Dropout From Psychological Interventions for Refugees and Asylum Seekers: A Meta-Analysis

Verena Semmlinger, Keisuke Takano, Hannah Schumm, and Thomas Ehring
Department of Psychology, Ludwig-Maximilians-University Munich

Background: Refugees and asylum seekers often suffer from migration stressors and related psychopathology. However, providing this population with psychological treatment has a number of barriers (e.g., culture and language differences), which are widely thought to hinder the success and continuation of treatment. ***Objective:*** The current systematic review and meta-analysis aims to provide first comprehensive evidence on the prevalence and predictors of dropout in treatment provided for refugees and asylum seekers. ***Method:*** We synthesized the existing evidence on dropout from psychological and psychosocial interventions provided to adult refugees and asylum seekers resettled in high-income countries. Specifically, we meta-analyzed the prevalence of dropout from treatment and explored the factors that predict dropout. Our database search in Pubmed, PsycINFO, Web of Science, and PTSDpubs identified 28 eligible randomized controlled trials (RCTs; 2,691 participants; 39 active treatment conditions), published up to January 31, 2021. ***Results:*** Results showed a weighted average dropout rate of 19.14%, 95% confidence interval [14.66, 24.60] across studies and treatment conditions. Subgroup analyses and meta-regressions revealed no statistically significant predictors for dropout. However, several refugee-specific variables (e.g., longer mean duration in country of resettlement, lower rate of insecure asylum status) may merit closer attention in future research. ***Conclusions:*** These findings suggest that, in contrast to widespread assumption, the estimated average dropout rate is comparable to those reported in nonrefugee populations. However, more research is needed to establish the underlying mechanisms of dropout, which may differ across populations.

What is the public health significance of this article?
This study suggests that about 20% of refugees and asylum seekers prematurely terminate psychological or psychosocial treatment. Contrary to the widespread assumption about the difficulty retaining refugees in psychological treatment, this rate is comparable to dropout rates found in nonrefugee populations. Although the variables that influence the dropout rate remain unclear, our analyses point to the importance of refugee-specific variables (e.g., asylum status) while identifying no influence of the other sociodemographic variables (e.g., diagnosis, age) on dropout.

Keywords: dropout, prevalence, predictors, refugees, asylum seeker

Supplemental materials: https://doi.org/10.1037/ccp0000681.supp

Currently, 79.5 million people worldwide are forcibly displaced due to war, conflicts, persecution, or human rights violations (United Nation High Commissioner for Refugees, 2020). Refugees and asylum seekers are exposed to numerous burdensome experiences and stressors while living in their home country (Bogic et al., 2012; Hargreaves, 2002; Kalt et al., 2013; Priebe et al., 2016), as well as during the displacement (Böttche et al., 2016; Priebe et al., 2016; Ryan et al., 2008) and resettlement process (Böttche et al., 2016;

Liedl et al., 2016; Porter & Haslam, 2005). The burden of these pre-, peri-, and postmigration stressors is known to affect the physical and mental health of refugees and asylum seekers (Nickerson et al., 2011). A large-scale meta-analysis on refugees across different home and resettlement countries (Silove et al., 2009) reported prevalence rates of 30.6% for posttraumatic stress disorder (PTSD) and 30.8% for depression with a considerable variance of prevalence rates among studies (PTSD: 0%–99%; depression:

Verena Semmlinger   https://orcid.org/0000-0001-9201-7464
Keisuke Takano   https://orcid.org/0000-0003-0406-8654
Hannah Schumm   https://orcid.org/0000-0002-2485-0531
Thomas Ehring   https://orcid.org/0000-0001-9502-6868

Correspondence concerning this article should be addressed to Verena Semmlinger, Department of Psychology, Ludwig-Maximilians-University Munich, Munich 80802, Germany. Email: verena.semmlinger@psy.lmu.de

3%–85.5%). In a large-scale umbrella review focusing on refugees resettled in high-income countries, Turrini et al. (2017) reported prevalence rates ranging from 3% to 50% for PTSD, from 3% to 100% for depression, and from 12% to 77% for anxiety disorders. These figures indicate the need for effective treatment services targeting mental health problems in refugees and asylum seekers. As of present, numerous psychological interventions for refugees and asylum seekers have been developed. The current evidence shows promising but not entirely consistent results on the effectiveness of these interventions (Crumlish & O'Rourke, 2010; Nosè et al., 2017; Thompson et al., 2018; Turrini et al., 2019). The most recent meta-analysis reported an aggregated effect size of $g = 0.77$ for PTSD and $g = 0.82$ for depression, although there was considerable heterogeneity in the included studies (Kip et al., 2020).

Although effective treatments for refugees and asylum seekers are now available, there are still a number of barriers that hinder the initial start and continuation of treatment. For instance, some authors highlighted the language differences, unstable residence status, and the frequency of changed contact addresses as crucial factors that affect the initiation and might increase the likelihood of dropout (Bhatia & Wallace, 2007; van Loon et al., 2011); other authors spotted ongoing postmigration stressors, such as challenging accommodation situations, poor socioeconomic conditions, loneliness, isolation, and feelings of helplessness (Böttche et al., 2016; Liedl et al., 2016; Porter & Haslam, 2005; Priebe et al., 2016). Preliminary findings also suggested that there are prominent cultural differences in the perceptions and assumptions of mental illness, psychological treatment, and therapists (Barrett et al., 2008; Liedl et al., 2016) as well as the expectation for treatment (e.g., Slobodin & de Jong, 2015; van Loon et al., 2011). As any of these factors are likely to impact on access and retention of treatment, dropout from treatment in this population is expected to be more prevalent than in nonrefugee patients (Barrett et al., 2008; Priebe et al., 2016; Slobodin & de Jong, 2015; van Loon et al., 2011). Yet, the likelihood of dropout occurrence across various trial settings and diverse refugee populations is still unclear. Furthermore, it is of theoretical and practical importance to identify the factors that best inform dropout among the refugee-specific barriers that researchers have documented in the literature. Therefore, the current meta-analysis aimed to provide comprehensive evidence on the prevalence and predictors of dropout in treatment provided for refugees and asylum seekers.

Definition of Dropout

One of the most widely used definitions of dropout is a termination of an initiated treatment before the symptoms that had caused the patient to seek treatment have been alleviated (Garfield, 1986; Hatchett & Park, 2003; Swift et al., 2009; Swift & Greenberg, 2012). However, in the literature, a number of variants can be found and no consensus has been reached on the operationalization of dropout despite repeated calls for developing common standard (e.g., Barrett et al., 2008; Fernandez et al., 2015; Imel et al., 2013; Swift & Greenberg, 2012). For example, some studies define dropout as: (a) Failure to complete an a priori defined number of therapy sessions that is considered to be the minimum dose for symptom improvement; (b) failure to attend the complete treatment protocol; (c) missing a scheduled treatment session without rescheduling it or attending any further sessions; (d) therapist's judgment;

(e) clinical significance of change during treatment; termination of treatment without measurable improvement and without achieving normal range scoring in the outcome assessment (Hatchett & Park, 2003; Lambert, 2007; Swift et al., 2009; Swift & Greenberg, 2012). The use of different definitions of dropout may have caused the inconsistency in reported dropout rates in the literature (Hatchett & Park, 2003; Swift & Greenberg, 2012; Wierzbicki & Pekarik, 1993). Therefore, we reviewed how dropout was defined in individual studies and examined how the variants of definitions influence the reported dropout rates.

Prevalence and Predictors of Dropout

A handful of meta-analyses have reported the prevalence of dropout from psychological treatment and its possible predictors in general (nonrefugee) patient populations. One of the earliest comprehensive reviews (Wierzbicki & Pekarik, 1993) estimated the average dropout rate as 46.9%, 95% CI [42.9, 50.8], which was replicated by follow-up studies in the 1990s (e.g., Garfield, 1994). However, a more recent large-scale meta-analysis (Swift & Greenberg, 2012) on 669 studies covering 83,834 adult patients suggests that dropout may be considerably lower than the earlier estimation by Wierzbicki and Pekarik (1993). Results showed a weighted mean dropout rate of 19.7%, 95% CI [18.7, 20.7] with the range of 0%–74.2%, indicating a high degree of heterogeneity among the analyzed studies. Dropout rates from recent reviews with focus on specific treatment orientations or disorders, fall in a similar range. For cognitive-behavioral therapy (CBT), an estimated dropout rate of 26.2% was reported (Fernandez et al., 2015). Lewis et al. (2020) reported a dropout rate of 16.0% from treatments for PTSD in adults; the estimated dropout rate from guideline-recommended treatment for PTSD was 20.9% (Varker et al., 2021).

In addition to studying the prevalence of dropout from psychological treatment, a growing body of research has focused on predictors for dropout. Although a number of candidate predictors have been proposed, only few have been demonstrated to be significant across different studies. Swift and Greenberg (2012) found higher dropout rates in younger patients as well as those with personality or eating disorders. The researchers also identified higher dropout rates for treatments that were provided: with unfixed (vs. fixed) number of sessions, with lower degrees of manualization, and in university-based institutions (vs. routine clinical settings). In addition, higher dropout rates were also found when therapists had lower levels of experience, and when therapists used their own judgment to define each dropout case (not relying on a standardized definition). On the other hand, neither patients' ethnicity nor their employment status was predictive of dropout (Swift & Greenberg, 2012). Other reviews are in line with Swift and Greenberg's (2012) results, and more recent studies and reviews successfully replicated their findings, that is, higher dropout rates for younger patients (Barrett et al., 2008; Winkler, 2018; however, see Varker et al., 2021; Zimmermann et al., 2017), patients with personality disorder (Cinkaya, 2016; McMurran et al., 2010; Zimmermann et al., 2017), therapists with lower levels of experience (Roos & Werbart, 2013), and studies relying on the therapist defined dropout (Hatchett & Park, 2003; Wierzbicki & Pekarik, 1993). Some authors have also identified new predictors such as high initial impairment and low treatment outcome expectancy (Barrett et al., 2008; Zimmermann et al., 2017) as well as patients' gender (more dropout in male

patients) and level of education (higher dropout in less educated patients; Zimmermann et al., 2017).

