

Article

Causes and Risk Factor of Post-Traumatic Stress Disorder in Adult Asylum Seekers and Refugees

Abdullah AlRefaie ^{1,*} and Christopher Dowrick ^{2,*}¹ School of Medicine, University of Liverpool, Liverpool L69 3BX, UK² Academic Palliative and Supportive Care Studies Group, Primary Care and Mental Health, University of Liverpool, Liverpool L69 3BX, UK

* Correspondence: hlaalref@liverpool.ac.uk (A.A.); Cfd@liverpool.ac.uk (C.D.)

Abstract: Objectives: To assess the causes and risk factors of post-traumatic stress disorder (PTSD) in adult asylum seekers and refugees. To explore whether the causes and risk factors of PTSD between male and female adult refugees/asylum seekers are different. **Study design:** Systematic review of current literature. **Data Sources:** PubMed, Web of Science, Scopus and Google Scholar up until February 2019. **Method:** A structured, systematic search was conducted of the relevant databases. Papers were excluded if they failed to meet the inclusion and exclusion criteria. Afterwards, a qualitative assessment was performed on the selected papers. **Results:** 12 Studies were included for the final analysis. All papers were either case studies/reports or cross-sectional studies. Traumatic events experienced by refugees/asylum seekers are the most frequently reported pre-migration causes of PTSD development, while acculturative stress is the most common post-migration stressor. There were mixed reports regarding the causes of PTSD between both genders of refugees/asylum seekers. **Conclusions:** This review's findings have potential clinical application in terms of helping clinicians to risk stratify refugees/asylum seekers for PTSD development and thus aid in embarking on earlier intervention measures. However, more rigorous research similar to this study is needed for it to be implemented into clinical practice.

Keywords: post-traumatic stress disorder; refugees; asylum seekers; risk factors



Citation: AlRefaie, A.; Dowrick, C. Causes and Risk Factor of Post-Traumatic Stress Disorder in Adult Asylum Seekers and Refugees. *Psychiatry Int.* **2021**, *2*, 410–423. <https://doi.org/10.3390/psychiatryint2040032>

Academic Editor: Zoltan Sarnyai

Received: 18 April 2021

Accepted: 9 November 2021

Published: 11 November 2021

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

1.1. Asylum Seekers and Refugees

The terms refugees and asylum seekers are too often confused and used interchangeably. Under the 1951 United Nations Convention Relating to the Status of Refugees, a refugee is a person seeking protection from other countries because of an established fear or prosecution in their own country due to reasons ranging from religion to race or politics [1], while asylum seekers are those who have applied for a sanctuary and international protection but have not yet been granted status [2]. The number of refugees is increasing at an alarming and unprecedented rate. As of the end of 2015, the total number of refugees forced to flee their homes and countries had reached 66 million [3], a jump of five million jump compared to the previous year. That is nearly 20 people per minute seeking refuge worldwide. Currently, there are 22 million refugees seeking new homes [4]. The UK alone receives, on average, around 40,000 refugees per year [1,5]. On the other hand, there are 1.8 million asylum seekers globally and around 200,000 new ones every year [2]. Today, Syria leads the way in terms of forcibly displaced citizens, currently peaking at around 12 million, followed by Columbia (8 million), Afghanistan and Iraq (4 million) [6]. To put all of this in perspective, in 2016, Europe saw the greatest surge of refugees since the end of World War II [6].

1.2. Demography

The general demographic makeup of refugees and asylum seekers across European countries has been slightly in favour of males, with a steady increase from 67% (2013) to 71% (2014) and 73% (2015). This difference and slight favouritism towards males is also present within the minor population (defined as under the age of 17), where 60% of asylum seekers are boys, whilst approximately 40% are girls [7]. Afghanistan has seen the largest representation of unaccompanied adolescents (40% of all unaccompanied minors), with most of them making dreaded and torturous trips towards Sweden, Germany and the U.K. [8]. Thus, the statistics provided above imply that the epidemic of refugees and asylum seekers is showing no signs of slowing down, therefore making this topic worth delving into. The recent surge of refugees and asylum seekers around the world has consequently led many countries to revisit their asylum-seeking policies and legislation. The UK, for example, has passed six pieces of legislation over the span of 15 years. The newest of these policies involved restricting and reducing state support for asylum seekers (2015) [8,9]. This pattern of change is also evidenced by the policies of other European countries. Traditionally, the EU has always abided by the Dublin 11 system, which regulates refugees and asylum seekers' applications. The Dublin system's 'point of first entry' policy—asylum applications are only to be made at the first point of entry to the EU—has been under severe scrutiny from countries most affected by it, such as Italy and Greece [10]. Thus, with the ever-reforming refugee policies of host countries, the need to address the mental vulnerabilities and underlying causes of refugees has become ever so urgent; this paper seeks to do.

