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Effects of psychological and psychosocial interventions for refugees: a systematic review

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Abbreviations

UN	United Nations
PTSD	Posttraumatic Stress Disorder
RCT	Randomized Controlled Trials
PICO	Population, Intervention, Comparison, Outcome
RoB	Risk of bias
C-RCT	Cluster randomized controlled trials
CI	Confidence Interval
GRADE	Grading of Recommendations Assessment, Development, and Evaluation
CBT	Cognitive behavioural therapy
SR	Systematic Reviews
ICD-10	International Classification of Diseases – 10 th revision
DSM-5	Diagnostic and Statistical Manual of Mental Disorders – 5 th Edition
NET	Narrative Exposure Therapy
TAU	Treatment as usual
VBC	Value-based counselling
PM+	Problem Management Plus
M	Mean
SD	Standard deviation
AMD	Adjusted mean difference
PCL-5	PTSD Checklist for DSM 5
WHODAS 2.0	WHO Disability Assessment Schedule
HSCL-25	Hopkins Depression Symptom Checklist
PHQ-9	Patient Health Questionnaire-9
PDS	Posttraumatic stress Diagnostic Scale

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Preface

This master thesis is the last work in a three-year university program in Public Health at the Arctic University of Tromsø. When I first started in August 2019, I had no idea what these three years would contain or how it would even plan out. I have been working a full-time job while doing the university program, rotating between day-, evening- and night shifts. I do not have any children myself, but I have had obligations besides work; I am a football trainer for a girls team here in Tromsø, and I have had both practises and matches to attend. My dog, Trixie, has of course been of need of cuddles, walks and attention. I don't know how I have done it but apparently, I have managed – this master thesis is a proof of that.

Within the end of my first university year (2019-2020), the world went into lockdown. In February 2020, SARS-CoV 2 (also known as Covid-19) was known, and the University of Tromsø was closed for students; all lectures was to be done from home and online. This is where I decided on my topic, refugees and their mental health. It was a lot of back and forth to be sure that this topic was what I wanted to focus on. In my second university year, I also struggled to find the right formulation for my research question while writing my protocol. But, it has all came together nicely.

My supervisor is Rigmor Berg, and I want to thank her for helping me with my master thesis. Without her, I don't know how I would have managed. She has corrected my work many times, and always come back to me quickly. Another point I want to point out is the way Rigmor has seen me as a student. The way she has explained and answered my questions orally, and how she has given comments back in writing, has given me confidence in my work and helped me see the light at the end of the tunnel, believing I will be able to hand in my work in time.

A few other people I want to thank is aunt Elizabeth and uncle Dave – for reading my thesis and correcting the English language. My mum and dad, for helping me rewrite sentences, supporting me and always believing in me. Thomas, my boyfriend, who has been there during highs and lows. A special thank you to my colleague, Monica Kvande, for coming in towards the end and reading over it twice in a short period of time, also commenting and correcting mistakes and to make the thesis even better.

I hope you like reading my master thesis, and that you will learn a new thing or two. Enjoy x

1 Introduction

Forced migration has been going on for a very long time and continues throughout the 21st Century. The latest conflict going on as of today, is the Russian invasion of Ukraine, forcing millions of people to migrate. According to The United Nations (UN) Refugee Agency, at the end of 2020, 82.4 million people worldwide were forcibly displaced, among them 26.4 million refugees. Of these, half of them are under the age of 18 (1). The reasons for the high number of people who had to flee their homes include persecution, conflict, violence, human rights violations, or events seriously disturbing public order. It is expected that this number will continue to rise in the next couple of years (2).

According to The UN Refugee Agency (UNHCR) the definition of a refugee is: “owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence, is unable or, owing to such fear, is unwilling to return to it” (3).

Asylum-seekers and refugees experience different events, not only in their country as a reason to why they flee, but they can also experience traumatic events on the way to the new host-country. War, torture experiences and traumatic events are all events that asylum-seekers and refugees can be exposed to, and consequently, a large percentage of asylum-seekers and refugees suffer from trauma-related mental health disorders. PTSD is one of these, with prevalence rates in different populations ranging from 11-65%. These findings indicate a great need for psychological and psychiatric treatment in refugee populations (4).

Sacchetti et al. (5) evaluated 200 male asylum seekers from West sub-Saharan Africa for traumatic life events. Posttraumatic stress disorder (PTSD) and subthreshold PTSD (experiencing some PTSD symptoms after a traumatic event) was 9.5% and 12.0% (5). An important aspect from this paper is that results which are valid for one migration process cannot be generalized to the other migrations. This is because of large variances in each of the 3 stages; 1) premigration; where they come from, 2) peri-migration; event before migration, and 3) postmigration; final stage where refugees are relocated in a host country. Sacchetti et al. (5) also highlighted the severity and type of traumatic experiences, residency status and

other individual characteristics to be points of why one must look at each refugee for themselves – although in Public Health, researchers look for commonalities across groups.

In another article published in the British Medical Journal, Burnett at al. have a paragraph where they explain the difficulties women may experience being a refugee in a host country, in this case Great Britain. Many training and employment programs are targeted at men, leaving women in an even more vulnerable and weak position while caring for themselves and for their families. Women are often the most seriously affected, even though displacement is difficult for both genders. Physical assault, sexual harassment, rape and women's fears and experiences are often not taken seriously by health workers (6).

According to Steel at al., males report a significantly higher number of traumatic events and post-migration stress than females, especially when it comes to financial, discrimination and healthcare problems. In Steel at al.'s study, traumatic events were found to be a major reason as to why males had severe PTSD symptoms. The researchers enrolled 420 refugees and immigrants mainly from sub-Saharan Africa; of these, 89% reported at least one traumatic experience before emigration, 47% of refugees reported significant PTSD, and 20% of refugees reported significant depressive symptoms (7).

Refugees often have mental health and psychosocial problems. According to Orang at al., these problems can be caused by premigration and postmigration, in-transit stress, trauma exposure, and daily psychosocial stressors. Analyses show that mental health needs, and then in particular of refugees, focus on past traumatization and diagnose high rates of PTSD (8).

1.1 Description of the condition

The objective of this master thesis is to look at the effects of psychological and psychosocial intervention on PTSD and/or depression for adult refugees in Europe who suffers from PTSD and/or depression. My focus will be the effects of psychological and psychosocial intervention on mental health challenges in the post-migration stage, which is the stage refugees go through after they have arrived in a new host country. I will be using western countries as post-migration stage.

1.1.1 PTSD

The main two classification systems, *the International Classification of Diseases – 10th Revision (ICD-10)* and the *Diagnostic and Statistical Manual of Mental Disorders – 5th Edition (DSM-5)*, differ in the way they classify posttraumatic stress disorder. The ICD-10 classifies PTSD as a delayed or protracted response to an event or situation of either short or long duration, which has been stressful for the individual. The situation or event has also been exceptionally threatening or of a catastrophic nature. The ICD-10 also classifies PTSD with the individual repeatedly reliving of the trauma in intrusive memories (“flashbacks”), dreams or nightmares. Other important features are a sense of “numbness”, emotional blunting, detachment from other people, unresponsiveness to surroundings, and avoidance of activities and situations reminiscent of the trauma (9).

The Diagnostic and Statistical Manual of Mental Disorders – 5th Edition (DSM-5) classifies PTSD with more details than ICD-10. DSM-5 divides PTSD in eight parts (A to H), with some parts into three sections (one to three). Each part is a description of what can be an episode leading to PTSD, for example; A) exposure of actual or threatened death, serious injury, or sexual violence. Part B is then divided into three sections, describing how intrusion symptoms associated with the traumatic event occurred. The parts in DSM-5 are more on point towards PTSD classification rather than within ICD-10 (10).