The existent dropout studies have almost exclusively focused on Western or nonrefugee patients, which means that the actual dropout rate and its predictors are largely unknown in the context of treatment offered to refugees and asylum seekers (Semmlinger & Ehring, 2020). Therefore, we based our meta-analyses on the approach of Swift and Greenberg (2012) covering the study, sample, treatment, and therapist characteristics as potential predictors of dropout (e.g., age and type of disorders), which might serve as a common mechanism of dropout both in refugee and nonrefugee populations. In addition, we explored some population-specific predictors such as the asylum status, number of months in the host country, and cultural adaptation settings. These variables were derived from the literature and theories pointing to the key issues in the retention of treatment for refugees: for example, culturally specific perceptions and expectations (e.g., Barrett et al., 2008; Liedl et al., 2016; Priebe et al., 2016; Sandhu et al., 2013; van Loon et al., 2011), ongoing stressors within the resettlement process (Liedl et al., 2016; Sandhu et al., 2013; Slobodin & de Jong, 2015), and trust building issues toward authority, and consequently also therapists (Liedl et al., 2016; Priebe et al., 2016).

Objective

We conducted a systematic review and meta-analysis in order to identify the prevalence and predictors of dropout (O = outcome according to Preferred Reporting Items for Systematic Reviews and Meta-Analysis [PRISMA] guidelines, Moher et al., 2009) in psychological and psychosocial interventions (I = intervention) for adult refugees and asylum seekers resettled in high-income countries (P = population). Only randomized controlled trials (RCTs) were included, with no restrictions regarding the control conditions (C = comparison).

Method

The protocol was registered in the International Prospective Register of Systematic Reviews (PROSPERO) with the registration number: CRD42020179964. The reporting of the meta-analysis follows the standard provided in the PRISMA guideline (Moher et al., 2009).

Identification and Selection of Studies

Eligibility Criteria

Inclusion criteria for the current meta-analysis were as follows: (a) study participants were refugees or asylum seekers resettled in high-income country; (b) study participants were adults (mean aged ≥18 years); (c) treatment under investigation was a psychological or psychosocial intervention; that is, any nonpharmacological intervention aimed to improve clinical symptoms, behavior, or general functioning (Nosè et al., 2017; Tol et al., 2015)[1]; (d) treatment under investigation comprised at least two planned session or contacts; (e) the study design was an RCT; (f) the study was published in a peer-reviewed journal; (g) dropout rate is reported in the article.

We restricted the study design to RCTs to reduce the potential heterogeneity and risk of bias among included studies (Higgins et al., 2021): Another advantage of this approach was that almost all RCTs use appropriate control conditions, which allowed us to compare dropout rates in active treatment conditions to those in control conditions. Furthermore, we exclusively targeted studies on refugees resettled in high-income countries because this restriction reduces the heterogeneity among included studies and also increases comparability. In addition, targeting refugees in high-income countries allowed for valid comparisons of our own findings to the recently reported dropout rates for patients in high-income countries (Swift & Greenberg, 2012). No restrictions were made regarding the intervention format, publication date, or language.

Search Strategy

The literature search was conducted in the following electronic databases: Pubmed, PsycINFO, Web of Science, and PTSDpubs. Our search strategy can be summarized as follows: We searched the databases using two different search strings. In the first search, we included terms indicative for psychological and psychosocial intervention (e.g., *intervention; treatment*), refugee/asylum seeker (e.g., *refugee**; *asylum seeker**; *displaced person*), and RCT (e.g., *randomized controlled trial*; *randomized*). In a second search, the terms indicative for psychological and psychosocial intervention and refugee/asylum seeker were then combined with the terms indicative for dropout (i.e., *attrition*; *dropout*; *noncompletion*). To maximize the number of results, the terms indicative for RCTs were not included in the second search string. Both searches were conducted in title, abstract, keyword, and subject headings retrieved from the specific thesaurus of the particular database. The terms were combined using Boolean operators. In addition, term truncation (*) and quotes were used (see Supplemental Material, S2 for a detailed description of the search strategy). To retrieve additional publications, reference lists of previously published meta-analysis and systematic reviews on similar topics were reviewed. The meta-analysis and systematic reviews were retrieved through an additional search in the described databases. We searched in reference lists of identified studies. Gray literature including dissertations and theses, reports, clinical guidelines, books, evaluations published on websites, and conference contributions were examined to find additional peer-reviewed articles.

The first search was completed on May 1, 2020. The search was then updated before finalizing statistical analyzes to identify recently published studies. The current meta-analysis, therefore, includes all studies published up to January 31, 2021.

Screening

First, title and abstract of all studies were screened and studies clearly not fulfilling inclusion criteria were excluded at this stage. In the next step, all remaining articles were examined on a full-text

---

[1] Examples for interventions falling within this definition are: cognitive and behavior therapies; counseling; behavior management; internet-based treatment. On the other hand, we did not regard as psychological or psychosocial interventions: medical treatment; medical education (e.g., for acquired immunodeficiency syndrome [AIDS]); prevention counseling (e.g., for cancer, parasite infections, tuberculosis); pharmacological intervention; nutritional counseling.

level. A second independent reviewer (Hannah Schumm) then reviewed the selected studies and verified the decisions that the first reviewer (Verena Semmlinger) had made. Any discrepancy was resolved through close discussion between the first and second reviewer.

Data Extraction

Two of the authors (Verena Semmlinger and Hannah Schumm) independently conducted the data extraction, using the predetermined extraction manual and extraction form designed for the current meta-analysis. If necessary, the authors of each eligible study were contacted for any unreported data that were needed for our planned analyses. The mean agreement rate across all variables was 94.3% ($SD = 6.5\%$) and ranged between 78.6% and 100%. Any discrepancy was discussed together with the third member of the team (Thomas Ehring) until a consensus could be reached.

Following Swift and Greenberg (2012), we coded the dropout rate as well as categorial and continuous variables on the following four domains: study characteristics, sample characteristics, treatment-related variables, and therapist characteristics for each treatment condition (see Table 1). If necessary, the coding criteria were adapted to our specific context, that is, refugees and asylum seekers.

Dropout

To calculate the dropout rate, we extracted (a) the number of patients who started a psychological/psychosocial intervention but terminated prematurely (as a numerator) and (b) the number of participants who were randomized/allocated to that treatment condition (as a denominator). The dropout rate was also coded for any active comparators (e.g., treatment as usual) and other types of control conditions (e.g., wait list).

Study Characteristics

The following study characteristics were coded: year of publication, country in which the study was conducted (study origin country), study type (efficacy/effectiveness), sample size (N), as well as operationalization of dropout. The latter was coded according to Swift and Greenberg (2012) and Semmlinger and Ehring (2020) and included the following categories: dropout based on duration (less than a given number of sessions); dropout defined as noncompletion of treatment protocol; dropout defined as missed appointments without rescheduling or coming to further sessions; dropout based on therapist judgment; dropout based on clinical significance (Hatchett & Park, 2003).

Sample Characteristics

Furthermore, the variables related to the sample characteristics were coded on study level: that is, age (average), gender (percent female), marital status (percent married or in committed relationships), employment status (percent in full-time or part-time employment), education (percent with college-level education), asylum status (percent with insecure status—applied for asylum and awaiting decision on application for refugee status; United Nation High Commissioner for Refugees, 2011), months since arrival in host country (average), most frequent main diagnosis per sample[2]

(PTSD/depression/anxiety/no clinical diagnosis), and main country of origin. Countries or regions of origin were grouped according to the specifications of the United Nation Statistics Division: Sub-Saharan Africa, Northern Africa and Western Asia, Central and Southern Asia, Eastern and South-Eastern Asia, Latin America and the Caribbean, Australia and New Zealand, Oceania, Europe, and Northern America (United Nations, 2020).

Treatment-Related Variables

The following treatment-related variables were coded: treatment orientation of the manual (CBT/eye movement desensitization and reprocessing [EMDR]/narrative exposure therapy [NET]/other), main treatment target (trauma-focused/depression/anxiety/other), treatment format (individual/group/combination), number of sessions (number; per treatment condition), duration of each session (in minutes; per treatment condition), manualization (yes/no), concurrent medication allowed (yes/no), cultural adaption of the manual (yes/no), as well as treatment setting; percentage of patients in outpatient treatment/inpatient treatment/university-affiliated institution (inpatient or outpatient)/psychosocial care institution/refugee health care institution (e.g., refugee accommodation)/online intervention/other.

Therapist Characteristics

We coded the therapists' age (average), gender (percent female), race, therapists' level of experience per treatment condition (trainee/experienced/mixed/no therapists), as well as whether the use of an interpreter was permitted (yes/no, per treatment condition).

Quality Assessment

We used the revised Cochrane risk of bias assessment tool (RoB 2.0 tool) to assess the risk of bias for all included studies (Sterne et al., 2019). In the present meta-analysis, the risk of bias assessment serves to indicate the study quality and thus potential threats to the internal validity of the findings, for example, regarding *OR* of dropout between conditions. The assessment of bias was achieved by rating each included study on the associated signaling questions within following domains: randomization process, deviation from intended intervention, missing outcome data, measurement of the outcome, selection of the reported results, using the ratings *yes*, *probably yes*, *probably no*, *no*. Following an algorithm (Higgins et al., 2019), the risk of the bias for each category could be evaluated as *low*, *some concerns*, or *high*. As the assessment of possible researcher allegiance is not part of the Cochrane tool, the existence of this bias was assessed separately and reported where applicable.