1.3. Post-Traumatic Stress Disorder

According to the NHS, post-traumatic stress disorder is defined as a “severe anxiety disorder due to either very stressful, frightening or distressing events” [11]. The four main PTSD symptoms are re-experiencing the traumatic event, avoidance or numbing behaviour, hyperarousal and negative alterations in mood and cognition [12]. These symptoms need to have lasted for more than a month for PTSD to be diagnosed. The diagnostic criteria for PTSD are provided by the Diagnostic and Statistical Manual of Mental Disorders (DSM 5) [13]. PTSD sufferers are more likely to self-neglect, indulge in suicidal thoughts and are at a higher risk of comorbidities, such as chronic depression and anxiety [14]. PTSD is most notoriously known to affect war veterans. However, recent events of hardship and war—especially in Middle Eastern countries—have seen a large number of people flee their homeland, and consequently, rates of PTSD have significantly increased among those vulnerable groups. Asylum seekers and refugees are 10 times more prone to suffer from mental health conditions compared to the general population [14]. PTSD currently leads the way against other psychological issues such as depression, suicide and excessive substance abuse. Moreover, it has been estimated that the overall average prevalence of PTSD among asylum seekers is between 28 and 30%, with some studies reporting it to be as high 66%, followed by depression and anxiety (26–29%), respectively [15]. Accurate percentages were difficult to conclude because of the varying designs and structures adopted by researchers calculating PTSD prevalence rates among refugees. Furthermore, language barriers may have hindered accurate articulation of PTSD symptoms and, hence, explain the high variability of PTSD prevalence rates between different studies [15]. Most of the epidemiological and interventional studies published in relation to refugees focus mainly on PTSD, as opposed to other mental health disorders such as depression or anxiety [11]. Therefore, building on this background, PTSD is the ideal mental condition for further exploration in terms of causes and risk factors [15].

1.4. Why Is the Study Needed?

Others Papers/Previous Research

Surprisingly, as more attention is being turned to asylum seekers, there were relatively few systematic reviews explicitly dealing with the causes and risk factors of PTSD in

refugees and asylum seekers. A preliminary research scope using the MESH terms 'Causes' OR 'Risk factors' AND 'PTSD' 'Asylum seekers' OR 'Refugees' with an inclusion criteria of 'systematic review' in PubMed identified 16 studies concerning PTSD, asylum seekers and refugees. Most studies focused on and compared the efficacy of different psychological treatments of PTSD in asylum seekers and refugees, such as in the Nose et al. study [16], whilst other studies looked at the epidemiology and prevalence of PTSD among refugees (Reavell J, Fazil Q.) [17].

The Michele Hyne study was the closest to what we aim to achieve; however, her study focused on social determinants and post-migration causes, whilst this study takes a wider approach toward the causes of PTSD in refugees [18]. This clearly shows the need to conduct research of this ilk.

Thus, this study was conducted with the intention of filling this gap in research. This, coupled with the lack of existing current literature on the topic, sparked the interest of the authors. Jurist Henry De Bracton (d. 1268), a 17th century English cleric, once famously said, "Prevention is better than cure". With this in mind, the exploration of PTSD causes within the refugee community will hopefully, in the future, make the prevention, diagnoses and treatment of PTSD a lot simpler.

1.5. Aim of Study

Primary aim: to explore and compare the causes and risk factors of PTSD within the adult refugee and asylum-seeker population.

Secondary aim: to evaluate whether causes/risk factors of PTSD differ between male and female adult refugees and asylum seekers.

2. Methodology

2.1. Search Methods

3 Databases—PubMed, Scopus and Web of Science were the primary search engines used. Google scholar was the secondary source. The PRISMA (preferred reporting items for systematic reviews and meta-analyses) checklist for carrying out a systematic review and meta-analysis was followed [19].

The search methodology and process used is broken into two stages. The initial/first stage encompasses applying relevant search terms to the databases mentioned above and identifying the most appropriate papers. The second stage can be described as a 'filter' stage, which involves selecting the most applicable studies from stage one with the aid of the evaluation tool for qualitative studies [20].

The search was conducted at the end of February 2019. A quick research scope was conducted using the MESH terms 'Causes' OR 'Risk factors' AND 'Post-traumatic Stress Disorder' AND 'Asylum seekers' OR 'Refugees' looking at just the abstract, title and author name in PubMed. Additionally, a more focused search was carried out in order to scope out the most relevant papers, which included the MESH terms '((cause* OR risk factor*)) AND ((post-traumatic stress disorder) AND ('refugee*' OR 'Asylum seeker*')). Moreover the terms = (cause*) OR risk factor*) AND (post-traumatic stress disorders) AND ('asylum seeker*' OR refugee*) NOT (Children) NOT (Adolescent) NOT (Teens) NOT (treatment) NOT (intervention) were applied. Furthermore, the inclusion and exclusion criteria mentioned below were then applied. This yielded fewer papers.

Most of the papers excluded focussed on the intervention efficacies of PTSD within the refugee population, as opposed to the causes and risk factors for developing PTSD.

Similar search methodology and terms were implemented in Web of Science and pubmed. Scopus. Figure 1 illustrates a step by step guide to the search terms used.