1.1.2 Depression (depression episode)

Similar to PTSD, there is an exceptional difference between ICD-10 and DSM-5 regarding depression, also called depression episode. For ICD-10, depression is described in a paragraph, where the focus lies within describing how the patient feels with having depression diagnosis. Regarding if the patient has mild, moderate, or severe depressive episodes, many patients experience a lowering of mood, reduction of energy, and decrease in activity. The patient will struggle with enjoyment, interest, and having a reduction in concentration. Struggling with tiredness after a bare minimum is also common, following stating a new normality with sleep disturbance and appetite diminishing. ICD-10 follows up with explaining how self-esteem and self-confidence are almost always reduced – and even with having mild depression diagnosis, ideas of guilt or worthlessness are often present. It is also hard for the patient to come out of the low mood, which varies on a minimum level from day to day. Some patients also end up having somatic symptoms, for example loss of interest

and pleasurable feelings, waking up in the morning several hours earlier than expected agitation, loss of appetite, and weight loss. For some patients the depression is also worst in the morning, which starts the day out wrong and will continue throughout the day, having difficulties coming out of the low mood (11).

Depression explained by the DSM-5 contains, again like stated in 1.1.1, a lot more details and focus areas than ICD-10. DSM-5 divides depression into five parts (A to E), with the first part divided into nine sections (one to nine). Part A describes different symptoms of depression, stating that five or more of these symptoms must be present during the same two week period and represent a change from previous functioning, but depressed mood or loss of interest or pleasure must be at least one of the symptoms. Part B to E describes how the episode of depression causes significant distress in social or occupational areas of functioning and does not come as an effect of a substance or another medical condition. The main difference between how ICD-10 and DSM-5 explains depression is that DSM-5 connects depression with other psychiatric diagnosis, stating that “the occurrence of the major depressive episode is not better explained by schizoaffective disorder, schizophrenia, schizophreniform disorder, delusional disorder, or other specified and unspecified schizophrenia spectrum and other psychotic disorders. There has never been a manic episode or a hypomanic episode”. DSM-5 also have one set of codes for single episodes and one set of codes for recurrent episodes, and these two set of codes divided in to mild, moderate, severe, with psychotic features, in partial remission, in full remission or unspecified (9).

1.2 Description of the intervention

According to Charles M. Judd and David A. Kenny, an intervention or program, delivered intentionally or not, is expected to first and foremost have health benefits, but also social, economic, or psychological consequences on those exposed to it (12). A variety of behavioural, psychological, health interventions with help from education, medicine, public health, social work, and other caring sciences comes under psychosocial intervention.

Psychological interventions are carried out by different health workers to help deal with issues and problems, with the intention to interfere with and stop or modify a process. The treatment aim will be to manage or alter the course of a disease or disorder. For refugees, when fleeing to another country, they have for instance lost their autonomy. They are no

longer able to act on their own interest or by their own values. After arriving in a new country, and with help from a psychotherapist, the refugee will have resources to again gain autonomy, self-knowledge, and self-help. Cognitive behavioural intervention (CBT) is the most common therapy used because of its high effectiveness (13). Point 1.3.1 explains psychological interventions in more detail. Please see 1.3.2 for a further description on psychosocial intervention.

Modifying a process or a situation with change strategies are what psychological and psychosocial interventions are all about, but also to eliminate risk factors while activating and/or mobilizing protective factors.

1.3 How the intervention might work

In the context of this thesis, the purpose of psychological and psychosocial interventions is to help the refugees manage their PTSD and/or depression. The behavioural element of CBT, which can be done by a psychotherapist or other trained personnel, involves aiding the refugee purposely to promote and work towards having a personal change to be able to have higher function results. To be able to achieve this change, it is important that the nature of the problem is addressed (for instance the traumatic event the refugee has gone through), but most importantly the willingness and ability of the refugee to proceed with the treatment (14).

“Cognitive behavioural therapy focuses on the relationship among thoughts, feelings, and behaviours, and notes how changes in any one domain can improve functioning in the other domains”. In other words, if the therapist manages to change the way the refugee thinks, this can lead to further and healthier behaviours and improved emotion regulation. 12-16 sessions in either individual or group format is what is expected with CBT to target current problems and symptoms. CBT is a treatment which is strongly recommended for the treatment of PTSD (14).

There are several theories which are specific to trauma, explaining how CBT can be helpful towards reduction of symptoms of PTSD. On one side there is emotional processing theory. For refugees, this would mean that they can develop associations among objectively safe reminders of the event, meaning and responses. The main reason of emotional processing theory is to change these associations which ultimately lead to unhealthy functioning (14).

There is also social cognitive theory. According to Clinical Practice Guideline for the Treatment of Posttraumatic Stress Disorder, “those who try to incorporate the experience of trauma into existing beliefs about oneself, others, and the world often wind up with unhelpful understandings of their experience and perceptions of control of self or the environment (i.e., coping self-efficacy)” (14).

Clinical Practice Guideline for the Treatment of Posttraumatic Stress Disorder also explains the purpose of treatment of PTSD. This is to aid patients and reduce symptoms and improve functioning. Encouraging patients to re-evaluate their thinking patterns and assumptions to identify unhelpful patterns in thoughts, is the focus of the therapist. It is normal that patients with PTSD overgeneralise bad outcomes, negative thinking that diminishes positive thinking, and always expecting catastrophic outcomes. The therapist works towards a more balanced and effective thinking pattern, by making sure the patient re-evaluates their understanding of traumatic experiences, understanding of themselves and their ability to cope. Therapists can also, in a controlled way, expose the patient to the traumatic events, but also the reminders of the trauma or emotions associated, in the event of reducing avoidance and dysfunctional associations with the trauma (14).

1.3.1 Psychological intervention

“Generally, any action intended to interfere with and stop or modify a process, as in treatment undertaken to halt, manage, or alter the course of the pathological process of a disease or disorder. Other interventions can be actions on the part of a psychotherapist to deal with the issues and problems of a client. The selection of the intervention is guided by the nature of the problem, the orientation of the therapist, the setting, and the willingness and ability of the client to proceed with the treatment” (13). In other words, the whole point of psychological intervention is to promote and work towards the individual having a personal change to be able to have higher function results. It is important that the individual has the right resources to gain autonomy, self-knowledge, and self-help. The most used therapy is CBT because this is done with low-cost but most importantly it has a high effectiveness. How many sessions are needed differs according to the psychological problem. Psychologists will be carrying out the intervention (15).

1.3.2 Psychosocial intervention

“A general definition of intervention is any interference that would modify a process or situation. In social work, interventions are intentionally implemented change strategies which aim to impede or eradicate risk factors, activate and/or mobilize protective factors, reduce, or eradicate harm, or introduce betterment beyond harm eradication; thus, social work intervention encompasses a range of psychotherapies, treatments, and programs. The current knowledge base of psychosocial intervention research draws on knowledge gained from a wide variety of behavioural, psychological, and health interventions as well as from disciplines as diverse as psychology, education, medicine, public health, social work and other caring sciences” (16).

When explaining psychosocial interventions in this systematic review, the aim with this type of intervention is to reduce PTSD and/or depressive symptoms. This includes “interpersonal-level interventions that actively engage individuals with their broader social networks by fostering social support or social capital within groups or communities. Such social support can be 1) peer support (sharing and empathizing with other), 2) skill building (coping skills, planning skills), 3) group-based activities (teambuilding activities, community clubs, outings within the community), 4) psycho-education (group-based education on contributors to stress, depressive symptoms and mental well-being), 5) psychotherapy (cognitive behavioural therapy and interpersonal therapy), 6) exercise, and 7) links to community resources” (17).