Additionally, the quality of assessing, reporting, and handling dropout was rated for each study using a predetermined manual designed for the current meta-analysis. The manual consisted of signaling questions on four domains: the precision of the definition of dropout, the operationalization method used, the quality of reporting dropout, as well as any analyses used to handle dropout. Each question was rated as *yes*, *no information*, *no*; resulting in an evaluation of each domain as *low quality*, *satisfactory*, *high quality*.

---

[2] We coded the most frequent main diagnosis per study. Comorbid disorders were not coded.

Table 1

Variables Included in the Moderator Analyses

Type of variable	Study	Sample	Treatment	Therapist
	Domain of variable			
Categorial	Country of study Study type Operationalization of dropout	Main diagnosis Country of origin	Orientation Main target Format Manualization Medication Cultural adaption Setting	Experience level Interpreter
Continuous	Year of publication Sample size	Age Gender Marital status Employment Education Asylum status Months in host country	Number of sessions Duration of sessions	

Note. Gender and asylum status were treated as a proportion (e.g., % of women) in a treatment group.

Moreover, the overall quality was rated using the same classification (for details see Supplemental Material, S7).

The risk of bias assessment was conducted by the same independent reviewers (Verena Semmlinger; Hannah Schumm) who conducted the data extraction. Any discrepancy was discussed together with a third member of the team (Thomas Ehring) until a consensus was reached.

Statistical Analysis

Effect Sizes

Our primary outcomes were the dropout rate and the *OR*. The dropout rate was defined as the proportion of the patients who dropped out to the total number of patients who started treatment. Some studies had one or two treatment conditions in addition to the main treatment condition. In this case, the dropout rate was computed separately for the different conditions. The *OR* was given as the relative dropout rate of a treatment condition to a control condition. If a study had multiple active treatment conditions, *OR*s were calculated for each treatment condition compared to a respective control condition. The *OR* was not calculated for studies that only had an active treatment condition as the comparator (but not a no intervention or wait-list control). These studies were therefore excluded from the *OR* analysis.

Multilevel Models

We calculated the weighted average dropout rate across all eligible studies and treatment conditions. Due to the variability among included studies, which may be caused by the diverse characteristics of the inclusion criteria, we assumed that the true effect size varies across studies. Therefore, we used a multilevel model to estimate the average dropout rate and *OR* (in a form of log-transformed proportion or ratio).

Furthermore, as our data had an extra nested structure (i.e., active treatment conditions nested within a study), we used three-level multilevel models. We confirmed that the three-level formulation fit the data better than the two-level model (without the in-between "study" level). The Akaike information criterion (AIC) and the Bayesian information criterion (BIC) were lower for the three-level than the two-level model: for the dropout rate, AIC = 101.95 versus 110.19; BIC = 106.86 versus 113.46. All multilevel models (including subgroup analyses and meta-regressions) were estimated using the R *metafor* package (Viechtbauer, 2010) with the restricted maximum likelihood (REML) estimation.

Test for Homogeneity

To examine the heterogeneity in the dropout rate and *OR*, we used Cochran's Q and I^2 (Higgins et al., 2003) statistics. The I^2 statistic was interpreted by using the guide provided by Higgins et al. (2021). According to the authors, an I^2 in the range of 0%–40% *is potentially not important*, an I^2 in the range of 30%–60% is rated as *moderate*, in the range of 50%–90% as *substantial*, and as *considerable* when reaching 75%–100%. Note that Higgins et al. (2021) proposed these overlapping ranges as a rough guide for interpretation. In our meta-analysis, we used labels indicating the overlap when applicable (i.e., <75% = substantial; 75%–90% = substantial to considerable; >90% = considerable).

Subgroup and Meta-Regression Analyses

Subsequent to the primary analyses, we performed subgroup and meta-regression analyses in the framework of the three-level multilevel model (i.e., active treatment conditions nested within a study) using REML estimation. These analyses targeted the dropout rate only (but not *OR*s), as we were specifically interested in the moderators that are predictive of dropout in treatment conditions. Also, a smaller number of studies were available for *OR* as some studies had nonactive treatment controls.

The subgroup analyses were performed on the following 14 categorial variables as potential moderators (Table 1). Because of the high heterogeneity of the eligible studies and the considerable amount of missing data in the variables of interest, we calculated the subgroup analyses separately for each moderator. Q-statistics were inspected as an omnibus test that informs whether each group variable is a significant predictor of dropout.

Similarly, meta-regression analyses were conducted separately for the following 11 continuous measures (Table 1). Given the number of tests that we performed for the subgroup (14) and meta-regression (11) analyses, we corrected the α level using Benjamini–Hochberg approach (Benjamini & Hochberg, 1995).

Results

Study Characteristics

A total of 28 studies (k_s; including 2,691 participants) were included in the meta-analysis, reporting the results of 39 active treatment conditions (k_t). See Figure 1 for a PRISMA flow diagram of the study selection process (see Supplemental Material, S3 for a list of excluded studies). One quarter of the studies were from Germany ($k_s = 7$) and USA ($k_s = 7$). A completion-based definition of dropout (failure to comply the treatment protocol) was the most frequently used definition among the studies ($k_s = 19$). Half of the studies were coded as efficacy-type studies ($k_s = 14$) and the other half were effectiveness-type studies ($k_s = 14$; see Supplemental Material, S4). The majority of treatment conditions can be characterized as trauma-focused treatment ($k_t = 28$) and a cognitive-behavioral intervention ($k_t = 17$); most of the treatment was

Figure 1

PRISMA Flow Diagram
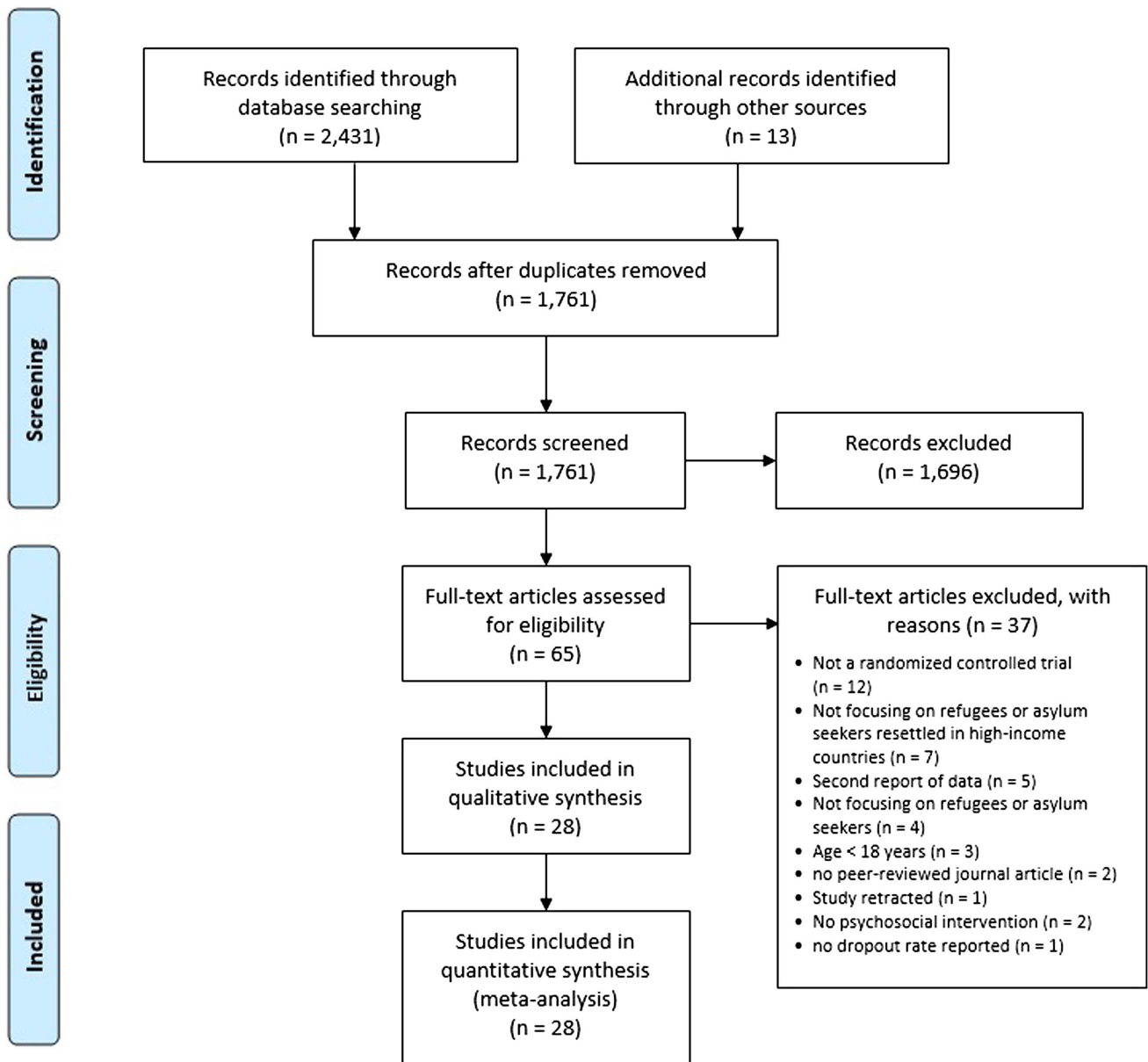
Note. N = number of studies. PRISMA = Preferred Reporting Items for Systematic Reviews and Meta-Analysis. See the online article for the color version of this figure.

