been used in low and middle income countries and in a group setting with promising results (Dorsey et al., 2020). Only recently, the intervention was offered to inpatients (Cabrera, Moffitt, Jairam, & Barton, 2020) and young adults up to the age of 25 (Peters et al., 2021). Given its widespread use and the new treatment applications, it is of the outmost importance not only to summarize the well-conducted efficacy RCTs but also to evaluate how well these effects carry over into practice, and determine whether they also apply to these specific patient populations. For the latter, we also need to consider uncontrolled studies to gain an overview of the patient groups to whom TF-CBT according to Cohen et al. can be applied. As a consequence of recent crises all over the world, there is a great need for effective trauma treatment for minors.

Most systematic reviews and meta-analyses that have been published on interventions for traumatized children used TF-CBT as a generic term to refer to both TF-CBT according to Cohen et al. and general CBT with trauma-focused work. In addition, the researchers who pooled effect sizes (ES) for PTSS mainly analyzed TF-CBT in subgroup or moderator analyses only (Bastien, Jongsma, Kabadayi, & Billings, 2020; Gutermann et al., 2016; Hoogsteder, ten Thije, Schippers, and Stams, 2021; Mavranezouli et al., 2020; Morina, Koerssen, & Pollet, 2016). Several systematic reviews are available on TF-CBT according to Cohen et al. (de Arellano, Lyman, Jobe-Shields, George, Dougherty, Daniels, and Delphin-Rittmon, 2014) and more recently, there have been reviews of specific aspects, such as the role of the caregiver (Martin, Everett, Skowron, & Zalewski, 2019), its effectiveness in low and middle income countries (Thomas, Puente-Duran, Mutschler, & Monson, 2020), in refugees (Chipalo, 2021), and in children of preschool age (McGuire, Steele, & Singh, 2021). However, we only know of one review that set out to evaluate the TF-CBT according to Cohen et al. and calculated pooled ES for PTSS but it was published 10 years ago (Cary & McMillen, 2012).

1.1. *Summary of previous analyses*

The systematic review by Cary and McMillen (2012) is commonly referred to when describing the evidence base of TF-CBT. The authors distinguished between TF-CBT according to Cohen et al. and studies that did not comprise all but at least 4–5 of the most relevant treatment components. In comparison to active non-CBT control conditions, they found small to medium ES in favor of TF-CBT according to Cohen et al. for PTSS and depression. This effect was sustained at the 12-month follow-up for PTSS but not for depression. However, the analyses were limited to three RCTs as studies with CBT control groups were excluded, and many of the frequently cited RCTs were published later (e.g. Dorsey et al., 2014; Goldbeck et al., 2016; Jensen et al., 2014; Murray et al., 2015).

In their meta-analysis, Gutermann et al. (2016) performed a sub-group analysis of 18 studies on TF-CBT according to Cohen et al., reporting a large pre-post ES for PTSS. Most notably, this was the only meta-analysis on TF-CBT that considered pre-post ES and studies other than RCTs. However, TF-CBT was not the authors' main focus. Consequently, they did not explore between-group effects or any outcomes other than PTSS.

Another recent meta-analysis (Bastien et al., 2020) included a comparison of TF-CBT according to Cohen et al. with any control condition. For PTSS, a medium ES in favor of TF-CBT according to Cohen et al. was found. However, it should be noted that the study

[1] [1] In the literature, TF-CBT is used as a generic term for CBT with trauma-focused work as well as for Cohen et al.'s TF-CBT manual. 'TF-CBT according to Cohen et al.' will be used throughout the manuscript when referring to their manual or its earlier versions.

defined a narrower period from 2011 to 2019 and unfortunately missed some studies that would have fit their inclusion criteria, resulting in only seven RCTs being included. Thus, this analysis only partly represented the existing literature.

Apart from that, several meta-analyses are available of interventions for traumatized children and adolescents that include other TF-CBT therapies (Hoogsteder, ten Thije, Schippers, & Stams, 2021; Lenz & Hollenbaugh, 2015; Mavranezouli et al., 2020; Morina et al., 2016). In sum, for PTSS these analyses found large ES in favor of TF-CBT when compared to wait-list conditions and small to medium ES when compared to active treatments. For depression, these effects were less pronounced with small to medium ES compared to wait-list conditions and small effects compared to active treatments. However, in some of these analyses, limitations were obvious such as the exclusion of intention-to-treat analyses (Lenz & Hollenbaugh, 2015) and collapsed outcomes (Hoogsteder et al., 2021). Interestingly, one of the meta-analyses (Mavranezouli et al., 2020) included separate analyses for TF-CBT group settings for the first time. Unfortunately, the TF-CBT group analyses mostly included studies with no reference to TF-CBT according to Cohen et al.

1.2. Current study

In the light of this state of the literature, an update on TF-CBT according to Cohen et al. is warranted. In addition to examining gold standard efficacy RCTs, we extended the focus by looking at the intervention's effectiveness, and also considered uncontrolled studies and group settings. Effectiveness studies can offer insights into how treatment can be implemented in mental health care settings with varying stakeholders and resources. They can likewise estimate the degree to which the effects of efficacy RCTs translate into the field. In addition, uncontrolled studies may provide valuable information on implementation in differing contexts as well as on applications that warrant further investigation in RCTs. In an attempt to provide a more complete picture, this systematic review and meta-analysis quantified the treatment effects of TF-CBT according to Cohen et al. from pre- to post-treatment as well as in comparison to control conditions at post-treatment with due consideration of designs, comparators, and settings for PTSS and secondary outcomes of depression, anxiety, and grief.

2. Methods

2.1. Search and screening of studies

The meta-analysis was conducted in line with the PRISMA guidelines (Liberati et al., 2009; Page et al., 2021; for the PRISMA checklist, see supplementary material S1), and pre-registered with PROSPERO (CRD42020139403). We searched the databases PsychInfo, MEDLINE, Cochrane Library, PTSDPubs, PubMed, Web of Science and OpenGrey for studies published between January 1, 1990, and August 19, 2021. A pre-defined combination of search terms was used for the title and abstract searches (see Table 1). After removing any duplicates, the database results and a manual search of reference sections of relevant works coupled with expert suggestions identified 1262 publications (see Fig. 1). There were no limitations regarding language. All titles and abstracts were screened by two independent raters using Covidence (Veritas Health Innovation, 2014). Any conflicts between raters were resolved by reviewing the abstracts. For the remaining studies, the first author read all full texts and assessed the inclusion and exclusion criteria. Ambiguous cases were resolved by contacting the authors of the publications in question and discussing them with the co-authors.

2.2. Inclusion and exclusion criteria

For individual treatment settings, (1) the patients had to be aged between 3 and 21, (2) had to have experienced at least one traumatic event, (3) had to have participated in at least 8 sessions (4) of TF-CBT according to the Cohen et al. manual (Cohen, Mannarino, and Deblinger, 2006, 2017) or one of its earlier versions (Cohen & Mannarino, 1993; Deblinger & Heflin, 1996). In addition, (5) results based on a quantitative PTSS measure applied before and after treatment had to be reported via clinical interview or self-report. (6) Only original research was included, excluding reviews, meta-analyses, and case reports. The only exclusion criterion was if the recipients of treatment were not children or adolescents themselves (e.g. their parents only). If we were unable to extract PTSS pre-post ES (c.f. criterion 5), we contacted authors and included the study if they provided supplementary data. For group settings, there were some differences in the inclusion criteria: no minimum number of sessions was required as many TF-CBT groups

Table 1
Pre-defined search terms.

Search categories	Search terms
Diagnosis	Trauma* or Posttrauma* or Post-trauma* or PTSD or PTSS or grief or griev*
Trauma-related	Abuse* or Assault* or Abduct* or Accident* or Kidnapp* or Life-threat* or Maltreat* or Mistreat* or Neglect* or Refugee or Shooting or Terroris* or Victim* or Violence or War or Hurricane or Tsunami or Earthquake or Flood or "Natural disaster" or bereave* or loss
Youth	Adolescen* or Child* or Youth or Kid or Juvenile or Infant or Minor or Teenager or Young*
TF-CBT	"Trauma focused cognitive behavioral treatment" or "Trauma-focused cognitive behavioral treatment" or "Trauma focused cognitive behavioral therapy" or "Trauma-focused cognitive behavioral therapy" or "Trauma focused cognitive behavior*" or "Trauma-focused cognitive behavior*" or "Trauma focused cog*" or "Trauma-focused cog*" or "Trauma focused" or Trauma-focused or TF-CBT or grief-focused or "grief focused"

Note. Combination: (Diagnosis or Trauma-related) and Youth and TF-CBT.

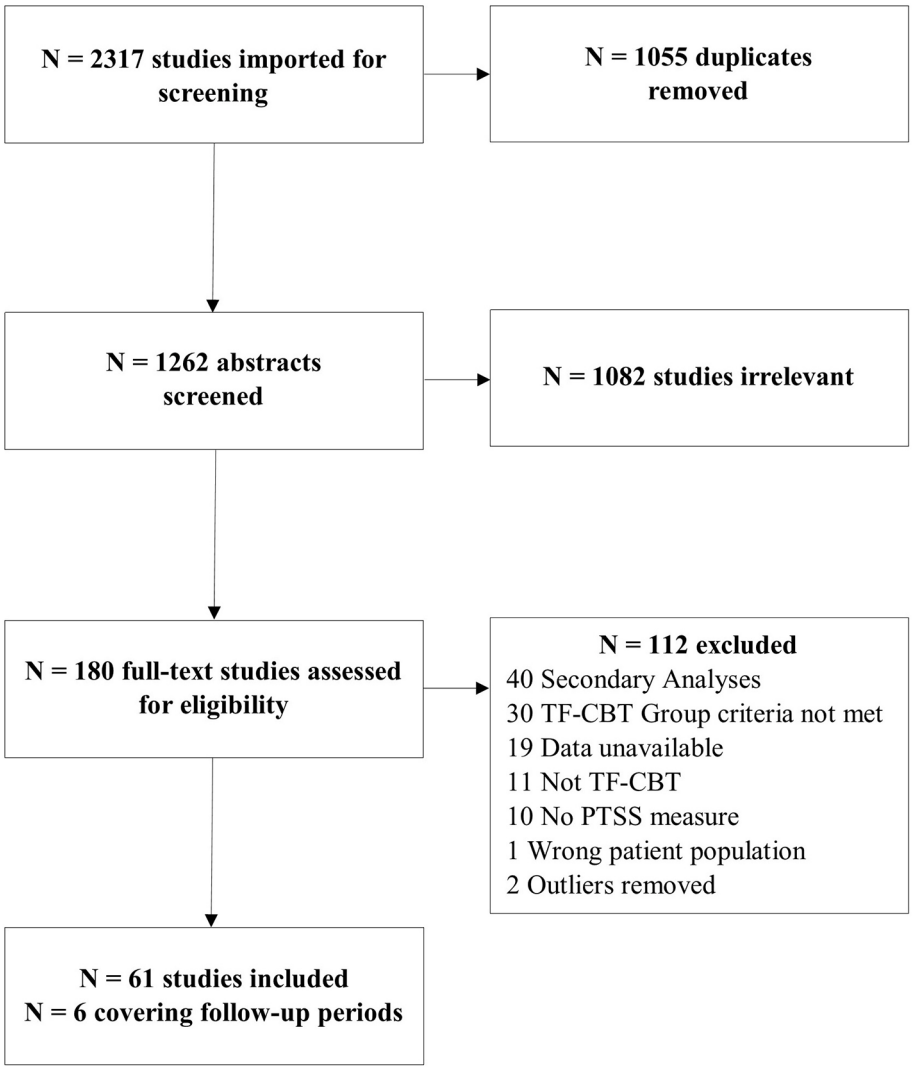

Fig. 1. Flowchart study selection.
Note. The two outliers refer to the same study covering the follow-up period.

are conceptualized with fewer sessions. Consequently, they also did not need to cover all components of the manual as some of them are usually left out. Instead, group settings had to involve (1) psychoeducation, (2) coping strategies (i.e. relaxation, affective modulation, cognitive coping), (3) exposure, (4) cognitive processing/restructuring of trauma-related thoughts and beliefs, and (5) some reference to the manual or one of its earlier versions. For the latter, a clear statement was sufficient. However, in case of ambiguity, the decision was made in discussion with the co-authors.

2.3. Treatment and control groups

For the control groups, randomized wait list (WL), treatment as usual (TAU), and active treatment (AT) conditions were included. As the latter two contained comparable treatments, they were merged for analysis. If two TAU/AT control groups were available, the higher dose of treatment was used. If studies included two TF-CBT conditions, these were included separately in the pre-post analysis unless only merged results were reported. If a control group was available, it was compared to both TF-CBT conditions, separately. In one case, there was a combination of four TF-CBT conditions and four control conditions that were comparable with regard to treatment dose (Dorsey et al., 2020). These control conditions were matched to their respective TF-CBT condition as data were collected in separate countries and regions.

2.4. Efficacy and effectiveness

While efficacy refers to the intervention operating under perfectly controlled conditions to maximize internal validity, effectiveness is characterized by its application to 'real-world' settings (Singal, Higgins, & Waljee, 2014). In contrast to the preregistration, we decided to distinguish between efficacy and effectiveness RCTs rather than RCTs and dissemination and implementation (D&I) trials as some D&I trials had randomized control groups whereas others did not. This decision was made to keep our analyses more parsimonious. The criteria for classifications were adapted from Gartlehner, Hansen, Nissman, Lohr, and Carey (2006), and can be found in the supplementary material (S2). These assessments were carried out by two independent evaluators (JT and BK) and disagreements were resolved in discussions. It should be noted that efficacy and effectiveness are on a continuum and a clear-cut distinction is hardly possible. Thus, studies referred to as efficacy or effectiveness RCTs may contain some features of the other type of trial.

2.5. Risk of bias assessment

Following recommendations from the Cochrane Handbook (Higgins et al., 2022), two independent evaluators (JT and BK) carried out risk of bias assessments for all RCTs with the Risk of Bias assessment tool (Rob 2.0) using Excel (Sterne et al., 2019). This tool assesses five domains that potentially pose a risk of bias. Namely, these are the randomization process (D1), deviations from the intended intervention (D2), missing outcome data (D3), measurement of the outcome (D4), and selection of the reported results (D5). Accordingly, studies were attributed the ratings 'low risk', 'some concerns' or 'high risk'.

For uncontrolled studies, the Risk Of Bias In Non-randomized Studies – of Interventions (ROBINS-I) assessment tool was used (Sterne et al., 2016) following the same procedure. While D2-D5 were the same, D1 was replaced by three additional domains referring to 'confounding', 'selection bias', and 'bias in classification of intervention'. However, since TF-CBT and valid pre-post assessments were defined by the inclusion criteria and we were not interested in including non-randomized control groups, these domains were not applied. Additionally, ROBINS-I used slightly different risk ratings including 'low', 'moderate', 'serious' and 'critical' as well as 'no information'. To ensure comparability, we converted the ratings to the RoB 2.0 categories with 'serious' and 'critical' being subsumed as 'high risk'. 'No information' was viewed separately and did not affect the overall ratings (see Results section). Five RCTs and 22 uncontrolled studies were identified as posing a high risk of bias. All analyses were rerun excluding 'high risk' studies.

2.6. Outcomes and data extraction

All data were extracted by JT and BK to protect against errors, and inconsistencies were resolved in discussion. We extracted outcome data on PTSS, depression, anxiety, and grief. Clinical interviews were the first choice. If these were not available, we used self-report. If only subscales of PTSD clusters were reported, we merged them using the formula presented in the Cochrane Handbook for Systematic Reviews of Interventions (Higgins et al., 2022). Authors were contacted for missing information and studies were excluded if the PTSS data could not be obtained for pre- and post-treatment. Missing data on other variables merely resulted in exclusion of studies from analyses of the respective variable.

2.7. Statistical analyses

We included all eligible studies in the within-group and between-group analyses generating ES (Hedges' g and 95 % CIs) for PTSS, depression, anxiety, and grief. We used Comprehensive Meta-Analysis, version 3 (Borenstein, Hedges, Higgins, & Rothstein, 2013). If available, we used intention-to-treat data. If the pre-post correlation necessary for the calculation of pre-post ES was unavailable, it was imputed based on the overall mean of included studies with available correlations for the respective outcome. The pooled ES were based on a random effects model as the samples, modality of treatment, and methods were very heterogeneous (Hedges & Vevea, 1998). Q statistic was computed to confirm the model and I^2 to assess heterogeneity (Higgins, Thompson, Deeks, & Altman, 2003). If Q was non-significant, we assumed a fixed model, and reported ES accordingly. We employed funnel plots with Hedges' $g > 4$ being deemed to be indicative of outliers (see supplementary material, S3). We conducted additional subgroup analyses of within-group ES for RCTs only, individual setting, and group setting. Within the RCT group, further sub-group analyses (within-group and between-group) were performed for individual and group settings, efficacy and effectiveness trials as well as WL and TAU/AT conditions. Sub-group analyses were performed when at least three TF-CBT conditions or three post-treatment comparisons were available. Sensitivity analyses indicated the presence of publication bias in some analyses. To address these biases, we used Duval and Tweedie's (2000) trim and fill method to impute missing studies to the left of the mean in order to make the funnel plots symmetrical.

3. Results

Fig. 1 shows the study selection procedure. After removing duplicates, 1262 remained of which we ultimately selected 61. Of these, $k = 28$ studies were RCTs and $k = 33$ were uncontrolled studies. The majority ($k = 50$, 21 of them RCTs) were conducted in an individual setting, and $k = 11$ (seven of them RCTs) in a group setting. Within the RCTs, there were $k = 14$ efficacy trials and $k = 14$ effectiveness trials. Seven RCTs included WL control conditions whereas $k = 15$ contained TAU/AT control conditions. The control conditions of the remaining six RCTs were either a second TF-CBT condition and thus included as an additional treatment condition or were excluded for other reasons.

3.1. Study characteristics

An overview of all included studies and study characteristics can be found in the supplementary material S4. Even though the majority of studies were from the US (60 %), we were able to include studies from 14 other countries mostly from Africa (13 %), Europe (11 %), Asia (5 %), and Australia (5 %). The weighted means and pooled standard deviations presented in this section rely on the analyzed sample.

3.1.1. Participants and caregivers

We were able to include 4523 out of the original 6370 participants in the analyses (TF-CBT n = 3490, control groups n = 1033, range 11–640 participants per study). The mean age was 11.99 years (SD_p = 2.47, range 3–21, available for k = 46, n = 3805). The overall sample included slightly more female participants (59.46 %, k = 56, n = 4322). Participants experienced a mean of 4.93 traumatic events (SD_p = 3.96, k = 27, n = 2594). Diagnostic status for PTSD derived via structured diagnostic interviews (i.e. excluding diagnoses derived from self-report instruments) within the TF-CBT conditions at baseline and post-treatment was available for 334 participants with 269 meeting the diagnostic criteria at baseline (80.54 %) and 81 at post-treatment (24.25 %, k = 12). In control conditions, this information was available for 198 participants with 161 meeting the criteria at baseline (81.31 %) and 85 at post-treatment (42.93 %, k = 5). The mean number of treatment sessions was 16.66 (SD_p = 7.97, k = 16, n = 1099). In total, 1750 participants dropped out of studies (k = 51 studies), 988 of these after randomization or during treatment and 348 were lost to follow-up. For the remaining 414 participants, the time of dropout could not be coded. However, most studies adopted an intention-to-treat approach, including participants with premature treatment termination in their analyses.

Nearly all studies (n = 59) reported caregiver involvement including biological parents, foster parents, adoptive parents, stepparents, other relatives, legal guardians, professional caregivers (e.g. social workers) or a combination thereof. In total, 3255 caregivers were recorded (k = 34), most of whom were female (87.89 %, k = 17, n = 1952 caregivers). However, the degree of involvement varied markedly across studies ranging from almost no involvement or involvement only for some children to the full TF-CBT protocol with parallel sessions in place or professional caregivers delivering the intervention.

3.1.2. Therapists

In total, 881 therapists were recorded (range: 1–133 therapists per study, k = 41), most of them female (85.05 %, k = 13, n = 516 therapists). Education ranged from no education in mental health prior to the study over bachelor's and master's degrees in psychology and social work to doctorates. However, most studies used therapists with master's degrees or did not specify their education level simply referring to them as ‘therapists’ or ‘psychologists’. They had mean experience of 6.8 years (SD_p = 19.24, range 0–10.77 years, k = 8, n = 232). Most of the therapists were trained by treatment developers or certified TF-CBT trainers. Training usually involved online training (tfcbt2.musc.edu), a 1–2 day in-person workshop, and reading the TF-CBT manual. In some instances, less (e.g. reading the manual only) or more intensive training (e.g. a 10-day in-person workshop) was provided. Typically, therapists received weekly supervision, again ranging from less frequent (once per month) to more frequent (three times per week). Overall, we calculated a mean of 0.70 supervision sessions a week (k = 25, n = 621).