1.4 Why it is important to do the review

My field of interest is refugees and their mental health in the post-migration stage. This is a relevant research field to examine, given that according to UN there will be more and more migration and refugees in the future. Thus, it is important to address this research field, and it is important to know which interventions to offer, and which intervention appears to have the best effect on treatment of PTSD and/or depression for refugees.

By doing this review, I hope that decision makers, help organizations and providers, will find it informative and better understand which intervention may help refugees best. Similarly,

they can also learn which interventions lack evidence and will not be of any use to refugees, and save time in helping them rather than trying interventions which will not work.

1.5 Research question

What are the effects of psychological and social interventions for adult refugees in Europe with PTSD and/or depression diagnosis?

2 Materials and methods

I conducted a systematic review (SR), in line with the guidelines set forth in the Cochrane handbook (18). As far as I know and after searching, looking at previous SRs, this research question has not been addressed in any SR previously and there are no SRs on this question registered in any registry. I wrote a protocol, which was not published or registered, before I undertook the review.

2.1 Inclusion and exclusion criteria

The population, interventions, comparison and outcome (PICO) format was chosen as a framework for the work. Please see table 1 for further information. The population in the study must be adult refugees with PTSD and/or depression in Europe at post-migration stage. Please see introduction for description of refugee, and 1.1.1 and 1.1.2 for description of PTSD and depression. Post-migration stage is, as stated in the introduction, the final stage where refugees are relocated in a host country (4). I included studies with participants 18 years and older, who was a refugee with diagnosis of PTSD and/or depression. Unless the majority of the participants in the study met the inclusion criteria, the study was excluded.

The inclusion criteria for intervention are any psychological or psychosocial interventions. Please see section 1.2 and 1.3 for description of interventions. Other important characteristics the studies needed to have related to the intervention was a therapist and/or trained personnel within interventions being practised, either psychologist or personnel trained by a psychologist. For optimal understanding of the effect of the intervention being given to the refugee, the duration had to be approx.10 weeks or 5-10 sessions. Studies that focus on prevention of PTSD and/or depression was excluded.

Eligible control conditions were treatment as usual groups (TAU), other active intervention such as CBT and no intervention.

The main outcome was symptoms and diagnosis of PTSD and/or depression. Other related outcomes were considered for inclusion.

I included randomized controlled trials (RCT) as my study design. Any other study designs, such as non-RCT, controlled before-after studies, cross-sectional, cohorts, qualitative and case

control studies were excluded. I decided to focus on RCTs, because they provide the most reliable evidence on the effectiveness of interventions (19).

Other inclusion criteria were studies published in English or Scandinavian languages (Norwegian, Swedish, Danish), and they had to be available in full text. I included studies published after 2010, because interventions and diagnoses within health and medicine develops rapidly. Adult refugees being in a refugee camp or another continent than Europe post-migration stage were also an exclusion criterion.

2.2 Literature search

I conducted a preliminary literature search. The reason for doing this was to gain a greater understanding of the topic, to evaluate if this topic was something I could build more on, and to identify relevant keywords for the final literature search. I asked myself if there was enough evidence on effects of psychological and psychosocial interventions to do a systematic review. By doing this in the beginning, it gave me a better overview of the topic.

The following Electronic Databases were searched March 30th and 31st 2022:

MEDLINE

PsycINFO

EMBASE

Other supplementary methods to identify relevant studies were: screening of reference list of the included studies and relevant literature reviews.

After being in contact with a librarian at The Arctic University of Norway, I found relevant MeSH terms for my search (see table 1). “Comparison” was not included in the MeSH terms because there weren’t any relevant terms to be included.

Table 1: Search strategy organized in accordance with the PICO format

Populations		Intervention		Outcome		Study design
Refugee*.ti,ab,kw <i>OR</i> Migrant*.ti,ab,kw	<i>AND</i>	Mental health.ti,ab,kw <i>OR</i> Psychological intervention*.ti,ab,kw <i>OR</i> Psychosocial intervention*.ti,ab,kw	<i>AND</i>	PTSD.ti,ab,kw <i>OR</i> Post-traumatic stress disorder*.ti,ab,kw <i>OR</i> Depression*.ti,ab,kw <i>OR</i> Depressive symptom*.ti,ab,kw	<i>AND</i>	RCT

*: blow out to get plural ending and any other endings relevant.

Ti; title, ab; abstract, kw; keyword heading (kw not available in PsycINFO database, used id instead of kw, id; key concepts).

2.3 Selection of literature

Search records were imported to EndNote. The master student independently screened titles and abstracts of all identified studies in EndNote. Relevant articles that seemed to meet the inclusion criteria were put into a folder in EndNote for further examination, and then found in full text using DOI to print it for more closer reading. Studies considered relevant were screened by the master student in full text. Predesigned screening questions based on the inclusion criteria were used to assure consistency. Studies excluded after full-text consideration are listed in appendix 1.

2.4 Extraction of data

The data extraction was carried out by the master student, who also double checked for completeness and accuracy of the data extracted. A data extraction form developed for the

study was used, to ensure standardization in data extracted. I extracted data regarding; publication characteristics (type of publication, author, year), study characteristics (e.g. country, study design, sample size), characteristics of the study participants (e.g. country of origin, age, gender), characteristics of the providers (e.g. training in the intervention), characteristics of the intervention (e.g. duration, content, setting), characteristics of the control condition (e.g. duration, content, setting) and study results (outcome data). Other data was extracted as relevant.

2.5 Assessing studies' risk of bias

Given the aim of this SR, I appraised the RCTs using a design specific checklist. I conducted a risk of bias (RoB) evaluation. RCTs were appraised with the Cochrane Risk of Bias tool, using RoB 1 (18, 20).

2.6 Analysis of data

I organized the studies according to comparisons. For each comparison I evaluated the characteristics of the population (and intervention, comparison, and outcome), and when they were considered sufficiently similar, I wanted to conduct a meta-analysis. Please see chapter 3, results, for further explanation. Because the populations and/or interventions of studies with the same comparisons were considered too different to pool statistically, I ended up reporting the results narratively. Results for the outcomes are presented for each comparison. For any meta-analyses I wanted to use a random effects model. This is because there is an assumption that the included studies each estimate a true effect, which derives from the same family of effects. The interpretation of heterogeneity in the context of meta-analysis of RCT can be done as a rough guide, and as follows: 1) 0-40% might not be important, 2) 30-60% may represent moderate heterogeneity, 3) 50-90% may represent substantial heterogeneity, 4) 75-100% considerable heterogeneity (18).

2.7 Assessing the certainty of the evidence

I assessed the certainty of the evidence for each outcome using GRADE (Grading of Recommendations Assessment, Development, and Evaluation). The grading represents my certainty in the evidence of effect based on the available studies (18). The GRADE approach has five criteria for possible downgrading of the certainty in the evidence: study limitations, inconsistency between studies, indirectness of evidence, imprecision, and publication bias. I provided justification for decisions to down-grade the ratings using footnotes and comments. I used the four standard definitions in grading the certainty of the evidence: high (⊕⊕⊕⊕), moderate (⊕⊕⊕), low (⊕⊕), very low (⊕). For more information about the GRADE system, see gradeworkinggroup.org and publications by the GRADE working group. Please see appendix 2 for further information.