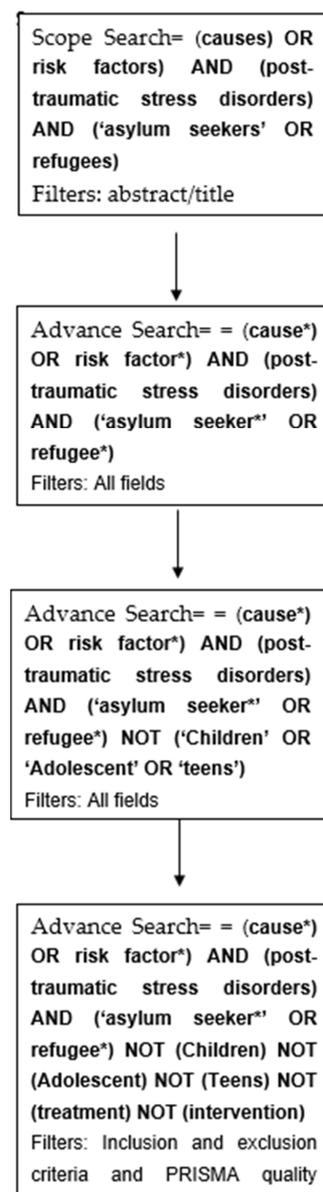


Figure 1. A step-by-step guide to search terms and Boolean operators applied in PubMed/Web of Science/Scopus.

2.2. Study Selection: Inclusion/Exclusion Criteria

Various inclusion and exclusion criteria were applied in order to extract the most suitable papers and studies for this research. The inclusion criteria are as follows: the articles had to be in English; full text of the papers had to be available; the papers had to be a primary research/study; and the papers should have focussed on adults. Only full text was considered, as shorter-format papers were deemed insufficient to form a confident conclusion. These criteria were applied throughout the search process, as in Table 1.

Table 1. Inclusion and exclusion criteria.

Limitation	Inclusion Criteria	Exclusion Criteria
Age	Adults (over 18)	Less than 18
Relevance	Causes and risk factors of PTSD in asylum seekers and refugees	Treatment and interventions of PTSD in asylum seekers and refugees
Study design	Primary research	Systematic review

2.3. Quality Assessment and Data Extraction

The evaluation tool for qualitative studies [20] recommended by the *Cochrane Handbook for Systematic Reviews* was used to critically appraise the quality of the 12 included studies. This assessment tool focussed on 6 domains: study overview, study setting, ethical approval, data collection and analysis, potential sources of bias, practical transferability of results and number of references used.

We reviewed the existing selected databases in order to extract studies meeting the inclusion criteria. The information extracted focussed on the author, year of study publication, study sample, gender, mean age, demographic of participants in study, main outcome of study and main causes.

3. Results

3.1. Search Results

A final literature search was conducted on the 2 February 2019. This was conducted on three different databases (PubMed, Scopus and Web of Science) and other external sources, such as reading the references of papers, as well as Google Scholar. The initial scope search yielded 126 papers from the databases and three additional papers from other sources. This was then stemmed down to 120 papers following the removal of duplicates. Of those 120 papers, 80 were excluded after applying the relevant inclusion and exclusion criteria. From the 40 articles retrieved, 28 were excluded after the full paper was read. Most of the papers excluded focused on prevalence rates and intervention efficacies in refugees with PTSD. Thus, 12 articles were selected for this systematic review, as shown in Figure 2.

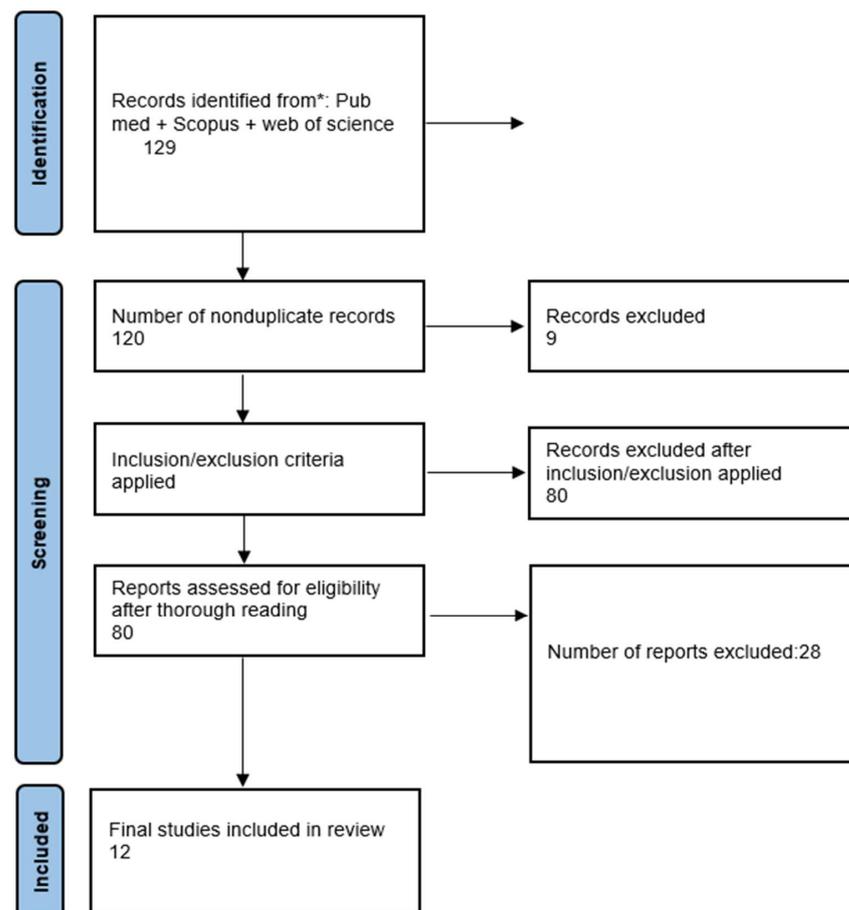


Figure 2. PRISMA flowchart of results [21].