provided in an individual format ($k_t = 33$). Treatment was mostly delivered in an outpatient setting ($k_t = 16$). The weighted mean number of sessions was 26.1 ($SD = 15.0$, range = 2–78 sessions), and the mean duration of each session was 70.6 min ($SD = 19.8$, range = 53–120 min). Furthermore, most treatments were manualized ($k_t = 33$) and culturally adapted ($k_t = 18$). Most of the therapists had an elevated experience level ($k_t = 22$). The weighted mean age of participants in treatment conditions was 40.4 years ($SD = 7.0$, range = 21–51 years), and 45.70% were women ($SD = 17.0$, range = 0%–82%). Around one third of (27.22%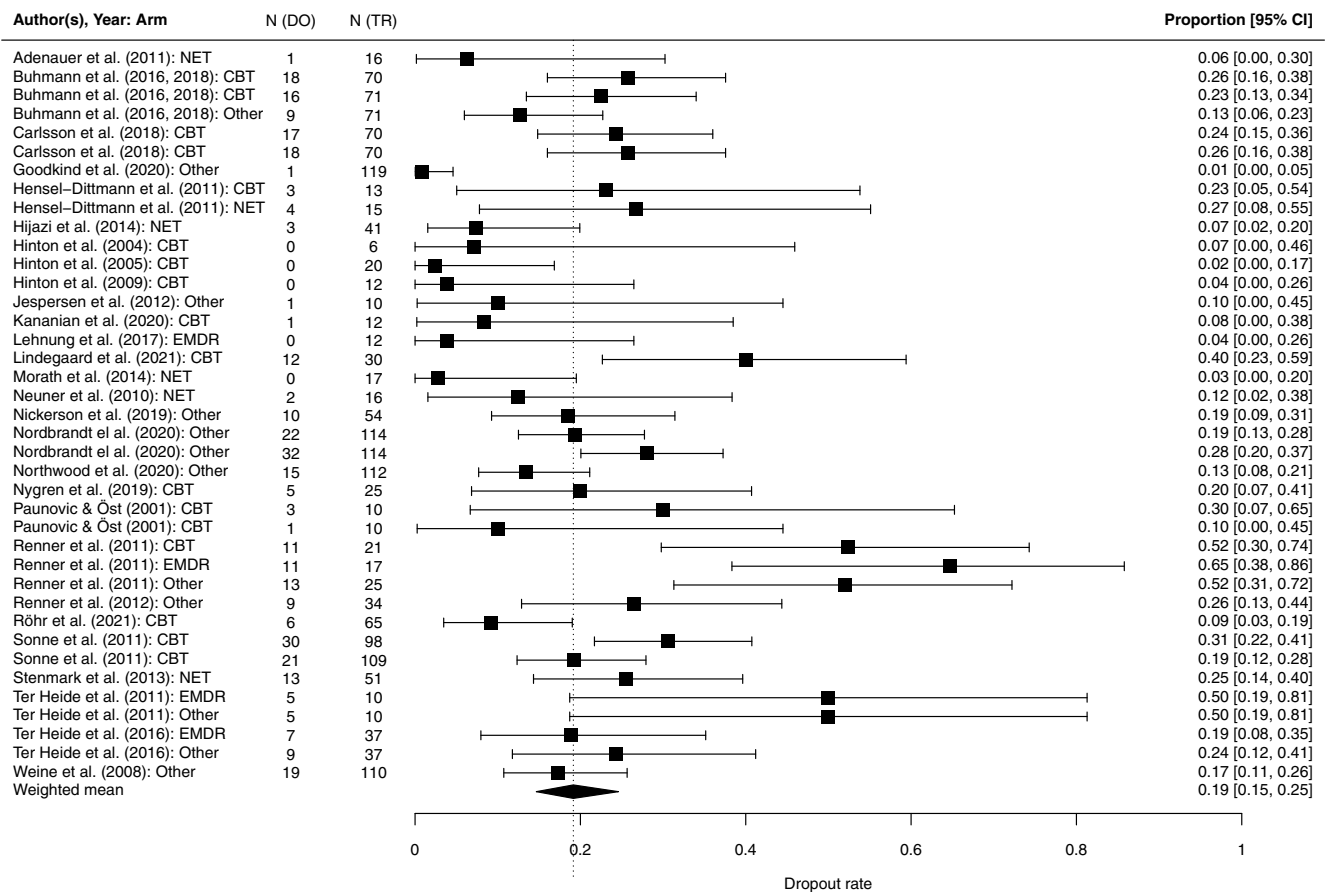) participants had an insecure asylum status ($SD = 36.5$, range = 0%–100%), and the mean duration of stay in the country of resettlement was 113.6 months (i.e., 9.5 years; $SD = 68.3$, range = 3–203 months). In $k_t = 13$ samples, participants mainly came from the countries that can be grouped as Northern Africa and Western Asia. PTSD was the most common main diagnosis ($k_t = 29$). On average, 13.63% ($SD = 19.2$) of participants were employed, 59.39% ($SD = 25.7$) had college-level education, and 55.58% ($SD = 22.0$) were in committed relationships; however, note that for these variables data were available for only less than one third of included studies.

Dropout Rate

The weighted average dropout rate across all studies and active treatment conditions was 19.14%, 95% CI [14.66%, 24.60%], ranging from 0% to 64.7%. There was high heterogeneity between studies, $Q(38) = 105.26$, $p < .0001$, $I^2 = 74.76$, 95% CI [67.79, 79.66]. Following the criteria of Higgins et al. (2021), this heterogeneity is regarded *substantial*. The between-study effect explained 69.55% of the total variance, whereas 5.21% was attributed to the within-study heterogeneity. The dropout rate for individual studies and treatment conditions are displayed in the forest plot (Figure 2).

The pooled *OR* was $OR = 0.52$, 95% CI [0.46, 0.59]; (see Figure S5 for a Forest Plot of log *OR*), which suggests that dropout was less frequent in the treatment condition compared to the control condition. The heterogeneity was not statistically significant, $Q(26) = 27.22$, $p = .40$, $I^2 = 15.23$, 95% CI [−52.79, 46.19]; here, 15.23% of the total variance was explained by the between-study effect and the remaining (84.77%) was attributed to the sampling variance. This observation implies that the heterogeneity *is potentially not important* for *OR*, according to the criteria of Higgins et al. (2021).

Figure 2

Forest Plot of Dropout Rate

Author(s), Year: Arm	N (DO)	N (TR)	Proportion [95% CI]
Adenauer et al. (2011): NET	1	16	0.06 [0.00, 0.30]
Buhmann et al. (2016, 2018): CBT	18	70	0.26 [0.16, 0.38]
Buhmann et al. (2016, 2018): CBT	16	71	0.23 [0.13, 0.34]
Buhmann et al. (2016, 2018): Other	9	71	0.13 [0.06, 0.23]
Carlsson et al. (2018): CBT	17	70	0.24 [0.15, 0.36]
Carlsson et al. (2018): CBT	18	70	0.26 [0.16, 0.38]
Goodkind et al. (2020): Other	1	119	0.01 [0.00, 0.05]
Hensel–Dittmann et al. (2011): CBT	3	13	0.23 [0.05, 0.54]
Hensel–Dittmann et al. (2011): NET	4	15	0.27 [0.08, 0.55]
Hijazi et al. (2014): NET	3	41	0.07 [0.02, 0.20]
Hinton et al. (2004): CBT	0	6	0.07 [0.00, 0.46]
Hinton et al. (2005): CBT	0	20	0.02 [0.00, 0.17]
Hinton et al. (2009): CBT	0	12	0.04 [0.00, 0.26]
Jespersen et al. (2012): Other	1	10	0.10 [0.00, 0.45]
Kananian et al. (2020): CBT	1	12	0.08 [0.00, 0.38]
Lehnung et al. (2017): EMDR	0	12	0.04 [0.00, 0.26]
Lindegaard et al. (2021): CBT	12	30	0.40 [0.23, 0.59]
Morath et al. (2014): NET	0	17	0.03 [0.00, 0.20]
Neuner et al. (2010): NET	2	16	0.12 [0.02, 0.38]
Nickerson et al. (2019): Other	10	54	0.19 [0.09, 0.31]
Nordbrandt el al. (2020): Other	22	114	0.19 [0.13, 0.28]
Nordbrandt el al. (2020): Other	32	114	0.28 [0.20, 0.37]
Northwood et al. (2020): Other	15	112	0.13 [0.08, 0.21]
Nygren et al. (2019): CBT	5	25	0.20 [0.07, 0.41]
Paunovic & Öst (2001): CBT	3	10	0.30 [0.07, 0.65]
Paunovic & Öst (2001): CBT	1	10	0.10 [0.00, 0.45]
Renner et al. (2011): CBT	11	21	0.52 [0.30, 0.74]
Renner et al. (2011): EMDR	11	17	0.65 [0.38, 0.86]
Renner et al. (2011): Other	13	25	0.52 [0.31, 0.72]
Renner et al. (2012): Other	9	34	0.26 [0.13, 0.44]
Röhr et al. (2021): CBT	6	65	0.09 [0.03, 0.19]
Sonne et al. (2011): CBT	30	98	0.31 [0.22, 0.41]
Sonne et al. (2011): CBT	21	109	0.19 [0.12, 0.28]
Stenmark et al. (2013): NET	13	51	0.25 [0.14, 0.40]
Ter Heide et al. (2011): EMDR	5	10	0.50 [0.19, 0.81]
Ter Heide et al. (2011): Other	5	10	0.50 [0.19, 0.81]
Ter Heide et al. (2016): EMDR	7	37	0.19 [0.08, 0.35]
Ter Heide et al. (2016): Other	9	37	0.24 [0.12, 0.41]
Weine et al. (2008): Other	19	110	0.17 [0.11, 0.26]
Weighted mean			0.19 [0.15, 0.25]

Note. N = number of participants; DO = dropout; TR = treatment; CI = confidence interval; CBT = cognitive-behavioral therapy; NET = narrative exposure therapy; EMDR = eye movement desensitization and reprocessing. Zero frequency was trimmed by adding up a small constant for the computation purpose.