3.2. Treatment applications

Some studies reported changes to standard TF-CBT according to Cohen et al. These included adding 4–8 sessions specific to grief, additional activities from other manuals, and culture-specific elements (e.g. metaphors, jargon, songs, games, and religious beliefs). Moreover, some studies varied the mode of treatment delivery by making use of group formats, tablet-supported therapy, telehealth, animal-assisted therapy, school setting, inpatient setting, and interpreters. Additionally, some adjusted treatment length, session length, or session frequency. In addition, patient groups (e.g. refugees, orphans, foster children etc.), and trauma types (e.g. sexual, war-related, mixed etc.) varied strongly across studies. In fact, the studies were so heterogeneous regarding patients and traumas that we did not extract these variables as coding turned out to be impossible. However, none of the studies reported major difficulties in integrating these applications into the existing protocol.

3.3. Risk of bias assessment

All risk of bias assessments of the individual studies can be found in the supplementary material S5. Five out of the 28 included RCTs, were assigned an overall ‘low’ risk of bias rating, 18 studies were classified as presenting ‘some concerns’, and five trials were identified as having a ‘high’ risk of bias according to RoB 2.0’s algorithm.

Problems with the randomization process (D1) appeared in only one study. We did not consider differences in the characteristics of participants' parents, as they were not subject to randomization. There were few deviations from the interventions (D2) with most studies providing acceptable to excellent adherence ratings. However, two studies were attributed ‘high risk’ ratings as some problematic aspects were identified. One study reported deviations caused by the trial context (providers made fewer referrals after disappointment over assignment to control condition). Additionally, the study reported doubtful treatment adherence (treatment adherence was described as ‘variable’). Another study provided no information on any measure of treatment fidelity and prompted several reasons for questioning adherence (e.g. no information on training and supervision, one therapist only, additional activities from another manual, etc.). Although many studies reported missing outcome data (D3), it was either confirmed that missingness did not depend on the true value of the outcomes or at least it could not be assumed (i.e. data were missing at random). Regarding the

outcome measurement (D4), there were several studies that presented at least 'some concerns'. In most cases, the outcome assessors were (partly) not blinded to treatment conditions. Given the likelihood that this knowledge may have influenced the outcomes, this resulted in either 'some concerns' or 'high risk' ratings. Consequently, two studies received a 'high risk' rating because of non-blinded assessors. The reason for the last 'high risk' rating was unequal assessment points across groups. The criterion 'selection of reported results' (D5) led to most 'some concerns' ratings, as many authors of RCTs did not specify their analyses adequately beforehand. Although many trials were registered, the available information was, in many cases, not sufficient.

With regard to the 33 included uncontrolled studies, none received a 'low' risk of bias rating, k = 11 were rated 'moderate' (i.e. 'some concerns'), and k = 22 studies were identified as 'serious' or 'critical' (i.e. 'high risk'). Deviations from the interventions (D2) were difficult to assess as information on adherence was frequently missing (k = 10). However, we felt it was inappropriate to rate all these studies as posing a high risk of bias in this domain. They were often well conducted in terms of training and supervision, and did not give any reason to doubt treatment adherence. Thus, we decided not to judge these studies in this domain (i.e. 'no information'), leaving the overall rating unaffected. Nevertheless, one study received a 'critical' rating as too many other interventions were provided at the same time, making it impossible to judge the treatment effect. Almost half (k = 13) of these studies received 'serious' to 'critical' ratings with respect to missing outcome data (D3), as substantial proportions of the original sample were not included. Outcome assessors were always assumed to have knowledge of the intervention received, resulting in at least a 'moderate' risk in the outcome measurement category (D4). However, we made a distinction between assessors. Participants (self-report) were regarded as posing a 'moderate' risk since they may have different hypotheses regarding treatment effects. In contrast, therapists or researchers (interviews) were regarded as posing a 'serious' risk since they normally have hypotheses in favor of their intervention. This resulted in k = 16 'serious' risk ratings. Although we only detected problems in five instances in the selection of the reported results (D5), this domain always resulted in at least 'moderate' risk ratings, as none of the uncontrolled studies was preregistered. 'Serious' risk ratings were attributed for including more than one outcome measure without reporting all results, reporting incomplete data for only some assessment points, and reporting data on a subset only.

3.4. Effect sizes

Within-group and between-group pooled ES are shown in Tables 2 and 3, respectively. If not stated otherwise, all reported ES below refer to the analyses excluding studies with a high risk of bias rating as ES did not differ substantially (see supplementary material S6). Within-group analyses for 'all eligible studies' refers to RCTs and uncontrolled studies in individual as well as group settings. Accordingly, subgroup analyses for 'RCTs only' include individual and group settings and subgroup analyses for 'individual' as well as 'group' includes RCTs and uncontrolled studies. For between-group analyses, 'any control' refers to WL and TAU/AT comparators in individual and group settings including efficacy as well as effectiveness trials. Consequently, subgroup analyses for 'WL' and 'TAU/AT'

Table 2
Pre-post within-group effect sizes for PTSS, depression, anxiety and grief.

Outcome	Sample	n	g	95 % CI	SE	z	*p*	Q	I^2	Duval and Tweedie
PTSS	All eligible studies	42	(1.27) 1.14[a]	(1.10–1.44) 0.97–1.30	(0.09)	(14.68)	(.000)	336.13***	87.80	6
	RCTs only	31	(1.34) 1.26[a]	(1.08–1.59) 1.01–1.51	(0.13)	(10.23)	(.000)	294.33***	89.81	2
	Individual	29	(1.09) 0.94[a]	(0.91–0.1.27) 0.77–1.11	(0.09)	(11.88)	(.000)	198.56***	85.90	6
	Group	13	(1.66) 1.53[a]	(1.35–1.97) 1.22–1.85	(0.16)	(10.40)	(.000)	65.04***	81.55	2
Depression	All eligible studies	28	0.63	0.51–0.76	0.06	9.94	.000	87.97***	69.31	0
	RCTs only	20	0.59	0.43–0.75	0.08	7.16	.000	56.99***	66.66	0
	Individual	23	0.63	0.49–0.77	0.07	8.78	.000	75.37***	70.81	0
	Group	5	0.65	0.35–0.95	0.15	4.27	.000	12.29*	67.45	0
Anxiety	All eligible studies	18	0.56	0.43–0.69	0.07	8.17	.000	32.92*	48.35	0
	RCTs only	16	0.52	0.38–0.66	0.07	7.34	.000	27.88*	46.20	0
	Individual	14	0.59	0.42–0.77	0.09	6.79	.000	30.56**	57.43	0
	Group	4	0.49[b]	0.29–0.68	0.10	4.92	0.000	2.23	0	0
Grief	All eligible studies	8	(1.37)[b] 1.35[a,b]	(1.23–1.51) 1.21–1.48	(0.07)	(19.21)	(0.000)	13.05	46.34	1
	RCTs only	5	1.40[b]	1.23–1.56	0.09	16.46	.000	3.56	0	0
	Individual	3	1.25	0.54–0.1.96	0.13	3.44	<.01	6.79*	70.52	0
	Group	5	(1.44)[b] 1.41[a,b]	(1.28–1.59) 1.26–1.55	(0.08)	(18.08)	(.000)	2.57	0	1

Note. High risk of bias studies are excluded; n = number of included TF-CBT conditions; Individual = TF-CBT conducted in an individual treatment setting; Group = TF-CBT conducted in a group setting.

[a] Recalculated with imputed studies (trim and fill method according to Duval and Tweedie).

[b] Fixed model assumed due to non-significant Q-value.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

contained studies in individual and group settings as well as efficacy and effectiveness trials. Likewise, subgroup analyses for 'individual' and 'group' contained WL and TAU/AT comparators as well as efficacy and effectiveness trials. Subsequently, 'efficacy' and 'effectiveness' analyses included WL and TAU/AT comparators as well as individual and group settings. For the ES of individual studies and the funnel plots showing observed and imputed studies, see supplementary material S7.

3.4.1. Pre-post within-group effects

Across all included TF-CBT conditions, the mean pre-post within-group ES was large for PTSS (g = 1.14, CI 0.97–1.30) and grief (g = 1.35, CI 1.21–1.48) and medium for depression (g = 0.63, CI 0.51–0.76) and anxiety (g = 0.56; CI 0.43–0.69). Similar results were found for RCTs (PTSS: g = 1.26, CI 1.01. - 1.51; grief: g = 1.40, CI 1.23–1.56; depression: g = 0.59, CI 0.43–0.75; anxiety: g = 0.52, CI 0.38–0.66) and individual settings only (PTSS: g = 0.94, CI 0.77–1.11; grief: g = 1.25, CI 0.54–1.96; depression: g = 0.63, CI 0.49–0.77; anxiety: g = 0.59, CI 0.42–0.77). Looking at studies conducted in a group setting only, the mean ES for PTSS (g = 1.53, CI 1.22–1.85) was even larger, but, again, similar for grief (g = 1.41, CI 1.26–1.55), depression (g = 0.65, CI 0.35–0.95), and anxiety (g = 0.49, CI 0.29–0.68). All sub-group analyses within RCTs paralleled these patterns (see Table 4).

3.4.2. Post-treatment between-group effects

Compared to any control group, the post-treatment between-group ES for TF-CBT conditions was medium for PTSS (g = 0.52, CI 0.31–0.73) and small for depression (g = 0.40, CI 0.27–0.52), anxiety (g = 0.26, CI 0.13–0.39), and grief (g = 0.30, CI -0.06–0.67). Compared to waitlist conditions, the ES were large for PTSS (1.18, CI 0.55–1.82) and again small for depression (g = 0.47, CI 0.27–0.68) and anxiety (g = 0.32, CI 0.13–0.51). Compared to TAU/AT conditions, the ES were small across all outcomes (PTSS: g = 0.32, CI 0.15–0.50; depression: g = 0.34, CI 0.19–0.50; anxiety: g = 0.20, CI 0.03–0.36; grief: g = 0.30 CI -0.06–0.67). The pattern was similar in individual therapy settings (PTSS: g = 0.37, CI 0.23–0.50; depression: g = 0.40, CI 0.26–0.53; anxiety: g = 0.25, CI 0.10–0.39) and in efficacy trials (PTSS: g = 0.33, CI 0.17–0.50; depression: g = 0.34, CI 0.17–0.52; anxiety: g = 0.17, CI −0.02–0.36). Regarding effectiveness trials, the ES was medium for PTSS (g = 0.70, CI 0.38–1.01) and small for secondary outcomes (depression: g = 0.45, CI 0.27–0.63; anxiety: g = 0.35, CI 0.16–0.54; grief g = 0.33, CI -0.07–0.73). The same pattern was found for group settings (PTSS: g = 0.79, CI 0.38–1.20; grief: g = 0.33, CI -0.07–0.73). Some results must be interpreted with caution due to the limited number of available comparisons. For the WL comparison regarding depression, it was only possible to compute an ES that included high risk of bias studies as excluding them resulted in fewer than three comparisons. The analysis for anxiety regarding efficacy trials as well as all grief-related analyses did not yield statistically significant results.

Table 3
Post-treatment between-group effect sizes for PTSS, depression, anxiety and grief.

Outcome	Sample	n	g	95 % CI	SE	z	*p*	Q	I^2	Duval and Tweedie
PTSS	Any control	22	0.52	0.31–0.73	0.11	4.83	.000	98.46***	78.67	0
	TAU/AT	16	0.32	0.15–0.50	0.09	3.69	.000	36.74**	59.18	0
	WL	6	1.18	0.55–1.82	0.32	3.65	.000	41.25***	87.88	0
	Effectiveness	13	0.70	0.38–1.01	0.16	4.35	.000	84.56***	85.81	0
	Efficacy	9	0.33[a]	0.17–0.50	0.08	3.98	.000	10.27	22.13	0
	Individual	12	0.37[a]	0.23–0.50	0.07	5.42	.000	10.74	0	0
	Group	10	0.79	0.38–0.1.20	0.21	3.74	.000	83.89***	89.27	0
Depression	Any control	14	0.40[a]	0.27–0.52	0.06	6.14	.000	18.80	30.83	0
	TAU/AT	10	0.34[a]	0.19–0.50	0.08	4.41	.000	16.33	44.89	0
	WL	6	0.47[a,b]	0.27–0.68	0.11	4.50	.000	1.56	0	0
	Effectiveness	6	0.45[a]	0.27–0.63	0.09	4.89	.000	5.71	12.48	0
	Efficacy	8	0.34[a]	0.17–0.52	0.09	3.82	.000	12.38	43.43	0
	Individual	12	0.40[a]	0.26–0.53	0.07	5.75	.000	18.45	40.38	0
Anxiety	Any control	12	0.26[a]	0.13–0.39	0.07	3.82	.000	14.28	22.954	0
	TAU/AT	8	0.20[a]	0.03–0.36	0.09	2.30	<.05	9.93	29.512	0
	WL	6	(0.38)[a]	(0.17–0.58)	(0.11)	(3.57)	(.000)	2.84	0	1
		6	0.32[a,c]	0.13–0.51						
	Effectiveness	5	0.35[a]	0.16–0.54	0.10	3.65	.000	2.90	0	0
	Efficacy	7	0.17[a]	−0.02–0.36	0.10	1.77	n.s.	9.56	37.24	0
	Individual	10	0.25[a]	0.10–0.39	0.07	3.36	<.01	11.362	20.79	0
Grief	Any control	5	0.30	−0.06–0.67	0.08	1.63	n.s.	19.58**	79.57	0
	TAU/AT	5	0.30	−0.06–0.67	0.08	1.63	n.s.	19.58**	79.57	0
	Effectiveness	4	0.33	−0.07–0.73	0.20	1.63	n.s.	19.25***	84.41	0
	Group	4	0.33	−0.07–0.73	0.20	1.63	n.s.	19.25***	84.41	0

Note. High risk of bias studies are excluded; n = number of included comparisons; PTSS = Posttraumatic Stress Symptoms; TAU/AT = Treatment as usual/active treatment control conditions; WL = Wait-list control conditions; Effectiveness = Effectiveness RCTs only; Efficacy = Efficacy RCTs only; Individual = RCTs conducted in an individual treatment setting; Group = RCTs conducted in a group setting; n.s. = non-significant.

[a] Fixed model assumed due to non-significant Q-value.

[b] Analysis includes high risk of bias studies (calculation otherwise not possible due to low number of studies).

[c] Recalculated with imputed studies (trim and fill method according to Duval and Tweedie).

** $p < .01$.

*** $p < .001$.

Table 4
Pre-post within-group effect sizes for PTSS, depression and anxiety for subgroups within RCTs.

Outcome	Sample	n	g	95 % CI	SE	z	*p*	Q	I^2	Duval and Tweedie
PTSS	Effectiveness	16	1.45	1.19–1.72	0.14	10.73	.000	78.22***	80.82	0
	Efficacy	15	(1.17)	(0.80–1.54)	(0.19)	(6.21)	(.000)	114.04***	87.72	1
Depression			1.11[a]	0.76–1.47						
	Individual	19	1.10	0.82–1.38	0.15	7.59	.000	127.72***	85.91	0
	Group	12	1.66	1.32–2.01	0.18	9.50	.000	64.36***	82.91	0
	Effectiveness	9	0.66	0.42–0.90	0.12	5.37	.000	27.49**	70.90	0
	Efficacy	11	0.53	0.31–0.75	0.11	4.69	.000	25.47**	60.75	0
	Individual	16	0.62	0.41–0.82	0.10	5.95	.000	54.93***	72.69	0
	Group	4	0.52[b]	0.32–0.71	0.10	5.23	.000	2.00	0	0
Anxiety	Effectiveness	7	0.57[b]	0.43–0.70	0.07	8.34	.000	5.94	0	0
	Efficacy	9	0.50	0.27–0.74	0.12	4.18	.000	18.80*	57.46	0
	Individual	12	0.55	0.37–0.74	0.10	5.81	.000	25.65**	57.12	0
	Group	4	0.49[b]	0.29–0.68	0.10	4.92	.000	2.23	0	0
Grief	Effectiveness	4	1.42[b]	1.25–1.58	0.09	16.38	.000	2.18	0	0
	Group	4	1.42[b]	1.25–1.58	0.09	16.38	.000	2.18	0	0

Note. High risk of bias studies are excluded; only analyses with a sufficient number of TF-CBT conditions are reported; n = number of included TF-CBT conditions; Effectiveness = Effectiveness RCTs only; Efficacy = Efficacy RCTs only; Individual = RCTs conducted in an individual treatment setting; Group = RCTs conducted in a group setting.

[a] Recalculated with imputed studies (trim and fill method according to Duval and Tweedie).

[b] Fixed model assumed due to non-significant Q-value.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

4. Discussion

This systematic review and meta-analysis assessed the treatment effects of TF-CBT according to Cohen et al. for pediatric PTSS and secondary outcomes of depression, anxiety, and grief. Our results that are derived from 61 studies that met the inclusion criteria, provided strong support for TF-CBT according to Cohen et al. Effects for PTSS were greater than for secondary outcomes, as well as more pronounced in group settings and effectiveness studies than in individual settings and efficacy studies. Additionally TF-CBT according to Cohen et al. was found to be superior to control conditions, with greater effects when compared to WL conditions than TAU/AT. These findings are in line with previous analyses confirming TF-CBT as an effective treatment for pediatric PTSS and secondary outcomes as well as its superiority over no treatment and other treatment approaches (Cary & McMillen, 2012; Morina et al., 2016). Furthermore, this was the first meta-analysis to confirm the feasibility of implementing TF-CBT according to Cohen et al. in 'real-world' settings and its application in group settings.

4.1. PTSS

Regarding the uncontrolled large ES for TF-CBT according to Cohen et al., our findings for PTSS closely matched those of Gutermann et al. (2016). Moreover, the controlled medium ES compared to any control group is in line with previous analyses on TF-CBT according to Cohen et al. (Bastien et al., 2020; Cary & McMillen, 2012). The results also fit the broader TF-CBT literature with small effects when comparing treatment to TAU/AT conditions (Lenz & Hollenbaugh, 2015; Morina et al., 2016) and large effects when compared to WL conditions (Lenz & Hollenbaugh, 2015; Mavranezouli et al., 2020; Morina et al., 2016). In the context of general pediatric PTSS treatments, the effects tend to follow the same pattern but the large effects versus WL conditions were less pronounced for other treatments (Gutermann et al., 2016; Morina et al., 2016). Psychotherapy research suggests that achieving large treatment effects compared to TAU/AT conditions is generally hard to accomplish since these conditions may themselves contain powerful interventions (Frost, Laska, & Wampold, 2014). Consequently, the small ES in favor of TF-CBT according to Cohen et al. in comparison even to TAU/AT underlined its treatment capabilities and superiority over other treatments.

This might help to interpret the counterintuitive finding that effectiveness trials had a greater PTSS ES than efficacy trials when compared to control conditions, which contrasts with the common notion that effects from efficacy RCTs do not translate well into practice (Singal et al., 2014). Efficacy trials tend to include TAU/AT conditions as comparators rather than WL conditions and are conducted in individual settings most of the time. In contrast, effectiveness trials are more heterogeneous in terms of comparator and setting. Accordingly, all studies identified as efficacy trials exclusively contained TAU/AT conditions and only one group RCT while effectiveness trials included a mixture. Within group settings, WL and TAU/AT controls were evenly distributed across the studies. However, slightly more ES were extracted for TAU/AT conditions due to one study yielding multiple ES. Since greater ES were found in group settings and in comparison to WL rather than TAU/AT conditions, this probably contributed to the difference between efficacy and effectiveness trials.

Regarding group settings, the small number of efficacy trials and the large ES for PTSS may be further explained by the fact that most of the TF-CBT according to Cohen et al. group studies targeted underserved populations, often in low and middle income countries. In this context, these very strong effects are not surprising considering the general lack of access to mental health care and

the high baseline symptomatology found in these samples. Additionally, a strictly controlled design was not feasible in many circumstances due to missing infrastructure, which prompted the need for rather pragmatic solutions. Subsequently, all but one group RCT were identified as effectiveness trials. Nevertheless, the strong effect on PTSS found in group settings was not entirely limited to underserved populations with limited access to mental health care as 36 % of studies contributing to the uncontrolled ES were conducted in high income countries (43 % for controlled ES). This is a very interesting finding especially since smaller effects for group interventions were found in an earlier analysis (Gutermann et al., 2016) and in adults (Lewis, Roberts, Andrew, Starling, & Bisson, 2020). Thus, a specific group factor might be at play such as a sense of community that supports trauma-focused work and subsequent healing in children and adolescents.

4.2. Secondary outcomes

Regarding secondary outcomes, the large uncontrolled effect of TF-CBT according to Cohen et al. on grief suggests that it can effectively address these symptoms. However, all relevant studies were either conducted in a group setting in low and middle income countries or undertaken by the working group of the treatment developers (Brown, Goodman, Cohen, Mannarino, & Chaplin, 2020; Cohen, Mannarino, & Knudsen, 2004; Cohen, Mannarino, & Staron, 2006; Dorsey et al., 2020; O'Donnell et al., 2014). Additionally, some studies did not define a minimum time criterion and possibly included participants with both normal and pathological grief reactions. Thus, this result may be partly explained by naturally occurring improvements over time and is difficult to generalize. Furthermore, compared to control conditions, only a small non-significant effect was found. There may be a threefold explanation for this result. First, all available comparators were TAU/AT conditions, and it may be that other treatments were equally effective in this domain. Second, grief baseline symptomatology was not clinically significant in one of the RCTs leaving almost no room for improvements in either condition. Third, no reliable instrument assessing grief in children and adolescents has been established up to now. So far, the evidence is still preliminary as only two RCTs and three uncontrolled studies have evaluated grief symptoms.