3.2. Study Characteristics

Table 2 encompasses the major findings and characteristics of the included studies. Of the 12 study designs, 8 were case-based [22–29], whilst the remaining 4 were split into case reports [26,27] and cross-sectional studies [29,30]. Nine studies included refugees with an Asian background [23,26–33]. Two studies focussed on refugees from Africa [22,25], and one study examined the situation in Bosnia [24]. The majority of the studies were conducted in high-GDP countries (Australia, Holland, USA and Italy). Most papers examined the pre- and post-migration causes leading to PTSD [22,30], whereas, two studies only focussed on the latter. Two studies directly compared the risk factors of PTSD between refugees and asylum seekers. The sample size of the included studies, ranged from 62 to 848, and the mean age ranged from 29.9 to 49.4. All studies recruited male and female refugee, except the Hinton et al. study [31,32], which did not specify.

Table 2. Study characteristics and major finding.

Study Number	Author(s) & Year	Study Type	Examples of Questions Asked	Study Sample, Gender & Mean Age	Participants' Country of Origin	Location of Study	Title/Aim of Study	Main Causes/Findings
1	Lindokuhle et al. [22] (2017)	Survey study	25-item Hopkins Symptom Checklist + 30-item Harvard Trauma Questionnaire	Study sample = 355 Males = 188 Females = 167 Mean age = 32.8	Democratic Republic of Congo, Zimbabwe, Rwanda, Malawi, Ghana, Uganda populations	South Africa	Finding out the extent of causation of post-migration factors on 3 mental health outcomes (depression, anxiety, PTSD)	1-Shorter time span since migrating increased the likelihood of PTSD. 2-Prolonged exposure to discrimination increased the likelihood of PTSD.
2	Silove et al. [23] (1998)	Survey study	30-item Harvard Trauma Questionnaire	Study sample = 62 Males = 48 Females = 14 Mean age = 35.3	Tamil population	Australia	Comparison of post migration stress factors, Anxiety, depression and PTSD levels between asylum seekers and refugees	1-Larger number of post-migration stress factors (i.e., delays in processing application and no permission to work) were found in asylum seekers compared to refugees. 2-Higher prevalence of torture in asylum seekers (6.7 ± 3.3) compared to refugees (6.3 ± 5.7) index of mean trauma exposure.
3	Knipscheer et al. [24] (2006)	Survey study	No details	Sample size = 78 Males = 48 Females = 30 Mean age = 42.9	Bosnian population	Holland	The contribution of post migration trauma and acculturation stress to the health of the Bosnian refugees in Holland	1-War experiences increased the likelihood of developing mental health problems. 2-Inability to practice and preserve religious traditions was associated with an increase in mental health problems.

Table 2. Cont.

Study Number	Author(s) & Year	Study Type	Examples of Questions Asked	Study Sample, Gender & Mean Age	Participants' Country of Origin	Location of Study	Title/Aim of Study	Main Causes/Findings
4	Rasmussen et al. [25] (2011)	A case study questionnaire/interview conducted alongside the United Nations High Commissioner for Refugees (UNHCR) psychosocial programme	30-item Harvard Trauma Questionnaire	Sample size = 848 Males = 296 Females = 552 Mean age = Not specified	Darfuri population	Eastern Chad	The impact of past trauma and everyday stressors on the mental and psychological wellbeing of refugees and asylum seekers	1-The lack of basic needs and not feeling safe were strongly associated with PTSD development. 2-Pre-migration stressors, such as being chased, shot or bombed were strongly associated with PTSD. 3-Religion and ideologies played an important role in whether Refugees developed PTSD (mainly females).where a strong ideologies or religious beliefs increased their likelihood of PTSD
5	Steel et al. [26] (1999)	Case study	30-item Harvard Trauma Questionnaire	Sample size = 196 Males = 135 Females = 61 Mean age = 43.7	Tamil population	Australia	The role of Pre migration and post migration stressor in developing PTSD symptoms in the Tamil population living in Australia	1-Being held in detention and enduring sexual/physical abuse were strongly linked to PTSD symptoms. 2-The inability to adapt to new surroundings increased symptoms of PTSD.
6	Hinton et al. [31] (2013)	Case report	Not clear	Not specified Mean age = 49.4	Cambodian population	USA	How grief and complicated bereavement of Cambodian refugees play a role in PTSD symptoms	1-Recall of the dead and its connotations interpreted in Cambodian culture are a strong indicator for PTSD.

Table 2. Cont.