Subgroup Analyses

Study Characteristics

The analyses of study characteristics as potential moderators revealed significant differences in the dropout rate between the countries in which the studies were conducted, $Q(7) = 24.03$, $p < .01$, with the highest reported dropout rates in studies coming from Austria. In contrast, the dropout rate was not moderated by study type or the method used to operationalize dropout (see Table 2).

Sample Characteristics

The main diagnosis of participants and their main country of origin did not significantly predict the dropout rate (see Table 2).

Treatment-Related Variables

There were no significant differences in the dropout rate between the treatment-related variables after α adjustment for multiple testing. However, there was a nonsignificant trend (after correction for multiple testing) for the different treatment formats, $Q(2) = 8.43$, $p = .01$, with higher dropout rates in individual and group treatment compared to combined treatment. Note however, that our database had only one study that tested a combined treatment approach (Table 2). The dropout rate did not differ significantly between treatment orientation groups, main treatment target, manualization, whether or not medication was allowed, cultural adaption, or treatment setting.

Therapist Characteristics

Only two moderators, specifically, the experience level of therapists and the attendance of an interpreter, were submitted to the subgroup analyses. This is because other moderators concerning the therapist characteristics (age, gender, race) had a large number of missing values, which prevented us from forming interpretable analyses. There was no significant influence of the therapist characteristics on the dropout rate (see Table 2).

Meta-Regression Analyses

Study Characteristics

No relation was found for the year of study publication and the sample size on the reported dropout rate (see Table 3).

Sample Characteristics

There were no significant differences in the dropout rate between the sample characteristics after α adjustment for multiple testing. However, there was a nonsignificant trend (after correction for multiple testing) for the duration of stay in the country of resettlement, $p = .03$, as well as the asylum status, $p = .02$. This trend indicated higher dropout rates in studies with longer mean duration of stay in the host country and a lower proportion of insecure asylum cases in the studies. The dropout rate was unrelated with distributions of age, gender, marital status, employment status, or education level (see Table 3).

Treatment-Related Variables

There was no significant moderation of the dropout rate by the number and duration of treatment session in the included treatment conditions (see Table 3).

Risk of Bias

Overall, 2 studies (7.1%) were rated as low risk of bias, 18 studies (64.3%) showed some concerns, and 8 studies (28.6%) had a high risk of bias (for details see Supplemental Material, Figure S6.2). The majority of studies did not show indications for performance bias (deviation from the intended intervention; 82.1%) and provided complete outcome data or appropriate methods to correct for missingness in the outcome data (attrition bias; 64.3%). Exactly half of the studies were judged as low risk for selection bias, that is, the risk of bias arising from the randomization process, and for reporting bias. The detection bias, as the risk arising from inappropriate measures for and the nonexistent blinding of the outcome assessment, was at low risk for 46.4% of the studies. No study showed a high risk of bias on this domain. In addition, some concerns for the risk of bias due to researcher allegiance was found in 10 studies (35.7%). These concerns were caused by researchers who were involved in the development of the treatment manuals also being (co-) authors of the trial (see Supplemental Material, S6 for a detailed evaluation).

Overall, the quality of assessing, reporting, and handling dropout was rated as low quality for the majority of studies ($k_s = 20$; 71.4%), as satisfactory for $k_s = 5$ studies (17.9%), and as high quality for $k_s = 3$ studies (10.7%). The low quality in the overall assessment resulted mostly from a lack of a definition of dropout, this being the case for $k_s = 20$ studies (71.4%; see Table S7.1 and Table S7.2 for details).

Discussion

Prevalence of Dropout in Refugees

The first aim of this meta-analysis was to investigate the prevalence of dropout from psychological and psychosocial interventions in refugees and asylum seekers. Across 39 psychological and psychosocial interventions, we found an average weighted dropout rate of 19.14%, 95% CI [14.66%, 24.60%]. The *OR* comparing active treatment conditions with control conditions was 0.52, 95% CI [0.46, 0.59], implying that patients in the treatment condition are less likely to dropout compared to the control condition.

It has been widely believed that the cultural differences in the perception of mental health and psychological treatment might lead to enhanced dropout rates among refugees and asylum seekers (e.g., Barrett et al., 2008). Similarly, Slobodin and de Jong (2015) suggested that language barriers and communication difficulties as well as a high frequency in changing residence and contact details may increase the likelihood of dropout. However, in contrast to this view, our meta-analysis indicates that the average dropout rate is comparable to those reported in previous meta-analyses on Western populations (e.g., 19.7% in Swift & Greenberg, 2012). This observation raises an important question: Why is the average dropout rate of 20% found so universally in psychological treatments with different populations? A number of possible explanations are conceivable. First, dropout rates can be expected to be

Table 2

Results From Subgroup Analyses on the Dropout Rate

Moderator (k_t)	Dropout rate (%)	95% CI	Q	p	Adj. α
Study characteristics					
Country of study (39)			24.03	.001*	.004
Denmark (10)	22.7	[15.6–31.8]			
Germany (8)	11.4	[6.2–20.1]			
USA (7)	9.5	[5.4–16.0]			
Austria (4)	42.8	[25.7–61.7]			
Sweden (4)	27.9	[15.4–45.2]			
Netherlands (4)	32.0	[17.5–51.2]			
Norway (1)	25.5	[10.1–51.1]			
Australia (1)	18.5	[6.7–41.8]			
Study type (39)			0.0003	.99	.05
Efficacy (18)	19.0	[12.4–28.0]			
Effectiveness (21)	18.9	[13.1–26.6]			
Operationalization of dropout (39)			2.1	.55	.036
Duration-based (4)	24.9	[11.0–47.1]			
Completion-based (23)	16.6	[11.6–23.2]			
Missing appointment (11)	24.2	[14.0–38.3]			
Therapist judgment (1)	12.5	[1.9–51.9]			
Sample characteristics					
Main diagnosis (33)			0.25	.88	.046
PTSD (29)	19.2	[14.9–24.4]			
Depression (3)	22.3	[12.5–36.6]			
No diagnosis (1)	18.5	[6.6–42.4]			
Country of origin (29)			6.67	.25	.018
Sub-Saharan Africa (1)	24.3	[5.9–62.2]			
Northern Africa and Western Asia (13)	17.7	[11.2–26.7]			
Central and Southern Asia (5)	10.3	[4.0–24.0]			
Eastern and South-Eastern Asia (4)	8.3	[2.7–22.7]			
Europe and Northern America (5)	31.5	[15.7–53.1]			
Ambiguous; 2 regions same nr. (1)	18.9	[4.2–55.3]			
Treatment-related variables					
Treatment orientation (39)			2.09	.55	.039
CBT (17)	21.7	[15.3–29.8]			
NET (6)	14.6	[7.5–26.6]			
EMDR (4)	23.3	[12.5–39.3]			
Other (12)	18.2	[12.5–25.6]			
Main treatment target (38)			0.72	.70	.043
Trauma-focused (28)	19.2	[13.6–26.5]			
Depression (3)	22.6	[10.2–42.6]			
Other (7)	15.6	[8.8–26.3]			
Treatment format (39)			8.43	.01	.007
Individual (33)	20.7	[16.0–26.2]			
Group (5)	19.6	[10.5–33.5]			
Combination (1)	0.8	[0.1–7.7]			
Manualization (39)			0.51	.47	.032
No (6)	16.8	[10.6–25.6]			
Yes (33)	19.6	[14.8–25.4]			
Medication allowed (27)			2.81	.09	.011
No (2)	34.8	[20.6–52.3]			
Yes (25)	22.1	[19.1–25.3]			
Cultural adaption (27)			0.74	.39	.029
No (11)	24.5	[16.7–34.6]			
Yes (18)	20.0	[15.1–26.1]			
Treatment setting (38)			4.60	.33	.025
Outpatient treatment (16)	22.5	[14.4–33.4]			
University-affiliated institution (9)	13.6	[6.7–25.9]			
Refugee health care institution (4)	31.3	[14.2–55.6]			
Online intervention (6)	13.8	[7.5–24.2]			
Other (3)	22.6	[11.0–40.7]			
Therapist characteristics					
Therapist experience level (38)			6.28	.09	.014
Trainee (3)	27.3	[15.2–44.1]			
Experienced (22)	22.0	[15.9–29.6]			
Mixed (6)	21.3	[12.2–34.5]			
No therapist (7)	12.7	[7.9–19.8]			

(table continues)

Table 2 (*continued*)

Moderator (k_t)	Dropout rate (%)	95% CI	Q	p	Adj. α
Interpreter (37)			1.21	.27	.021
No (14)	18.1	[12.6–25.7]			
Yes (23)	22.9	[17.1–30.0]			

Note. k_t = number of treatment condition; Q = Cochrane's Q; CI = confidence interval; adj. α = adjusted α level after Benjamini–Hochberg approach; PTSD = posttraumatic stress disorder; nr. = number; CBT = cognitive-behavioral therapy; NET = narrative exposure therapy; EMDR = eye movement desensitization and reprocessing.