TF-CBT according to Cohen et al. showed reliable uncontrolled effects on depression and anxiety in the medium range from pre- to posttreatment and small effects compared to control conditions across all analyses. This confirmed earlier findings on the ability of TF-CBT according to Cohen et al. to alleviate these secondary symptoms, even though they were not targeted directly (Cohen, Deblinger, et al., 2004; Deblinger et al., 2006). In contrast to PTSS, we found no differences with regard to design, setting or comparators for these outcomes.

The analyzed sample confirmed that TF-CBT according to Cohen et al. could be effectively delivered to children and adolescents with single as well as multiple traumatic experiences. It effectively reduced pediatric PTSS in a relatively short number of sessions (Hansen, Lambert, & Forman, 2002) in settings with varying degrees of caregiver involvement, therapist training, and prior treatment experience of therapists. Thus, it is a perfect candidate for cost-effective D&I in settings with variable resources available. Furthermore, the included studies varied in terms of treatment duration, session length, and session frequency as well as treatment applications such as culture, telehealth, setting and additional elements. These are important factors for the treatment of affected minors with a wide range of traumas and specific care settings, underlining the flexibility of TF-CBT according to Cohen et al.

4.3. Limitations

We encountered several limitations whilst conducting our analyses. Most importantly, the indication of publication bias suggested that some studies with smaller effects may not have been published. We used appropriate methods to address this problem, but the true results of unpublished reports can, of course, never be known. It should also be mentioned that we may have missed studies that were not captured by our search terms. Additionally, some studies that would have matched our inclusion criteria ultimately had to be excluded due to unavailable data. Another major limitation was the inclusion of categorical rather than dimensional instruments in some of the older studies. This may have disguised ES and contrasting them with newer measures should be addressed in future studies. In addition, we did not run a formal analysis to confirm the large difference between ES in the subgroup analyses statistically. Moreover, due to the multitude of instruments used to assess the outcomes, no minimal symptom criterion was defined, leading to great variance in baseline symptomatology. Additionally, an instrument to assess pediatric grief reliably was not available. Furthermore, some analyses were limited to very few studies revealing some specific areas that warrant further attention.

5. Conclusion

TF-CBT according to Cohen et al. is an efficacious and effective treatment for pediatric PTSS with promising results on secondary outcomes of depression, anxiety, and grief. With regard to PTSS, it is superior to control conditions including TAU/AT, justifying its widespread use and recommendation in international guidelines as a first-line treatment (Forbes et al., 2020; National Institute for Health and Care Excellence, 2018; Phoenix Australia Centre for Posttraumatic Mental Health, 2013). Results also support further D&I in countries other than the US with group settings constituting a viable cost-effective and timesaving option when resources are limited. This is especially useful in the case of mass casualties involving large groups of young people such as Covid-19, wars around the world, the increasing frequency of natural disasters due to climate change, and terrorist attacks. TF-CBT according to Cohen et al. groups can be easily implemented and delivered via schools, child and youth welfare system facilities or other institutions. In practice, it may also be used to treat child and adolescent traumatic grief since the initial results are very promising, and the evidence for other grief-specific interventions is still relatively sparse (Boelen & Smid, 2017; Bui, 2018; Currier, Holland, & Neimeyer, 2007; Rosner, Kruse, & Hagl, 2010).

Future TF-CBT research should focus on group settings with a view to evaluating whether they do indeed produce stronger effects, and to providing treatment for large groups of people in a timely and cost-effective manner. In addition, we are in need of a reliable instrument to assess pediatric grief symptoms. RCTs in individual settings and western countries with different comparators are required to substantiate treatment effects on grief and to evaluate TF-CBT according to Cohen et al. in comparison with other grief-related treatments. Promising avenues may also be its application in telehealth to provide treatment during the pandemic and in rural areas where less mental health care is available. Moreover, offering TF-CBT according to Cohen et al. to inpatients may constitute a way of addressing the high rates of PTSD among this population. Additionally, providing treatment to young adults could expand the range of effective treatments available to this group.

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Declaration of competing interest

None.

Data availability

Data will be made available on request.

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BASIC RESEARCH ARTICLE

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Online training for evidence-based child trauma treatment: evaluation of the German language TF-CBT-Web

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ABSTRACT

Background: Evidence-based trauma-focused interventions for treating PTSD in children and youth are barely used in practice. Web-based training has proven to be an effective way of transferring knowledge to healthcare professionals.

Objective: TF-CBT Web is a web-based training programme designed to foster the dissemination of Trauma Focused Cognitive Behavioural Therapy (TF-CBT) for children and youth, and is run by the Medical University of South Carolina. This paper describes the characteristics of healthcare professionals who registered for the adapted German language version of TF-CBT Web. It evaluates the effectiveness and user friendliness of the programme.

Method: : Similar to the TF-CBT treatment manual, the German language TF-CBT Web contains 12 modules. Between 2018 and 2020, 4,020 users registered for the programme. During the registration process users provided demographic information. The knowledge of users regarding the TF-CBT components was assessed via pre-tests and post-tests in each module.

Results: The programme was accessed by a sample of mostly German users with varying professional health care backgrounds and a wide-ranging spread of work experience. The results indicated a significant knowledge gain and high rates of user satisfaction with the programme.

Conclusions: In summary, the results of this study suggested that web-based training is an effective and well-accepted method for knowledge gain in trauma-focused interventions. Future research should evaluate the actual application of the taught methods in clinical practice.

Capacitación en línea para el tratamiento del trauma infantil basado en la evidencia: evaluación del TF-CBT-Web en alemán

Antecedentes: Las intervenciones centradas en el trauma basadas en la evidencia para tratar el TEPT en niños y jóvenes apenas se utilizan en la práctica. La capacitación basada en la web ha demostrado ser una forma efectiva de transferir conocimientos a los profesionales de la salud.

Objetivo: TF-CBT Web es un programa de capacitación basado en la web, diseñado para fomentar la difusión de la Terapia cognitiva conductual centrada en el trauma (TF-CBT por sus siglas en ingles) para niños y jóvenes, y está a cargo de la Universidad Médica de Carolina del Sur. Este artículo describe las características de los profesionales de la salud que se registraron en la versión alemana adaptada del TF-CBT Web. Evalúa la eficacia y la facilidad de uso del programa.

Método: Similar al manual de tratamiento de TF-CBT, el sitio web de TF-CBT en alemán contiene 12 módulos. Entre 2018 y 2020 se registraron 4.020 usuarios en el programa. Durante el proceso de registro, los usuarios proporcionaron información demográfica. El conocimiento de los usuarios sobre los componentes de la TF-CBT se evaluó mediante pruebas previas y posteriores en cada módulo.

Resultados: El programa fue completado por una muestra de usuarios en su mayoría alemanes con diferentes antecedentes profesionales en el cuidado de la salud, y una amplia variedad de experiencia laboral. Los resultados indicaron una ganancia de conocimiento significativa y altos índices de satisfacción de los usuarios con el programa.

Conclusiones: En resumen, los resultados de este estudio sugirieron que la capacitación basada en la web es un método efectivo y bien aceptado para adquirir conocimientos en intervenciones centradas en el trauma. La investigación futura debe evaluar la aplicación real de los métodos enseñados en la práctica clínica.

循证儿童创伤治疗在线培训: 德语版 TF-CBT-Web 评估

背景: 用于治疗儿童和青少年 PTSD 的循证聚焦创伤干预实践中几乎没有使用。在线培训已被证明是向医疗保健专业人员传授知识的有效方式。

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KEYWORDS
Posttraumatic stress disorder; trauma-focused therapy; TF-CBT; web-based training; dissemination

PALABRAS CLAVE
Trastorno de estrés postraumático; terapia centrada en el trauma; TF-CBT; capacitación basada en la web; difusión

关键词
创伤后应激障碍、聚焦创伤治疗、TF-CBT; 在线培训、宣传

HIGHLIGHTS

- Children and adolescents with PTSD require trauma-focused treatment. However, evidence-based interventions for this patient population are barely used. Therefore, it is necessary to expand professional training for the treatment of traumatised children and adolescents.
- Our evaluation showed the effectiveness and feasibility of a web-based training programme for mental health practitioners in an evidence-based treatment for children and youth with PTSD (TF-CBT). Results show a significant knowledge gain of users who participate in the web-based training programme.
- The user satisfaction survey also revealed that users found the modus and content of the web-based training applicable and relevant for their clinical practice.

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目的: TF-CBT Web 是一个旨在培养宣传儿童和青少年聚焦创伤认知行为疗法 (TF-CBT)的在线培训计划, 由南卡罗来纳医科大学运营。本文描述了注册了德语版 TF-CBT Web 的医护专业人员特征。它评估计划的有效性和用户友好性
方法: 与TF-CBT治疗手册类似, 德语版TF-CBT Web包含12个模块。 2018 年至 2020 年间, 有 4,020 名用户注册了该计划。在注册过程中, 用户提供了人口统计信息。通过每个模块中的前测和后测评估用户对 TF-CBT 成分的了解。
结果: 该计划的访问者大多是具有不同专业医护背景和广泛工作经验的德国用户。结果表明, 该计划获得了显著的知识增益和较高的用户满意度。
结论: 总之, 本研究结果表明, 在线培训是一种可以在聚焦创伤干预中获取知识的有效且广为接受的方法。未来研究应该评估所教授方法在临床实践中的实际应用。

1. Introduction

Experiencing traumatic events negatively impacts the development, psychopathology, and general functioning of children and adolescents (Saunders & Adams, 2014). Traumatic experiences during childhood are risk factors for psychopathology later in life. Children with PTSD have been found to display high functional impairment which, in most cases, does not improve unless treated (Danese, McLaughlin, Samara, & Stover, 2020; Hiller et al., 2016; Lewis et al., 2019; Schaefer et al., 2018). Despite findings from a British epidemiological study showing that 31.1% of young people have experienced at least one traumatic event in their life, and 7.8% have developed PTSD symptoms by the age of 18, only 20% of children and adolescents with PTSD received support from mental health practitioners (Lewis et al., 2019). These findings show that PTSD-specific assessments and treatments are scarce in clinical practice: many children with trauma-related psychopathology remain undetected and without any access to adequate care (Danese et al., 2020). There is, therefore, an urgent need for the expansion of both the professional training and the clinical capacity for the treatment of traumatised children and adolescents (Danese et al., 2020; Lewis et al., 2019).

In recent years numerous evidence-based psychological treatments (EBTs) for PTSD have been developed and evaluated. EBTs for children and adolescents with PTSD consist mainly of trauma-focused approaches, including the well-established trauma-focused cognitive behavioural therapy (TF-CBT; Cohen, Mannarino, & Deblinger, 2006). A recent paper reported large effects ($SMD = -1.17$) of TF-CBT in reducing PTSD symptoms in comparison to a waitlist condition (Mavranezouli et al., 2020). Despite its effectiveness, various studies have shown that most children and adolescents with PTSD do not have access to evidence-based treatment (Hintzpeter et al., 2014; Kröger, Kliem, Bayat Sarmadi, & Kosfelder, 2010; Smith, Dalgleish, & Meiser-Stedman, 2019). There are two main reasons for this. Firstly, the use of EBTs in clinical practice is still relatively limited (Beidas et al., 2019; Institute of Medicine, 2015). Secondly, a large number of mental health care professionals do not have the basic clinical knowledge or the clinical skills to deliver standard treatments for PTSD (Rosen, Ruzek, & Karlin, 2017). There are various reasons for the poor use of guideline-based treatments of children and adolescents with PTSD: incorrect assumptions of therapists (e.g. overestimation of the effectiveness of stabilisation without confrontation by therapists), therapists' fears with regard to conducting the treatment (e.g. concern about the conduct of trauma confrontation, impact of narration on one's own mental state), inadequate training opportunities or the sole availability of time-intensive training programmes, and a lack of systematic support for such training programmes from employers and the healthcare system (Cook, Dinnen, Simiola, Thompson, & Schnurr, 2014; Herschell, Kolko, Baumann, & Davis, 2010; Neuner, 2011; Sansen et al., 2019). Morris, Wooding, and Grant (2011). estimated that it takes 17 years for EBTs to be implemented in clinical practice. This highlights the urgent need to disseminate effective PTSD treatments in routine clinical care (O'Connor, Morgan, Bailey-Straebler, Fairburn, & Cooper, 2018).

Consequently, new strategies to ensure that evidence-based interventions reach young patients are very much needed (Smith et al., 2019). Research indicates that both the self-study of treatment manuals and in-person workshops without follow-up support are, for the most part, inadequate. These training approaches do not lead to an increase in the knowledge and skills of therapists. Nor do they ensure that EBTs are applied in practice (Herschell et al., 2010). As a relatively new but promising approach, online training programmes have been shown to improve therapists' knowledge and psychotherapeutic skills in the short-term. In a systematic review Jackson, Quetsch, Brabson, and Herschell (2018). differentiate between five types of web-based training methods for the dissemination of EBTs: (1) The *virtual classroom*, a group-based learning approach with a facilitator who provides the content for users (average effect size for knowledge $g = .61$, skills $g = 1.2$). (2) *Serial instruction*, a linear learning programme in which all users work on the same content in the same way (average effect size for knowledge of $g = 1.29$, skills $g = .15$, self-efficacy $g = .78$, use $g = .65$). (3) *Self-directed learning* where users select modules and content according

to their interests (knowledge $g = .29$, skills $g = .22$). (4) *Simulation training* where users interact with virtual patients (average effect size knowledge $g = 2.03$, skills $g = 1.75$). (5) *Ongoing support* which includes consultation or supervision in addition to a learning programme (average effect size of support vs. no support g = -.04). Positive effects on completion, knowledge, attitudes towards the treatment, skills, and fidelity were observed for all approaches (Jackson et al., 2018). Research indicates that web-based training programmes followed by consultations are just as effective, in terms of knowledge and skills acquisition, as in-person workshops followed by consultations conducted by experts (German et al., 2018; Kobak, Wolitzky-Taylor, Craske, & Rose, 2017; Taylor et al., 2021).

In addition to their resource effectiveness, web-based training methods have several advantages. Online training programmes have less impact on work and personal life, thus enabling users to work through the programme flexibly and at their own pace (Khanna & Kendall, 2015; Rosen et al., 2017). They also provide access to a greater number of clinicians, especially in rural areas (Rosen et al., 2017). Web-based programmes have a high level of feasibility and acceptability. They also increase knowledge about treatment techniques (Heck, Saunders, & Smith, 2015). Moreover, online training programmes are able to foster competencies and change attitudes towards a treatment procedure, which both point to a willingness to treat patients with the specific intervention (Sansen et al., 2019). Another advantage of online formats is that they allow for the video-based presentation of patient-therapist interactions, which offer realistic insight into therapy sessions (Khanna & Kendall, 2015; Rosen et al., 2017). Users of web-based training programmes can repeatedly access the material; this may lead to more sustainable use of the treatment methods. Web-based training programmes can also be regularly updated thus enabling them to keep pace with the latest scientific findings (O'Connor et al., 2018). Lastly, web-based training programmes also lead to a sustainable use of the treatment by mental health care practitioners (Jackson et al., 2021).

To date, most e-learning programmes for the treatment of PTSD cater for an English-speaking audience. One prominent example is TF-CBT WEB, the online training for TF-CBT, a web-based and guideline recommended EBT for PTSD (Heck et al., 2015). To the best of the authors' knowledge, there is currently one evaluated e-learning course (ECQAT; Sansen et al., 2019) in the German language. However, ECQAT does not focus on the specifics of one EBT manual but gives more of an overview of different effective treatment aspects (e.g. cognitive intervention, exposure). The present study, therefore, set out to establish and evaluate an adapted and extended German version of TF-CBT Web called 'TF-KVT Web' for the treatment of PTSD in children and youth, which is tailored to the German healthcare landscape (https://tfkvt.ku.de).

The first objective of the present study was to describe both the user characteristics and the general characteristics of users who completed the German language TF-CBT Web, to examine which occupational groups could be reached with such a programme, and to evaluate use of the programme. The second objective was to evaluate the user friendliness of the German language TF-CBT Web. The third and final objective was to evaluate the knowledge gain of users in each module, and to compare knowledge gain between completers and non-completers.

2. Method

2.1. The German language TF-CBT Web online training

TF-CBT (Cohen et al., 2006) is an evidence-based trauma-focused intervention for children and adolescents and is included in the PTSD treatment guidelines (National Institute for Health and Care Excellence, 2018). From 2005 to 2018, the free online TF-CBT learning platform of the Medical University of South Carolina was available for English-speaking mental healthcare professionals. Starting in 2018, the participants were charged a fee. The original online course consisted of 11 modules. More than 300,000 users worldwide used this platform during the first ten years of its existence (Heck et al., 2015). For the current study, a German version of the learning programme was developed. The content was optimised to suit the specific conditions of the German healthcare system that differs vastly from the US-American one (e.g. diagnosis within the course of probationary sessions, adjustment of the session content to a single 50-minute session). Since 2018, the German language TF-CBT Web has been available to the general public free of charge.

Similar to the TF-CBT treatment manual, the German language TF-CBT Web contained 12 modules (see Table 1). Compared to the English programme, the German language TF-CBT Web included more background information and an additional module for diagnostics with publicly accessible diagnostic instruments, along with additional worksheets and videos. As a result of increased migration movements from the Middle East and the African continent to Europe in 2015, extended material for refugees in different languages was added. TF-CBT Web is a self-directed learning programme. Each module started with a four-question knowledge test. After the user had viewed the contents of the module, the same four questions were presented as a post-test.

Table 1. Modules of the German language TF-CBT Web.

Number	Name of the Module
1	Foundations
2	Diagnostic
3	Psychoeducation
4	Parenting skills
5	Relaxation techniques
6	Affect expression and modulation
7	Cognitive coping strategies
8	Trauma narrative
9	Cognitive processing
10	In vivo exposition
11	Conjoint parent-child sessions
12	Improving future safety and development

Once the post-test had been processed, access to the next module was unlocked. Over the course of the entire learning programme, each user thus completed a total of 12 pre- and post-tests.

All modules started with an introduction video containing a short description of the technique. The modules then included step-by-step instructions for applying the technique in a therapeutic setting. In addition, various video demonstrations of the techniques with patient actors (e.g. psychoeducation with the mother of a 9-year-old girl who had experienced sexual abuse) were included. Moreover, the modules comprised recommendations for exercises, and worksheets in different languages. Furthermore, they contained practical information on caregiver sessions. Each chapter described culture- and age-specific aspects, as well as common challenges in clinical practice. All learning content was provided via the content management system typo3 on a website exclusively on a platform used solely for the German TF-CBT Web.

2.2. Ethics

In Germany, a general ethics commitment to epidemiology and consumer surveys was agreed (www.adm-ev.de), that allows the conduct of single projects without specific ethical approval, as long as the principles of this commitment for epidemiological, social and consumer satisfaction purposes were accepted (e.g. only use of fully anonymized data for the specific purpose). These principles were observed. Participants were clinicians who volunteered their participation; no explicit consent was required in the participating countries.

2.3. Participants

The present study included participants who signed up for the German language TF-CBT Web. The programme was advertised in various psychotherapeutic journals and at conventions (e.g. 'Psychotherapeuten Journal', Convention 'Deutsche Gesellschaft für Psychotraumatologie'). Due to the dissemination approach of the programme, the programme was publicly available to anyone interested in the psychotherapeutic treatment of traumatised children and adolescents. Between January 1, 2018 and December 31, 2020, 4,020 users signed up for the German language TF-CBT *Web*. The final study sample consisted of three different sub-samples: (1) any mental health professionals (licenced psychotherapists, psychotherapists in training, and psychiatrists) who enrolled independently, (2) German and Swiss university students who had to complete the programme as part of their psychology curriculum, (3) licenced psychotherapists who took part in two large German TF-CBT dissemination projects called BETTER CARE and BEST FOR CAN (Rosner et al., 2020; Rosner et al., 2020), who needed to complete the German language TF-CBT Web in order to participate in the study. A more detailed description of the sample characteristics is provided in the results section.