Study Number	Author(s) & Year	Study Type	Examples of Questions Asked	Study Sample, Gender & Mean Age	Participants' Country of Origin	Location of Study	Title/Aim of Study	Main Causes/Findings
7	Oren et al. [27] (2010)	Survey study	30-item Harvard Trauma Questionnaire	Sample size = 326 Males = 114 Females = 212 Mean age = 32.5	Evacuated Israelis	Western Bank	The role of ideology as a cause for PTSD symptoms and severity	1-Firm ideologies and political stances within a stressful environment linked to the development of PTSD symptoms. 2-The older the person with strong ideological beliefs, the more likely that they will develop PTSD (females).
8	Hinton et al. [32] (2009)	Case report	Not clear	Not specified	Cambodian population	USA	The role of nightmares within the Cambodian refugee population and its potential role in causing PTSD	1-Those who suffer from nightmares/flashbacks within the Cambodian population exhibit higher levels of PTSD.
9	Slewa-Younan et al. [28] (2017)	Survey study	The mental health literacy survey	Sample size = 375 Males = 169 Female = 206 Mean age = 32.5	Iraqi and Afghanistan population	Australia	The viewpoints and beliefs of the Iraqi and Afghan refugees concerning the causes and risk factors of PTSD	1-Prolonged exposure to being beaten up and abused, either physically or mentally, were the most common beliefs to cause PTSD. 2-Being born in a 'war-filled environment' was a common belief held by the Iraqi and Afghan refugees to causing PTSD.

Table 2. Cont.

Study Number	Author(s) & Year	Study Type	Examples of Questions Asked	Study Sample, Gender & Mean Age	Participants' Country of Origin	Location of Study	Title/Aim of Study	Main Causes/Findings
10	Ibrahim et al. [29] (2017)	Survey study	Demographic Data Questionnaire + 30-item Harvard Trauma Questionnaire	Sample size = 91 Males = 51 Females = 40 Mean age = 29.9	Syrian Kurdish	Kurdistan (Iraq)	The link between traumatic events and PTSD development in the Syrian Kurdish population living in Kurdistan	1-Positive correlation between frequency of torture and severity of PTSD. 2-Strong link between number of trauma events (near-death experiences or witnessing death) and PTSD symptoms.
11	Aragona et al. [30] (2012)	Qualitative study	30-item Harvard Trauma Questionnaire	Sample size = 339 Males = 245 Females = 94 Mean age = 37.8	Mostly Romanian, Chinese and Bangladesh populations	Italy	The link between post migration stressors and PTSD development in immigrants	1-Inability to work was the most commonly reported link to developing PTSD (survey results). 2-The higher the number of post-migration stressors, the stronger the association with PTSD.
12	Gerritsen et al. [33] (2006)	Qualitative study	Harvard Trauma Questionnaire and the Hopkins Symptoms Checklist-25 + short form 36	Sample size = 410 Males = 241 Females = 169 Mean age = 37.0	Afghanistan, Iran and Somalia	Hollands	The prevalence rates and risk factors for physical and mental wellbeing (including PTSD)	1-Female gender was strongly linked to the development of PTSD. 2-Strong link between number of trauma events and PTSD symptoms. 3-Asylum seekers had a higher PTSD prevalence rate than the refugee population.

Six studies used the Harvard Trauma Questionnaire to gauge refugees' PTSD symptoms [22,23,26,29,30,33], Whilst, four studies used the PTSD checklist [25,27,31,32], one study made use of the impact of events scale [24] and one study adopted the mental health literary survey [27]. Only three studies employed randomisation to their recruitment policy [24,29,30]. All studies were conducted via non-government organisations.

3.3. Main Causes of PTSD in Asylum Seekers and Refugees: Primary Aim

The leading cause of pre-migration stressors is the total number of traumatic events experienced, i.e., near-death encounters, as concluded from the literature. In regard to post-migration risk factors, the inability to adapt to new surroundings is the strongest cause linked to PTSD. Some notable causes were reported in the Hinton et al. [31,32], which found that nightmares (dreaming of the dead) interpreted within a cultural/spiritual context was associated with PTSD.

3.4. Comparison of Risk Factors between Male and Female Refugees: Secondary Aim

Two studies found that men are more likely to experience traumatic events compared to women (men = 2.85 events, women = 2.28 events) [25,29]. Oren et al. found women with a strong ideological stance and who were involuntarily evacuated from the Gaza settlement had higher odds of developing PTSD (odds ratio (OR) = 2.24; confidence level (CL) 95% 1.12–4.47). Gerritsen et al. found higher prevalence rates of PTSD in females in comparison to males (OR = 3.45 CL 1.53–7.780).

4. Discussion

4.1. Summary of Findings

This systematic review was conducted, with the aim of searching the existing literature for studies investigating the causes and risk factors of PTSD in asylum seekers and refugees. The intensity and frequency of traumatic events encountered by refugees/asylum seekers is, by far, the most widely reported risk factor for PTSD development. In addition, acculturative stress was the leading post-migration stressor for PTSD. Moreover, it was found that asylum seekers were more likely to develop PTSD, in part because of additional stressors placed upon them, such as lack of work permission and uncertainty surrounding their legal status. Conflicting conclusions were drawn from the studies concerning whether gender itself is a risk factor for PTSD. Furthermore, there were mixed results concerning age, marital status and socioeconomic background as being causes of PTSD. Overall, a cloud of uncertainty surrounds these findings due to the non-random nature of the studies—only three studies reported the use of randomisation when sampling refugees/asylum seekers.