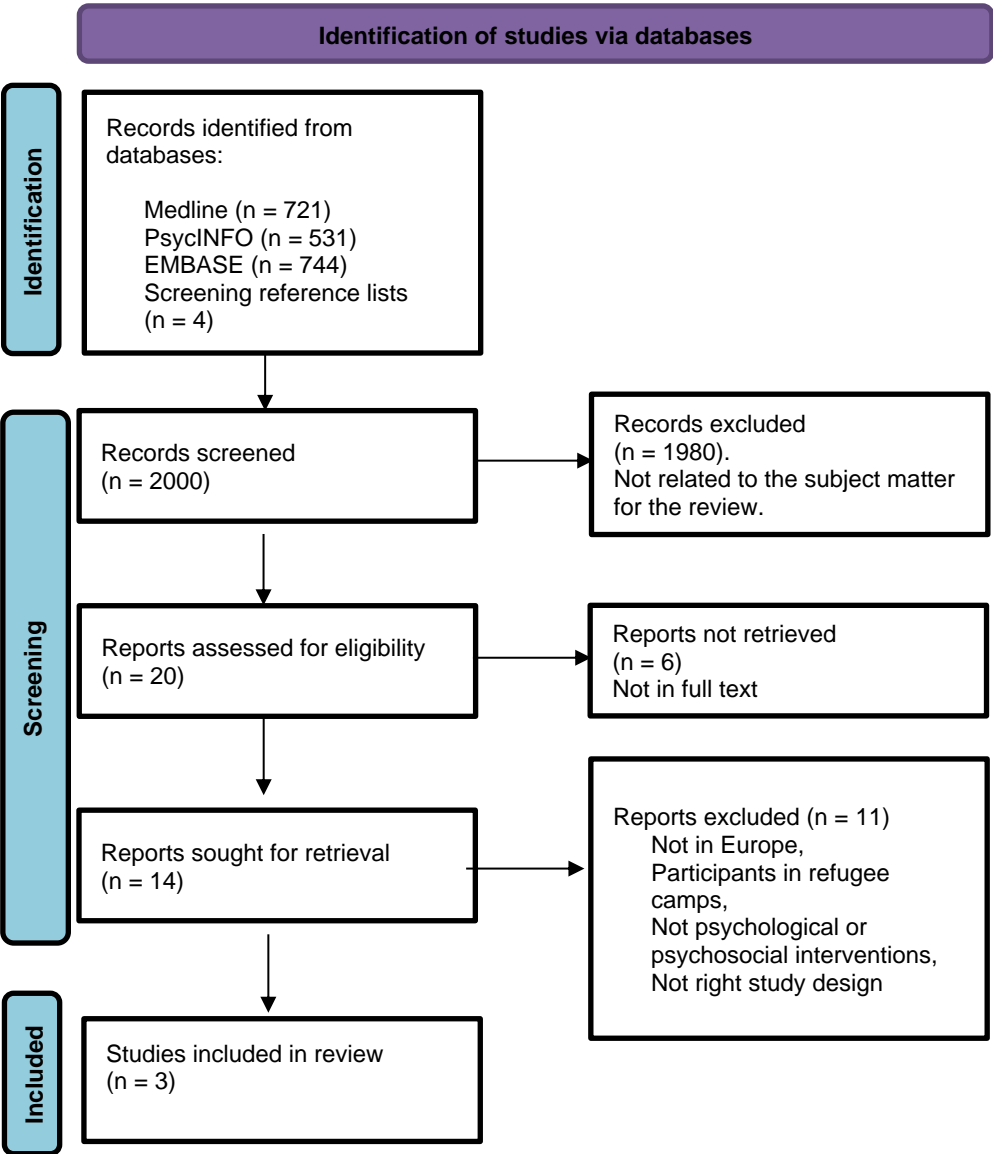
Table 2: GRADE Working Group, grades of evidence, symbols used and their interpretation to describe confidence in the pooled estimate of effect (21):

Grade	Symbol	Definition
High confidence	⊕⊕⊕⊕	We are very confident that the true effect lies close to that of the estimate of the effect.
Moderate confidence	⊕⊕⊕	We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
Low confidence	⊕⊕	Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect.
Very low confidence	⊕	We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

3 Results

The search identified 2000 individual studies, of which 20 were considered potentially relevant (figure 1) (22). Six studies were not retrieved because I was not able to find the study in full text for free. This is a weakness in my study and will be presented in chapter 4.2. Of the remaining 14 reports, 11 reports were excluded due to incorrect interventions, incorrect study design etc. Please see appendix 1 for explanation and reason for exclusion. All three included studies were published as journal articles and were in English.

Figure 1: PRISMA flow diagram



3.1 Characteristics of the Included Studies

The three studies were from 2010-2022 (table 3-5). All studies were based in Europe, one in the Netherlands and two in Germany. The countries from which refugees originated from was mainly Asia, Africa and Europe. The three studies included both males and females, although males were over representative in two out of three studies. The combined sample size for the three studies was n=177.

Common for two of three studies was that the setting was an outpatient clinic or mental care institute. In the last study, the participants were in a classroom environment. Mean age from all studies were 30.42-39.9. All participants were refugees relocated in either Germany or the Netherlands. I categorized the studies by objective/aim, finding that all studies were looking at effectiveness of a specific treatment of PTSD and/or depression in refugees. I will detail PICO for each study in the table below. All three control groups received treatment as usual.

Table 3: Summary of the characteristics of the included studies of effect

Study ID	Population	Intervention	Comparison	Outcomes
Neuner at al., 2010 Germany	32 adult asylum seekers and refugees in Germany. Mean age 31.1 (NET) and 31.6 (TAU). Country of origin: Turkey, Balkans, Africa	Narrative exposure therapy (NET). Number of sessions: median of nine treatments, range 5-17.	Treatment as usual (TAU) Number of sessions: Not stated	PTSD symptoms assessed six months after treatment. Symptoms of common comorbid disorders, including depression.
Orang at al., 2022 Germany	85 adult refugees in Germany. Mean age 30.42 (VBC) and 30.75 (TAU)	Value-based counselling (VBC). Number of sessions: median of	TAU Number of sessions: Not stated	Evaluation of psychological symptoms of PTSD and depression at

	Country of origin: Afghanistan, Iran, Syria, other Arab countries, African countries.	four sessions, range two to seven.		three-month follow up.
Graaff at al., 2020 Netherlands	60 adult Syrian refugees in the Netherlands. Mean age 37.6 (PM+) and 38.6 (TAU) Country of origin: Syria	Problem Management Plus (PM+) in addition to care as usual (TAU). Number of sessions: Five face- to-face session.	TAU Number of sessions: same length in sessions as PM+ group.	Symptoms of depression at three- month follow-up. Psychosocial functioning. Symptoms of PTSD. Self-identified problems.

3.1.1 Study on Narrative Exposure Therapy (NET) as an intervention

Narrative Exposure Therapy (NET) is a recommended trauma-focused first-line psychotherapy, delivered by therapists with extensive training in NET. The point of NET is to encourage the patient to talk about the traumatic event in detail, and to relive the experience in a safe environment. In this study, Neuner at al. looked at the difference between narrative exposure therapy and treatment as usual (TAU). The participants in the TAU group were encouraged to continue their current treatment or were referred to institutions of public mental health care when they were not in therapy or were dissatisfied with treatment (4). 32 participants (population) from Turkey, Balkans and Africa, were equally divided into two groups randomly and received either NET or TAU. The authors did not find any significant difference within sociodemographic characteristics of participants divided by groups. Intervention was NET, with a median number of sessions of nine treatments. Sessions in TAU group was not stated. Comparison group was treatment as usual, whilst outcomes were symptoms of PTSD and depression.