2.4. Measures and procedure

During the registration process, users provided descriptive information, such as first and last name, state and country of origin, professional training (psychology, social work, counselling, nursing staff, psychiatry, family counselling), highest academic qualification (abitur, diploma, bachelor, master, PhD, licence to become a professor, state examination, other), qualification (licence to practice medicine, completed training for therapeutic approaches not recognised by German health insurance system, started training for non-guideline procedure, started training for guideline procedure, completion of training, psychotherapy in line with the 'Heilpraktikergesetz', no professional qualification) and years of professional experience (less than 5 years, 5–10 years, 10–20 years, more than 20 years). Knowledge acquisition in each module was measured by the change in percentage of correct answers from pre-test to post-test. The questions were based on the main content of the modules and were taken from the English language TF-CBT Web (e.g. 'Which of the following statements best applies to the therapeutic approach in the psychoeducation module?'). To assess internal consistency, Cronbach's alpha was calculated for the pre- and post-tests, which is satisfying with Cronbach's alpha = .69 for pre-tests and .74 for post-tests. After finishing all the modules, users were asked to complete a user satisfaction questionnaire (online supplementary). The questionnaire included 12 items about the user-friendliness of the programme (e.g 'The online learning programme was easy to navigate and I found my way around.', 4-point likert scale, 1-4), 10 questions on knowledge transfer of TF-CBT methods (e.g. 'This online learning programme helped me understand the TF-CBT methods.', 4-point likert scale), 3 questions on the

users intent to apply TF-CBT in future practice (e.g. 'Through this online learning programme, I will likely use TF-CBT with many of my patients.'), and 4 questions on the availability of support for participating in the German language *TF-CBT Web* (e.g. 'Was your course participation supported by your employer/ supervisor/organizer through time off, crediting of training time, etc.?'). The items of the user satisfaction evaluation were adapted from surveys of other learning programmes for psychotherapists (see Sansen et al., 2019), but have unfortunately not been evaluated elsewhere. The internal consistency for each subscale in the present studies sample was satisfying given the number of items (user-friendliness: Cronbach's alpha = .75, (12 items); knowledge transfer: Cronbach's alpha = .86 (9 items); intent to apply TF-CBT: Cronbach's alpha = .66 (3 items).

2.5. Data analysis

Statistical analysis was conducted using the Statistical Package for the Social Sciences SPSS 26.0. Frequency counts were used to describe the characteristics of both registered users and completers of the German language TF-CBT Web. A binary logistic regression was performed in order to evaluate the impact of profession, highest qualification, and work experience on the completion of the web-based training. To assess the likelihood of users dropping out in a specific module, the frequencies of completion of each module were calculated. Knowledge acquisition in each module was evaluated by calculating differences in percentage between pre-test and post-test scores. In addition, 12 paired sample t-tests were conducted using the pre-test and post-test scores of users to determine knowledge gain in the training modules. These analyses were run for the whole sample and for the completers of the programme. User satisfaction was evaluated by calculating the sum scores for each subcategory. To avoid alpha inflation all p values were Bonferroni-Holm corrected.

3. Results

3.1. User characteristics

All 4,020 users provided demographic information. Most of the users in the sample came from Germany (92.4%, $n = 3714$), followed by Switzerland (5.4%, $n = 217$) and Austria (1.5%, $n = 1.5\%$). They were predominantly psychologists (65.4%, $n = 2630$). The majority of the users reported that their highest qualification was a diploma (29.3%, $n = 1177$) or master's degree (26.5%, $n = 1065$). About two-thirds (64.7%, $n = 2601$) of the users had less than 5 years' work experience. For a detailed description of the user characteristics, see Table 2.

The average number of days from registration to completion of the programme was 95.9 days ($SD = 151.4$). Users were deemed to be completers of the German language TF-CBT Web if they downloaded the completer's certificate at the end of the programme. In total, 1,410 (35.1%) of the users completed the training programme. In the sample of non-student users ($n = 3,230$), a total of 1,017 users completed the programme, which is equivalent to a completer rate of 31.5%. The completer rate of non-student users in relation to the total sample ($N = 4,020$) was 25.3%. Users were deemed to be completers of individual modules as soon as they processed the post-test of a module. 1,819 users (45.2%) completed the first six modules, and 1,565 users (38.9%) completed 11 modules of the German language TF-CBT Web. The highest dropout was between the first and the second modules. For a more detailed history of the use of each module, see Figure 1.

Users who completed the web-based training were mainly from Germany (91.1%, $n = 1270$), were psychologists (64.6%, $n = 911$), and had a diploma (24.2%, $n = 314$) or master's degree (29.4%, $n = 414$). A quarter (25.2%, $n = 355$) of all users who completed the German language TF-CBT Web had a licence to practice medicine. Most (70.1%, $n = 989$) of the completers had less than five years' work experience.

The results of the binary logistic regression analyses are given in Table 3. The binomial logistic regression model was statistically significant, $\chi^2(13) = 123.23$, $p < .05$ (Nagelkerke's $R^2 = .04$, Cox & Snell's $R^2 = .03$). Compared to psychologists, social workers (OR .60, CI .46, .80, $p < .05$) or nursing staff (OR .61, CI .46, .79, $p < .05$) were less likely to complete the German language TF-CBT Web. However, counselours were more likely to complete the programme

Table 2. Characteristics of users of the German language TF-CBT Web.

Characteristics	User *n*	User in %
Profession		
Psychology	2630	65.4
Psychiatry	677	16.8
Social work	560	13.9
Family counselling	68	1.7
Counselling	54	1.3
Nursing staff	30	.7
Highest qualification		
Diploma*	1177	29.3
Master's degree	1065	26.5
Bachelor's degree	468	11.6
Licence to practice medicine	341	8.5
Abitur/ High school diploma	322	8.0
PhD	308	7.7
Licence to become a professor	11	.3
No degree	6	.1
Other	321	7.9
Work experience		
< 5 years	2601	64.7
5–10 years	706	17.6
10–20 years	465	11.6
> 20 years	248	6.2

*Academic degree, comparable to a Master's degree

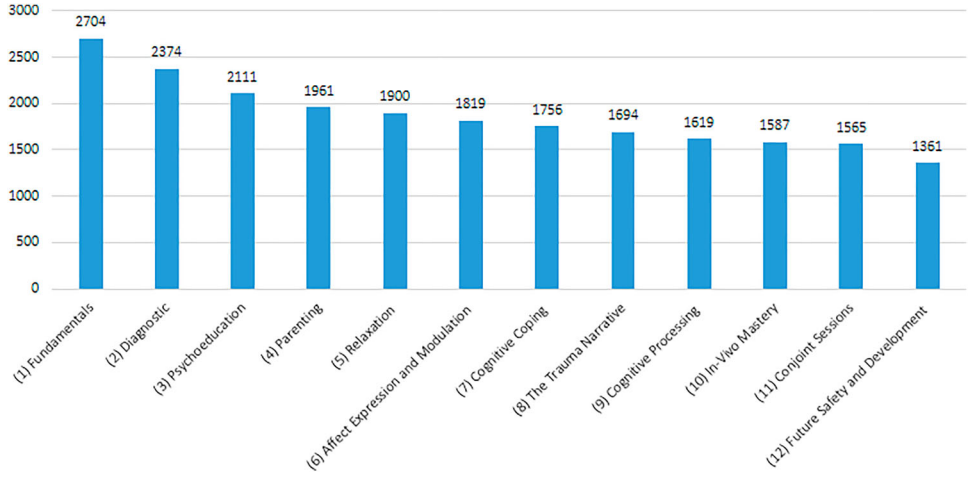

Figure 1. Completers per module.

(OR 1.82. CI 1.5, 2.16, $p < .05$). Neither being a psychiatrist (OR .93, CI .69, 1.25), a family counselour (OR .42, CI .05. 3.67) nor the highest academic qualification achieved by the user (PhD & licence to become a professor: OR .88, CI .72, 1.08; state examination: OR 1.18. CI .98, 1.42; licence to practice medicine OR .58, CI .27, 1.27; no degree OR .82, CI .48, 1.39; other degree OR .60, CI .32, 1.12) explained any additional variance in the regression analyses. The results also revealed that users with ten to twenty years' work experience (OR .76, CI .61, .95, $p < .05$) and those with more than twenty years' work experience (OR .73, CI .55, .99. $p < .05$) were less likely to complete the web-based training, compared to users with less than five years' work experience.The results of the binary logistic regression analyses are given in Table 3.

Table 3. Results of logistic regression: user characteristics associated with training completion.

Characteristics	95% CI for Odds Ratio					
	b	*SE b*	*p*	Lower	Odds Ratio	Upper
Profession (reference category: Psychologists)						
(1) Social work	−.51	.14	.00*	.46	.60	.80
(2) Psychiatry	−.07	.15	.63	.69	.93	1.25
(3) Nursing staff	−.50	.14	.00*	.46	.61	.79
(4) Family counselling	−.86	1.10	.44	.05	.42	3.67
(5) Counselling	.06	.09	.00*	1.5	1.82	2.16
Highest qualification (reference category: Diploma & Master's degree)						
(1) PhD & licence to become a professor	−.12	.10	.23	.72	.88	1.08
(2) State examination	.16	.09	.09	.98	1.18	1.42
(3) Licence to practice medicine	−.54	.40	.17	.27	.58	1.27
(4) No degree	−.20	.27	.45	.48	.82	1.39
(5) Other	−.51	.32	.11	.32	.60	1.12
Work experience (reference category: < 5 years)						
(1) 5–10 years	−.16	.09	.09	.71	.85	1.02
(2) 10–20 years	−.27	.11	.02*	.61	.76	.95
(3) > 20 years	−.30	.15	.04*	.55	.73	.99
Constant	−.60	.06	.00		.55	

Note. $R^2 = 0.03$ (Cox & Snell), 0.04 (Nagelkerke), Model χ^2 (13) = 123.23, *<.05

3.2. User satisfaction and circumstances while working on the German language TF-CBT Web

A total of 1,405 users (34.95%) completed the evaluation questionnaire after finishing the learning programme. The majority of users who answered these questions were psychologists (61.7%, $n = 867$), had a master's degree (29.4%, n = 413), and less than five years' work experience (70.0%, $n = 984$). For a more detailed description of the characteristics of this subsample, please refer to Table S2. Users rated user-friendliness and usability with an average score of 3.74 (*range* 2.42-4.00, $SD = .24$). The extent to which the programme helped in understanding TF-CBT methods was rated with a mean of 3.73 (*range* 2.00-4.00, $SD = .32$). The positive effect on the intent to apply TF-CBT attained an average score of 3.35 (*range* 1.00-4.00, $SD = .52$). One-third of respondents said they received support from their supervisor or employer (37.0%, $n = 520$), whereas 205 users (14.6%) did not. Just over one-quarter of the users said they had worked on the programme without their supervisor's knowledge (24.3%, $n = 342$). Another quarter (24.1%, $n = 338$) could not answer the question, because they were self-employed. 489 (34.8%) users indicated that their professional environment (e.g. colleagues) supported them whilst participating in the learning programme, 248 (17.7%) received no support from their professional environment, and 686 (48.8%) either worked independently or worked their way through the programme without their professional environment knowing about it. Nearly a quarter (23.9%, $n = 336$) of the respondents took advantage of other training programmes for PTSD treatment simultaneously to the German language TF-CBT Web. 22.6% ($n = 317$) users did not have access to other training opportunities, 6.7% ($n = 94$) did not use other training opportunities, and 46.8% ($n = 658$) did not find out about other training opportunities while participating in the online course.

Table 4. Knowledge gain per module in percent.

Module	Mean	*SD*
(1) Foundations	29.4	28.2
(2) Diagnostics	7.8	22.9
(3) Psychoeducation	4.4	23.1
(4) Parenting	10.7	27.2
(5) Relaxation	14.6	21.2
(6) Affect expression and modulation	8.8	24.3
(7) Cognitive coping	5.2	20.3
(8) The Trauma Narrative	23.4	28.8
(9) Cognitive processing	12.2	24.3
(10) In vivo mastery	15.4	23.8
(11) Conjoint sessions	11.2	21.5
(12) Improve future safety and development	4.6	25.9

3.3. Knowledge acquisition

Table 4 gives the knowledge gain of all users in percent. Knowledge increased significantly in each module of the German language TF-CBT Web. The greatest knowledge gain was observed in the modules 'Foundations' ($M = 29.4\%$, $SD = 28.2\%$) and 'The Trauma Narrative' ($M = 23.4\%$, $SD = 28.8\%$).

Results from the paired sample t-tests indicated that there was a significant gain in users' knowledge across all modules (see Table 5), with small effect sizes for example in the modules 'Diagnostic' and 'Psychoeducation', medium effect sizes for 'Relaxation', 'Cognitive Processing', 'In Vivo Mastery' and a large effect size for 'Foundations' and 'The Trauma Narrative'. Effect sizes were mostly consistent across both the sample of all users and the sample of completers (see Table 6). However, the completer sample had slightly larger effect sizes for knowledge gain.

4. Discussion

Given the high prevalence of PTSD in children and youth and the low level of application of evidence-based methods in the treatment of PTSD, the present study aimed to evaluate a German training programme for TF-CBT based on the manual by Cohen et al. (2006). In total, just over 4,000 people took advantage of the training programme in 2018-2020. With the onset of the COVID19 pandemic in the first half of 2020, we noted a substantial increase in new registrations. This increased demand for online training may be due to a lack of in-person training opportunities during this period. In line with the first aim of the present study, the course was accessed by a sample of mostly German users with various professional health care backgrounds and a wide range of work experience. One third of the 4,000 registered users of the German TF-CBT Web completed all 12 modules. This number is slightly lower than the completion rates found in other web-based programmes, which report completion rates of about 50% (Heck et al., 2015). However, if only those users who actually started studying the first module are considered ($n = 2704$), 50% of the users completed the German language TF-CBT Web. This is in accordance with the completer rates of the aforementioned studies. Parts of the data were collected at the time of the Covid19 pandemic. The particular pandemic situation may have had an impact on the dropout rates of the learning programme. The increased double burden of family and work, but also the increased demand for psychosocial services during the pandemic (Boldt et al., 2021; Dubey et al., 2020), could have made it difficult for users to complete the programme.

The highest drop-out rate was found between the first and second module. Thus, as they progressed through the programme, users were more likely to complete all modules. Unfortunately, we were not able to conduct a drop out analysis to gain insight into the motives for non-completion. However the larger drop-out rate at the beginning of the programme might be an indication that users tended to drop out because they realised at the start of the e-learning programme that they were either already familiar with the content, the content did not seem relevant to their clinical practice, did not fit their specific clinical needs, or the modus of online learning did not appeal to them (Postel, Haan, Huurne, Becker, & Jong, 2010). Future research should focus on the specific reasons for drop out from EBT online programmes. The analysis of the characteristics of users who completed the programme also revealed an effect of the type of profession and length of work experience on the completion of the German language TF-CBT Web. Users with many years of work experience were less likely

Table 5. Pre-test and post-test outcomes of all users in each of the 12 modules.

Module	pre-test Mean (*SD*)	post-test Mean (*SD*)	*t*	df	*p* Value	Cohen's *d*
(1) Foundations	1.86 (.97)	3.04 (.78)	54.14	2701	< .001	1.04
(2) Diagnostics	2.76 (.83)	3.07 (.82)	16.10	2220	< .001	.34
(3) Psychoeducation	2.90 (.87)	3.08 (.90)	8.69	2108	< .001	.19
(4) Parenting	2.60 (1.06)	3.02 (.91)	17.47	1959	< .001	.39
(5) Relaxation	3.06 (.94)	3.64 (.76)	29.99	1899	< .001	.69
(6) Affect expression and modulation	2.95 (.94)	3.30 (.81)	15.45	1818	< .001	.36
(7) Cognitive coping	3.12 (.88)	3.33 (.73)	10.71	1749	< .001	.26
(8) The Trauma Narrative	2.06 (1.10)	3.00 (1.03)	33.43	1693	< .001	.81
(9) Cognitive processing	2.22 (.96)	2.71 (.75)	20.20	1618	< .001	.50
(10) In vivo mastery	2.22 (.80)	2.84 (.82)	25.59	1555	< .001	.65
(11) Conjoint sessions	3.13 (1.01)	3.57 (.75)	20.54	1564	< .001	.52
(12) Improve future safety and development	2.65 (1.08)	2.83 (.78)	6.49	1360	< .001	.18

Table 6. Pre-test and post-test outcomes of completers in each of the 12 modules.

Module	pre-test Mean (*SD*)	post-test Mean (*SD*)	*t*	df	*p* Value	Cohen's *d*
(1) Foundations	1.84 (.97)	3.01 (.74)	41.82	1393	< .001	1.12
(2) Diagnostics	2.72 (.83)	3.08 (.81)	14.69	1369	< .001	.40
(3) Psychoeducation	2.92 (.86)	3.15 (.79)	10.69	1391	< .001	.29
(4) Parenting	2.60 (1.06)	3.07 (.83)	16.73	1389	< .001	.45
(5) Relaxation	3.10 (.86)	3.71 (.60)	26.80	1388	< .001	.72
(6) Affect expression and modulation	2.94 (.92)	3.31 (.79)	14.60	1388	< .001	.39
(7) Cognitive coping	3.11 (.87)	3.33 (.73)	10.21	1399	< .001	.27
(8) The Trauma Narrative	2.06 (1.08)	3.04 (.99)	32.51	1387	< .001	.87
(9) Cognitive processing	2.21 (.95)	2.73 (.73)	20.63	1387	< .001	.55
(10) In vivo mastery	2.23 (.78)	2.85 (.82)	25.23	1371	< .001	.68
(11) Conjoint sessions	3.16 (.97)	3.61 (.67)	19.57	1387	< .001	.53
(12) Improve future safety and development	2.67 (1.08)	2.84 (.75)	6.08	1239	< .001	.17

to complete all modules. This might be due to a confounding effect of the years of work experience and age. Older users might be less comfortable with a web-based learning programme, finding it thus less helpful.

We were able to show that the German language TF-CBT Web led to a significant knowledge gain about EBT for PTSD. The greatest effect sizes for knowledge gain were found in the modules 'Foundations' ($d = 1.04$) and 'The Trauma Narrative' ($d = .81$). This may be attributed to the fact that the content of these modules was highly specific to TF-CBT, whereas the content of other modules was more general and included less specific treatment techniques such as relaxation techniques, which users versed in cognitive behavioural treatment techniques might have already been familiar with. In the US version of TF-CBT Web, a large effect size was found for the module 'Creating the Trauma Narrative' ($d = .81$) as well. Large effect sizes were found in the modules 'Stress Management – Controlled Breathing' ($d = .85$), 'Stress Management – Thought Stopping' ($d = .91$). However, the effect size in the German version was only in the medium range for the module 'Relaxation' ($d = .69$). A difference was also observed for the psychoeducation modules: in the US version of TF-CBT Web a medium effect size ($d = .73$) was found, but in the German version only a small effect size ($d = .19$; Heck et al., 2015). Comparing the effect sizes of the two versions of the TF-CBT learning programme, some differences emerge. These differences could partly be due to the fact that about 75% of the users of the U.S. training programme had a master's degree, whereas only 55% of the present studies sample had a Master degree in clinical psychology (or the German equivalent of a 'Diplom'). In comparison to the German speaking sample, the U.S. sample was thus more homogeneous. In addition, only 15% of the American sample consisted of students of mental health programmes (Heck et al., 2015). The latter is important to note as the students of the German sample were enrolled in a broader psychology programme at their respective universities, which included other psychological subjects as well as clinical psychology. This difference is due to the specifics of the German Healthcare system in which psychologists start their specialised mental health training to become a licenced psychotherapists only after graduating with a more general psychology degree (Master or Diplom). Nevertheless, these results demonstrated that the German language TF-CBT Web was an effective tool in increasing mental health care professionals' knowledge of TF-CBT. They likewise demonstrated that the effectiveness of the German language TF-CBT Web was comparable to other web-based learning programmes (Jackson et al., 2018; Kobak, Craske, Rose, & Wolitsky-Taylor, 2013). Based on the significant knowledge gain and the high user satisfaction in each individual module, future studies may consider offering modules individually as well. This would enable users already trained in behavioural therapy to 'cherry pick' the content most valuable to their specific clinical practice and prior experience, resulting in a more individualised and resource-effective approach to disseminating TF-CBT in clinical practice. For example, individual modules with standard methods of behavioural therapy (e.g. relaxation, cognitive coping) could already be unlocked for this subsample and would thus not necessarily have to be processed. Even if individual modules are already unlocked, the structure of TF-CBT should be maintained in the programme. This approach could possibly also lower drop-out rates. The evaluation also showed high user satisfaction across the complete programme. The German language TF-CBT Web seemed to be a user-friendly and usable platform which helped the users understand TF-CBT-methods. Just one-third of the users surveyed received support from their employer and work colleagues when working on the programme. Embedding the web-based training in institutional framework conditions and further training offers might make it easier for users to participate and complete the programme.