4.2. Strengths and Limitations of Study

The strengths of this review include adhering to a rigorous methodological approach. Furthermore, the inclusion/exclusion criteria were stated clearly and specifically. Moreover, the papers selected reflected a diverse set of populations, therefore increasing the validity of the results. In addition, a thorough assessment of risk of bias and quality of papers was conducted by using a Cochrane recommended evaluation tool.

This review has limitations. Firstly, the limited number of studies (12) reviewed, coupled with the non-randomisation sampling process adopted by 9/12 studies, makes a definitive conclusion difficult. Secondly, most studies equated symptoms of PTSD to diagnoses without adopting a formal diagnostic algorithm, which may have led to overestimated PTSD diagnoses and skew the causality of PTSD. Thirdly, language barriers and word count are intrinsic limitations of this review. Fourthly, all studies relied on self-reporting, which enhances recall bias. Fifthly, all studies were either case studies/reports or cross-sectional studies, and because of their retrospective nature, making a definitive causality link between cause and disease is not possible. Sixthly, the Rasmussen et al. paper [25] is the only study that satisfies a margin of error of less than 5%, as they used a sample size greater than 500. Therefore, the small sample sizes of the studies included are

another limitation of this review. Seventhly, asylum seekers/refugees may have tailored their responses in hopes of receiving financial benefits or advances on their asylum status. Eighthly, no study, except one [27], used a specifically designed sampling instrument for their selected population. Ninthly, I was the only person working on this research; therefore, there was no opportunity for discussion and exchanging of ideas in relation to the research project.

4.3. What this Study Adds/Comparison with Other Studies

This study adds to the current literature as it derived the most common cause/risk factors of PTSD in asylum seekers and refugees. The magnitude and number of traumatic events experienced by any one refugee/asylum seeker emerged as the strongest predictor of PTSD development. Another important finding to add to the literature is the role of cultural connotations and interpretation of events as a potential risk factor for predisposing displaced persons to develop PTSD, as concluded by the Hinton et al. [31,32] and Oren et al. [27]. Most research concerning PTSD and refugees/asylum seekers is focussed on the efficacy of various psychological interventions, such as cognitive behavioural therapy and neuro emotional therapy. However, some reviews are in line with this one, such as the Hameed et al. study [34], which looked at risk-factors concerning PTSD, depression and anxiety disorder manifestations. Furthermore, a Li SSY. study [35], which explored the relationship between post-migration stressors and PTSD in asylum seeker/refugee populations, came to similar conclusions. However, the slight difference is that this systematic review looked at the wider causes of PTSD.

4.4. Practical Application of Findings

The findings of this review have potential practical applications to clinical practice. Knowing that the number of traumatic events and their intensity is heavily linked to PTSD provides clinicians with a strong evidence base to identify high-risk patients and initiate earlier intervention, which may lead to better prognoses. Furthermore, knowledge of the finding that a lack of cultural preservation of traditions of refugees/asylum seekers may further predispose them to PTSD may help to guide the addition of social integration and adaptation in these vulnerable populations as part of the treatment options provided to them by psychologists. However, as there is a very limited number of systematic reviews of the same ilk as this one, more research is needed for the findings to be translated into a clinical setting.

4.5. Future Research

1. The need for more randomised studies investigating the causes/risk factors of PTSD in asylum seekers/refugees in order to reduce recall bias.
2. The use of questionnaire/sampling instruments that are specifically designed for the chosen population in order to increase confidence in the results.
3. The need for more studies comparing the risk factors of non-immigrants with PTSD and asylum seekers/refugees.
4. Adoption of a validated diagnostic algorithms when assessing potential PTSD diagnosis.
5. Research into the exact mechanism and pathway of how relevant causes of PTSD manifest, which could further advance intervention options.
6. A larger sample size, preferably more than 500 participants, when examining displaced persons for PTSD causes/risk factors.
7. More research/studies are needed that have similar objectives to this review to further enhance confidence in our findings.

5. Conclusions

The magnitude and number of traumatic events and acculturation stressors are the most commonly reported pre- and post-migration causes of PTSD in asylum seekers/refugee. Moreover, there are conflicting conclusions in the current literature in regard

to the causes/risk factors of PTSD in refugees and asylum seekers of both genders. The results of this systematic review have possible clinical implications concerning the advancement of PTSD treatment in these jeopardised groups. However, more robust research, similar to this review, examining the relationship of PTSD and its causality in asylum seekers/refugee populations is needed for it to be incorporated into day-to-day clinical practice.

5.1. What Is Already Known on This Topic

Many case-control and cross-sectional studies have explored the causality of PTSD in asylum seekers and refugees in their selected countries.

Many studies have reported that being a female refugee/asylum seeker increased the likelihood of PTSD manifestation.

Previous systematic reviews have concluded that loss of cultural identity is a strong predictor of PTSD development.

5.2. What This Study Adds

This systematic review searched all primary research concerning the causes of PTSD in asylum seekers and refugees. Therefore, the results produced should be fairly representative of most ethnic groups, as opposed to one country or ethnicity.