dependent on a multitude of factors, some of which increase the likelihood of dropout, whereas others increase the likelihood of staying in treatment. The hypothesis that dropout should be higher in refugee populations than in Western populations is usually based on the existence of specific barriers and challenges as well as ongoing postmigration stressors (Bhatia & Wallace, 2007; Böttche et al., 2016; Liedl et al., 2016; Porter & Haslam, 2005; Priebe et al., 2016; van Loon et al., 2011) that are expected to increase the likelihood of dropout. However, this view is mainly focused on only one part of the equation. On the other side, high symptom severities and associated burden in refugees and asylum seekers make them urgently in need of therapeutic support, which may partly compensate the negative effects of treatment barriers, decreasing the average dropout rate to a level that is similar to the one found in Western populations. This reasoning is also in line with our finding that dropout was quite substantial in the control conditions of the different RCTs, whereas it was significantly lower in the active treatment conditions where support was offered for patients' mental health problems. Second, the hypothesis on prevalence and predictors of dropout in refugees are based on commonly held beliefs in Western professionals. It is conceivable that these assumptions are less relevant for acceptability and retention to treatment or even not true at all. Third, previous studies have highlighted the role of therapist's experience level (Roos & Werbart, 2013; Swift & Greenberg, 2012) and the strength of the therapeutic alliance (Roos & Werbart, 2013; Sharf et al., 2010), as well as specific perceptions (Liedl et al., 2016) and expectations (Barrett et al., 2008; Priebe et al., 2016; Zimmermann et al., 2017) patients perceive about mental health treatment. Notably, most of the

interventions included in this meta-analysis were manualized ($k_t = 33$), specifically adapted to overcome barriers and challenges in treatments provided for refugees and asylum seekers ($k_t = 18$), and were offered by therapists with a high level of experience ($k_t = 22$ on an elaborate level), which may have boosted the retention rate in these studies, leading to less dropout than would be expected in this population under different circumstances. Fourth, psychotherapeutic processes might be more universal than typically assumed and therefore might go beyond the influence of cultural differences on the dropout rate. Finally, frequently documented challenges, such as language barriers, cultural differences, or ongoing postmigration stressors (Bhatia & Wallace, 2007; Böttche et al., 2016; Liedl et al., 2016; Porter & Haslam, 2005; Priebe et al., 2016; van Loon et al., 2011), may have a higher impact on access to treatment when compared to retention in treatment, at least when this treatment is delivered by experienced therapists and tailored to the specific needs in this population.

Predictors of Dropout

Importantly, with dropout rates ranging from 0% to 65%, there was considerable heterogeneity between studies. The second aim of the meta-analysis was, therefore, to identify moderators for dropout in refugees and asylum seekers. Although we were aware that some moderator variables had missing values, we believe that these exploratory analyses are informative if an appropriate caution was used when interpreting the results.

Subgroup analyses and meta-regressions did not reveal any significant predictors for dropout after correction for multiple

Table 3

Results From Meta-Regression Analyses on the Dropout Rate (Log-Transformed)

Moderator (k_t)	β	95% CI	p	Adj. α
Study characteristics				
Year of study publication (39)	−0.01	[−0.08, 0.05]	.68	.032
Sample size (39)	−0.00	[−0.00, 0.00]	.74	.036
Sample characteristics				
Age (25)	0.05	[−0.01, 0.11]	.08	.014
Gender (30): % female	−0.01	[−0.03, 0.02]	.61	.023
Marital (12): % committed relationship	−0.00	[−0.03, 0.02]	.90	.045
Employment (13): % employed	0.00	[−0.02, 0.02]	.85	.036
Education (11): % college-level	0.01	[−0.01, 0.03]	.35	.018
Asylum status (14): % insecure	−0.01	[−0.03, −0.00]	.02	.005
Month since arrival in host country (19)	0.01	[0.00, 0.01]	.03	.009
Treatment characteristics				
Number of treatment session (34)	−0.00	[−0.02, 0.02]	.97	.05
Duration of treatment session (23)	−0.00	[−0.02, 0.02]	.68	.027

Note. k_t = number of treatment conditions; CI = confidence interval; adj. α = Benjamini–Hochberg corrected α level, regression models were estimated separately for each predictor.

testing. The only significant predictor was study origin country, whereby dropout rates were significantly higher in studies from Austria than in all other countries. Note, however, that there was only a small number of studies from Austria, which render this finding very preliminary. If systematic differences between countries are replicated in future research, it would be important to investigate systematic differences between patient characteristics, postmigration stressors, or the organization and content of treatments delivered that may underlie these effects.

It is worth noting that none of the other study, sample, treatment, or therapist characteristics included in the analyses had a significant impact on the dropout rate. Thus, previous findings on predictors of dropout in Western samples cannot be immediately generalized into refugee populations. For example, there is strong evidence in Western samples for the influence of patients' diagnosis (personality and eating disorders) on dropout rates (McMurran et al., 2010; Swift & Greenberg, 2012; Zimmermann et al., 2017). Note that the present meta-analysis mainly covered PTSD and depression. Therefore, it remains unclear whether particular disorders such as personality and eating disorders are predictive of dropout in a refugee sample. Given that these disorders are known to be associated with dropout in Western samples, future research should investigate a wider range of disorders to clarify the disorder-specific effects in refugee populations. Studies further suggest an association with participants' age (Barrett et al., 2008; Swift & Greenberg, 2012; Winkler, 2018), gender (Swift & Greenberg, 2012; Zimmermann et al., 2017), and education level (Zimmermann et al., 2017). In addition, Swift and Greenberg (2012) showed a moderation by treatment-related variables such as time limitation, manualization, and setting.

How can the overall lack of replication of potential moderators in refugee populations be accounted for? First, the variance on many of these potential moderators was only limited in our analysis. For example, in the majority of studies, trauma-focused interventions were used and provided by therapists with a high level of experience, leading to a reduction of variability on this predictor variable. Second, several candidate variables were not reported in all studies. These missing values reduced the statistical power, which might be critical for the multiple tests with the adjusted false discovery rate. An alternative explanation, however, may be that findings on predictors for dropout in Western samples may not similarly apply to treatment of refugees. In the current literature, there are no studies primarily focusing dropout in treatment of refugees. Therefore, future studies are needed that are carefully designed to specifically investigate dropout, testing a large set of potential predictors, including valid predictors that we know from studies on Western samples, as well as novel, more refugee-specific variables.

In addition to potential moderators identified in studies with Western populations, the meta-analysis also included refugee-specific variables as potential moderators. In contrast to suggestions put forward in the existing literature and despite considerable variability, none of these variables emerged as a significant moderator of dropout. Although the effects did not reach statistical significance, we found preliminary indication that duration of stay as well as asylum status may be predictive of dropout, there being a trend for higher dropout rates in samples with longer mean duration of stay in the country of resettlement and lower dropout for participants with insecure asylum status. Although the nonsignificant nature of the findings prevents us from drawing any conclusions

yet, this suggests that the role of these population-specific variables for treatment retention versus dropout may warrant more attention in future research. Resettling in a new country can provoke various postmigration stressors (Porter & Haslam, 2005; Priebe et al., 2016) that might affect the mental health of refugees and asylum seekers (Alemi et al., 2016; Aragona et al., 2012). It can be expected that the burden of these postmigration stressors is particularly high at the beginning of a resettlement process. The psychological strain of the refugees and asylum seekers experience might prevent the occurrence of premature termination of treatment. In addition, an insecure asylum status is usually perceived as a severe burden that affects the mental health of refugees and asylum seekers (Liedl et al., 2016; Priebe et al., 2016). Asylum seekers in an ongoing asylum procedure are facing fear of deportation, helplessness, and uncertainty. This may increase the need for psychological support in this challenging situation. Further research is needed to examine the influence of these potential predictors on dropout rates.

Limitations

A number of limitations are noteworthy. First, although complex search strategies were used, including a comprehensive search in the gray literature, the number of eligible trials was limited. This limits the interpretation of subgroup analysis, as for some variables, only small numbers of studies were representative, formed by basis for the different subgroups. In addition, it cannot be ruled out that a different search strategy (e.g., different databases) could have led to different results. Second, insufficient completeness of reported data for some variables of interest should be noted. Regarding the variables employment status, education, and marital status, for example, less than one third of the studies reported data. An incomplete data set might influence the validity of subgroup analysis. This forced us to test variables separately as entering multiple predictors simultaneously into a meta-regression model reduced the number of studies in the analysis drastically. Third, available data did not allow comparing sample characteristics for completers and dropouts, as for the latter, hardly any data was reported. Further, as reliable data on comorbid disorders was not available for most studies, it was not possible to include comorbidity in the moderator analysis. Therefore, studies should focus on providing an exhaustive report of data. Fourth, this meta-analysis focused on a set of variables based on Swift and Greenberg's (2012) meta-analysis. Although the variable set was adapted to the specific context and additional variables of interest were included, there might be other variables that influence dropout rates in treatment of refugees and asylum seekers. Important factors could be culturally specific assumptions about treatment and therapists (Barrett et al., 2008), cultural competencies of the therapist (Liedl et al., 2016), and the strength of the therapeutic alliance (Sharf et al., 2010). Fifth, the methodological quality of studies included in our meta-analysis varied. Eight studies were rated as having a high risk of bias and the majority of studies ($k_s = 20$; 71.4%) were rated as low quality for assessing, reporting, and handling dropout. Note that the risk of bias assessment in the present meta-analysis was mainly concerned about the internal validity of findings from the meta-analyzed studies and does not address the issues related to external validity. Therefore, the generalizability of findings to routine clinical settings needs to be addressed separately in further research.