Despite these encouraging results, the following limitations to the present study have to be noted:

Results were limited to users' self-reports on knowledge gain and intent to apply TF-CBT. No conclusions could be drawn about therapists' adherence to the manual or the extent to which practitioners put into practice the techniques they had learned after completing the programme. Future studies should follow up on TF-CBT treatments offered by programme completers as well as their adherence to the taught material. Furthermore, due to the self-enrolment of the participants, the representativeness of the findings is limited. It is likely that the sample was selective and consisted mainly of highly motivated mental health practitioners, especially given the large volume of study participants. Students participated in the learning programme during their curriculum and were, therefore, required to complete it. If this subgroup was excluded from the completer analysis, the completer rate was less than 30%. In addition, the subsample of students also had an impact on the low level of work experience among completers. In general, diverse sampling can have an impact on training outcomes. Another limitation was that, with regard to the profession of users, neither the therapeutic approach (cognitive behavioural/ psychoanalytical/ systemic) nor the patient target group (children and adolescents or adults) was recorded. In addition, it was not possible to provide precise information on the composition of the sample in terms of the age and gender of the users. This information would allow a more precise description of the user sample and provide further insights into the target interest groups of the German language TF-CBT Web. As mentioned above, no drop-out analyses were performed. A qualitative follow-up survey of users would have been desirable. In the user satisfaction survey, only 35% of completers answered the questions. It would be preferable for a larger number of users to answer these questions. Furthermore, the extent of support from supervisors or the organisation was not recorded for non-completers. Due to the single group pre–post-measures design, the learning programme cannot be compared to face-to-face training or other training modes. In addition, because of the design and evaluation at the module level, no conclusion can be drawn about whether online training is generally effective. However, it should be noted that the learning programme supports the implementation of TF-CBT in Germany. In two connected ongoing studies, the German TF-CBT-Web is used as a first step in training, and therapists participate in an additional workshop and a random selection of therapists will be assigned to supervision (Rosner et al., 2020a; Rosner et al., 2020b). This will allow to estimate the effectiveness of the various training modules in offering TF-CBT to patients with PTSD.

Despite these limitations the present study was able to show that web-based training methods for mental health care professionals were effective and helpful in teaching an EBT such as TF-CBT in German-speaking countries with their specific healthcare system. The web-based training was able to reach a large number of practitioners and to surmount the cost, time, and distance barriers often associated with in-person workshops. Web-based approaches may thus facilitate the implementation and dissemination of newly developed methods and might be – both individually or in the broader context of blended learning – an effective training tool for teaching EBTs (Ruzek et al., 2014). Future studies should evaluate the extent to which practitioners trained in TF-CBT actually apply the EBT techniques they have learned and follow the manual in clinical practice. In this way, the development of web-based training methods could encourage the dissemination of EBTs and thus improve the treatment of children and adolescents with PTSD in the long term.

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No potential conflict of interest was reported by the author(s).

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Data availability statement

For privacy reasons, the participants in this study did not agree to their data being shared publicly, so no support data are available.

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Publication 3. Challenges and facilitators in treating traumatized unaccompanied young refugees

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My contribution	I designed the study and developed the interview guide. I coordinated the data collection and study procedure and conducted parts of the data collection. I co-executed the data preparation and analysis. I provided feedback on the manuscript draft, approved its final version and supported the publication process.
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RESEARCH

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Challenges and facilitators in treating unaccompanied young refugees with posttraumatic stress disorder in a dissemination trial: a qualitative study with psychotherapists

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Abstract

Background Unaccompanied young refugees (UYRs) report high rates of post-traumatic stress, depression and anxiety, and low mental health service utilization. Studies have examined the experiences of psychotherapists and refugees in psychotherapy, focusing on barriers. Our stepped-care approach aims to reduce barriers through comprehensive support, such as training and case consultation for psychotherapists and interpreters, and treatment recommendations for UYRs.

Methods A qualitative design with semi-structured interviews was employed, with 20 psychotherapists, of whom 13 were females. All psychotherapists participated in the 'BETTER CARE' project, which included trauma-focused cognitive-behavioral therapy training and case consultations. We analyzed psychotherapists' initial worries, challenges, and facilitators in treating UYRs with posttraumatic stress disorder, and compared the responses of completers' and non-completers' psychotherapists, following a mix of deductive and inductive coding.

Results Psychotherapists expressed worries similar to those documented in the literature on barriers (such as organizational challenges, emotional stress, and uncertainty about working with interpreters) prior to participating in the project. Major facilitators were the components offered by the project, such as online training, workshop and case consultations. In addition, support from the facility and caregivers and the provision of skilled interpreters who translated accurately and transparently, as well as patients' treatment readiness and language proficiency, were seen as facilitators or, when lacking, as challenges. Completers' psychotherapists were more likely to emphasize the positive aspects of the project, a positive therapeutic alliance and patients' trusting relationship with the interpreters as facilitators. In contrast, non-completers' psychotherapists were more likely to encounter structural difficulties, such as the lack of primary caregivers, greater distances, and grief symptoms among patients.

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Conclusions Our findings indicate that enhancing the knowledge of psychotherapists, caregivers, and interpreters through specialized training is important for effective trauma treatment with UYRs. This training should result in increased patient readiness, caregiver support, and fostering a cooperative treatment environment, while also building a trusting relationship between patient, psychotherapist, and interpreter. As initial worries were largely unconfirmed, and completers' psychotherapists benefited more from the projects' offers, we recommend similar approaches.

Trial registration: German Clinical Trials Register DRKS00017453. Registered on 11 December 2019.

Keywords Unaccompanied young refugees, Psychotherapy, Challenges, Facilitators, Worries, Interpreters, Psychotherapists, Child welfare services, TF-CBT

Background

Unaccompanied young refugees (UYRs) experience multiple stressors before, during, and after their flight [1, 2] and report high rates of post-traumatic stress disorder (PTSD; 4.6–43.0%), depression (2.9–61.6%), and anxiety (32.6–38.2%) [3]. Therefore, it is important that they receive appropriate interventions, as untreated posttraumatic stress symptoms (PTSS) can increase the risk of a wide range of physical and mental health conditions and chronic posttraumatic stress disorder [4, 5]. In light of the high needs, it is essential that evidence-based mental health care is available for this vulnerable group [6]. Trauma-focused cognitive-behavioral therapy (TF-CBT), developed by Cohen et al. [7], is recognized as an established treatment for PTSD in children and adolescents. The efficacy of TF-CBT has been demonstrated in meta-analyses and is recommended in international guidelines [8–10]. Studies have also demonstrated feasibility and efficacy in refugee and UYR populations [11, 12].

Despite the availability of treatment options, the use of mental health services among asylum seekers is low [3, 13–16]. Furthermore, studies on psychotherapy retention rates among UYRs are lacking, but a meta-analysis of adult refugees suggests a dropout rate of about 20%, which is comparable to non-refugee populations [17]. The difficulties of access and early dropout observed in this population can be attributed to several barriers. On the one hand, UYRs have complex needs, lack of trust in institutions and professionals, lack of awareness of mental health issues, lack of knowledge about the health care system, perceived discrimination, fear of stigma, and language barriers [16, 18–24]. On the other hand, they face additional structural barriers such as a lack of resources, legal restrictions/asylum status, and accessibility issues in terms of reaching psychotherapists and getting appointments [20, 22, 24, 25].

Additional barriers exist on the part of psychotherapists. Some psychotherapists are perceived as reluctant, lacking awareness, cultural competence and capacity, and have negative attitudes towards refugees, as reported by experts and refugees [16, 19, 22]. Previous research on psychotherapists' experiences of working with refugees identified a mixed response to the use of interpreters [26]. The efficacy of interpreter assisted treatment has been demonstrated to yield outcomes that are comparable to those achieved in the absence of interpreters [26–28]. Psychotherapists themselves have reported several challenges during the psychotherapeutic process with refugees, including high bureaucratic and organizational effort, cultural challenges (different explanatory models of illness), different expectations of therapy, funding difficulties (intervention and interpreter), and communication and trust issues [29–32].

Given the existence of numerous qualitative studies examining psychotherapists' experiences in treating migrants or refugees (e.g. [29, 31, 32]) and the lack of studies on facilitators of psychotherapy with UYRs, this study is unique as it was part of a stepped care approach called 'BETTER CARE' [33]. This project is a multicenter dissemination and implementation trial that aims to improve the mental health of UYRs, to implement TF-CBT and to reduce barriers to psychotherapy utilization. Consequently, this study may provide new insights into additional relevant factors. Therefore, we sought to assess whether the concerns reported by psychotherapists prior to their participation in the 'BETTER CARE' project were consistent with barriers documented in the literature. We also examined reported facilitators and challenges after the primary barriers were removed by the project design, and whether these differed between psychotherapists whose patients completed the TF-CBT and those who terminated prematurely.

Methods

Study context

The data were collected as part of the multicenter, cluster-randomized controlled trial 'BETTER CARE' [33]. The trial and all subprojects were approved by the ethic committees of Ulm University (No. 243/19) and Catholic University of Eichstätt-Ingolstadt (No. 004-19). The main aim of the trial is to compare a stepped-care model, including the preventive group intervention "My Way" [34] and TF-CBT [7], with treatment as usual. Participating UYRs were recruited through Child and Youth

Welfare Services (CYWS) facilities via welfare lists. A mental health screening was conducted on each adolescent to assess the presence of PTSS, depression, and anxiety symptoms. If cut-off scores were exceeded, treatment recommendations were made for either My Way (PTSS subclinical) or TF-CBT (PTSS clinically significant). The CYWS facilities were provided with lists of nearby TF-CBT-trained psychotherapists and interpreters who were themselves participating in the BETTER CARE project. Although interpreters were trained as part of the project, none of them accompanied treatments in this subsample due to long distances or other reasons of unavailability.

Inclusion criteria for psychotherapists in the project were: licensed child and adolescent psychotherapist or psychological psychotherapist; willingness and written informed consent to participate and willingness to treat up to three UYRs with PTSS. As a first step, the psychotherapists did the German TF-CBT Web, a web-based training programme (http://tfkvt.ku.de) which is enhanced with culturally tailored materials. It has previously shown effectiveness and acceptance among psychotherapists [35]. Afterwards, they received a two-day online live workshop, led by a TF-CBT trainer, focusing on treatment methods and special considerations for working with UYRs. This included the importance of cultural aspects in TF-CBT, such as maintaining an open attitude of not knowing and navigating between cultures, as well as psychoeducation on confidentiality and psychotherapy in general, and the involvement of interpreters and professional caregivers as a bridge to the facility. Psychotherapists treating project participants were required to participate in bi-weekly live online case consultations led by TF-CBT trainers. Case consultations were conducted in same groups of two to six psychotherapists. Once the psychotherapists had completed their first case, they were eligible to participate in the follow-up interview, the period between the workshop and the interview were $M = 333.94$ days ($SD = 170.74$, range: 136–650 days, 2 missings). To participate in the interview, they had to sign an additional consent form.

Procedure

The interviews were conducted between September 2021 and February 2024. Participants did not receive any form of compensation for the interview. The duration of the interviews was between 22 and 54 min. All interviews were documented through audio recordings and subsequently transcribed word-by-word. Any information in the interview transcripts that could potentially identify the participants or UYRs was removed to ensure anonymity. The individual online interviews were conducted by BK and FD, who both held master's degrees in clinical psychology, using the online video platform 'ZOOM' with end-to-end encryption. Both interviewers were research assistants in the 'BETTER CARE' project and were responsible for recruiting psychotherapists and organizing the training and case consultations, but they were not trainers/supervisors.

Participants

The sample consisted of 20 psychotherapists, of whom 13 were female and 13 had previous experience in treating UYRs (Table 1). All psychotherapists had been licensed psychotherapists for at least one year ($M = 8.70$; $SD = 5.96$, range: 1–23 years). 18 participants were child and adolescent psychotherapists. Only two were psychological psychotherapists, one of whom also held an additional license as a child and adolescent psychotherapist. In Germany, psychological psychotherapists are professionals who, after obtaining a degree in psychology, have completed an extensive postgraduate training program in psychotherapy, specializing in the treatment of either adults, youth, or both. A total of 17 psychotherapists specialized in cognitive-behavioral therapy and three specialized in psychodynamic psychotherapy. Seven psychotherapists had only one or more non-completers and no ongoing or successfully completed TF-CBT, while six psychotherapists had only one or more psychotherapy completers and no ongoing or non-completed TF-CBT. The psychotherapists treated in total 33 study patients. Consisting of five females and 28 males, with ages ranging from 13 to 19 years ($M = 16.18$, $SD = 1.17$). Among them, 32 patients were residing in CYWS facilities, while one patient stayed in a so-called supervised independent living, where youth receive less intensive care but remain connected to the CYWS facility. All patients underwent a two-step diagnostic procedure. Following referral due to elevated screening scores, each patient received a clinical diagnosis by the psychotherapist. In total, 22 patients were diagnosed with PTSD alone; six with PTSD and a moderate depressive episode; two with PTSD and a mild depressive episode; and one with PTSD and a chronic pain disorder. The diagnostic information for two patients is missing. The data do not show a clear distribution that would indicate that either psychotherapists or patients are predominantly located in urban or rural areas. Since none of the accompanying interpreters participated in the BETTER CARE training, we do not have socio-demographic data on the interpreters.

Interview

The interviews followed a semi-structured format, following an interview guide developed specifically for this study (see Additional file 1). The interview questions were designed based on the knowledge of treatment challenges as found in the literature (e.g. [36]). The preliminary interview guide was subjected to a review process involving team members, all of whom were licensed

Table 1 Participants' Sociodemographic characteristics

ID	Gender	Educational background	Theoretical background	Experiences since licensure (years)	Previous experience in treating UYRs	No of treated UYRs in the project		
						Dropout	Completed	On-going
T1	M	Psychology, Social Pedagogy	CBT	8	Yes	2	0	0
T2	F	Social Pedagogy	PP	23	No	1	1	0
T3	F	Pedagogy	CBT	5	Yes	1	1	0
T4	M	Social Work, Social Pedagogy	PP	8	No	0	3	0
T5	F	Psychology	CBT	20	Yes	1	0	0
T6	M	Social Pedagogy	CBT	8	Yes	2	1	0
T7	M	Education	CBT	6	Yes	0	2	0
T8	F	Social Work	CBT	6	No	0	1	1
T9	F	Social Work	CBT	6	No	0	1	0
T10	F	Social Pedagogy, Social Work	PP	18	Yes	0	1	1
T11	M	Pedagogy	CBT	6	Yes	1	0	0
T12	F	Social Pedagogy	CBT	7	Yes	1	0	1
T13	F	Social Work	CBT	4	No	1	0	0
T14	F	Pedagogy	CBT	5	Yes	0	1	0
T15	F	Social Pedagogy	CBT	1	Yes	0	1	0
T16	F	Social Work	CBT	9	Yes	0	2	0
T17	M	Psychology	CBT	4	No	1	1	0
T18	F	Psychology	CBT	11	No	1	0	0
T19	F	Psychology	CBT	16	Yes	1	0	0
T20	M	Pedagogy	CBT	3	Yes	1	0	0

M: Masculine; F: Feminine; CBT: Cognitive Behavior Therapy; PP: Psychodynamic Psychotherapy

psychotherapists with expertise in treating UYRs, and qualitative research. This resulted in an adjusted interview guide, based on the feedback received. The final version was piloted in a test interview with a fellow psychotherapist and included questions about previous experience in treating traumatized children and youth, and traumatized UYRs. It also inquired about experiences with the 'BETTER CARE' stepped-care approach, specifically the facilitators and challenges relevant to the implementation of TF-CBT with UYRs, treatment fidelity, and sustainability of the training and study. All interviews were conducted in German.

Data analysis

The data were transcribed using the software "amberscript", the transcripts were then proofread and corrected by the team members and analyzed according to the focused interview analysis by Kuckartz and Rädiker [37]. After an initial familiarization with the content of the transcripts, the coding process combined inductive and deductive approaches, supplemented by analytical memos to discuss unclear expressions. Two authors developed a preliminary codebook from four interviews, which was refined through ongoing analysis with input from a third author, reaching consensus on codes after review and a calculated inter-rater reliability of $k = 0.78$. Discrepancies in coding were discussed and resolved, resulting in a defined code list that was analyzed using MAXQDA24. Codes that were mentioned only once were grouped under the code "other" and reported with two examples each. The frequencies were reported according to the function "Code Frequencies—Valid Percent" in MAXQDA 24. The frequencies of specific codes within the dataset were then examined in relation to the total number of valid codes, excluding interviews that did not address this topic. A comparison was made between the facilitators and challenges mentioned by psychotherapists with patients who completed TF-CBT (completers' psychotherapists) and those with patients who prematurely terminated TF-CBT (non-completers' psychotherapists). This was based on the rule of "counting each hit in a document only once" and a minimum difference of two mentions between the groups in the number of codes.

Results

Psychotherapists who had experience in working with UYRs mentioned the following experiences: referral through the CYWS institution/school context, challenging life circumstances (such as traumatic experiences in the host country that prompted them to seek treatment), and uncertainty in treatment and dealing with cultural differences. The worries psychotherapists expressed prior to their involvement in the project were mainly related to structural barriers, such as organizational difficulties and uncertain residency status; personal concerns such as high emotional strain and cultural competence; and patient-related issues, such as poor language skills,

unreliable attendance, and severity of psychopathology, as seen in Additional file 2.

The study revealed that participants identified various factors, including project-related, structural, personal, patient-, and interpreter-related aspects, as either facilitating or challenging the implementation of psychotherapy with UYRs. Table 2 provides an overview of the categories and subcategories identified in the interviews regarding the facilitators and challenges that emerged. In the following text, all categories that were identified during the analysis are presented in italic font. In Additional file 3, Add3-Table 1–Table 5 present all results with codes, frequencies, and examples.

Project-related facilitators and challenges

Project-related aspects were most frequently reported as facilitators, as shown in Add3-Table 1 (see Additional file 3). First, the biweekly live online *case consultations*, which were funded by the project, were identified as the most important facilitator due to their dual efficacy in providing assistance and fostering provided group-based learning. In addition, the case consultations were perceived as enhancing and facilitating adherence because "[…] she [the supervisor] was always able to give good tips on what one can do to perhaps find one's way back a little bit." (T4). It also allowed for flexibility within fidelity and was a space "[…] where you can reflect on patients again […]" (T18). Participants also expressed appreciation for the supervisors' expertise and ability to help when needed. Other facilitators of the case consultations were, for example, collegial interaction and appreciation by the supervisors. The only negative aspect of case consultations was the lack of opportunities for peer interaction. "That is, not only the individual communicates with the [supervisor], but that the others can also participate a bit… if they have questions or if they have suggestions or a feeling about it. That it's more of a group setting, instead of just being spectators while two talk to each other. I would wish for that a bit more, or I could express it as a point of criticism." (T4).

Second, another important component was the *TF-CBT workshops*, which were not only mentioned as being generally effective but, according to the psychotherapists, also provided important knowledge about the manual, as one has "[…] now experienced in the workshop what it can look like." (T4). They also emphasized the good structure of the workshop. Other facilitators were, for example, the opportunity to ask questions and the online implementation. "And then the workshop. It was fantastic. First of all, online, and then also just the two of us. I mean, it doesn't get much better than that." (T9). Participants did not mention any challenges related to this. For five people, *both the case consultation combined with the workshop* was the most helpful aspect of the study.

Third, the *provided materials* were facilitating. The general provision, and especially the availability of worksheets and translated materials, were perceived as beneficial for facing challenging circumstances: "[…] whenever I thought I was floundering, I thought, okay, then I'll cling to what the worksheets provide." (T16). Some psychotherapists stated that the materials were not effective, for example, in a situation where the patient "[…] was already 20 years old and knew a lot, I rather worked with materials from the adult sector or with materials I produced myself." (T5).

Fourth, the *German TF-CBT Web*, which the participants were required to complete as a preliminary step, served as a facilitator in the training process, providing not only knowledge but also video examples and an initial overview that could be revisited as often as necessary. "So, for almost every session, before every module, I reviewed and read through the module again. Also, I watched one or the other video again." (T4). The accessibility and flexibility of the website, coupled with its comprehensive content, made it an ideal learning resource. The other facilitator mentioned was that it gave a first insight into conducting TF-CBT. The challenge mentioned was that the program was too extensive, and one psychotherapist further stated, "I'm not much of an online learner. It annoys me." (T18).

In addition to the components provided by the study, participants also recognized the benefit of using a *manualized and evidence-based treatment*. "Okay, so this is, of course, a manual, so to speak. There are aspects, so to speak. It's about doing it just like that. And that's exactly it, no more and no less. So that is, that is, I find it quite okay again, because then, both I and the therapist, uh the patient knows what he is getting, so to say." (T1). The *provision and funding of interpreters* by the project, as well as the *financial compensation for the psychotherapists*, were seen as beneficial. In addition, the *preparation and initiation of the treatment* "[…] through the making of contact and assignment of patients, this greatly eases the situation." (T5) were mentioned. The psychotherapists also appreciated the *availability of contact persons* that "[…] you could always ask [via email] if anything was missing and certainly the contact with the study center as well." (T19). The *digital implementation* of all aspects of the study was an additional factor that facilitated the implementation. Other facilitators mentioned were for example, the spontaneous and uncomplicated study participation and "[o]f course, without 'BETTER CARE' it wouldn't have happened, and it's somehow, I would say nice, to be part of such a network. So, I benefit from it too and everything that is done about it." (T15).