There are conflicting data regarding whether or not gender-related causes of PTSD in asylum seekers and refugees exist.

This review focussed on a wider array of causes of PTSD in asylum seekers/refugees. The findings conclude that the number of traumatic events (pre-migration) and acculturation stress (post-migration) are the leading stressors of PTSD in these vulnerable groups.

Author Contributions: Conceptualization, A.A. and C.D.; methodology, A.A. and C.D.; software, A.A. and C.D.; validation, A.A. and C.D.; formal analysis, A.A. and C.D.; investigation, A.A. and C.D.; resources, A.A. and C.D.; data curation, A.A. and C.D.; writing—original draft preparation, A.A.; writing—review and editing, A.A. and C.D.; visualization, A.A. and C.D.; supervision, C.D.; project administration, A.A. and C.D.; funding acquisition, A.A. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data sharing not applicable. No new data were created in this study. Data sharing is not applicable to this article.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Office of the United Nations High Commissioner for Refugees. Asylum in the UK. 2014. Available online: <http://www.unhcr.org/uk/asylum-in-the-uk.html> (accessed on 5 February 2018).
2. United Nations High Commissioner for Refugees. Asylum-Seekers. 2014. Available online: <http://www.unhcr.org/uk/asylum-seekers.html> (accessed on 5 February 2018).
3. United Nations Refugee Agency. Global Trends. 2016. Available online: <http://www.unhcr.org/globaltrends2016/> (accessed on 5 February 2018).
4. Refugee Council of Australia. UNHCR Global Trends. 2015—How Australia Compares with the World. 2015. Available online: <https://www.refugeecouncil.org.au/getfacts/statistics/unchr2015/> (accessed on 7 February 2018).
5. Refugee Council UK. Quarterly Asylum Statistics. 2016. Available online: https://www.refugeecouncil.org.uk/assets/0004/2697/Asylum_Statistics_Feb_2018.pdf (accessed on 11 February 2018).
6. Eurostat Statistics. Asylum Statistics. 2018. Available online: http://ec.europa.eu/eurostat/statistics-explained/index.php/Asylum_statistics (accessed on 11 February 2018).
7. Phillip, C. Asylum Seeker Demography: Young and Male. 2013. Available online: <http://www.pewglobal.org/2016/08/02/4-asylum-seeker-demography-young-and-male/> (accessed on 1 March 2018).