Conclusions and Future Directions

Despite these limitations, this meta-analysis provides the first systematic review and quantitative synthesis of the prevalence of dropout and its predictors in treatments offered to refugees and asylum seekers. Results show that, reassuringly, dropout does not appear to be more prevalent in refugees and asylum seekers than in Western populations. However, this finding needs to be interpreted by keeping in mind the fact that mostly manualized and culturally adapted interventions offered by therapists with a high level of experience were included. Clearly, much more research is needed to understand moderators of dropout, which will ultimately help develop preventive strategies to reduce dropout and its adverse consequences in this population that is in urgent need of mental health treatment. Further research is also needed to investigate dropout outside the research context as well as in different conditions (i.e., low- and middle-income countries).

Preventing dropout appears highly relevant as premature termination of treatment has crucial effects for patients (Björk et al., 2009) and therapists (Farber, 1983; Ogrodniczuk et al., 2005; Piselli et al., 2011). Current suggestions for interventions aiming to reduce dropout rates include the development and promotion of cultural competencies in service providers, enabling them to acquire a skill set to deal with deviating expectations and goals (Barrett et al., 2008; Liedl et al., 2016; Maramba & Nagayama Hall, 2002). The use of case managers (Ogrodniczuk et al., 2005) is further discussed to adapt treatment to postmigration stressors. There is initial evidence that case management in addition to CBT reduced dropout rates by 50% compared to CBT alone (Miranda et al., 2003). Although these interventions appear promising, rigorous studies testing their efficacy in reducing dropout are needed (Semmlinger & Ehring, 2020; van Loon et al., 2011).

In conclusion, the results of the current meta-analysis show that there is considerable variability regarding the handling of dropout in clinical research and treatment with refugees and asylum seekers. This variability makes it challenging to synthesize findings, and thus, we would like to emphasize the need to develop common standards for assessment, reporting, and management of dropout in this population, while allowing for some flexibility in the choice of the method, depending on the purpose and context of assessment. In clinical practice, therapist's judgment appears to be a suitable method that can be complemented by objective outcome monitoring (clinically significant symptom change). In contrast, clinical research would benefit from higher comparability of findings across studies. Therefore, a duration- or dose-based operationalization method should be used here. Further, we recommend providing comprehensive information on the dropout cases (i.e., sociodemographic data, reasons for dropout, time point).

References

Alemi, Q., Stempel, C., Baek, K., Lares, L., Villa, P., Danis, D., & Montgomery, S. (2016). Impact of postmigration living difficulties on the mental health of Afghan migrants residing in Istanbul. *International Journal of Population Research*, *2016*(2), 1–8. https://doi.org/10.1155/2016/7690697

Aragona, M., Pucci, D., Mazzetti, M., & Geraci, S. (2012). Post-migration living difficulties as a significant risk factor for PTSD in immigrants: A primary care study. *Italian Journal of Public Health*, *9*(3), e7525–e7528. https://doi.org/10.2427/7525

Barrett, M. S., Chua, W. J., Crits-Christoph, P., Gibbons, M. B., Casiano, D., & Thompson, D. (2008). Early withdrawal from mental health treatment: Implications for psychotherapy practice. *Psychotherapy: Theory, Research, & Practice*, *45*(2), 247–267. https://doi.org/10.1037/0033-3204.45.2.247

Benjamini, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: A practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society. Series B. Methodological*, *57*(1), 289–300. https://doi.org/10.1111/j.2517-6161.1995.tb02031.x

Bhatia, R., & Wallace, P. (2007). Experiences of refugees and asylum seekers in general practice: A qualitative study. *BMC Family Practice*, *8*(1), Article 48. https://doi.org/10.1186/1471-2296-8-48

Björk, T., Björck, C., Clinton, D., Sohlberg, S., & Norring, C. (2009). What happened to the ones who dropped out? Outcome in eating disorder patients who complete or prematurely terminate treatment. *European Eating Disorders Review*, *17*(2), 109–119. https://doi.org/10.1002/erv.911

Bogic, M., Ajdukovic, D., Bremner, S., Franciskovic, T., Galeazzi, G. M., Kucukalic, A., Lecic-Tosevski, D., Morina, N., Popovski, M., Schützwohl, M., Wang, D., & Priebe, S. (2012). Factors associated with mental disorders in long-settled war refugees: Refugees from the former Yugoslavia in Germany, Italy and the UK. *The British Journal of Psychiatry*, *200*(3), 216–223. https://doi.org/10.1192/bjp.bp.110.084764

Böttche, M., Heeke, C., & Knaevelsrud, C. (2016). Sequenzielle traumatisierungen, traumafolgestörungen und psychotherapeutische behandlungsansätze bei kriegstraumatisierten erwachsenen flüchtlingen in Deutschland [Sequential traumatizations, trauma sequelae and psychological treatment approaches for war-traumatized adult refugees in Germany]. *Bundesgesundheitsblatt, Gesundheitsforschung, Gesundheitsschutz*, *59*(5), 621–626. https://doi.org/10.1007/s00103-016-2337-4

Cinkaya, F. (2016). *Die Vielfalt von Abbrüchen in der Psychotherapie: Eine metaanalyse* [The multiplicity of dropouts in psychotherapy: A meta-analysis]. Kovac.

Crumlish, N., & O'Rourke, K. (2010). A systematic review of treatments for post-traumatic stress disorder among refugees and asylum-seekers. *Journal of Nervous and Mental Disease*, *198*(4), 237–251. https://doi.org/10.1097/NMD.0b013e3181d61258

Farber, B. A. (1983). Psychotherapists' perceptions of stressful patient behavior. *Professional Psychology, Research and Practice*, *14*(5), 697–705. https://doi.org/10.1037/0735-7028.14.5.697

Fernandez, E., Salem, D., Swift, J. K., & Ramtahal, N. (2015). Meta-analysis of dropout from cognitive behavioral therapy: Magnitude, timing, and moderators. *Journal of Consulting and Clinical Psychology*, *83*(6), 1108–1122. https://doi.org/10.1037/ccp0000044

Garfield, S. L. (1986). Research on client variables in psychotherapy. In S. L. Garfield & A. E. Bergin (Eds.), *Hand book of psychotherapy and behavior change* (3rd ed., pp. 213–256). Wiley.

Garfield, S. L. (1994). Research on client variables in psychotherapy. In S. L. Garfield & A. E. Bergin (Eds.), *Handbook of psychotherapy and behavior change* (4th ed., pp. 190–228). Wiley.

Hargreaves, S. (2002). A body of evidence: Torture among asylum seekers to the west. *Lancet*, *359*(9308), 793–794. https://doi.org/10.1016/S0140-6736(02)07888-1

Hatchett, G. T., & Park, H. L. (2003). Comparison of four operational definitions of premature termination. *Psychotherapy: Theory, Research, & Practice*, *40*(3), 226–231. https://doi.org/10.1037/0033-3204.40.3.226

Higgins, J. P., Savović, J., Page, M. J., & Sterne, J. A. C. (2019). *Revised Cochrane risk of bias tool for randomized trials (RoB 2). Short version (Cribsheet)*. https://www.riskofbias.info/welcome/rob-2-0-tool/current-version-of-rob-2

Higgins, J. P. T., Thomas, J., Chandler, J., Cumpston, M., Li, T., Page, M. J., & Welch, V. A. (2021). *Cochrane handbook for systematic reviews of interventions* (Version 6.2). Cochrane. www.training.cochrane.org/handbook

Higgins, J. P. T., Thompson, S. G., Deeks, J. J., & Altman, D. G. (2003). Measuring inconsistency in meta-analyses. *BMJ (Clinical Research Ed.)*, *327*(7414), 557–560. https://doi.org/10.1136/bmj.327.7414.557

Imel, Z. E., Laska, K., Jakupcak, M., & Simpson, T. L. (2013). Meta-analysis of dropout in treatments for posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology*, *81*(3), 394–404. https://doi.org/10.1037/a0031474

Kalt, A., Hossain, M., Kiss, L., & Zimmerman, C. (2013). Asylum seekers, violence and health: A systematic review of research in high-income host countries. *American Journal of Public Health*, *103*(3), e30–e42. https://doi.org/10.2105/AJPH.2012.301136

Kip, A., Priebe, S., Holling, H., & Morina, N. (2020). Psychological interventions for posttraumatic stress disorder and depression in refugees: A meta-analysis of randomized controlled trials. *Clinical Psychology & Psychotherapy*, *27*(4), 489–503. https://doi.org/10.1002/cpp.2446

Lambert, M. J. (2007). Presidential address: What we have learned from a decade of research aimed at improving psychotherapy outcome in routine care. *Psychotherapy Research*, *17*(1), 1–14. https://doi.org/10.1080/10503300601032506

Lewis, C., Roberts, N. P., Gibson, S., & Bisson, J. I. (2020). Dropout from psychological therapies for post-traumatic stress disorder (PTSD) in adults: Systematic review and meta-analysis. *European Journal of Psychotraumatology*, *11*(1), Article 1709709. https://doi.org/10.1080/20008198.2019.1709709

Liedl, A., Böttche, M., Abdallah-Steinkopff, B., & Knaevelsrud, C. (2016). *Psychotherapie mit flüchtlingen-neue herausforderungen, spezifische bedürfnisse: Das praxisbuch für psychotherapeuten und ärzte* [Psychotherapy with refugees- new challenges, specific needs: The practice book for psychotherapists and doctors]. Schattauer Verlag.