3.1.2 Study on efficacy of value-based counselling (VBC) as an intervention

Value-based counselling (VBC) is a brief intervention, and it is expected that three to five sessions results in a clinically meaningful improvement (8). It is a short-term psychodynamic intervention, which focuses on the improvement of the sense of coherence and self-efficacy of clients (23). In this study, Orang at al. looked at the difference between VBC and a TAU group, in total of 85 participants. The VBC was delivered by migrants, mostly refugees, who became counsellors. The counsellors were supervised and trained by experienced psychotherapists and VBC practitioners. This type of intervention has two components, step one to three, and step four to six. The first steps are “designed to develop a narrative of the client’s biography based on an understanding of the inner situation of the client here and now” (8). The three last steps have the focus area on the client’s current situation, with the point of enabling them to conceptualize a way forward, also improving their daily functionality in a meaningful way. Implementation of the solution with interventions tailored to the indication is supported by the counsellor. The main goal overall is an improvement of the client’s self-efficacy. The median number of sessions was four treatments. The number of sessions in TAU group was not stated. The outcomes were symptoms of PTSD and depression.

3.1.3 Study on Problem Management Plus (PM+) as an intervention

Syrian refugees have a high prevalence of common mental disorders. This study looked at Problem Management Plus (PM+) as a psychological intervention targeting psychological distress. It is a brief, transdiagnostic, non-specialist helper delivered intervention. This specific study evaluated the acceptability and feasibility of PM+ as well as the effectiveness and cost-effectiveness among Syrian refugees. The 60 adult refugees (all from Syria) were randomly divided into PM+ in addition to TAU, or TAU alone. TAU consisted of all other mental health services available, for example community services and non-directive counselling. The primary outcome was symptoms of depression and anxiety (measured by Hopkins Symptom Checklist; HSCL-25) at 3-month follow-up, whilst secondary outcomes were psychosocial functioning, symptoms of PTSD and self-identified problems (24).

PM+ is an intervention which has five 90 mins sessions, delivered weekly. The helper introduces four different components: 1) slow breathing exercise, 2) problem-solving

strategy, 3) behavioural activation through re-engaging with pleasant and task-orientated activities, and 4) accessing social support. Mean age was 37.6 for PM+ group and 38.6 in TAU group. Intervention was PM+ in addition to TAU, with five face-to-face sessions within PM+ group. The comparison group was TAU, which had the same length in sessions. The outcomes were symptoms of PTSD and depression.

3.2 Risk of bias in included studies of effect

I assessed the risk of bias (RoB) in each of the three included studies. This was done according to the appropriate risk of bias checklist (RoB 1), developed by Cochrane (20). I will detail RoB 1 for each study in the table below.

Table 4: Description of the RoB assessment for each included study

	Graaff at al. 2020	Neuner at al. 2010	Orang at al. 2022
Random sequence generation (selection bias)			
Allocation concealment (selection bias)			
Selective reporting (reporting)			
Other bias (due to problems)			
Blinding of participants and personnel (performance bias)			
Blinding of outcome assessment (detection bias)			
Incomplete outcome data (attrition bias)			
Quality	Fair quality	Fair quality	Poor quality

= Low risk of bias. = High risk of bias. = Unclear risk of bias.

3.2.1 Confidence in the effect findings

Based on my GRADE assessment regarding my certainty in effect estimate, I have very little confidence in all three outcomes I looked at, meaning I am very little confident in the effect estimate: the true effect is likely to be substantially different from the estimate of effect. My main concerns were connected to risk of bias, imprecision due to low sample size and wide range in 95% CI intervals.

Table 5: Summary of findings table

Quality assessment							Summary of findings				
							No of patients		Effect		Quality
No of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute	
Outcome: PTSD symptoms post assessment after PM+ intervention											
1	RCT	No serious limitations	No serious inconsistency	No serious indirectness	Serious ¹	No	PM+: 30	TAU: 30	-21.07, -5.11. Effect estimate: -13.09		⊕ Very low confidence
Outcome: PTSD symptoms post assessment after NET intervention											
1	RCT	No serious limitations	No serious inconsistency	No serious indirectness	Serious ¹	No	NET: 14	TAU: 16	-13.77, -2.43 Effect estimate:		⊕ Very low confidence

									-8.10		
Outcome: PTSD symptoms post assessment after VBC intervention											
1	RCT	No serious limitations	No serious inconsistency	No serious indirectness	Serious ¹	No	VBC: 28	TAU: 34	-41.60, -27.10 Effect estimate: -34.35		⊕ Very low confidence
Outcome: Depression symptoms post assessment after PM+ intervention											
1	RCT	No serious limitations	No serious inconsistency	No serious indirectness	Serious ¹	No	PM+: 30	TAU: 30	-0.89, -0.21 Effect estimate: -0.55		⊕ Very low confidence
Outcome: Depression symptoms post assessment after NET intervention											
1	RCT	No serious limitations	No serious inconsistency	No serious indirectness	Serious ¹	No	NET: 14	TAU: 16	-0.70, 0.10		⊕ Very low

									Effect estimate: -0.30		confidence
Outcome: Depression symptoms post assessment after VBC intervention											
1	RCT	No serious limitations	No serious inconsistency	No serious indirectness	Serious ¹	No	VBC: 42	TAU: 43	-15.38, -10.60 Effect estimate: -12.99		⊕ Very low confidence
Outcome: Psychosocial functioning post assessment after PM+ intervention											
1	RCT	No serious limitations	No serious inconsistency	No serious indirectness	Serious ²	No	PM+: 30	TAU: 30	-8.27, 1.11 Effect estimate: -3.58		⊕ Very low confidence

Footnote 1: Small sample size.

Footnote 2: Wide range in 95% CI (post assessment 1.15-5.49, follow up 4.01-8.83)

3.3 Statistics and results from the three studies

All three studies showed an improvement in effects at follow-up assessment. Please see table 6, showing means (M) and standard deviations (SD) for post-test and effect estimate. CI is also stated. You can find the complete statistical overview in appendix 4. Below I have stated outcomes and instruments used to measure the outcomes.

In this systematic review of three studies on effect, effect studies showed that psychological and psychosocial interventions had a reduction in PTSD, depression and psychosocial symptoms. Please see table 6 below for more information. Trauma-focused treatment, such as NET, and value-based counselling, such as VBC, are both psychological interventions (4, 8). PM+ is not classified as a trauma-focused intervention, but evidence show that it improves PTSD symptomatology nonetheless (24).

As shown in table 6, Neuner at al. found that “the difference between the participants between groups was significant for PTSD symptoms. In addition, the within group effect sizes were high, and the majority of NET patients improved to a statistically reliable extent. However, the end state status of participants was not satisfying because all but one patient in the NET group and all patients in the TAU group still fulfilled PTSD criteria. Likewise, we did not find a significant treatment effect on depression symptoms” (4). Primary outcome was PTSD symptoms and secondary outcome was depression, both assessed 6 months after treatment. The study shows that NET was superior to TAU. In Neuner the post-test result for the intervention group with primary outcome was mean 26.0 and in the control group it was 34.1, measured by a mean Posttraumatic stress Diagnostic Scale (PDS) score. The post-test results for the secondary outcome, depression, was mean 2.6 in the intervention group and in the control group 2.9, measured by HSCL-25.

The study written by Graaff at al. indicated moderate to large improvements in overall depression, PTSD symptoms and psychosocial functioning. The primary outcome was depression (measured with HSCL-25), while secondary outcomes were symptoms of PTSD (measured with PTSD Checklist for DSM 5; PCL-5) and psychosocial functioning (measured with WHO Disability Assessment Schedule; WHODAS 2.0). In Graaff the post-test result for depression in the intervention group was mean 1.93, and in the control group it was 2.48. At post-test, both groups still had depression, although it had decreased in the PM+ group. The instrument used to measure the outcome was HSCL-25. Post-test results for secondary outcomes (PTSD symptoms and psychosocial functioning) was mean 21.41 and mean 24.19,

while in control group it was mean 34.50 and mean 27.77. The instrument used to measure the outcomes was PCL-5 and WHODAS 2.0. Graaff also found that, although PM+ is not a trauma-focused intervention, it still improved the outcome (PTSD symptoms and psychosocial functioning) within the refugees (24).