Eight psychotherapists reported no challenges related to the study, and two psychotherapists did not respond. In addition to the *documentation effort*, another challenge

Table 2 Facilitators and challenges in working with UYRs

Facilitators	Frequency	Challenges	Frequency
Project-related		**Project-related**	
		No challenges[b]	8 (44.4%)
Case consultations[a]			
General effectiveness	12 (60.0%)		
Group-based learning	8 (40.0%)		
Increases adherence	7 (35.0%)		
Enables flexibility within fidelity	5 (25.0%)		
Reflecting about patient	5 (25.0%)		
Supervising person as competent contact person	4 (20.0%)		
TF-CBT Workshop[a]			
General effectiveness	4 (20.0%)		
Conveys important knowledge	4 (20.0%)		
Structure of the workshop	2 (10.0%)		
Both case consultations and workshop[a]	5 (25.0%)		
Material[a]		Material[b]	
General availability of material	12 (60.0%)	Material not adequate	3 (15.0%)
Availability of worksheets	5 (25.0%)		
Availability of translated materials	5 (25.0%)		
German TF-CBT Web[a]		German TF-CBT Web[b]	
General effectiveness	4 (20.0%)	Too extensive	2 (10.0%)
Video examples	3 (15.0%)		
Repeated use possible	2 (10.0%)		
Flexibility	2 (10.0%)		
Manualized and evidence-based treatment[a]	9 (45.0%)	Documentation[b]	7 (35.0%)
Provision/Funding of interpreters[a]	8 (40.0%)	Lacking information on organizational aspects[b]	4 (20.0%)
Financial compensation for psychotherapists[a]	8 (40.0%)	Knowledge decay[b]	2 (10.0%)
Preparation and Initiation of treatment[a]	7 (35.0%)		
Availability of contact persons[a]	5 (25.0%)		
Digital implementation[a]	3 (15.0%)		
Structural		**Structural**	
CYWS facility aspects[c]		CYWS facility aspects[a]	
Supporting/accompanying the treatment sessions	7 (38.9%)	Lacking clear primary clearly responsible caregiver	7 (35.0%)
High treatment compliance from caregivers/facility	8 (44.4%)	Lacking therapy compliance from caregivers/facility	3 (15.0%)
Supportive caregivers in everyday life	5 (27.8%)	Caregiver-imposed outcome pressure	2 (10.0%)
Collaboration and exchange between caregivers and psychotherapist	3 (16.7%)	Lacking caregiver/conjoint sessions	4 (20.0%)
Knowledge about PTSD/psychotherapy	2 (11.1%)	Lacking knowledge about PTSD/psychotherapy	3 (15.0%)
Facilitating transportation[c]	2 (11.1%)	Logistical access issues	4 (20.0%)
Availability of interpreters [c]	9 (50%)	Long distance between facility & psychotherapy [a]	7 (35.0%)
Use of supplemental materials[c]	4 (22.2%)	Difficult time coordination[a]	8 (40.0%)
Location of the practice[c]	2 (11.1%)	Increased effort[a]	6 (30.0%)
		Technical issues[a]	4 (20.0%)
		Lacking clear responsibility from Youth Welfare Office[a]	4 (20.0%)
		Unreliability of public transportation[a]	2 (10.0%)
Personal		**Personal**	
Good therapeutic alliance[d]	6 (46.2%)		
Openness to treat UYRs[d]	3 (23.1%)		
Patient-related		**Patient-related**	

Table 2 (continued)

Facilitators	Frequency	Challenges	Frequency
Treatment readiness[e]	6 (54.5%)	Lacking treatment readiness[f]	5 (33.3%)
Language proficiency[e]	2 (18.2%)	Lacking language proficiency[f]	9 (60.0%)
		Concerns regarding family[f]	6 (40.0%)
		Complex daily challenges[f]	4 (26.7%)
		Grief[f]	2 (13.3%)
		Lacking educational background[f]	2 (13.3%)
Interpreter-related		**Interpreter-related**	
Precise word-for-word translation [f]	6 (40.0%)	Lacking word-for-word translation [g]	6 (60.0%)
Transparency[f]	6 (40.0%)	Own therapeutic needs[g]	4 (40.0%)
Trusting bond with patient[f]	6 (40.0%)	Relationship with patient too close[g]	3 (15.0%)
Caring/likeable interpreter[f]	6 (40.0%)	Remote interpreters [g]	3 (15.0%)
Experienced/Trained interpreter[f]	5 (33.3%)	Interpreters wish to act as co-therapist[g]	2 (10.0%)
Cultural mediator[f]	4 (26.7%)		
Language mediator[f]	3 (20.0%)		
Remote interpreter[f]	3 (20.0%)		
Long-term continuity[f]	2 (13.3%)		

[a]Interviews with code $n = 20$

[b]Interviews with code $n = 18$

[c]Interviews with code $n = 19$

[d]Interviews with code $n = 13$

[e]Interviews with code $n = 11$

[f]Interviews with code $n = 15$

[g]Interviews with code $n = 10$

was the *lack of information on organizational aspects* and *knowledge decay* between the training and seeing of the first patient. "I just found it a bit difficult until the first patients arrived. Naturally, you then slip back into your daily routine, because, yes, I also treated many patients and then that part slips away again. I found that a shame, because it then required more effort from me, so to say." (T2). Other challenges mentioned included a lack of support from study staff members for structural problems and inappropriate diagnostic tools.

In conclusion, the main project-related facilitators were case consultations and the availability of materials that was each mentioned by 60% of the participants, followed by manualized and evidence-based treatment (45%). The main obstacle was the documentation (38.9%).

Structural facilitators and challenges

Structural aspects were reported as both facilitators and challenges, with some codes overlapping as can be seen in Add3-Table 2 (see Additional file 3). Most of the structural aspects mentioned were related to the *CYWS facilities*. As facilitators, the psychotherapist mentioned when "[…] always the same primary caregiver [was] involved […]" (T11), as well as high treatment compliance by the caregivers and/or the facility. When this was not the case, it was also mentioned as a challenge. Furthermore, the provision of caregiver assistance with activities of daily living was identified as a crucial element, "[…] because they had a good caregiver network, I didn't have to worry about things like school, residence permits, or anything else, but I could focus on the therapy." (T16). Collaboration, caregiver-therapist sharing, and knowledge about PTSS and psychotherapy were helpful; conversely, absent caregivers or shared sessions and knowledge gaps were challenging. On the one hand, facilitating transportation was helpful, "[although] it often didn't work out well for them to participate in person, but they really made an effort to ensure that he… that he was taken to his appointments, so that he was picked up. They always registered in advance. So, the facility was very committed, and I believe it also made things easier." (T3). On the other hand, logistical access issues when caregivers were unable to provide transportation, were relevant challenges. Other facilitators related to the CYWS facility were e.g. when "[they] […] had a very clear information system in the house, that they did it like hospitals and kept the files online, and no matter who you talked to, they knew exactly what had been discussed with the previous person. Which is not a matter of course with the facilities." (T7) and less personal fluctuation. In addition to the aforementioned challenges, psychotherapists identified pressure from caregivers as a significant difficulty, as "[…] [they] hope for quick help from the therapist, kind of like this'fix it quickly so things run smoothly'." (T18). Other facility-related challenges included the need to work in shifts, absenteeism, and the difficulty of reaching caregivers and patients by phone.

In addition to the CYWS–related aspects, the *availability of interpreters* emerged as an important facilitator, as was the *use of supplemental materials* and the *location of the practice* when "[…] the practice is perhaps relatively central. The thing with the train station, I believe, is also quite good […]" (T1). Other structural facilitators were, for example, the uncomplicated approval of the treatment by the health insurance: "[t]he approval was really quick and completely hassle-free, and for the first one, he then started training, and so the youth welfare office practically handed it over to the health insurance. And then I just got the remaining hours approved by the health insurance. That was totally easy, totally relaxed. It went really well." (T3) and offering double lessons at the end of the day.

Other challenges besides the CYWS facility were the *distance between the facility and the psychotherapeutic practice*. In addition, psychotherapists' *increased effort* and a difficult *time coordination* were identified as challenging, for example, "[…] to synchronize the interpreter's schedule and mine, and if it didn't work out on a certain day, we usually didn't find any alternative dates. Because we were both fully booked, and it just didn't work out." (T7). Those who provided digital treatments during the Covid-19 pandemic also encountered *technical problems*. For a significant number of patients, the cost of psychotherapy was covered by the Youth Welfare Office, and in this area the psychotherapists mentioned a *lack of responsibility*. This was explained as follows: "I have to clarify it in advance. But nothing comes back from there. Like, how often I have called and sent emails. In every phone call, I'm put off, referred to someone else. It's really, really difficult." (T4). Finally, the *unreliability of the public transportation* was also a challenge. Other challenges mentioned were, for example, the lack of clear responsibility of the legal guardian and uncertainty about the residence status.

One psychotherapist did not mention any structural facilitators. The most important facilitators were availability of interpreters (50%), high compliance of caregivers/facilities (44%), and when caregivers supported/accompanied treatment sessions (39%). The main challenges were time coordination (40%), a lack of clear responsible caregivers (35%), and long distance between facility and psychotherapy (35%). The most important facilitators and challenges were focused on the CYWS facility and its caregivers and their commitment to psychotherapy.

Personal facilitators and challenges

Add3-Table 3 (see Additional file 3) shows that personal facilitators or challenges were rarely mentioned. Only 13 psychotherapists named personal facilitators, most commonly the ability to form a *good therapeutic working alliance*. Furthermore, participants indicated that it was beneficial to be *open to treating UYRs*, as "I also like treating refugees! But it might make things a bit easier, indeed." (T1). Other facilitators mentioned were, for example, when "[someone] already knew the caregiver before 'BETTER CARE' and the interpreter as well, and yes, it was just a good foundation that [they] had already established beforehand." (T12).

Personal factors that posed a challenge to the treatment of UYRs were rarely mentioned. Only five psychotherapists reported such occurrences, and no recurring themes emerged. Therefore, we provide selected examples, including a wrong impression of the need for a interpreter and impatience. One psychotherapist articulated her experience as follows: "So, I can be a bit impatient sometimes, I then have to hold myself back and say, maybe this isn't the topic for today after all. We need to take a step back again." (T15).

Patient-related facilitators and challenges

The psychotherapists mentioned more patient-related challenges than facilitators, as can be seen in Add3-Table 5 (Additional file 3). The main themes were *therapy readiness* and *language proficiency*. These were identified as both facilitators and challenges, depending on their presence or absence. One psychotherapist explained the lack of treatment readiness as follows: "We then revisited the symptoms, yes, I believe, this concept of allowing oneself to be helped was not yet acceptable to him. He was not at that point yet." (T18). Another psychotherapist described the lack of language skills in this way: "I actually found the language barrier difficult, even though, of course, a interpreter could have been used, but there was no acceptance on the part of the patient, at least at that time." (T13). Other patient-related facilitators included, for example, being likeable and cognitively talented.

Additional challenges were *concerns about the family*, as "[…] he somehow needs certainty over this'my family is coming or not coming' in order to either deal with the fact that they are not coming, or if they do come, then the traumatic issues will resurface for him. At the moment, all of this doesn't come up at all, it has no meaning for him." (T3). Furthermore, *complex daily challenges* such as "[…] the turbulence of their everyday lives. Yes. Youth welfare and trauma have the potential to make everyday life unstable." (T20) hindered a stable therapeutic process. Psychotherapists mentioned that for some patients, *grief* was a more prominent factor, impeding their ability to process the trauma. Finally, a *lack of educational background* made it difficult for the patients to complete the worksheets. Other mentioned patient-related challenges were, for example, the presence of a rigid mindset and stuttering.

Nine psychotherapists did not mention any facilitators and five did not mention any challenges. Overall, therapy readiness (facilitator: 54.5%, challenge: 33.3%) and language proficiency (facilitator: 18.2%, challenge: 60.0%) were the most frequently mentioned factors that can facilitate or hinder psychotherapy with UYRs.

Interpreter-related facilitators and challenges

As can be seen in Add3-Table 5 (see Additional file 3), the concept of *precise, word-for-word translation* was perceived as a facilitator, while its absence was perceived as a challenge. A *transparent* communication with psychotherapists about the interpreters' inability to provide word-for-word translation was seen as beneficial, for example when "[…] he also always asked again and said, when he mentioned: well, you know, this and that in the language is difficult to explain. May I, so, he also asked, even if it went beyond the translation […]" (T18). Similarly, *experienced and trained interpreters* were seen as advantageous. A *trusting bond* including "[…] the human aspect, meaning that one could tell that the young people also liked talking with this interpreter. That was also very important. And they actually treated him like an uncle." (T7). Nevertheless, some psychotherapists noted that a *too close relationship* was difficult for the treatment, as one psychotherapist had "[…] the impression that some young people tend to bond more with the interpreter than with me." (T16). The *likeability and care* exhibited by interpreters facilitated the treatment for example when "[…] she participated, truly participated with her heart […]" (T4). In addition to serving as language mediators, the interpreters also served as *cultural mediators*, which "[…] was positive, clearly, that was also a form of cultural mediation alongside the linguistic, I would say." (T17). The use of *remote interpreters* was perceived as both a facilitator and challenge. One psychotherapist described "[…] the switch to the online interpreter was better because, due to, because the computer was there, it was a bit more in the background." (T11) while another one saw that "[t]he difficult part was that he was only available by phone, so to speak. I didn't find that very helpful. I do think it's good to be able to see the person. So, it wasn't good that he didn't manage to do it with a phone [means: video]." (T1). In addition, the *interpreter's long-term continuity* in the process, coupled with his involvement in other contexts, proved to be advantageous in terms of acquiring more information about the patient. Other interpreter-related facilitators mentioned were, for example, flexibility and reliability.

Besides the challenges described above, when interpreters had their *own therapeutic needs* and when they wanted to *act as a co-therapist* for example "[…] when they did not just perform their task but tried to act therapeutically themselves or became too emotional […]" (T6) was seen as a challenge to the treatment. Other challenges mentioned were, for example, short notice cancellations and multiple interpreters for one patient.

With regards to the role of facilitators in working with interpreters, five participants did not respond, while only ten psychotherapists responded to the question of challenges. In summary, it is evident that the priority for psychotherapists is the accuracy (facilitator: 40.0%, challenge: 60.0%) and transparency (facilitator: 40%) of the translation. Although establishing a trusting bond with patients was seen as beneficial (40.0% each), maintaining a balance is crucial, as a bond that is too close was seen as a challenge (15.0%).

Comparison of completers' psychotherapists vs. non-completers' psychotherapists

A comparison of the facilitators and challenges mentioned by six completers' psychotherapists versus seven non-completers' psychotherapists indicated the following.

Project-related aspects Completers' psychotherapists were more likely to emphasize the effectiveness of case consultations (83.3% vs. 26.8%) and the provision of interpreters (66.7% vs. 14.3%). Only completers' psychotherapists mentioned the usefulness of worksheets (33.3%) and online learning videos (33.3%). Documentation challenges were more commonly reported by completers' psychotherapists (66.7% vs. 14.3%). Non-completers' psychotherapists were more likely to emphasize the benefits of manual and evidence-based methods (57.1% vs. 33.3%).

Structural aspects Completers' psychotherapists perceived supplemental materials as facilitating (50%) and lacking clear responsibilities from Youth Welfare Offices (33.3%) as challenging. These issues were not addressed by non-completers' psychotherapists. Non-completers' psychotherapists were more likely to report unclear responsibility of primary caregivers (42.9% vs. 16.7%), distance issues (57.1% vs. 16.7%), and additional effort reported (42.9% vs. 16.7%).

Personal aspects Completers' psychotherapists reported the beneficial impact of a positive therapeutic alliance (50.0% vs. 14.3%) more often, while only non-completers' psychotherapists indicated that willingness to treat UYRs was a significant factor (28.6%). There were no notable differences between challenges.

Patient-related aspects There was no notable difference between the facilitators. Only completers' psychotherapists reported a lack of educational background as a challenge (33.3%), while only non-completers' psy-

chotherapists reported grief as a significant challenge in implementing TF-CBT (28.6%).

Interpreter-related aspects Only for completers' psychotherapists, a trusting relationship between the interpreter and the patient (50%) and long-term continuity (33.3%) were important factors. No remarkable differences in challenges were noted.

Discussion

This study contributes to the current literature by exploring the experiences of psychotherapists working with UYRs in a dissemination and implementation trial. It further provides new insights into the facilitators of trauma treatment in a refugee population, after efforts have been made to address several care-related barriers as part of the 'BETTER CARE' project.

We aimed to examine whether psychotherapists reported the *same worries before participating* in the project as reported in the literature. We found partial evidence, especially for structural and psychotherapist-related worries, such as organizational and residency issues [22], the involvement of interpreters [24], cultural competence [19, 25], and emotional burden for the psychotherapist [38]. Patient-related worries were also reported, such as language barriers [16, 22, 30] and unreliable attendance, which may be due to different cultural concepts of time [24]. However, a quarter reported no worries, indicating openness and low prejudice towards psychotherapy with UYRs in our sample.

Because the *project* attempted to address primary structural barriers, the study found that initial worries largely did not re-emerge as challenges, with psychotherapists facing mainly coordination issues, but not the anticipated emotional distress or problems related to interpreters and cultural competences. Patient-related worries, particularly language skills, persisted, while issues such as attendance and severe psychopathology were less prominent. Thus, it appears that the inclusion of resources such as the German TF-CBT Web, workshops, and case consultations significantly facilitated the delivery of psychotherapy to UYRs. Therefore, we can conclude that psychotherapists who were interested in learning evidence-based treatment methods and treating UYRs responded positively to the combination of an online learning platform and a workshop, although a potential bias in the interpretation of the results should be considered, as those who were not interested in online training and (UYR) trauma treatment did not participate in the project. The results align with research highlighting the value of formal training for positive treatment outcomes [29, 39] and the combination of a variety of strategies [40]. In addition, psychotherapists highlighted the benefits of preparing and organizing psychotherapy through the project, in addition to support by the project staff. This included initiatives such as: a brief training for a mental health coordinator to act as a contact person within the CYWS facility, making phone calls to determine whether UYRs recommended for treatment were interested in psychotherapy, and if so, making further phone calls to verify if these adolescents received a psychotherapy slot. The project is considered a successful approach, as evidenced by the fact that eight out of 18 participants reported no challenges associated with the project. The primary challenge identified, documentation, is likely due to the extensive project-specific paperwork required for a detailed evaluation and thorough understanding of the treatment process. Challenges related to the TF-CBT treatment approach could be addressed by providing organizational information about common issues related to psychotherapy funding and interpreters within the learning platform, and by providing separate materials for younger children and adolescents.

From a *structural perspective*, psychotherapists emphasized the importance of caregivers supporting and/or accompanying psychotherapy, which is also an integral part of the TF-CBT manual [41]. This is particularly important because, in addition to providing emotional and practical support, they are relevant as models of resilient coping mechanisms and protection against future harm [41]. The psychotherapists in our study agreed on this part with the manual that points out the immense impact of caregiver inclusion during the psychotherapeutic process. In addition, a supportive infrastructure within the facility, which includes not only facilitating transportation to psychotherapists, but also caregiver compliance and knowledge about PTSS and psychotherapy, was seen as critical to UYRs' treatment attendance and compliance. McGuire et al. [42] identified several potential reasons for the lack of caregiver support and involvement, including limited staff availability for one-on-one support, placement nature that occasionally prevents caregiver presence, instability within the support network, and scenarios where the youth preferred to exclude their caregivers. Compounding these challenges, the location of the psychotherapeutic practice, and the distance between it and the facility, along with unreliable public transportation, were also highlighted as significant challenges in our study, suggesting remote or outreach psychotherapy as an alternative. Remote psychotherapy received mixed reviews in our study; some psychotherapists highlighted problems stemming from the lack of personal contact and a secure space, which are vital for effective treatment. This issue was particularly pronounced when psychotherapy was conducted solely via online platforms during the Covid-19 pandemic, while the patients were often located in shared

rooms. This created situations in which they might avoid sharing traumatic events, especially since many of these experiences are associated with feelings of guilt and shame. Therefore, an outreach approach, in which psychotherapists meet patients at home or at a location of the patient's choice, may reduce barriers and facilitate caregiver involvement [43]. Additionally, under such circumstances, psychotherapists could ensure that psychotherapy takes place in a safe space for the patient. If this is done by psychotherapists who are interested and trained in working with UYRs, it could also help facilitating the process of bringing them into psychotherapy, especially as the willingness of outpatient psychotherapists in Germany to treat refugees is lower than that of non-refugee patients [44].

The psychotherapists interviewed were less likely to mention *personal factors*. The most important factor was the ability to build a strong relationship with patients. This finding is consistent with studies indicating that a strong therapeutic relationship is an important component of TF-CBT, leading to reduced PTSS [45], with the alliance being particularly important at mid-treatment. Ormhaug et al. [45] also found that a positive alliance also led to more efficient treatment, with fewer sessions. In addition to facilitating psychotherapy, a positive alliance may also reduce dropout rates among refugees, as shown in a recent review with refugees [17]. To strengthen the alliance, studies by Colucci et al. [24] and Mirdal et al. [36] further emphasize the need for mental health professionals to use presence-focused, adolescent-friendly approaches and to provide psychoeducation. Psychoeducation plays an important role in the process of establishing a strong alliance with refugee patients, as they often come from a different cultural background, have a different explanatory model and different expectations of psychotherapy [29]. Promoting psychoeducation can help to build trust and safety by providing clear information.