8. The United Nations Children's Fund. Latest Statistics and Graphics on Refugee and Migrant Children. 2010. Available online: <https://www.unicef.org/eca/what-we-do/emergencies/latest-statistics-and-graphics-refugee-and-migrant-children> (accessed on 3 March 2018).
9. Fletcher, E. Changing Support for Asylum Seekers: An Analysis of Legislation and Parliamentary Debates. *SCMR* **2008**, *1*, 1–20.
10. Frantziou, E.; Staiger, U.; Chaytor, S. Refugee Protection, Migration and Human Rights in Europe. 2014. Available online: <https://www.ucl.ac.uk/european-institute/ei-publications/europe-briefing-refugee.pdf> (accessed on 5 March 2018).
11. National Healthcare Service. Post-Traumatic Stress Disorder (PTSD). 2016. Available online: <https://www.nhs.uk/conditions/post-traumatic-stress-disorder-ptsd/> (accessed on 25 March 2018).
12. Knaevelsrud, C.; Stammel, N.; Olf, M. Traumatized refugees: Identifying needs and facing challenges for mental health care. *Eur. J. Psychotraumatol.* **2017**, *8*, 1388103. [[CrossRef](#)] [[PubMed](#)]
13. U.S. Department of Veterans Affairs. PTSD: National Center for PTSD. 2013. Available online: https://www.ptsd.va.gov/professional/ptsd-overview/dsm5_criteria_ptsd.asp (accessed on 24 March 2018).
14. Gourieroux, C. *Conn's Translational Neuroscience*; Iowa State Princeton University Press: New Jersey, NJ, USA, 2016.
15. Tufan, A.E.; Alkin, M.; Bosgelmez, S. Post-traumatic stress disorder among asylum seekers and refugees in Istanbul may be predicted by torture and loss due to violence. *Nord. J. Psychiatry* **2013**, *67*, 219–224. [[CrossRef](#)] [[PubMed](#)]
16. Nose, M.; Ballette, F.; Bighelli, I.; Turrini, G.; Purgato, M.; Tol, W.; Priebe, S.; Barbui, C. Psychosocial interventions for post-traumatic stress disorder in refugees and asylum seekers resettled in high-income countries: Systematic review and meta-analysis. *PLoS ONE* **2017**, *12*, e0171030. [[CrossRef](#)] [[PubMed](#)]
17. Reavell, J.; Fazil, Q. The epidemiology of PTSD and depression in refugee minors who have resettled in developed countries. *J. Ment. Health* **2017**, *26*, 74–83. [[CrossRef](#)] [[PubMed](#)]
18. Hynie, M. The Social Determinants of Refugee Mental Health in the Post-Migration Context: A Critical Review. *Can. J. Psychiatry* **2018**, *63*, 297–303. [[CrossRef](#)] [[PubMed](#)]
19. PRISMA. PRISMA Checklist. 2009. Available online: <http://prisma-statement.org/documents/PRISMA%202009%20checklist.pdf> (accessed on 6 April 2018).
20. Salford, U.O. Evaluation Tool for Qualitative Studies. 2002. Available online: http://usir.salford.ac.uk/id/eprint/12970/1/Evaluation_Tool_for_Qualitative_Studies.pdf (accessed on 12 February 2019).
21. PRISMA. PRISMA Flow Diagram 2009. Available online: <http://prisma.thetacollaborative.ca/> (accessed on 12 February 2019).
22. Thela, L.; Tomita, A.; Maharaj, V.; Mhlongo, M.; Burns, J.K. Counting the cost of Afrophobia: Post-migration adaptation and mental health challenges of African refugees in South Africa. *Transcult. Psychiatry* **2017**, *54*, 715–732. [[CrossRef](#)] [[PubMed](#)]
23. Silove, D.; Steel, Z.; McGorry, P.; Mohan, P. Trauma exposure, postmigration stressors, and symptoms of anxiety, depression and post-traumatic stress in Tamil asylum-seekers: Comparison with refugees and immigrants. *Acta Psychiatr. Scand.* **1998**, *97*, 175–181. [[CrossRef](#)] [[PubMed](#)]
24. Knipscheer, J.W.; Kleber, R.J. The relative contribution of posttraumatic and acculturative stress to subjective mental health among Bosnian refugees. *J. Clin. Psychol.* **2006**, *62*, 339–353. [[CrossRef](#)] [[PubMed](#)]
25. Rasmussen, A.; Nguyen, L.; Wilkinson, J.; Vundla, S.; Raghavan, S.; Miller, K.E.; Keller, A.S. Rates and impact of trauma and current stressors among Darfuri refugees in Eastern Chad. *Am. J. Orthopsychiatry* **2010**, *80*, 227–236. [[CrossRef](#)] [[PubMed](#)]
26. Steel, Z.; Silove, D.; Bird, K.; McGorry, P.; Mohan, P. Pathways from war trauma to posttraumatic stress symptoms among Tamil asylum seekers, refugees, and immigrants. *J. Trauma. Stress* **1999**, *12*, 421–435. [[CrossRef](#)] [[PubMed](#)]
27. Oren, L.; Possick, C. Is ideology a risk factor for PTSD symptom severity among Israeli political evacuees? *J. Trauma. Stress* **2010**, *23*, 483–490. [[CrossRef](#)] [[PubMed](#)]
28. Slewa-Younan, S.; Guajardo, M.G.U.; Yaser, A.; Mond, J.; Smith, M.; Milosevic, D.; Smith, C.; Lujic, S.; Jorm, A.F. Causes of and risk factors for posttraumatic stress disorder: The beliefs of Iraqi and Afghan refugees resettled in Australia. *Int. J. Ment. Health Syst.* **2017**, *11*, 1–11. [[CrossRef](#)] [[PubMed](#)]
29. Ibrahim, H.; Hassan, C.Q. Post-traumatic Stress Disorder Symptoms Resulting from Torture and Other Traumatic Events among Syrian Kurdish Refugees in Kurdistan Region, Iraq. *Front. Psychol.* **2017**, *8*, 241. [[CrossRef](#)] [[PubMed](#)]
30. Aragona, M.; Pucci, D.; Mazzetti, M.; Geraci, S. Post-migration living difficulties as a significant risk factor for PTSD in immigrants: A primary care study. *Ital. J. Public Health* **2012**, *9*, e7525–e7528. [[CrossRef](#)]
31. Hinton, D.E.; Peou, S.; Joshi, S.; Nickerson, A.; Simon, N.M. Normal Grief and Complicated Bereavement among Traumatized Cambodian Refugees: Cultural Context and the Central Role of Dreams of the Dead. *Cult. Med. Psychiatry* **2013**, *37*, 427–464. [[CrossRef](#)] [[PubMed](#)]
32. Hinton, D.E.; Hinton, A.L.; Pich, V.; Loeum, J.R.; Pollack, M.H. Nightmares Among Cambodian Refugees: The Breaching of Concentric Ontological Security. *Cult. Med. Psychiatry* **2009**, *33*, 219–265. [[CrossRef](#)] [[PubMed](#)]
33. Gerritsen, A.A.; Bramsen, I.; Deville, W.; van Willigen, L.H.; Hovens, J.E.; van der Ploeg, H.M. Physical and mental health of Afghan, Iranian and Somali asylum seekers and refugees living in the Netherlands. *Soc. Psychiatry Psychiatr. Epidemiol.* **2006**, *41*, 18–26. [[CrossRef](#)]
34. Hameed, S.; Sadiq, A.; Din, A.U. The Increased Vulnerability of Refugee Population to Mental Health Disorders. *Kans. J. Med.* **2018**, *11*, 20–23. [[CrossRef](#)]
35. Li, S.S.Y.; Liddell, B.J.; Nickerson, A. The Relationship between Post-Migration Stress and Psychological Disorders in Refugees and Asylum Seekers. *Curr. Psychiatry Rep.* **2016**, *18*, 82. [[CrossRef](#)]