Orang et al. calculated M and SD of the primary and secondary outcome measures at baseline and follow-ups across the intervention (VBC) and control (TAU) group. Primary outcomes were PTSD (measured by PCL-5) and depression (measured by Patient Health Questionnaire-9; PHQ-9). They found that participants who received VBC experienced a greater reduction of PTSD and depression compared to those in control group. At 3-month follow-up, these positive results remained consistent within the VBC group (8). In Orang the post-test result for the intervention group with primary outcome of PTSD was mean 13.82, and in the control group it was 48.17. For depression, the mean in the intervention group was 4.40, while in the control group the mean was 17.39. The outcome for both groups were PTSD and depression, but participants in the intervention group showed a greater reduction in symptoms. The instrument used to measure the outcome was PCL-5 for PTSD and PHQ-9 for depression.

Table 6: Summary statistics and results from mixed model analysis of the outcome PTSD, depression and psychosocial functioning variables by group

	Post-test	Effect estimate
PTSD (Neuner et al. 2010)	Post assessment (six months after end of treatment): NET (n=14): M 26.0, SD 9.2 TAU (n=16): M 34.1, SD 6.1	Post assessment: -8.10 (95% CI: (-13.77, -2.43))
PTSD (Graaff et al. 2020)	Post assessment (one week after fifth session of PM+): PM+ (n=30): M 21.41, SD 16.06 TAU (n=30): M 34.50, SD 15.47	Post assessment: -13.09 (95% CI: -21.07, -5.11)

	<p>Follow up (three months):</p> <p>PM+ (n=30): M 20.21, SD 17.51</p> <p>TAU (n=30): M 34.12, SD 17.14</p>	<p>Follow up: -13.91</p> <p>(95% CI: -22.68, -5.14)</p>
PTSD (Orang at al. 2022)	<p>Post assessment (immediately):</p> <p>VBC (n=28): M 13.82, SD 10.78</p> <p>TAU (n=34): M 48.17, SD 17.99</p>	<p>Post assessment: -34.35</p> <p>(95% CI: -41.60, -27.10)</p> <p>Follow up: Not stated due to no TAU group.</p>
	<p>Follow up (three months):</p> <p>VBC (n=28): M 10.03, SD 7.77</p> <p>TAU (n=34): Not stated</p>	
Depression (Neuner at al. 2010)	<p>Post assessment (six months after end of treatment):</p> <p>NET (n=14): M 2.6, SD 0.6</p> <p>TAU (n=16): M 2.9, SD 0.5</p>	<p>Post assessment: -0.30</p> <p>(95% CI: -0.70, 0.10)</p> <p>Follow up: Not stated</p>
Depression (Orang at al. 2022)	<p>Post assessment (immediately):</p> <p>VBC (n=42): M 4.40, SD 4.60</p> <p>TAU (n=43): M 17.39, SD 6.49</p>	<p>Post assessment: -12.99</p> <p>(95% CI: -15.38, -10.60)</p> <p>Follow up: Not stated due to no TAU group.</p>
	<p>Follow up (three months):</p> <p>VBC (n=42): M 3.80, SD 3.60</p> <p>TAU (n=43): Not stated</p>	
Depression (Graaff at al. 2020)	<p>Post assessment (one week after fifth session of PM+):</p> <p>PM+ (n=30): M 1.93, SD 0.66</p> <p>TAU (n=30): M 2.48, SD 0.68</p>	<p>Post assessment: -0.55</p> <p>(95% CI: -0.89, -0.21)</p> <p>Follow up: -0.57</p> <p>(95% CI: -0.90, -0.24)</p>
	<p>Follow up (three months):</p> <p>PM+ (n=30): M 1.91, SD 0.63</p> <p>TAU (n=30): M 2.45, SD 0.63</p>	

Psychosocial functioning (Graaff et al. 2020)	Post assessment (one week after fifth session of PM+): PM+ (n=30): M 24.19, SD 9.16 TAU (n=30): M 27.77, SD 9.37	Post assessment: -3.58 (95% CI: -8.27, 1.11) Follow up: -6.50 (95% CI: -10.75, -2.24)
	Follow up (three months): PM+ (n=30): M 23.65, SD 6.40 TAU (n=30): M 30.15, SD 10.05	

3.4 Narrative synthesis

I will not conduct a meta-analysis since the interventions and comparisons of the studies were considered too different to pool statistically.

The study type of the intervention is observational, where participants were treated and observed for reactions by a non-specialist helper, a therapist or a migrant which was trained as a counsellor. All together there was 177 participants in the three studies, and characteristics of participants were adult refugees with PTSD and/or depression symptoms.

Interventions were NET, VBC or PM+, while outcome measures were PTSD, depression and psychosocial functioning. These three interventions are categorized as trauma-focused first-line psychotherapy, psychodynamic- and psychological interventions, and according to my findings in the effect estimate table (appendix 4), they all helped reducing PTSD and depression symptoms. The interventions also helped in gaining psychosocial functioning.

Study quality was assessed with RoB 1. After doing GRADE, I concluded that there is very low certainty in all of the outcomes. Please see appendix 2 for further information.

In this systematic review, the results were all in favour of NET, VBC and Pm+ but the results were heterogeneous. This means that there was a variability in the outcome data. This is evident both in the effect estimates and in the CIs. Two studies, Graaff and Neuner, had an overlap in CI regarding PTSD post assessment and depression post assessment, but the last study, Orang, did not.

In the data (appendix 4), the trend within each outcome is quite similar for two studies. Graaff and Neuner follows each other, while Orang is quite far out compared to the two other studies. Even though it is a difference in the trends, all results still favour the interventions.

4 Discussion

The reason I chose to focus on the effects of psychological and psychosocial interventions on PTSD and/or depression for adult refugees is because it is a relevant research field. Another main reason is due to the high number of refugees in the future, it is important to know which intervention appears to have the best effect on treatment of PTSD and/or depression for refugees. As shown so far in my thesis, there are interventions which can help the reduction of PTSD and/or depression.

According to Neuner at al., a significant reduction of PTSD symptoms can be done by receiving trauma-focused therapy, either NET alone or a combination of cognitive and exposure intervention. Thus, it is important to remember that cultural and language barriers as well as complex history of traumatic experiences pose challenges to psychotherapy (4).

Value based counselling, as described by Orang at al., is another effective intervention. The authors found that VBC, in comparison to a TAU group, experienced a greater reduction of psychological symptoms, such as depression and PTSD. At the 3-month follow-up, these positive results remained consistent. Another important evidence which Orang at al. found was that participants in the VBC group, compared to the TAU group, had made significant less use of mental health services between the first interview and the 3-month follow-up (8). VBC is a short-term intervention which uses a culturally sensitive approach communicated in the native language of the client, while addressing the specific mental health need of migrants.

Graaff at al. compares a PM+ group against TAU. The evidence which Graaff at al. reveals, shows that depression and anxiety symptoms improved in the PM+ group relative to the TAU group, with moderate effect sizes (24). Not only did Graaff at al. find that it was moderate to large improvements in overall psychosocial functioning within patients, but also improvement in PTSD symptoms and self-identified problems. Graaff at al. concludes that PM+ is likely effective in improving mental health outcomes and psychosocial functioning.