The most important *patient-related factors* influencing the psychotherapeutic process were readiness for psychotherapy and language skills. The significance of these factors has also been reported by previous research [16, 22, 30] and reflects prior worries articulated by psychotherapists in the current study. The findings indicate that the project team's involvement in the preparation and initiation of psychotherapy was perceived positively by psychotherapists, leading to patients who were better informed and had undergone a pre-selection process. In fact, each participant received a letter post-screening that included treatment recommendations based on their sum scores. Based on this, utilizing digital screening tools that offer automatic treatment recommendations and ideally, the contact details of trained psychotherapists nearby, is advisable. In addition, knowledge of psychotherapy and PTSS among CYWS staff was seen as beneficial. Therefore, it appears that staff training is important to enable them to provide psychoeducation to UYRs and to increase readiness for psychotherapy. Summarizing the results, the information and screening approach implemented in the 'BETTER CARE' project can be considered successful, especially as the commonly discussed mental health illiteracy among refugees [29] was not reported as a challenge in this study. Patient-related challenges included family concerns or daily challenges. These are known to be important factors that also influence well-being [46], underlining the need to address them and achieve early improvements in psychotherapy, as noted by Mirdal et al. [36] and Colucci et al. [24]. Although language proficiency is not mandatory, it greatly facilitates effective psychotherapy. However the lack of b language skills were experienced as challenging by psychotherapists in our study.

Given the importance of language proficiency, it's not surprising that the provision of trained *interpreters* was mentioned several times as being helpful. A trusting, collaborative relationship between interpreter, patient and psychotherapist was reported not only by psychotherapists, but also in a study that included the views of all three parties [36]. For psychotherapists, accurate translation skills and transparency are important, but so are the interpreters' soft skills such as building trust with the patient and showing empathy. It is noteworthy that psychotherapists in our study also indicated that an overly close bond could be problematic. This finding also aligns with Mirdal et al. and Vivino et al. [36, 47], both of whom reported interpreter involvements that exceeded western expectations regarding the professional distance. This highlights possible cultural differences and conflicting expectations regarding the role of the interpreter. As the majority of patients and their interpreters originate from collectivist societies where community involvement is more important, group identity may be incompatible with the "neutrality" required by individualistic psychotherapists [24, 48]. To reduce potential problems, it is suggested that a training program for interpreters be implemented, that focuses on translation in trauma-focused psychotherapy, particularly with regard to the rationale behind the trauma narrative. This knowledge could lead to more accurate translations and improve the quality of collaboration within the therapeutic triad [49]. Finally, the results of the interviews show that the inclusion of interpreters is advantageous because interpreters can foster a trusting relationship and are able to show empathy and provide a comfortable and safe environment for the patient, which is essential in the therapeutic context. In addition, they serve not only as language mediators, but also as cultural mediators, enhancing communication in ways that artificial intelligence translation applications cannot replicate. Moreover, the use of

most AI translation tools is not advisable as they often process data externally and risk data breaches. Comparing answers from *completers' psychotherapists and non-completers' psychotherapists* regarding *facilitators*, revealed that completers' psychotherapists benefited from resources such as case consultations, worksheets, videos, and interpreters funded and provided by the project. These psychotherapists also formed stronger alliances with patients and trusted long-term relationships with interpreters. This bond may also have served as a source of social support, a factor that facilitates psychological well-being [3]. Following the advice of Colucci et al. [24] to consider patient-preferred interpreters in psychotherapy may prove beneficial. In contrast, non-completers' psychotherapists benefited less from the projects' resources, mentioning the manual and evidence-based treatment and willingness to treat UYRs as facilitators, possibly reflecting socially desirable behavior. In addition, it is possible that the psychotherapists felt less secure and thus preferred more guidance, which could be provided by the manual, even though five out of seven had worked with UYRs before.

The challenges reported by *completers' psychotherapists and non-completers' psychotherapists* showed that the challenges faced by completers' psychotherapists do not necessarily lead to premature termination, but become more apparent with longer treatment duration, such as more contact with the Youth Welfare Office and more complex study documentation. In addition, the lack of educational background may become more pronounced during the cognitive processing module, which appears later in TF-CBT. Non-completers' psychotherapists also mentioned more structural challenges, such as the absence of a primary responsible caregiver and distant locations, as well as an increased effort for psychotherapists. This highlights the role of caregivers in successful trauma treatment and is consistent with research with primarily biological parents showing that their presence at the first session and adolescents' assessment of parents' treatment approval predicted treatment dropout [50]. An additional challenge for non-completers' psychotherapists was the presence of an ongoing grief process. Given the prevalence of comorbid grief disorder and PTSS among refugees [51, 52], the integration of grief-specific treatment components is essential. The use of grief specific components during the TF-CBT treatment is also incorporated into the manual [7]. Research on the treatment of trauma and grief among UYRs is limited; however, a recent meta-analysis for children and adolescents suggests that grief-focused cognitive-behavioral psychotherapies are effective in reducing grief and related posttraumatic stress symptoms [53].

In summarizing key findings and offering practical implications, we have chosen to integrate our findings into Michaels et al.'s [54] "Socio-Ecological Model of Mental Health & Well-Being" which allows us to identify individual, organizational, and policy dimensions essential for successful trauma treatment. At the core of this model is the *individual*, the UYR, where treatment readiness and language proficiency serve as key facilitators. Subsequently, *interpersonal relationships* are a relevant factor, including the social support network, which comprises, for example, the CYWS facility and its caregivers. In this context, the support and compliance of the aforementioned individuals were of particular significance, as was their collaboration with the psychotherapist and their knowledge. For practical implications both the individual and interpersonal levels should be considered. It becomes evident that trauma-informed care is a recommended approach, which should include education and training for caregivers about symptomatology and trauma treatment. This will increase mental health literacy among caregivers and UYRs, and may result in greater mental health service use, treatment readiness, and higher treatment compliance among caregivers. These topics were all mentioned as facilitators within this study. At the *organizational* level, it is recommended that local partnerships are established between psychotherapists and CYWS facilities to decrease some of the structural challenges such as logistical, distance and coordination issues, which were also suggested by Borbon et al. [55] as part of their lessons learned for trauma-informed care with UYRs. At the *community* level, the use of skilled interpreters was seen as a facilitator and is recommended. Ideally, they are already known to the patient and can facilitate understanding of cultural differences, while building a trusting relationship with the patient and providing social support. Lastly, the *policy* makers have a huge responsibility, and our recommendation is the provision of resources, training and standards for CYWS facilities, psychotherapists and interpreters. CYWS need to be provided with the personal resources and above-mentioned training in order to be able to accompany treatment sessions and facilitate transportation, this is of particular importance, as the German federal states have lowered the minimum standards within UYR facilities [56]. Furthermore, we propose that psychotherapists get the ability to implement an outreach approach in collaboration with local partners. Finally, our recommendation is to implement country-wide requirements for interpreters in psychotherapy, ensuring adherence to data protection and confidentiality standards.

This study has several strengths, such as conducting interviews with twenty psychotherapists representing a range of backgrounds, experiences with UYRs, and regions across Germany. However, several limitations warrant further attention. First, it is possible that the experiences of the thirteen psychotherapists who had

previously treated traumatized UYRs may have influenced the responses given in the present interviews. Second, although all invited psychotherapists participated, the sample is not representative of all psychotherapists because it only included those interested in treating traumatized UYRs. Third, the project funded treatment provided by two psychotherapists, as the UYRs did not yet have health insurance to cover the costs due to the ongoing asylum process. All psychotherapists had free access to German TF-CBT web training and were paid for documentation and case consultations. This arrangement may have led to socially desirable responses in the interviews. Fourth, the mode of interpreting (face-to-face, video, or telephone) may have influenced the triangular relationship and the development of a trusting relationship and thus the responses regarding interpreter-related facilitators and challenges need to be interpreted with caution. Fifth, the analysis of whether the reported facilitators and challenges differed between completers' psychotherapists and non-completers' psychotherapists should be interpreted with caution, as we considered only the completion status of patients and not the extent of symptom reduction or adherence to the manual.

It is recommended that future research include the perspectives not only of patients, but also of their caregivers and interpreters. It would be beneficial to gain further insight into how they perceive the patient-interpreter relationship. This could include whether they perceive challenges in an overly close relationship, or whether such perceptions differ between collectivist and individualist cultures. The possibility of further integrating interpreters into the therapeutic process may also be explored. In addition, the role of comorbid prolonged grief disorder symptoms in trauma-focused treatment requires further attention, with a recommendation to explore how they affect the efficacy of trauma treatment. In this regard, we also recommend an analysis of the adaptations that psychotherapists have made to the TF-CBT manual when working with UYRs in CYWS settings.

In conclusion, there are numerous facilitating factors for the psychotherapy of UYRs that should be addressed at the individual, interpersonal, organizational, community, and especially at the policy level. In particular, specialized training should be provided to psychotherapists on evidence-based treatment, to caregivers on the process and content of trauma-focused therapy, and to interpreters on effective collaboration and translation within treatment. Additionally, the supervision of psychotherapists and the compliance of caregivers are of immense importance.

Abbreviations

UYRs	Unaccompanied young refugees
CYWS	Children and Youth Welfare System
PTSS	Posttraumatic Stress Symptoms
TF-CBT	Trauma-Focused Cognitive Behavioral Therapy

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s13034-025-00873-w .

Additional file 1. Interview guide. The file comprises the original interview guide used in this study.

Additional file 2. Qualitative Results on the Worries before Participating in the Project. The file contains tables of codes, frequencies, and examples of worries that psychotherapists had before participating in the project.

Additional file 3. Qualitative Results of Project-Related, Structural, Personal, Patient-, and Interpreter-Related Facilitators and Challenges Treating Unaccompanied Young Refugees. The file includes tables with codes, frequencies, and examples of project-related, structural, personal, patient-related, and interpreter-related facilitators or challenges.

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Author contributions
LS and RR conceived the study. FD, BK, JU and LS were involved in the analysis. FD drafted the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials
The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
The studies involving human participants were reviewed and approved by ethics committees at Ulm University (No. 243/19) and at the Catholic University of Eichstätt-Ingolstadt (No. 004-19). Written informed consent to participate in this study was provided by the participants and their legal guardians if necessary.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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Publisher's Note

Publication 4. Factors influencing utilization of TF-CBT among unaccompanied young refugees

Exact title	Investigating factors influencing utilization of trauma-focused cognitive behavioral therapy among unaccompanied young refugees: an exploratory analysis
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RESEARCH

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Investigating factors influencing utilization of trauma-focused cognitive behavioral therapy among unaccompanied young refugees: an exploratory analysis

Barbara Kasparik[1*], Madina Farani[1], Elisa Pfeiffer[1,2,3], Cedric Sachser[2,3,4] and Rita Rosner[1]

Abstract

Background Unaccompanied young refugees (UYRs) exhibit elevated levels of mental distress, including posttraumatic stress symptoms (PTSS), depression and anxiety. Despite the considerable psychological burden, UYRs frequently lack access to mental health care (MHC). The factors that contribute to higher rates of treatment utilization among UYR remain poorly understood. Untreated PTSS can result in chronic impairment, underscoring the importance of identifying these factors. The aim of this study is to investigate factors associated with the intention and actual utilization of MHC of UYRs living in child and youth welfare facilities in Germany.

Method This study is part of the multi-site project BETTER CARE which aims to implement a stepped and collaborative care approach. A sample of $N = 139$ UYRs who had received a treatment recommendation for trauma-focused cognitive behavioral therapy (TF-CBT) was analyzed. Binomial logistic regression was performed to identify factors predicting the likelihood of intention to seek MHC. In addition, the association between intention to seek MHC and actual utilization was determined using a chi square test.

Results The results demonstrated a significant correlation between age ($\eta = 0.25$, $p < .01$), length of stay in Germany ($\eta = 0.28$, $p < .01$), and severity of PTSD symptoms ($\eta = 0.26$, $p < .01$) with intention to use MHC. In the logistic regression analysis, PTSD emerged as a significant predictor of intended use ($B = 2.66$, $p < .05$). The utilization of MHC was found to be closely associated with the initial intention to use ($\chi^2(1) = 88.846$, $p < .001$).

Conclusions The findings contribute to an expanding body of literature on the mental health requirements and service utilization patterns among UYRs, offering insights for policymakers, mental health professionals, and child welfare services striving to enhance care for this vulnerable population.

Keywords Unaccompanied young refugees, Asylum seekers, Mental health care, PTSD, TF-CBT, Help seeking intention, Utilization

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Background

Unaccompanied young refugees (UYRs), who are children, adolescents or young adults who flee their home country unaccompanied by parents or other caregivers, often experience stressful and traumatic events in their home countries, during their flight and upon arrival in their host country [1]. They also face post-migration challenges such as discrimination and insecure living conditions [2, 3]. Experiencing potentially traumatic events, facing post-migration challenges, and encountering various psychological stressors can heighten the likelihood of developing common mental health disorders, particularly post-traumatic stress disorder (PTSD), anxiety, or depression [2, 4–6]. Prevalence rates of mental disorders in this population vary widely across studies, ranging from 4.6 to 43% for PTSD, 2.9–61.6% for depression, 32.6–38.2% for anxiety, and 4–14.3% for behavioral problems [7]. In addition to high prevalence rates, UYRs often lack protective factors compared to other immigrant groups [3]. Separation from significant others (e.g., parents) and lack of social support may result in increased psychopathology among UYRs compared to native and refugee youth with parental caregivers [8–10]. Additionally, UYRs experience significantly more stressful life events than accompanied young refugees, which is a significant predictor of symptoms related to posttraumatic stress (PTSS), as well as depression and anxiety [9,11].

A variety of treatment approaches are available for the treatment of PTSD in children and adolescents and for young refugees. Of these approaches, trauma-focused cognitive behavioral therapy (TF-CBT) is the most thoroughly researched and most well-documented intervention in terms of effectiveness [12]. Systematic reviews, e.g. by Xiang et al. [13] and Thielemann et al. [14], have demonstrated the effectiveness of a specific CBT-based trauma-focused manual, as developed and described by Cohen, Mannarino, and Deblinger [15, 16]. In addition, TF-CBT has been endorsed by international guidelines for the treatment of PTSD in children and adolescents [17]. TF-CBT is a culturally sensitive approach that is capable of addressing the individual cultural needs of patients [16, 18]. It has also been demonstrated to be efficacious in non-Western countries [19, 20] and in refugee populations [21, 22]. Research has demonstrated that access to mental health care is a significant predictor of improvement of PTSS, e.g [23]. Furthermore, untreated PTSD can result in chronic impairment [24]. Despite the existence of evidence-based treatments (EBT), a significant proportion of refugees experiencing mental health issues, particularly PTSD, are not adequately screened and fail to receive adequate mental health care (MHC) [25, 26]. It is often the case that structural barriers, including lacking financial resources and a lack of language skills, impede refugees from accessing MHC [27, 28]. The situation of UYRs is more pronounced due to their low utilization of MHC and lack of access to specific EBTs, resulting in higher unmet needs compared to resident peers and accompanied young refugees [8, 29–32]. In the absence of appropriate treatment of PTSS, long-term impairment may ensue [24]. This can result in personal distress and may also impede the integration of UYR, thereby hindering their successful resettlement in the host country [33, 34].

Given that not all young refugees with PTSS and associated distress receive adequate treatment, it is crucial to identify factors associated with help-seeking behavior and utilization of MHC. In recent years, a number of theories have been used to explain help-seeking and the use of MHC, one of which is Ajzen's *Theory of Planned Behavior* (TPB) [35, 36]. It posits that individuals deliberately opt to engage or not engage in certain behaviors, influenced by their *attitudes*, perceived social pressures (*subjective norms*), and beliefs about their capacity to control these behaviors (*perceived behavioral control*). These components are designed to predict the intention that will lead to the performance of the behavior [36]. The intention to seek help for mental health problems is a representation of willingness. It is a deliberate act of communication with external sources, and, in conjunction with perceived behavioral control, it is a predictor of the actual utilization of MHC [37]. A number of meta-analyses and reviews have demonstrated the efficacy of the TPB in the context of health behaviors [35; 38].

The extant literature addresses several factors that have been identified as contributing to increased utilization of MHC, though the findings are not entirely consistent. Given the small data bases on the utilization of MHC of UYRs, it is necessary reviewing the literature on utilization behavior in adjacent populations sharing relevant characteristics with UYRs, such as adult refugees, immigrants and the broader population of adolescents and young adults. In the context of adolescents and young adults without a refugee or migration background, several factors have been identified as potential contributors to increased utilization of MHC: externalizing behavior, overall problem level, delinquent behavior, and impairment [39]. Furthermore, positive previous experiences with MHC, mental health literacy, and a strong bond with the caregiver were identified as contributing factors to utilization of MHC [40]. Adolescents may be deterred from utilizing MHC due to concerns about stigmatization, heightened symptomatology, and negative perceptions of both MHC and the professionals who provide them [40]. The impact of gender, socioeconomic status, and ethnic background remains inconclusive, with findings on these factors exhibiting inconsistency [39].

Some of the factors associated with the use of MHC by immigrants and refugees have already been identified in

research on the general population. However, additional relevant factors were identified for this specific population. In addition to an increased severity of PTSS, awareness of mental health and mental health literacy [41], a higher level of education, female gender, insecure asylum status, and the length of stay in the host country are associated with increased utilization of MHC among adult refugees and immigrants [23, 25, 27, 28, 41–43]. Individuals with poor general health status are more likely to utilize MHC services [42], though refugees and migrants tend to seek assistance predominantly from medical rather than psychotherapeutic services [44, 45]. Other reasons that can lead to refugees not seeking MHC include a lack of recognition of their own need for such care compared to the need of family members, fear of being rejected by family or acquaintances, and the attribution of mental health issues to supernatural causes [46–48].

The existing literature addresses several key elements that contribute to the utilization of MHC by UYRs. To date, the evidence on factors that act as barriers or facilitators to the utilization of MHC by UYRs is limited. The following factors have already been identified as relevant: the length of time spent in the host country, the number of traumatic events experienced, the severity of symptoms, younger age, the availability of help-seeking support from caregivers as well as the self-reported need for MHC [8, 29, 30, 32]. Conversely, the presence of depressive symptoms may lead to lower rates of MHC use [32]. UYRs often view symptoms as an inevitable outcome of traumatic experiences, which can also hinder the utilization of MHC [32, 48].

Aim of the study

In light of the limited and inconsistent research on the use of MHC in general and by UYRs in particular, our study seeks to identify factors associated with intended and actual use of MHC by UYRs. Given the existence of effective treatment options and the potential negative consequences of untreated PTSD, it is crucial to identify barriers and facilitators to MHC in order to provide further support to this specific group. The objective of this exploratory study is to examine the influence of sociodemographic variables and symptom scores (PTSD, depression, anxiety) on the intention to utilize MHC, as well as the association between intention and actual utilization of MHC in a sample of UYRs.

The following research questions guided the current study:

- What factors (sociodemographic factors, symptom severity, probable comorbid diagnoses) are associated with intent to utilize MHC?
- What factors (sociodemographic factors, symptom severity, probable comorbid diagnoses) are associated with actual MHC utilization?
- Are there any factors that may serve as predictors of the intention to utilize MHC?
- Does the intention to utilize MHC lead to actual MHC utilization?

Method

Sample and procedure

The data were collected as part of the multi-center, cluster-randomized controlled trial BETTER CARE [49]. The project was approved by the ethics committees at Ulm University (No. 243/19) and at Catholic University of Eichstätt-Ingolstadt (No. 004–19). The BETTER CARE project was designed to implement and examine a screen and stepped-care approach for UYRs providing empirically supported treatment. A total of 627 UYRs living in 58 child and youth welfare service (CYWS) facilities participated in the screening of UYRs between July 2020 and July 2024. The advent of the COVID-19 pandemic in 2020 necessitated the implementation of daily life restrictions, which consequently impacted data collection procedures. Consequently, assessments were conducted online or on-site, in accordance with established hygiene protocols. As part of the study, participants were compensated with 30-euro vouchers for each assessment. There was no compensation for participation in psychotherapy sessions. Following the initial assessment (T0), all UYRs residing in a participating CYWS facility were randomly allocated to either the Better Care (BC) condition or a control condition designated as Usual Care + (UC+). Twenty-nine CYWS facilities were randomly assigned both to the BC and the UC + condition.

The stepped-care approach commenced with the initial step, which entailed screening and treatment recommendation. The second step involved enrolling subclinical cases in the preventive group program "Mein Weg" [50]. UYRs above the clinical cut-off (Child and Adolescent Trauma Screen, CATS-2 ≥ 25) were referred to the third step, TF-CBT as defined by Cohen et al. [15; 16]. The present study examined a subsample of UYRs who received a treatment recommendation for TF-CBT. The final sample of UYRs with treatment recommendation was $N = 139$ UYRs. Of these, $n = 18$ were excluded from the analysis as they had already undergone psychotherapy at the time of our treatment offer, $n = 14$ were excluded due to relocation, and $n = 2$ were excluded due to the initiation of inpatient psychiatric treatment. For UYRs with a TF-CBT referral, following the initial screening, caregivers from the CYWS facility were queried as to the UYRs intention to pursue therapy. If this was the case, the study staff established contact with a collaborating psychotherapist in the vicinity of the child and youth

welfare service (CYWS) facility. For both study arms, follow-up screenings took place 6 (T1) and 12 (T2) months after the initial screening. Inclusion criteria for participants were: (1) age between 12 and 20 years, (2) arrival in Germany as an unaccompanied minor, (3) application for asylum or intent to do so, (4) being cared for by a CYWS facility, (5) written informed consent by the participant and legal guardian (if under 16 years), and (6) report of at least one traumatic event according to the DSM-5 A criterion. No exclusion criteria have been defined.