Maramba, G. G., & Nagayama Hall, G. C. (2002). Meta-analyses of ethnic match as a predictor of dropout, utilization, and level of functioning. *Cultural Diversity & Ethnic Minority Psychology*, *8*(3), 290–297. https://doi.org/10.1037/1099-9809.8.3.290

McMurran, M., Huband, N., & Overton, E. (2010). Non-completion of personality disorder treatments: A systematic review of correlates, consequences, and interventions. *Clinical Psychology Review*, *30*(3), 277–287. https://doi.org/10.1016/j.cpr.2009.12.002

Miranda, J., Azocar, F., Organista, K. C., Dwyer, E., & Areane, P. (2003). Treatment of depression among impoverished primary care patients from ethnic minority groups. *Psychiatric Services*, *54*(2), 219–225. https://doi.org/10.1176/appi.ps.54.2.219

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement (Chinese edition). *Journal of Chinese Integrative Medicine*, *7*(9), 889–896. https://doi.org/10.3736/jcim20090918

Nickerson, A., Bryant, R. A., Silove, D., & Steel, Z. (2011). A critical review of psychological treatments of posttraumatic stress disorder in refugees. *Clinical Psychology Review*, *31*(3), 399–417. https://doi.org/10.1016/j.cpr.2010.10.004

Nosè, M., Ballette, F., Bighelli, I., Turrini, G., Purgato, M., Tol, W., Priebe, S., Barbui, C., & Schmahl, C. (2017). Psychosocial interventions for post-traumatic stress disorder in refugees and asylum seekers resettled in high-income countries: Systematic review and meta-analysis. *PLOS ONE*, *12*(2), Article e0171030. https://doi.org/10.1371/journal.pone.0171030

Ogrodniczuk, J. S., Joyce, A. S., & Piper, W. E. (2005). Strategies for reducing patient-initiated premature termination of psychotherapy. *Harvard Review of Psychiatry*, *13*(2), 57–70. https://doi.org/10.1080/10673220590956429

Piselli, A., Halgin, R. P., & Macewan, G. H. (2011). What went wrong? Therapists' reflections on their role in premature termination. *Psychotherapy Research*, *21*(4), 400–415. https://doi.org/10.1080/10503307.2011.573819

Porter, M., & Haslam, N. (2005). Predisplacement and postdisplacement factors associated with mental health of refugees and internally displaced persons: A meta-analysis. *Journal of the American Medical Association*, *294*(5), 602–612. https://doi.org/10.1001/jama.294.5.602

Priebe, S., Giacco, D., & El-Nagib, R. (2016). *Public health aspects of mental health among migrants and refugees: A review of the evidence on mental health care for refugees, asylum seekers and irregular migrants in the WHO European Region*. World Health Organization, Regional Office for Europe.

Roos, J., & Werbart, A. (2013). Therapist and relationship factors influencing dropout from individual psychotherapy: A literature review. *Psychotherapy Research*, *23*(4), 394–418. https://doi.org/10.1080/10503307.2013.775528

Ryan, D., Dooley, B., & Benson, C. (2008). Theoretical perspectives on post-migration adaptation and psychological well-being among refugees: Towards a resource-based model. *Journal of Refugee Studies*, *21*(1), 1–18. https://doi.org/10.1093/jrs/fem047

Sandhu, S., Bjerre, N. V., Dauvrin, M., Dias, S., Gaddini, A., Greacen, T., & Priebe, S. (2013). Experiences with treating immigrants: A qualitative study in mental health services across 16 European countries. *Social Psychiatry and Psychiatric Epidemiology*, *48*(1), 105–116. https://doi.org/10.1007/s00127-012-0528-3

Semmlinger, V., & Ehring, T. (2020). *Predicting and preventing dropout in research, assessment and treatment with refugees* [Manuscript submitted for publication]. Department of Psychology, Ludwig-Maximilians-University, Munich.

Sharf, J., Primavera, L. H., & Diener, M. J. (2010). Dropout and therapeutic alliance: A meta-analysis of adult individual psychotherapy. *Psychotherapy: Theory, Research, & Practice*, *47*(4), 637–645. https://doi.org/10.1037/a0021175

Silove, D., Brooks, R., Bateman Steel, C. R., Steel, Z., Hewage, K., Rodger, J., & Soosay, I. (2009). Explosive anger as a response to human rights violations in post-conflict Timor-Leste. *Social Science & Medicine*, *69*(5), 670–677. https://doi.org/10.1016/j.socscimed.2009.06.030

Slobodin, O., & de Jong, J. T. V. M. (2015). Mental health interventions for traumatized asylum seekers and refugees: What do we know about their efficacy? *The International Journal of Social Psychiatry*, *61*(1), 17–26. https://doi.org/10.1177/0020764014535752

Sterne, J. A. C., Savović, J., Page, M. J., Elbers, R. G., Blencowe, N. S., Boutron, I., Cates, C. J., Cheng, H.-Y., Corbett, M. S., Eldridge, S. M., Emberson, J. R., Hernán, M. A., Hopewell, S., Hróbjartsson, A., Junqueira, D. R., Jüni, P., Kirkham, J. J., Lasserson, T., Li, T., . . . Higgins, J. P. T. (2019). RoB 2: a revised tool for assessing risk of bias in randomised trials. *BMJ (Clinical Research Ed.)*, *366*, Article l4898. https://doi.org/10.1136/bmj.l4898

Swift, J. K., Callahan, J., & Levine, J. C. (2009). Using clinically significant change to identify premature termination. *Psychotherapy: Theory, Research, & Practice*, *46*(3), 328–335. https://doi.org/10.1037/a0017003

Swift, J. K., & Greenberg, R. P. (2012). Premature discontinuation in adult psychotherapy: A meta-analysis. *Journal of Consulting and Clinical Psychology*, *80*(4), 547–559. https://doi.org/10.1037/a0028226

Thompson, C. T., Vidgen, A., & Roberts, N. P. (2018). Psychological interventions for post-traumatic stress disorder in refugees and asylum seekers: A systematic review and meta-analysis. *Clinical Psychology Review*, *63*, 66–79. https://doi.org/10.1016/j.cpr.2018.06.006

Tol, W. A., Purgato, M., Bass, J. K., Galappatti, A., & Eaton, W. (2015). Mental health and psychosocial support in humanitarian settings: A public mental health perspective. *Epidemiology and Psychiatric Sciences*, *24*(6), 484–494. https://doi.org/10.1017/S2045796015000827

Turrini, G., Purgato, M., Acarturk, C., Anttila, M., Au, T., Ballette, F., Valimaki, M., & Barbui, C. (2019). Efficacy and acceptability of psychosocial interventions in asylum seekers and refugees: Systematic review and meta-analysis. *Epidemiology and Psychiatric Sciences*, *28*(4), 376–388. https://doi.org/10.1017/S2045796019000027

Turrini, G., Purgato, M., Ballette, F., Nosè, M., Ostuzzi, G., & Barbui, C. (2017). Common mental disorders in asylum seekers and refugees: Umbrella review of prevalence and intervention studies. *International*

Journal of Mental Health Systems, *11*, Article 51. https://doi.org/10.1186/s13033-017-0156-0

United Nation High Commissioner for Refugees. (2011). *UNHCR resettlement handbook*. Division of International Protection. https://www.unhcr.org/46f7c0ee2.pdf

United Nation High Commissioner for Refugees. (2020). *Global trends. Forced displacement in 2019*. https://www.unhcr.org/5ee200e37.pdf

United Nations. (2020). *SDG indicators. Regional groupings used in report and statistical annex*. Department of Economic and Social Affairs. https://unstats.un.org/sdgs/indicators/regional-groups/

van Loon, A., van Schaik, D. J. F., Dekker, J. J., & Beekman, A. T. F. (2011). Effectiveness of an intercultural module added to the treatment guidelines for Moroccan and Turkish patients with depressive and anxiety disorders. *BMC Psychiatry*, *11*(1), Article 13. https://doi.org/10.1186/1471-244X-11-13

Varker, T., Jones, K. A., Arjmand, H.-A., Hinton, M., Hiles, S. A., Freijah, I., Forbes, D., Kartal, D., Phelps, A., Bryant, R. A., Mcfarlane, A., Hopwood, M., & O'donnell, M. (2021). Dropout from guideline-recommended psychological treatments for posttraumatic stress disorder: A systematic review and meta-analysis. *Journal of Affective Disorders Reports*, *4*, Article 100093. https://doi.org/10.1016/j.jadr.2021.100093

Viechtbauer, W. (2010). Conducting meta-analyses in R with the metafor package. *Journal of Statistical Software*, *36*(3), 1–48. https://doi.org/10.18637/jss.v036.i03

Wierzbicki, M., & Pekarik, G. (1993). A meta-analysis of psychotherapy dropout. *Professional Psychology: Research and Practice*, *24*(2), 190–195. https://doi.org/10.1037/0735-7028.24.2.190

Winkler, R. (2018). *Dropout in psychotherapien. LBI-HTA projektbericht* [Dropout in psychotherapy. LBI-HTA project report]. Ludwig Blotzmann Institut für Health Technology Assessment. https://eprints.aihta.at/1157/1/HTA-Projektbericht_Nr.100.pdf

Zimmermann, D., Rubel, J., Page, A. C., & Lutz, W. (2017). Therapist effects on and predictors of non-consensual dropout in psychotherapy. *Clinical Psychology & Psychotherapy*, *24*(2), 312–321. https://doi.org/10.1002/cpp.2022

E-Mail Notification of Your Latest Issue Online!

Would you like to know when the next issue of your favorite APA journal will be available online? This service is now available to you. Sign up at https://my.apa.org/portal/alerts/ and you will be notified by e-mail when issues of interest to you become available!