All the effect estimates results, (PTSD post assessment/follow up, depression post assessment/follow up, psychosocial functioning post assessment/follow up) favours the intervention group, meaning the interventions showed effect and therefore should be considered for larger-scale implementation. Although, the overall study participant group is

small, and it would be necessary to do more research before introducing these interventions for refugees as a standard mental health intervention.

4.1 Evidence quality

Regarding my confidence in the estimate of effect, and based on my GRADE assessment, I have very low confidence in all three outcomes. This means I am not confident in the effect estimate. All my estimates have very low confidence.

The consequence of being very low confident is that it is still a certainty in the effect estimate, therefore it is a chance that one wants to implement the intervention.

4.2 Strengths and weaknesses in this master thesis

This review has strengths and weaknesses that should be considered when reflecting on the findings. The strengths of this master thesis is that it includes a narrow focus on a research question, it has comprehensive search of evidence with also a criterion-based selection of relevant evidence.

The first weakness is that I stated that I followed Cochrane handbook of systematic reviews, and their guideline regarding how to do a systematic review. In their guideline they state that there should be two people selectiong studies, extracting data and confirming the analyses and GRADE assessments; in this thesis it was only myself.

The second weakness is that I couldn't retrieve six of the studies which I found in my literature search. I contacted a librarian at the library at The Artic Universty of Tromsø, but he couldn't retrieve the articles either. I am aware that this is a restriction in my study and a potentially source of risk of bias in this SR.

The third weakness is that I only included three studies in this master thesis and excluded 11. This indicates that it would be necessary to have more research on the matter.

4.3 Author reflexivity

As part of the process writing this thesis, I reflected on how my background might have influenced my choice of review topic, study selection, data extraction, analysis, and interpretation of data. My background is in adult nursing, in the main hospital of North Norway. I am employed by The University Hospital of North Norway (UNN), and we have variation within adults coming to us from all over the world – including refugees. However, my experience with refugees as patients is rather small. I have not worked with adult refugees, but I have had children as patients. This has not affected my process writing this thesis, because children are not relevant since I chose adults. Refugees and their mental health is a field of interest and that's the main reason I chose this topic.

I have not been involved in primary research related to effects of psychological and social interventions for refugees previously. Before starting my thesis, I did not have any preconceived ideas on what type of effects of psychological and social interventions would work best for refugees. This is due to no relevant experience. I started this process believing that the implementation of effect of psychological and psychosocial interventions should be proceeded by robust evidence of effectiveness, acceptability, and feasibility.

4.4 Overall completeness and applicability of evidence from systematic review

In this thesis, I included all studies that met my inclusion criteria. I believe that I have identified as many studies as needed to address the review objectives. However, I strongly believe that some participants, different types of interventions, and therefore also outcomes, may not be represented in the studies of effect. This is due to the low number of studies which I included.

The studies included narrative exposure therapy, value-based counselling and problem management plus as interventions for refugees in Europe. All three studies were conducted in central Europe (the Netherlands and Germany). The way I see it is this a limitation, because data from other countries might have been different based on how interventions would be practised. However, I am missing studies with variations regarding older adults and interventions towards them, as well as how intervention will focus on cultural differences.

5 Conclusion

In this systematic review, I investigated the effect of psychological and psychosocial interventions for refugees. As stated in the introduction, the number of refugees will continue to rise in the next couple of years. There are many reasons as to why refugees must flee their homes, for example persecution, conflict, violence, and human rights violations. One can only try to think all the stressors they go through to get to the end goal, which is their new home country. It is therefore not strange that refugees can have many mental health issues, including different types of comorbidities.

Refugees may experience PTSD and depression as some of the mental health issues. It is therefore important to know which interventions to offer, and which interventions appears to have the best effect on the treatment of PTSD and depression. Looking at former studies, trauma-focused first-line psychotherapy, psychodynamic- and psychological interventions all helped reducing PTSD and depression symptoms. These types of interventions also promote psychosocial function. After conducting this systematic review, I found that NET, VBC and PM+ all reduces PTSD and depression in adult refugees. These are three types of interventions that help treating mental health issues. All interventions found in the included studies were delivered by either a non-specialist helper, a therapist or a migrant who was trained as a counsellor.

The point of this systematic review is that decision makers, help organizations and providers can hopefully use it as a guideline concerning which interventions can be used to help refugees with PTSD and depression. Additionally, it can also be used to examine which types of interventions will not be of any use towards treatment of mental health issues of refugees in the post-migration stage, and therefore be time saving. These findings will promote a clearer view on effect of psychological and psychosocial interventions towards refugees, PTSD and depression.

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Appendix 1: Excluded studies

Studies excluded after full text assessment, with reason for exclusion

Reference	Reason for exclusion
Turrini G, Tedeschi F, Cuijpers P, <i>et al.</i> A network meta-analysis of psychosocial interventions for refugees and asylum seekers with PTSD. <i>BMJ Global Health</i> 2021; 6:e005029. Doi: 10.1136/bmjgh-2021-005029	Not relevant study design. 23 individual studies included in this meta-analysis.
Renner A, Jäckle D, Nagl M, Hoffmann R, Röhr S, Jung F, <i>et al.</i> (2021) Predictors of psychological distress in Syrian refugees with posttraumatic stress in Germany. <i>PLoS ONE</i> 16(8):e0254406. Doi: 10.1371/journal.pone.0254406	No psychological or psychosocial interventions.
Coventry PA, Meader N, Melton H, Temple M, Dale H, Wright K, <i>et al.</i> (2020) Psychological and pharmacological interventions for posttraumatic stress disorder and comorbid mental health problems following complex traumatic events: systematic review and component network meta-analysis. <i>PLoS Med</i> 17(8): e1003262. Doi: 10.1371/journal.pmed.1003262	Not specified origin of participants. Incorrect setting (in refugee camp, not in post-migration stage).
Buhmann C, Nordentoft M, Ekstroem M, Carlsson J, Mortensen E. The effect of flexible cognitive-behavioural therapy and medical treatment, including antidepressants on post-traumatic stress disorder and depression in traumatised refugees: pragmatic randomised controlled trial. <i>The British Journal of Psychiatry</i> (2016). 208, 252-259. Doi: 10.1192/bjp.bp.114.150961	Focuses on medical treatment.
Turrini G <i>et al</i> (2019). Efficacy and acceptability of psychosocial interventions in asylum seekers and refugees: systematic review and meta-analysis. <i>Epidemiology and</i>	Incorrect setting (not in Europe).

<p><i>Psychiatric Sciences</i> 28, 376-388. Doi: 10.1017/S2045796019000027</p>	
<p>Naseh M, Macgowan M, Wagner E, Abtahi Z, Potocky M, Stuart P. (2019) Cultural adaptations in psychosocial interventions for post-traumatic stress disorder among refugees: A systematic review. <i>Journal of Ethnic & Cultural Diversity in Social Work</i>, 28:1, 76-97. Doi: 10.1080/15313204.2019.1570891</p>	<p>Incorrect setting (not in Europe).</p>
<p>Arntz A, Sofi D, Breukelen G. (2013). Imagery Rescripting as treatment for complicated PTSD in refugees: A multiple baseline case series study. <i>Behaviour Research and Therapy</i>. Doi: 10.1016/j.brat.2013.02.009</p>	<p>Incorrect study design.</p>
<p>Wei Y, Chen S. (2021). Narrative Exposure Therapy for Posttraumatic Stress Disorder: A Meta-Analysis of Randomized Controlled Trials. <i>Psychological Trauma: Theory, Research, Practice, and Policy</i>. Doi: 10.1037/tra0000922.supp</p>	<p>Incorrect setting (not in Europe).</p>
<p>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. <i>Clinical Psychology and Psychotherapy</i>. Doi: 10.1002/cpp.2446</p>	<p>Focuses on children <18 years old.</p> <p>Focuses on refugees in countries outside Europe.</p>
<p>Thompson C, Vidgen A, Roberts N. (2018). Psychological interventions for post-traumatic stress disorder in refugees and asylum seekers: A systematic review and meta-analysis. <i>Clinical Psychology Review</i>, 63, 66-79. Doi: 10.1016/j.cpr.2018.06.006</p>	<p>Countries not specified.</p> <p>Incorrect setting (refugee camps).</p>
<p>Rawlinson R, Aslam R, Burnside G, Chiumento A, <i>et al.</i> (2020). Lay-therapist-delivered, low-intensity, psychosocial intervention for refugees and asylum seekers</p>	<p>Protocol. Study article not finished.</p>

(PROSPER): protocol for a pilot randomised controlled trial. Doi: 10.1186/s13063-020-04310-5	
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Appendix 2: GRADE assessment in outcomes of effect

I did a GRADE assessment on each outcome. This was done according to the appropriate GRADE approach, as developed by the GRADE working group (21).