Measures

Questionnaires were provided in multiple languages, including German, English, French, Arabic, Dari, Farsi, Pashto, Somali, Tigrinya, Russian, Ukrainian, and Kurmanci. Should the need arise, interpreters were available in person or by telephone. The demographic data collected encompassed a range of variables, including age, gender, religious beliefs, length of stay in Germany and within the CYWS premises, current school attendance, and residence status. The UYR's caregivers were inquired about the intention of the UYR to utilize MHC and this information was meticulously recorded. The actual utilization of MHC was documented by the treating study psychotherapists.

Posttraumatic stress symptoms

The assessment of post-traumatic stress symptoms (PTSS) in children and adolescents was conducted using the *Child and Adolescent Trauma Screen* (CATS-2) by Sachser et al. [51]. The questionnaire employs a 15-item checklist to identify potential traumatic events (PTEs) and subsequently measures the severity of PTSS through a 20-item scale, with responses collected on a 4-point Likert scale. The overall DSM-5 PTSS severity is determined by adding the scores from items 1 to 20 (with a possible range of 0 to 60), incorporating only the highest score from items 9, 10, and 15. The cut-off score for clinically relevant PTSD symptoms is 25. The CATS-2 is available in two versions, one for self-reporting and one for caregiver-reporting. In our study, the instrument demonstrated good internal consistency, achieving Cronbach's α scores of 0.76.

Depressive symptoms

The *Patient Health Questionnaire* (PHQ-9) is a measurement tool comprising nine items that correspond to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria for detecting depressive symptoms. Responses are collected using a four-point Likert scale. The instrument exhibited robust internal consistency, as evidenced by a Cronbach's alpha score of 0.76. The instrument has been validated in diverse settings and languages [52].

Anxiety symptoms

The *Generalized Anxiety Disorder Assessment* (GAD-7) is a seven-item instrument that evaluates anxiety symptoms on a four-point Likert scale, based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria. The instrument demonstrated high internal consistency ($\alpha = 0.82$) and has been validated in numerous contexts and languages [52].

Data analysis

Analyses were conducted using IBM SPSS Statistics, version 29. A significance level of $p < .05$ (two-tailed) was predetermined for all analyses. Given the exploratory nature of this analysis, the initial step was to construct correlation coefficients to ascertain the relationships between the sociodemographic variables and mental health parameters and the intention and actual utilization of MHC. We operationalized the likelihood of depression or anxiety comorbidity with PTSD, considering a comorbid disorder likely to be present if either the PHQ-9 or the GAD-7 score was above the cutoff for clinically relevant symptomatology, and also calculated the association between probable comorbidity and intention and MHC utilization.

A binomial logistic regression was performed to determine the effect of age, length of stay in Germany and PTSD symptom severity in predicting the likelihood of intending to use MHC. The linearity of the data was evaluated using the Box-Tidwell procedure [53]. A Bonferroni correction was applied to all terms in the model. All variables were found to have a linear relationship. Multicollinearity was tested but did not significantly affect the analysis. The data set revealed no cases that could be considered potential outliers. Sensitivity analyses were performed based on the cut-off scores for clinically relevant depressive and anxiety symptoms. Regression analyses were conducted in four distinct groups: (a) UYRs above the cut-off for clinically relevant symptoms in the PHQ-9, (b) UYRs below the cut-off for clinically relevant symptoms in the PHQ-9, (c) UYRs above the cut-off for clinically relevant symptoms in the GAD-7, and (d) UYRs below the cut-off for clinically relevant symptoms in the GAD-7. To examine the association between intention and utilization of MHC, a chi square test was conducted, using Fisher's exact probability test to calculate statistical significance.

Results

Sample characteristics

Sociodemographic characteristics are summarized in Table 1. The average age of the sample was 16.72 years ($SD = 1.35$), with ages ranging from 13 to 20 years. The majority of participants were male (87%) and identified as Muslim (91%). Most participants were of Afghan

Table 1 Descriptive characteristics of participating UYR

	n	%	M (SD); range
Age	139		16.72 (1.35); 13–20
Gender			
Male	121	87.1	
Female	17	12.2	
Diverse	1	0.7	
Country of origin			
Afghanistan	71	51.1	
Syria	19	13.7	
Somalia	8	5.8	
Iraq	6	4.3	
Other[1]	35	25.1	
Religion			
Muslim	127	91.4	
Christian	4	2.9	
Other[2]	2	1.4	
Non-religious	6	4.3	
Residence status			
Secure residence status[3]	93	66.9	
Uncertain residence status[4]	29	27.1	
Length of stay in Germany (months)	137		15.68 (18.69), 0–95
Current school attendance	122	87.8	
Number of PTEs	139		8.10 (2.97), 1–14
CATS-2	139		35.99 (7.62), 25–56
PHQ-9	139		13.61 (5.52), 0–27
GAD-7	139		11.58 (4.79), 0–21

[(1)] Albania, Cameroon, Eritrea, Gambia, Guinea, Iran, Libya, Mali, Marocco, Nigeria, Pakistan, Rumania, Sierra Leone, Tunisia, Turkey; [(2)] Buddhism, Hinduism, Judaism; [(3)] Temporary residence permit, pending process; [4] Negative decision, tolerated stay, other; CATS-2 Child and Adolescent Trauma Screen 2; PHQ-9 Patient Health Questionnaire-9; GAD-7 Generalized Anxiety Disorder Scale-7

(51.1%) or Syrian (13.7%) background. Participants had an average length of stay in Germany of 15.68 months (*SD* = 18.69, range 0–95). Given their relatively young age, the majority of participants (70%) reported a relatively secure status with regard to their residence, either in the form of a temporary residence permit or permission to stay. The average number of potentially traumatic events (PTEs) reported by UYR was 8, with a range of 1 to 14 events. Symptom scores indicated a clinically significant level of distress for PTSD, depression, and anxiety, with average scores of 35.99 (CATS-2, *SD* = 7.62), 13.61 (PHQ-9, *SD* = 5.52), and 11.58 (GAD-7, *SD* = 4.79) respectively. All UYRs exhibited clinically significant PTSS based on the established inclusion criteria. Regarding depressive symptoms, *n* = 110 UYRs (79%) demonstrated a clinically significant symptom level, while *n* = 80 UYRs (58%) exhibited clinically significant symptoms of anxiety.

Factors predicting the intention and utilization of MHC

A preliminary investigation was undertaken to ascertain the potential factors that may influence intention and utilization of MHC. Exploratory, we calculated correlation coefficients. As shown in Table 2, age ($\eta = 0.25$, $p < .01$), length of stay ($\eta = 0.28$, $p < .01$), and PTSD symptom severity ($\eta = 0.26$, $p < .01$) were significantly correlated with intention to use MHC. Only intention to use MHC correlated significantly with actual utilization ($\phi = 0.92$, $p < .001$). Socio-demographic factors, symptom severity and probable presence of a comorbid diagnosis were not significantly associated with utilization.

Table 2 Correlations between predictors and intention/utilization of MHC

Variable	Intention to utilize MHC		Utilization of MHC	
	Correlation coefficient	Coefficient	Correlation coefficient	Coefficient
Age	Eta	**0.25****	Eta	0.23
Gender	Phi	0.02	Phi	0.05
Region of origin	Contingency coefficient	0.17	Contingency coefficient	0.17
Religion	Contingency coefficient	0.21	Contingency coefficient	0.19
Residence status	Phi	0.07	Phi	0.13
Length of stay	Eta	**0.28****	Eta	0.25
Current school attendance	Phi	0.13	Phi	−00.08
Number of PTEs	Eta	0.11	Eta	0.10
CATS-2	Eta	**0.26****	Eta	0.24
Reexperiencing	Eta	**0.26****	Eta	0.36
Avoidance	Eta	0.13	Eta	0.29
Cognition & Mood	Eta	0.05	Eta	0.35
Hyperarousal	Eta	**0.21***	Eta	0.42
PHQ-9	Eta	0.10	Eta	0.13
GAD-7	Eta	0.02	Eta	0.06
Probable comorbidity	Phi	0.03	Phi	0.19
Intention	–	–	Phi	**0.92*****

n = 125 – 106, CATS-2 Child and Adolescent Trauma Screen 2, PHQ-9 Patient Health Questionnaire-9, GAD-7 Generalized Anxiety Disorder Scale-7; *$p < .05$, **$p < .01$, ***$p < .001$

The binomial logistic regression model on the intention to utilize MHC was statistically significant, $\chi^2(3) = 13.19$, $p < .05$, with an amount of explained variance as shown by Nagelkerke's $R^2 = 0.17$. Overall percentage of accuracy in classification was 72%. Of the three variables entered into the regression model, the CATS-2 score contributed significantly to the prediction of intention to use MHC with $b = 2.66$ ($p < .05$). Higher CATS-2 scores increase the likelihood of intending to use MHC with OR = 14.32 (95% CI [1.37, 149.56]). All model coefficients and odds can be found in Table 3. The sensitivity analyses demonstrated that factors which significantly contributed to the prediction of the intention to utilize MHC were not influenced by the presence or absence of clinically relevant

Table 3 Results of the binomial logistic regression analysis: intention to utilize MHC (n = 105)

						95% CI for OR	
	B	SE	Wald	*p*	OR	Lower	Upper
Age	0.23	0.19	1.51	0.220	0.79	0.54	1.15
Length of stay	-0.38	0.28	1.83	0.176	0.69	0.40	1.19
CATS-2	2.66	1.20	4.95	0.026	14.32	1.37	149.56
Constant	-3.88	5.05	0.59	0.442	0.02		

CATS-2 Child and Adolescent Trauma Screen 2, $R^2 = 0.12$ (Cox & Snell), 0.17 (Nagelkerke), Model χ^2 (3) = 13.19, $p < .05$

Table 4 Frequencies and percentages of intention and utilization

	No utilization of MHC	MHC utilization
No intention to utilize MHC	35 (33.33%)	0 (0%)
Intention to utilize MHC	4 (3.8%)	66 (62.86%)

depressive or anxiety symptoms (see Supplement, Table S1).

To investigate the association between intention and actual utilization, a chi square test was conducted, using Fisher's exact probability test to calculate statistical significance. As shown in Tables 4 and 63% of the UYR who had the intention to utilize MHC did, in fact, utilize MHC. In our sample, no UYR exhibited a lack of intention and yet utilized MHC. Fisher's exact test indicated a statistically significant association between the intention and actual utilization ($p < .001$).

Discussion

Existing literature has shown that UYRs are a particularly vulnerable sample with high rates of psychological distress. Despite this knowledge, there is a significant gap in the existing literature regarding the correlates of utilization of MHC in this population. This study examined the influence of sociodemographic variables and symptom severity (PTSD, depression, anxiety) on the intention to utilize MHC, as well as the association between intention and actual utilization in a sample of UYRs. We found significant associations between age, length of stay, PTSS and intention to seek MHC. The actual utilization of MHC was only related to the initial intention to do so. No associations were found between the number of PTEs experienced and intention or utilization. There were also no associations between depressive symptoms and intention or utilization. The regression analysis demonstrated that only PTSS was ultimately a significant predictor of intention to use MHC. In line with existing literature, age and length of stay in the country of resettlement are factors that contribute to an increased utilization of MHC services [29, 32]. Despite the absence of a statistically significant contribution of these predictors in explaining the intention to use MHC, younger age and shorter length of stay exhibited a tendency to increase the intention to use MHC. In contrast, Sanchez-Cao et al. [32] have indicated that a longer length of stay is more likely to result in the intention und utilization of MHC. Sanchez-Cao et al. [32] attributed their findings to superior language skills, acculturation within a Western country, and, consequently, a diminished fear of stigmatization. It seems reasonable to posit that the provision of language and cultural mediators by the BetterCare project may facilitate the breakdown of barriers in this area of concern. In general, the findings align with those of previous studies, indicating that socio-demographic characteristics exert minimal influence on the intention or actual utilization of MHC among refugee and immigrant populations [45; 32].

The impact of symptom severity and the degree of impairment caused by the mental illness can exert a considerable influence on intention and utilization of MHC. In alignment with the findings of Lamkaddem et al. [23], our research indicated that elevated symptom severity in the domain of PTSD is associated with increased MHC utilization rates. This result is particularly noteworthy when considered in the context of the fact that only UYRs with clinically relevant PTSS were subjected to analysis. In contrast, other studies have demonstrated that an elevated level of PTSD symptoms is associated with reduced utilization rates [25, 46]. The authors attributed this phenomenon to avoidance behavior and general impairment caused by the symptoms, which impede individuals from seeking help. Support from youth welfare staff and the specific treatment offered in our sample may have facilitated the overcoming of obstacles in this regard. Those affected were not compelled to conduct independent research into treatment options or to engage in the potentially distressing pursuit of free treatment placements. Bean et al. [8] found that a higher number of PTEs led to higher perceived need for professional help. In contrast, there was no significant correlation between PTEs and intention or utilization in the present study. The average number of traumatic events experienced in our sample was high ($M = 8.1$, $SD = 2.97$). It is possible that the Covid-19 pandemic has had an impact on this situation, creating additional challenges for youth welfare workers and psychotherapists in terms of establishing connections and accessing resources. Additionally, Sanchez-Cao et al. [32] found that higher depression symptom severity was associated with lower utilization. In our study, there was no association between depressive symptoms and intention

or utilization of MHC. As mentioned above, it is possible that the provision of a specific treatment offer and the existing support from youth welfare staff may have compensated for the effects of any reduced drive that may have been present. Overall, our findings are consistent with Ajzen's model of planned behavior, which asserts that intention is the primary determinant of behavior, in this case, actual utilization of TF-CBT [36]. In practice, this implies that UYR exhibiting an intention to utilize MHC should be identified and offered an appropriate course of treatment. For UYR who have no intention, the intention should be encouraged, for example through specific psychoeducational interventions.

The present study has several strengths, including the investigation of a difficult-to-reach sample and the examination of utilization within the context of a stepped-care approach for trauma-focused EBT. Furthermore, looking at the data descriptively, almost all UYRs who expressed an intention to seek MHC had at least one session with a psychotherapist. Beside these strengths, several limitations warrant acknowledgment. Firstly, the size of the sample analyzed was relatively small at $n = 105$, which may limit the generalizability of the findings. Secondly, the sample was rather homogeneous with respect to certain variables, such as gender, religion, or country of origin. As a result, the impact of these variables on intention and utilization could not be investigated. Nevertheless, our sample was demographically quite comparable to the refugee population in Germany, as most asylum applications were submitted by Syrian and Afghan male refugees [54]. Thirdly, our sample may have been somewhat selective. This study was conducted with the participation of facilities that were open to the provision of mental health services, aware of the psychological needs of UYRs, and expressed dissatisfaction with the existing treatment options. No conclusions can be drawn about what factors contribute to the use of MHC by UYR who do not have supportive caregivers or who are not participating in a stepped care approach with explicit treatment recommendations. Furthermore, our therapeutic recommendation solely encompassed a trauma-focused intervention. Our findings indicate that elevated PTSD levels are more likely to result in UYRs' intention to utilize the intervention. This may be due to the fit of the intervention with the symptoms exhibited. It is therefore not possible to generalize the results to interventions with a different treatment focus, e.g. depression, without further investigation. Fourthly, the characteristics of the support provided or the quality of the relationship with caregivers were not subject of investigation. These factors are certainly relevant with regard to the issue at hand and should be given due consideration in future studies. Fifthly, the amount of variance explained in our regression analysis was relatively small. Therefore, there must be other predictor variables that we did not measure. Variables to consider in future research include, for example, the mental health literacy of UYRs, UYRs' attitudes towards MHC, and the fear of stigmatization [27, 40, 41, 47]. Therefore, according to Ajzen's model, the influence of UYRs' attitudes on intention and thus utilization should be examined more closely. In addition, the fit of the model to the representation of the utilization behavior of UYRs cannot be fully confirmed by the statistical methodologies employed in this study. It is imperative that further investigations are conducted, and that mediation analyses or structural equation models are implemented in order to ascertain the model's suitability in terms of MHC utilization by UYRs. Finally, it should be noted that the present study exclusively focused on utilization of MHC. It is evident that the maintenance of patients in treatment is a crucial element in attaining a sustained reduction in symptoms. It is thus recommended that future studies prioritize the investigation of strategies to prevent premature termination of MHC by UYR. This is a crucial strategy for achieving long-term positive outcomes on both an individual and societal level. In addition, subsequent studies should prioritize the examination of UYRs who articulate an intention yet ultimately do not utilize MHC. The mediating factors in this context are of particular importance; however, their nature remains to be investigated.

In conclusion, this study provides evidence of some variables related to intention and actual utilization of trauma-focused EBT of UYRs. Upon articulating an intention, UYRs in our sample took advantage of treatment offers and attended a minimum of one session with a psychotherapist. As a result of these findings, it is particularly important to strengthen the role of UYRs caregivers (e.g. social workers in CYWS). By equipping caregivers with the necessary tools and knowledge on mental health and respective treatment options, they might be able to support UYR even better in starting an evidence-based treatment. As potential gatekeepers, they could be trained to identify early signs of mental health problems, provide appropriate guidance, and facilitate access to professional help.

To increase the intention to seek help and, consequently, the utilization of MHC, it is essential to also prioritize the mental health literacy of UYRs. Mental health literacy facilitates the capacity to discern self-perceived needs for assistance and to identify suitable professional support [41]. Low mental health literacy represents a pervasive obstacle to the utilization of mental health services among trauma survivors in general [55]. A promising approach to a low-threshold psychoeducational intervention for refugees designed to increase mental health literacy in a culturally sensitive manner is the 'Tea Garden' by Mewes et al. [56]. The Tea Garden

program is a low-threshold and transdiagnostic intervention. Its objective is to enhance knowledge about mental health problems and available treatment options, and to improve psychological resilience and self-care [56]. In addition to comprehensive screening and treatment recommendations, it may be beneficial to incorporate such low-threshold psychoeducational interventions into UYR stepped-care models. In this way, both structural and individual barriers to utilization of MHC, such as reservations about psychotherapy or fear of stigmatization, could be overcome.

Abbreviations

CYWS	Child and youth welfare system
EBT	Evidence based treatment
PTSD	Posttraumatic stress disorder
PTSS	Posttraumatic stress symptoms
MHC	Mental health care
UYRs	Unaccompanied young refugees
TPB	Theory of planned behavior

Supplementary Information

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Supplementary Material 1

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Author contributions

BK, EP, CS, and RR conceived the study. BK and MF were involved in the analysis. BK drafted the manuscript. All authors read and approved the final manuscript.

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Data availability

The datasets generated for this study are available upon request from the corresponding author.

Declarations

Ethics approval and consent to participate

The BetterCare trial was reviewed and approved by ethics committees at Ulm University (No. 243/19) and at the Catholic University of Eichstätt-Ingolstadt (No. 004–19). Written informed consent to participate in this study was provided by the participants and their legal guardians if necessary.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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Publisher's note

LIST OF PUBLICATIONS

Original research

(Publications marked "*" are part of the cumulative dissertation)

* Dietlinger, F. K., **Kasparik, B.**, Unterhitzenberger, J., Saupe, L., & Rosner, R. (2025). Challenges and facilitators in treating unaccompanied young refugees in a dissemination trial – a qualitative study with psychotherapists. Child and Adolescent Psychiatry and Mental Health, 19(1), 25. https://doi.org/10.1186/s13034-025-00873-w (**Publication 3**)

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* **Kasparik, B.**, Saupe, L. B., Mäkitalo, S., & Rosner, R. (2022). Online training for evidence-based child trauma treatment: Evaluation of the German language TF-CBT-Web. European Journal of Psychotraumatology, 13(1), 2055890. https://doi.org/10.1080/20008198.2022.2055890 (**Publication 2**)

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Conference contributions

Kasparik, B., Thielemann, J. F. B., König, J., Unterhitzenberger, J., & Rosner, R. (2023, June 15). A systematic review and meta-analysis of trauma-focused cognitive behavioral therapy for children and adolescents [Poster presentation]. ESTSS 2023: 17th European Society for Traumatic Stress Studies Conference, Belfast, United Kingdom.

Kasparik, B., Eilers, R., & Rosner, R. (2024, February 26). Einstellungen gegenüber evidenzbasierten Methoden und Wissenszuwachs von PsychotherapeutInnen im Rahmen eines Weiterbildungsangebotes zur traumafokussierten kognitiven Verhaltenstherapie [Attitudes towards evidence-based methods and knowledge gain of psychotherapists within a continuing education program for trauma-focused cognitive behavioral therapy, Presentation]. 24th Annual Conference of the German Society for Psychotraumatology (Deutsche Gesellschaft für Psychotraumatologie, DeGPT), Wien, Austria.

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