GRADE evidence profile: psychological and psychosocial interventions on PTSD, depression and psychosocial functioning








Outcome (Author, Design)	Limitations (risk of bias)	Inconsistency	Indirectness	Imprecision	Publication bias	Intervention/ number of patients	Comparison/ number of patients	Quality
PTSD (Neuner, RCT)	Yes	No	No	Very serious (-2) Small sample size.	Undetected (0)	NET: 14	TAU: 16	⊕ Very low confidence
PTSD (Graaff, RCT)	Yes	No	No	Very serious (-2) Small sample size.	Undetected (0)	PM+: 30	TAU: 30	⊕ Very low confidence




PTSD (Orang, RCT)	Yes	No	No	Very serious (-2) Small sample size.	Undetected (0)	VBC: 28	TAU: 34	⊕ Very low confidence
Depression (Neuner, RCT)	Yes	No	No	Very serious (-2) Small sample size.	Undetected (0)	NET 14	TAU: 16	⊕ Very low confidence
Depression (Graaff, RCT)	Yes	No	No	Very serious (-2) Small sample size.	Undetected (0)	PM+: 30	TAU: 30	⊕ Very low confidence
Depression (Orang, RCT)	Yes	No	No	Very serious (-2) Small sample size.	Undetected (0)	VBC: 42	TAU: 43	⊕ Very low confidence
Psychosocial functioning (Graaff, RCT)	Yes	No	No	Very serious (-2) Wide range in 95% CI and small sample size. Post assessment	Undetected (0)	NET: 30	TAU: 30	⊕ Very low confidence

				1.15-5.49, follow up 4.01-8.83				
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Appendix 3: RoB 1 assessment

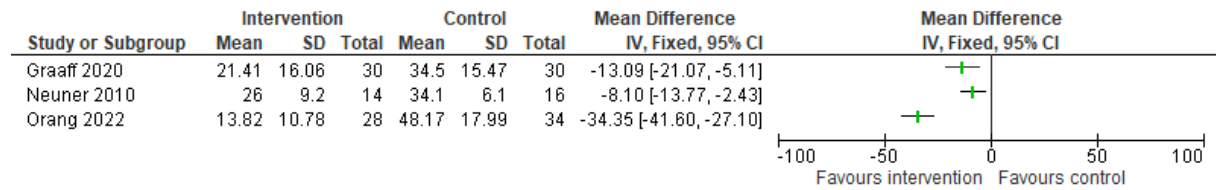
	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Selective reporting (reporting)	Other bias (due to problems)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Quality
Graaff at al., 2020	 Computer used as random number generator	 Central allocation: telephone	 Protocol available	 Appears to be free of other sources of bias	 Blinding of key study participants and personnel attempted, but likely blinding could have been broken	 Outcome measurement is not likely to be influenced by lack of blinding	 Missing data have been imputed using appropriate methods	Fair
Neuner at al., 2010	 Computer used as random number generator	 Central allocation: block permutation (computer)	 Protocol available	 Appears to be free of other sources of bias	 Blinding of key study participants and personnel attempted, but likely	 Outcome measurement is not likely to be influenced by lack of blinding	 Missing data have been imputed using	Fair

					blinding could have been broken		appropriate methods	
Orang et al., 2022	 Sequence generated by some rule based on hospital/clinic record number	 Allocation based on alternation or rotation	 Protocol available	 Appears to be free of other sources of bias	 Blinding of key study participants and personnel attempted, but likely blinding could have been broken	 Outcome measurement is not likely to be influenced by lack of blinding	 No missing outcome data	Poor

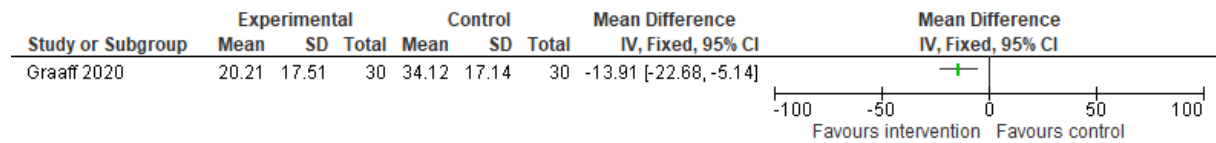
 = Low risk of bias.
  = High risk of bias.
  = Unclear risk of bias

Appendix 4: Effect estimate

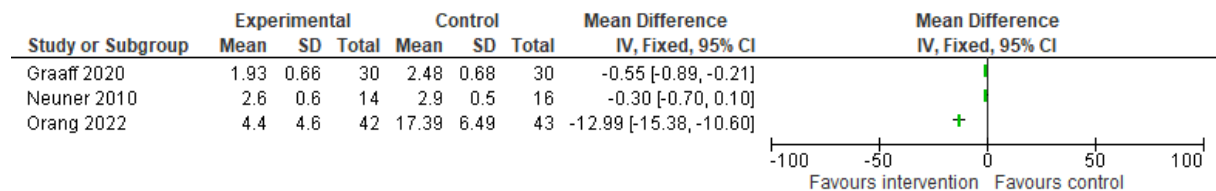
PTSD post assessment:



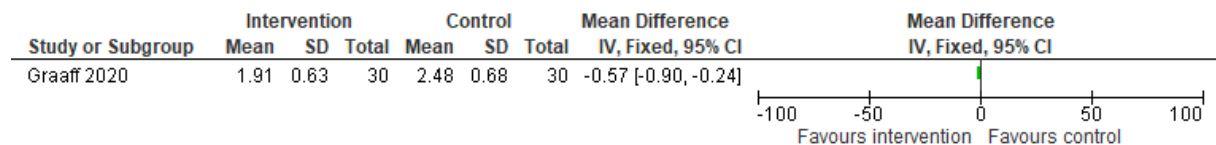
PTSD follow up:



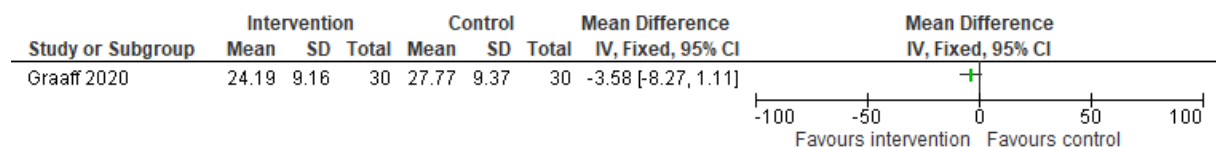
Depression post assessment:



Depression follow up:



Psychosocial functioning post assessment:



Psychosocial functioning follow up:

