SCHIZOPHRENIA AND DISPLACED PERSONS

BY

Dr. MAIMUNA MOHAMUD ISSE
H43/12518/2018

A PROJECT DISSERTATION SUBMITTED TO UNIVERSITY OF NAIROBI

IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD

OF THE POSTGRADUATE DIPLOMA IN CLINICAL PSYCHIATRY

APPROVAL OF SUPERVISOR

Supervisor

Prof. Muthoni Mathai

Sign.....

Date: 22.11.2021

Department of psychiatry

Sign.....

UNIVERSITY OF NAIROBI
DEPARTMENT OF PSYCHIATRY
P. O. BOX 19676 - 00202, KNH
TEL: 2726300 EXT: 43662

Prof. Anne Obondo, Chairman, Department of Psychiatry

Date: 22.11.2021

DECLARATION

I, Dr Maimuna Mohamud Isse do hereby declare that this is my original postgraduate diploma in clinical psychiatry work and that I have not presented the same to any other university

Signed Dr Maimuna Date 14/Nov/2021

Table of content

Abbreviations

IDP: internally displaced people

FEP: first episode psychosis

PTSD: post traumatic stress disorder

UCL: university of California

WHO: world health organization

LMICs: low and medium income countries

UNHCR: United Nations high commission for refugees

USA: unite states of America

DSM: diagnostic and statistic manual

ICD: international classification of diseases

NGO: nongovernmental organization

SCHIZOPHRENIA AND DISPLACED PERSONS: A REVIEW OF LITERATURE

Summary

Internally displaced persons (IDPs) and refugees are among the most vulnerable people in the world today. Previous research highlights that conflict-induced forced displacement can cause problems with mental health and wellbeing. The epidemiology of schizophrenia in developing countries, and especially in Africa, is controversial. One of the major findings of the World Health Organization multisite studies of schizophrenia conducted during the 1970s-1990s was that outcome of schizophrenia was better in developing countries. More recent research suggests this may not be the case in contemporary Africa. Rapid urbanization, industrialization, migration, conflict and ongoing poverty and deprivation characterize most of sub-Saharan Africa in recent decades; and it is likely that these potent risk factors for psychosis have contributed to shifts in the social epidemiology of psychosis and schizophrenia in that continent. In studying the epidemiology of schizophrenia, it is also necessary to examine evidence on first-episode psychosis (FEP) since it is often difficult to confirm a diagnosis of schizophrenia at onset. The author reviews nearly 50 years of epidemiological research on psychosis and schizophrenia in Africa; and argues that novel and flexible methods are required in contemporary efforts to study schizophrenia in the region. Specific contexts require specific approaches that are relevant and sensitive to local political, socio-economic and cultural conditions and dynamics. The future role of social epidemiology in helping clarify the burden, risk factors and natural history of schizophrenia within Africa depends largely on its success in integrating classic approaches with novel methods that are relevant to the specific socio-economic, political and cultural transformations taking place on that continent.

The current global crisis of forced displacement poses multiple humanitarian and development challenges. Forcibly displaced people's with schizophrenia needs have often been neglected in response plans. Without appropriate mental health (schizophrenia) care, forcibly displaced people will often be unable to benefit fully from other forms of support that are provided to them. Mental health services and psychosocial support at the community level for displaced people and refugees should not be stand-alone interventions. They work best as part of an integrated platform of social, educational, and health services.

DEFINITION OF SCHIZOPHRENIA

Schizophrenia is a psychosis, a type of mental disorder characterized by distortions in thinking, perception, emotions, language, sense of self and behavior: Schizophrenia may result in some combination of:-

- **Hallucination:** hearing, seeing or feeling things that are not there;
- Delusion: fixed false beliefs or suspicions not shared by others in the person's culture and that are firmly held even when there is evidence to the contrary;
- **Abnormal Behavior:** disorganized behavior such as wandering aimlessly, mumbling or laughing to self, strange appearance, self-neglect or appearing unkempt;
- **Disorganized Speech:** incoherent or irrelevant speech; and/or
- **Disturbances of Emotions**: marked apathy or disconnect between reported emotion and what is observed such as facial expression or body language.

People with schizophrenia often have problems doing well in society, at work, at school, and in relationships. They might feel frightened and withdrawn, and could appear to have lost touch with reality. Contrary to popular belief, schizophrenia is not a split or multiple personality.

Schizophrenia involves a psychosis, a type of mental illness in which a person can't tell what's real from what's imagined. At times, people with psychotic disorders lose touch with reality. The world may seem like a jumble of confusing thoughts, images, and sounds. Their behavior may be very strange and even shocking. A sudden change in personality and behavior, which happens when people who have it lose touch with reality, is called a psychotic episode.

There are several million war-refugees and displaced worldwide, majority of whom stay in the recipient countries for years. However, little is known about their long-term mental health such as schizophrenia.

INTRODUCTION

Worldwide there are over 19 million displaced/refugees, most of who were displaced because of war and other organized violence [1]. The majority of refugees stay in the recipient countries for years or even decades. It was estimated by the end of 2014 that nearly a half of the world's refugees have lived in protracted refugee situations, which means that they have been in exile for 5 years or longer without immediate prospects for durable solutions. On average, however, a refugee spends more than 20 years in exile before he or she can go back home or find another solution [1]. Refugees' mental health often presents a challenge to clinicians and policy makers of the recipient countries.

Evidence from community studies amongst recently resettled refugees suggests that refugees have higher rates of mental disorders, in particular depression, Schizophrenia and other anxiety disorders, than those usually found in the non-war affected general population [2, 3].

Whether the displaced or refugees' increased risk of adverse schizophrenia outcome persists after the initial period of resettlement is unclear since there is a paucity of comparable data for long-settled refugees and the few studies that have been undertaken present an inconsistent picture. Whilst some studies reported a gradual improvement in symptoms over a period of a decade, to the point where prevalence rates of mental disorders were lower than in the general population of the host country [4, 5], other studies found prevalence rates substantially higher than those in the general population [6,7,8]. Previous systematic reviews and meta-analyses evaluating mental health of refugees (including those recently resettled) have all indicated a reduction in risk for mental disorders as the length of time since displacement increases [2, 9, 10]. However, these reviews did not specifically report findings for refugees with a longer duration of displacement [9, 10, 11,12], mostly assessed studies of recently resettled refugees [1o, 12] where rates would be expected to be higher, focused only on refugees in Western countries [2], and confined their findings to PTSD, depression or a generic effect size index of psychological distress derived from heterogeneous outcome measures across studies [9,10, 12]. Thus, a systematic review focusing specifically on long-term mental health outcomes of war refugees worldwide is warranted. Understanding the long-term mental health of refugees is essential for guiding the health policies of recipient countries aimed at promoting long-term mental health of refugees [8, 13,14].

Meta-analytic reviews [15,16] found an increased risk of schizophrenia in migrants compared with the host population. The outcomes suggest that the risk varies by country of origin and host country and is even higher for second-generation migrants. Typically, high incidence rates are not found in the country of origin, suggesting that the experiences preceding and following the migration process may play a role in the etiology of psychotic disorders. [17] 9 People granted

refugee status may therefore be particularly vulnerable to schizophrenia, considering their exposure to violence, conflict, persecution, discrimination and other forms of psychosocial disadvantage, such as material strains, persistent lack of prospects, scarce possibilities to partake in society and, accompanied therewith, social isolation. A susceptibility to develop symptoms of dissociative nature may as well be expected in this population, as childhood adversity has been associated with the presentation of dissociative symptoms [18]. Notably, childhood abuse, neglect and paternal problems have been identified as important predictors of dissociation [19, 20, 21]. In view of the likelihood for refugees of having suffered such afflictions, a vulnerability to develop dissociative symptoms in addition to an increased risk for psychosis may be found in this population.

SCHIZOPHRENIA IN HIGH INCOME COUNTRIES

Although refugees have more mental health problems than their non-refugee counterparts [22, 23] including schizophrenia as a common mental disorders and post-traumatic stress disorder [24, 25], little is known about the risk of schizophrenia in refugees. A longitudinal study done in Denmark observed that refugees were at elevated risk of schizophrenia compared with the native-born Danish population [26]. However, the risk in refugees was not compared with that in other non-refugee migrants (henceforth referred to as migrants), who are known to be at increased risk [27], making attribution of this excess directly to a refugee effect impossible.

A study done in a Canadian cohort found that refugees had a modestly increased risk of schizophrenia compared with other migrants [28], but neither group was at elevated risk

compared with an ethnically diverse Canadian-born background population, making this finding difficult to interpret and contrary to a large literature on immigration and psychosis [29].

The risk of non-affective psychotic disorders, including schizophrenia, in refugees compared with other migrants and the native-born Swedish population in a national population based cohort of 1.3 million people. Sweden has a total population size of 9.7 million inhabitants, of whom 1.6 million were born abroad. In 2011 refugees constituted 12% of the total immigrant population. Sweden experienced high levels of labor immigration between 1940 and 1970, followed by substantial refugee immigration [30]. On a per capita basis, Sweden grants more refugee applications than any other high income country [31] which, combined with national linked register data, makes it an excellent setting in which to conduct this research. The hypothesized that refugees would have a higher risk of non-affective psychotic disorders than migrants and that risk for both groups would be elevated compared with the Swedish-born population. It was found also that the risk in refugees compared with migrants would vary by region of origin, given putative differences in the pre-migratory experiences of migrants from different regions and differences in how they might adjust to a new society.

Schizophrenia and other psychotic disorders lead to lifelong health and social adversities, culminating in a reduction in life expectancy of 10-25 years [32]. Immigrants and their descendants are, on average, 2.5 times more likely to have a psychotic disorder than the majority ethnic group in a given setting 33, 34], although the exact risk varies by ethnicity and setting. For example, in Europe, incidence rates for people of black Caribbean or African descent are approximately five times higher than those for the white European population [33, 35]. These marked differences persist after adjustment for age, sex, and socioeconomic position [36] are

maintained in the descendants of first generation migrants [33], and do not seem to be attributable to higher incidence rates in people's country of origin or selective migration [37, 38]. Possible explanations centre on various social determinants of health, including severe or repeated exposure to psychosocial adversities such as trauma, abuse, socioeconomic disadvantage, discrimination, and social isolation. If this is the case, people granted refugee status may be particularly vulnerable to psychosis, given their increased likelihood of having experienced conflict, persecution, violence, or other forms of psychosocial adversity [39, 40].

Here, we clarify the risk of non-affective psychotic disorders, including schizophrenia, in refugees compared with other migrants and the native-born Swedish population in a national population based cohort of 1.3 million people. Sweden has a total population size of 9.7 million inhabitants, of whom 1.6 million were born abroad. In 2011 refugees constituted 12% of the total immigrant population. Sweden experienced high levels of labor immigration between 1940 and 1970, followed by substantial refugee immigration [41]. On a per capita basis, Sweden grants more refugee applications than any other high income country [42] which, combined with national linked register data, makes it an excellent setting in which to conduct this research. We hypothesized that refugees would have a higher risk of non-affective psychotic disorders than migrants and that risk for both groups would be elevated compared with the Swedish-born population. We also hypothesized that the risk in refugees compared with migrants would vary by region of origin, given putative differences in the pre-migratory experiences of migrants from different regions and differences in how they might adjust to a new society.

The humanitarian crises in Europe, the Middle East, north Africa, and central Asia have led to more displaced people, asylum seekers, and refugees worldwide than at any time since the

second world war. Refugees are known to be at an increased risk of mental health problems, such as post traumatic stress disorder and common mental disorders, compared to non-refugee migrants, but little is known about their risk of psychosis. So a team of researchers from the Karolinska Institutet and UCL carried out a study to determine the risk of schizophrenia and other non-affective psychotic disorders among refugees, compared to non-refugee migrants, and the general Swedish population. The researchers used a linked national register data to examine more than 1.3 million people in Sweden, and tracked diagnoses of non-affective psychotic disorders among the population. On a per capita basis, Sweden has granted more refugee applications than any other high-income country, and in 2011, refugees constituted 12% of the total immigrant population. The cohort included people born to two Swedish-born parents, refugees, and non-refugee migrants from the four major refugee generating regions: the Middle East and North Africa, sub-Saharan Africa, Asia, Eastern Europe and Russia. Results showed 3,704 cases of non-affective psychotic disorders during the 8.9 million person years of follow up [43, 44]

Refugees granted asylum were on average 66% more likely to develop schizophrenia or another non-affective psychotic disorder than non-refugee migrants. In addition, they were up to 3.6 times more likely to do so than the Swedish-born population. Incidence rates for non-affective psychosis were 385 per million in those born in Sweden, 804 per million in non-refugee migrants, and 1264 per million in refugees.

The increased rate in refugees was significant for all areas of origin except sub-Saharan Africa, for whom rates in both groups were similarly high relative to the Swedish-born population. One possible explanation is "that a larger proportion of sub-Saharan Africa immigrants will have been exposed to deleterious psychosocial adversities before emigration, irrespective of refugee status,"

suggest the authors. Alternatively, it's also possible that "post-migratory factors, such as discrimination, racism, and social exclusion" may explain these high rates. [43, 44]

Overall, they say "our findings are consistent with the hypothesis that increased risk of non-affective psychotic disorders among immigrants is due to a higher frequency of exposure to social adversity before migration, including the effects of war, violence, or persecution." They add the findings emphasise "the need to take the early signs and symptoms of psychosis into account in refugee populations, as part of any clinical mental health service responses to the current global humanitarian crises." [43, 44]

THE WHO STUDIES OF SCHIZOPHRENIA

Over the next 25 years, the WHO undertook three large, multi-country epidemiological studies of schizophrenia. The major objectives of these studies were to determine the prevalence, cultural expression, natural history and outcome of schizophrenia at multiple sites throughout the industrialized and developing world.

The World Bank Group and the international community at large documented a report [45] about 65 million people – one percent of the world's population – live in forced displacement and extreme poverty. In contrast to economic migrants, who move in search of better opportunities, and to persons affected by natural disasters, the forcibly displaced are fleeing conflict and violence. Forcibly displaced people include refugees and asylum-seekers (currently about 24 million people) and internally displaced persons (about 41 million). These are the highest numbers of forcibly displaced people since World War II.

Implications of all the available evidence

Given that the prevalence of mental disorders was found to be very high, there is a need to make available sustainable mental health care in conflict-affected countries. This will require a focus on investment in leadership and governance for mental health; integrated and responsive mental health and social care services in community-based settings; strategies for promotion and prevention in mental health; and information systems, evidence, and research for mental health in conflict-affected countries. The well-established link between mental health, individual functioning, and country development underscores the imperative to prioritize mental health care in countries affected by conflict.

In a systematic review and meta-analysis, we updated WHO's 2005 estimates for the prevalence of mental disorders in conflict-affected low-income and middle-income settings, focusing on depression, anxiety disorder, post-traumatic stress disorder, bipolar disorder, and schizophrenia in settings that had experienced conflict in the preceding 10 years. We estimated that more than one in five people (22·1%) in post-conflict settings has depression, anxiety disorder, post-traumatic stress disorder, bipolar disorder, or schizophrenia and that almost one in ten people (9·1%) in post-conflict settings has a moderate of severe mental disorder at any point in time.

"War should be understood as an actual, intentional, and widespread armed conflict between political communities, defined as those entities which either are states or intend to become states"[46]. Whether considered from a philosophical, sociological, or legal perspective, war remains one of the most complex and devastating human enterprises [46]. In 2016, according to the Department of Peace and Conflict Research at the University of Uppsala, 51 ongoing armed conflicts were reported worldwide and well over 100,000 people were

killed in organized violence [47]. Beyond this sole number, the entire ecology of war has dramatically changed over the past two decades. Altogether less frequent, armed conflicts have reached low- and middle-income countries (LMICs) more frequently and become predominantly intrastate and disproportionately protracted in nature [48].

Intrastate, irregular and protracted armed conflicts have drastically influenced recent figures of global displacement [49]. In its 2017 Global Trends Report, the United Nations High Commissioner for Refugees (UNHCR) announced an estimated 10.3 million newly displaced individuals—Syria being the most affected country—and an overall number of 65.6 million forcibly displaced people worldwide [50]. While UNHCR refugee statistics have demonstrated a substantial stabilization of the number of out-of-country refugees over the past 10 years, numbers of internally displaced people (IDP) have reached unparalleled levels representing more than 65% of the displaced population globally [51]. In 2016 alone, conflict and violence gave rise to 6.9 million new IDPs, which disproportionately came from LMICs.

Organized violence has profound and catastrophic structural effects on already fragile developing countries, where 84% of the world's refugees live [50]; political and economic structures are undermined, laws are overstepped, fundamental rights of individuals are often abused, and healthcare services shattered [48, 52]. Quantifying the magnitude of these consequences on people undoubtedly remains an intricate challenge [53]. However, numerous public health studies in complex humanitarian settings have shown that armed conflicts critically affect mental health [51, 54].

Reliable assessments of mental health needs in humanitarian settings should be viewed as a public health priority. In fact, no mental health policies can be efficiently implemented

without an accurate assessment. This seems particularly true today: numbers of global displacement related to conflicts are increasing dramatically, common camp-based models of displaced populations are becoming outdated - 60% of IDPs are currently living in urban areas without any international protection - and the heavy burden of psychiatric diseases in LMICs are being acknowledged [48, 55].

Two previous systematic reviews have evaluated prevalence rates of psychiatric disorders in refugee populations. Steel et al. [56] conducted a systematic review and meta-analysis finding higher prevalence rates of PTSD and depression in conflict displaced refugees globally. Another review from Ezard et al. [57] observed the rates of substance abuse among refugees displaced by conflict and reported on associated risk factors and outcomes. There is still a paucity of data on the epidemiology of mental illness in populations displaced by armed conflicts. This is especially true for less common psychiatric disorders such as psychotic disorders. Therefore, we conducted a systematic review to summarize the prevalence of common psychiatric disorders, as well as more severe uncommon psychiatric disorders in IDPs and refugees still residing in LMIC's. We also report on the methods of assessing mental illness, number and types of traumatic events, and the duration of the displacement experience.

If mental health issues are not effectively addressed, the long-term mental health and psychosocial wellbeing of the displaced population and refugees may be affected. Many Cambodians, for example, continue to suffer mental disorders and poor health almost four decades after the Khmer Rouge-led genocide of the late 1970s [58].

Addressing mental health needs is important at all times

Displaced people have lost many of their assets and risk further depletion of human and social capital. People may have experienced the killing of loved ones, family separation, abandonment of children and the elderly, and may have been subjected to torture, rape, and other forms of violence that can leave deep mental scars.

Refugees in host communities also face continuing hardships that may affect their mental health. Ongoing stressors such as lack of access to employment, disruption of educational aspirations, bullying of children at school, as well as social isolation and uncertainty, can increase mental illness risks. Some studies of conflict-affected populations have shown that daily stressors in the host environment were actually more predictive of developing mental health problems such as schizophrenia than was past trauma [53].

From the literature search, displace people and refugees have a considerably higher incidence of mental health problems such as schizophrenia than the general population [59].

Despite this large body of research relating to mental health problems, studies measuring rates of schizophrenia disorders are relatively rare, even though there have been indications for some time of an increased incidence [60]. Research has focused more generally on the relationship between migration and schizophrenia [61], with clear evidence of an increased relative risk amongst migrant populations. Explanations have focused on post-migratory factors, such as clinical bias in assigning diagnoses and long-term experience of social defeat in the country migrated to. The role of pre- and per-migratory factors (other than genetic disposition) has remained largely unexplored.

A search of the literature was conducted using Psychinfo and Medline, with the following words used as criteria: psychosis, psychoses, schizophrenia, migration, asylum seeker and refugee. Four hundred and ninety-two studies were identified. Studies were then included if they contained information relating to the presence of psychoses in refugee or asylum seeker populations, leaving nine studies. A further six studies were found through references in articles obtained through the literature search. Only studies in English peer-reviewed journals were included, leaving a total of 14 studies. Westermeyer 1988 [62] found that 13 out of 97 (16%) Hmong refugees had psychiatric disorders (not adjustment disorder), 2 of which fulfilled criteria for paranoia (one also fulfilling criteria for paranoid personality disorder), with the author reporting onset since arrival in the USA. In addition to this, the author noted three patients with paranoid personality disorder and one with schizoid personality disorder. The use of trained Hmong research assistants to interview participants and the wide range of assessment tools used are strengths in the research design.

The above literature review strengthened by the results from the larger population-based studies which similarly find either a higher prevalence or incidence of schizophrenia disorders in displaced people and refugee populations compared to non-refugee populations.

Study done by Kinzie & Boehnlein, 1989 [63] found that high incidence of schizophrenia in first- generation but not second-generation refugees in Leao et al. [64]. What is less than clear from these studies is the predominant form that schizophrenia in this context might take. The studies reviewed vary in whether schizophrenia/ “schizophrenia-like psychosis” [65] or other

(non-schizophrenic) psychosis is the more likely category. Differences in the measurement of symptoms, the cultural backgrounds of refugee populations and context of studies (acute inpatient vs. community) all make a satisfying answer impossible at the present time. It is debatable whether such a diagnostic dichotomy is a useful or valid one; and it is therefore entirely possible that both forms of psychosis are equally likely to be implicated. There are a number of limitations of the present review. Most notably, only two studies [63, 66] specifically identified and defined past trauma in their methodology. Although by their very definition refugees are likely to have experienced trauma, this cannot be automatically assumed in those other papers. Future research would need to be clearer about defining previous trauma. The use of Western psychiatric measures for individuals from a wide variety of countries and cultures whose belief systems and values can vary dramatically is another consideration. Similarly, application of those measures varied from post-hoc analysis of notes to more thorough systematic investigation using trained researchers and care taken to be sensitive to cultural factors.

The studies included are from a wide ranging time scale (50 years) and under- standing of schizophrenia and its diagnosis has evolved considerably. The use of DSM-III, DSM-IV, ICD-8, ICD-9 7 ICD-10 are all represented within these 14 studies and must therefore again leave us cautious about reading too much meaning into the result; particularly when attributing personality disorders which have low cross-cultural validity.

PREVALENCE OF SCHIZOPHRENIA IN LMICs (AFRICA and MIDDLE EAST)

Schizophrenia disorders were explored in two different samples of African IDPs and refugees and one selected group of refugees in Lebanon: data were heterogeneous and prevalence ranged between 1 and 12% [67]. Schizophrenia symptoms such as visual or auditory hallucinations, however, presented in one African study were as high as 13 and 21%, respectively [68].

We identified four studies completed in Sudan, Southwestern Nigeria, and Lebanon that investigated suicidality, representing a population of 4,447 adult IDPs and refugees [69, 70]. In one recent study conducted in a refugee camp in Lebanon by the French NGO Medicines sans Frontiers, current rates of suicidality reached 12% [70]. Similar results were observed in a Nigerian refugee camp [68]. A survey examining the health status of internally displaced adult females in Darfur reported a prevalence rate of 2% for more specific suicidal behaviors, namely attempted or committed suicide [71].

This review highlights a lack of studies assessing the prevalence of mental health disorders such as schizophrenia among forcibly displaced populations in conflict-affected middle–eastern countries as only six studies originated from these regions. This result is particularly striking in view of the ever-changing and ever - increasing figures of worldwide forced migration. For example, according to a 2017 UNHCR report [72], countries such as Turkey, Pakistan, Lebanon, or the Islamic Republic of Iran hosted more than 28% of the world's refugees, people who had been affected from the ongoing conflicts in the Syrian Arab Republic or Afghanistan.

The detailed analysis of the studies included in this review showed a high variability in the duration of displacements between studies. However, we observed that the UNHCR definition of

protracted situation was never used as a strict methodological consideration. Rates of trauma exposure were found to be not only high in terms of prevalence but also in terms of recurrence and intensity: all participants included in the reviewed studies had experienced or witnessed at least one serious traumatic event.

Public mental health research conducted over the past 20 years has largely focused on the immediate psychological aftermaths of armed conflicts in light of the well-described associations between these psychiatric disorders, displacement, and generalized forms of violence. Demographic and socio-economic characteristics of displaced populations are known to be potent modulators of mental health: migration, especially internal displacement, protracted conflict situations, and economic instability are strongly associated with poor mental health outcomes (5). We point out a substantial lack of data concerning the general mental health conditions of forcibly displaced populations in LMICs, which might be caused by different mechanisms [73]: (1) stigma of mental disorders such as schizophrenia in developing countries, (2) disproportionate under-representation of several conflict- affected regions in the literature such as Latin America, Central and Eastern Africa, Central Asia—(3) cultural or political barriers to assessment and implementation of mental health programs and policies such as insufficient funding of mental health research, (4) over-centralization of mental health resources, (5) severe shortage of adequately trained mental health staff, and, finally, (6) weak public health leadership in the field of mental health. The very few estimates about substance abuse, other mood and anxiety disorders, psychosis, or suicidality are higher than figures from the general population studies conducted in LMICs [74, 75].

SCHIZOPHRENIA IN KENYA

The number of IDPs suffering globally stands over 26.4 million [76] with the majority living in low-income countries [77]. At least two-thirds of the countries in Africa have experienced conflict leading to displacement of millions of people [78]. For instance, Kenya, a low-income, food-deficient country [79] is ranked 7th amongst countries with high numbers of IDPs in Africa due forced migration resulting from cultural inter-clan conflicts, social/communal tensions, politically influenced violence, and Government evictions [80]. One such example of this was the 2007–08 Kenyan crisis which resulted in approximately 1,300 individuals killed and 600,000 Kenyans displaced [81].

Epidemiological evidence that the burden on mental health such as schizophrenia is higher in conflict and post-conflict areas of the world compared to regions with no conflict is compelling [82]. This includes areas that have experienced targeted ethnic violence and conflict as a result of civil and political unrest [83]. Poor mental health has been argued to be particularly prevalent among IDPs who are exposed to trauma due to political conflict and oppression, and subsequent forced displacement into camps often unequipped to ensure safety and meet basic health and social care needs [84]; factors that further perpetuate risk of schizophrenia disorders [85]. For example, a recent study of mental disorders among West Papuan refugees exposed to political persecution and living in settlements under conditions of extreme poverty and deprivation identified a range of trauma event experiences and ongoing stressors, functional impairment ranging from mild to extreme, and over a quarter of the study sample (n = 230) meeting diagnostic criteria for one or more mental disorders. This included (in order of prevalence) separation anxiety disorder, schizophrenia disorders, persistent complex bereavement disorder,

panic disorder, post-traumatic stress disorder, generalized anxiety disorder and more [86]. The aim of this study was to add to this evidence base by investigating the mental health, quality of life and life satisfaction of IDPs affected by the 2007–08 Kenyan crises. To our knowledge, no previous study has investigated these outcomes within this particular population. A range of previously reported significant explanatory factors of poor mental health and wellbeing among IDPs were also investigated, including background factors such as age [87], gender and marital status [88], employment [87, 89], duration of displacement [87,89], and perceived level of support from individuals and organizations [90, 91].

CONCLUSION

In summary, there is an obvious need for more methodologically consistent and rigorous research on the schizophrenia of long-settled war refugees (especially those residing in developing countries). Nevertheless, substantial evidence already exists. It suggests that mental disorders such as schizophrenia cases tend to be highly prevalent in war refugees many years after the war experience and resettlement.

Whilst preventing war trauma inflicted on refugees may be beyond the control of recipient countries, they can influence the post-migration challenges faced by incoming refugees by improving resettlement policies and their effectiveness in promoting long-term mental health of refugees. In terms of clinical implications, war exposure and migration remain a risk for mental disorders for many years. There is a need for treatment services for a considerable minority of refugees even many years after the resettlement. High rates of mental disorders may warrant screening programmes in primary care to identify those in need of treatment. Interventions for at risk groups may include both existing evidence-based health care interventions and psychosocial

interventions. Particularly for depression, there may have to be an emphasis on managing social factors, overall health and wellbeing. Individuals in these circumstances require urgent help and support to improve their current and longer term health and safety, in particular IDPs who fear for the welfare of their families, do not perceive social support, and experience poor mental health. This represents a formidable challenge for social, general health and mental health services in such contexts where such significant and complex health and social care needs exist. The challenge is compounded by problems of equity of access to resource factors and employment schemes.

It is important to note that these search literature review also highlights that even these individuals still reported very poor outcomes, and that, overall, the study's population present poor mental health and wellbeing, including suicidal ideation and fear. The key implication of this study's findings is that the type of conflict-induced forced internal displacement observed in this study is harmful for overall health and wellbeing. Individuals in these circumstances require urgent help and support to improve their current and longer term health and safety, in particular IDPs who fear for the welfare of their families, do not receive social support, and experience poor mental health. This represents a formidable challenge for the social, general health and mental health services in such context where such significant and complex health and social care needs exist. The problem is compounded by problems of equity of access to resources.

REFERENCES

1. UNHCR . 2014 Global Trends: World at War. Geneva: United Nations High Commissioner for Refugees; 2015.[Google Scholar]
2. Fazel M, Wheeler J, Danesh J. Prevalence of serious mental disorder in 7000 refugees resettled in Western countries: A systematic review. Lancet. 2005;365:1309–1314. doi: 10.1016/S0140-6736(05)61027-6. [PubMed] [CrossRef] [Google Scholar]
3. Tempany M. What research tells us about the mental health and psychosocial wellbeing of Sudanese refugees: a literature review. Transcult. Psychiatry. 2009;46:300–315. doi: 10.1177/1363461509105820. [PubMed]
4. Beiser M, Hou F. Language acquisition, unemployment and depressive disorder among Southeast Asian refugees: a 10-year study. Soc Sci Med. 2001;53:1321–1334. doi: 10.1016/S0277-9536(00)00412-3. [PubMed] [CrossRef]
5. Silove D, Steel Z, Bauman A, Chey T, McFarlane A. Trauma, PTSD and the longer-term mental health burden amongst Vietnamese refugees: A comparison with the Australian-born population. Soc Psych Psych Epid. 2007;42:467–476. doi: 10.1007/s00127-007-0194-z. [PubMed] [CrossRef] [Google Scholar]
6. Carlson EB, Rosser-Hogan R. Cross-cultural response to trauma: A study of traumatic experiences and posttraumatic symptoms in Cambodian refugees. J Trauma Stress. 1994;7:43–58. doi: 10.1002/jts.2490070106. [PubMed]
7. D'Avanzo CE, Barab SA. Depression and anxiety among Cambodian refugee women in France and the United States. Issues Ment. Health Nurs. 1998;19:541–556. doi: 10.1080/016128498248836. [PubMed] [CrossRef] [Google Scholar]

8. Marshall GN, Schell TL, Elliott MN, Berthold SM, Chun CA. Mental health of Cambodian refugees 2 decades after resettlement in the United States. J Am Med Assoc. 2005;294:571–579. doi: 10.1001/jama.294.5.571. [PubMed]
9. Steel Z, Chey T, Silove D, Marnane C, Bryant R, van Ommeren M. Association of torture and other potentially traumatic events with mental health outcomes among populations exposed to mass conflict and displacement: A systematic review and meta-analysis. JAMA. 2009;302:537–549. doi: 10.1001/jama.2009.1132. [PubMed]
10. Porter M, Haslam N. Predisplacement and postdisplacement factors associated with mental health of refugees and internally displaced persons: A meta-analysis. JAMA. 2005;294:602–612. doi: 10.1001/jama.294.5.602. [PubMed]
11. Lindert J, Ehrenstein O, Priebe S, Mielck A, Elmar B. Depression and anxiety in labor migrants and refugees: A systematic review and meta-analysis. Soc Sci Med. 2009;69:246–257. doi: 10.1016/j.socscimed.2009.04.032. [PubMed]
12. Porter M. Global evidence for a biopsychosocial understanding of refugee adaptation. Transcult. Psychiatry. 2007;44:418–439. doi: 10.1177/1363461507081639. [PubMed] [CrossRef] [Google Scholar]
13. Thoms ONT, Ron J. Public health, conflict and human rights: Toward a collaborative research agenda. Confl. Heal. 2007;1:11. doi: 10.1186/1752-1505-1-11.
14. Murthy RS, Lakshminarayana R. Mental health consequences of war: a brief review of research findings. World Psychiatry. 2006;5:25–30. [PMC free article] [PubMed]
15. Cantor-Graae E, Selten JP . Schizophrenia and migration: a meta-analysis and review. *Am J Psychiatry* 2005; **162**: 12–24.

16. Bourque F, van der Ven E, Malla A . A meta-analysis of the risk for psychotic disorders among first- and second-generation immigrants. *Psychol Med* 2011; **41**: 897–910.

17. Hanoeman M, Selten JP, Kahn RS . Incidence of schizophrenia in Surinam. *Schizophr Res* 2002; **54**: 219–221.

18. Schroeder K, Langeland W, Fisher HL, Huber CG, Schafer I . Dissociation in patients with schizophrenia spectrum disorders: What is the role of different types of childhood adversity? *Compr Psychiatry* 2016; **68**: 201–208.

19. Terock J, Van der Auwera S, Janowitz D, Spitzer C, Barnow S, Miertsch M *et al*. From childhood trauma to adult dissociation: the role of PTSD and Alexithymia. *Psychopathology* 2016; **49**: 374–382.

20. Thompson A, Marwaha S, Nelson B, Wood SJ, McGorry PD, Yung AR *et al*. Do affective or dissociative symptoms mediate the association between childhood sexual trauma and transition to psychosis in an ultra-high risk cohort? *Psychiatry Res* 2016; **236**: 182–185.

21. Chu JA, Dill DL . Dissociative symptoms in relation to childhood physical and sexual abuse. *Am J Psychiatry* 1990; **147**: 887–892.

22. Porter M, Haslam N. Predisplacement and postdisplacement factors associated with mental health of refugees and internally displaced persons: a meta-analysis. *JAMA* 2005;294:602-12. doi:10.1001/jama.294.5.602. 16077055.

23. Hollander AC, Bruce D, Burström B, Ekblad S. The association between immigrant subgroup and poor mental health: a population-based register study. *J Nerv Ment Dis* 2013;201:645-52. doi:10.1097/NMD.0b013e31829dbd64. 23896844.

24. Fazel M, Wheeler J, Danesh J. Prevalence of serious mental disorder in 7000 refugees resettled in western countries: a systematic review. *Lancet* 2005;365:1309-14. doi:10.1016/S0140-6736(05)61027-6. 15823380.

25. Hollander AC. Social inequalities in mental health and mortality among refugees and other immigrants to Sweden--epidemiological studies of register data. *Glob Health Action* 2013;6:21059. doi:10.3402/gha.v6i0.21059. 23810108.

26. Norredam M, Garcia-Lopez A, Keiding N, Krasnik A. Risk of mental disorders in refugees and native Danes: a register-based retrospective cohort study. *Soc Psychiatry Psychiatr Epidemiol* 2009;44:1023-9. doi:10.1007/s00127-009-0024-6. 19294322.

27. Cantor-Graae E, Pedersen CB, McNeil TF, Mortensen PB. Migration as a risk factor for schizophrenia: a Danish population-based cohort study. *Br J Psychiatry* 2003;182:117-22. doi:10.1192/bjp.182.2.117. 12562738.

28. Anderson KK, Cheng J, Susser E, McKenzie KJ, Kurdyak P. Incidence of psychotic disorders among first-generation immigrants and refugees in Ontario. *CMAJ* 2015;187:E279-86. doi:10.1503/cmaj.141420. 25964387.

29. Bourque F, van der Ven E, Malla A. A meta-analysis of the risk for psychotic disorders among first- and second-generation immigrants. *Psychol Med* 2011;41:897-910. doi:10.1017/S0033291710001406. 20663257.

30. Swedish Migration Agency. Migrationsverket. 2015. http://www.migrationsverket.se/English/Private-individuals.html.

31. The World Bank. World DataBank. 2015. http://databank.worldbank.org/data/home.aspx.

32. Laursen TM, Munk-Olsen T, Vestergaard M. Life expectancy and cardiovascular mortality in persons with schizophrenia. Curr Opin Psychiatry 2012;25:83-8. 10.1097/YCO.0b013e32835035ca. 22249081. [PubMed] [CrossRef] [

33. Bourque F, van der Ven E, Malla A. A meta-analysis of the risk for psychotic disorders among first- and second-generation immigrants. Psychol Med 2011;41:897-910. 10.1017/S0033291710001406. 20663257. [PubMed]

34. Cantor-Graae E, Selten JP. Schizophrenia and migration: a meta-analysis and review. Am J Psychiatry 2005;162:12-24. 10.1176/appi.ajp.162.1.12. 15625195.

35. Kirkbride JB, Errazuriz A, Croudace TJ, et al. Incidence of schizophrenia and other psychoses in England, 1950-2009: a systematic review and meta-analyses. PLoS One 2012;7:e31660. 10.1371/journal.pone.0031660. 22457710.

36. Kirkbride JB, Barker D, Cowden F, et al. Psychoses, ethnicity and socio-economic status. Br J Psychiatry 2008;193:18-24. 10.1192/bjp.bp.107.041566. 18700213.

37. Mahy GE, Mallett R, Leff J, Bhugra D. First-contact incidence rate of schizophrenia on Barbados. Br J Psychiatry 1999;175:28-33. 10.1192/bjp.175.1.28. 10621765. [PubMed]

38. Jablensky A, Sartorius N, Ernberg G, et al. Schizophrenia: manifestations, incidence and course in different cultures. A World Health Organization ten-country study. Psychol Med Monogr Suppl 1992;20:1-97. 10.1017/S0264180100000904. 1565705. [PubMed]

39. Steel Z, Chey T, Silove D, Marnane C, Bryant RA, van Ommeren M. Association of torture and other potentially traumatic events with mental health outcomes among populations

exposed to mass conflict and displacement: a systematic review and meta-analysis. JAMA 2009;302:537-49. 10.1001/jama.2009.1132. 19654388. [PubMed]

40. Porter M, Haslam N. Predisplacement and postdisplacement factors associated with mental health of refugees and internally displaced persons: a meta-analysis. JAMA 2005;294:602-12. 10.1001/jama.294.5.602. 16077055. [PubMed]

41. Swedish Migration Agency. Migrationsverket. 2015. http://www.migrationsverket.se/English/Private-individuals.html.

42. The World Bank. World DataBank. 2015. http://databank.worldbank.org/data/home.aspx.

43. Anna-Clara Hollander, Henrik Dal, Glyn Lewis, Cecilia Magnusson, James B Kirkbride, Christina Dalman. **Refugee migration and risk of schizophrenia and other non-affective psychoses: cohort study of 1.3 million people in Sweden**. *BMJ*, 2016; i1030 DOI: 10.1136/bmj.i1030

44. George Davey Smith, Neil M Davies. **Can genetic evidence help us understand why height and weight relate to social position?** *BMJ*, 2016; i1224 DOI: 10.1136/bmj.i1224

45. World Bank. 2016. *Forcibly Displaced: Toward a Development Approach Supporting Refugees, the Internally Displaced, and Their Hosts*. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/25016

46. Orend B. War. In: Zalta EN, editor. The Stanford Encyclopedia of Philosophy. Fall (2008). Available online at: https://plato.stanford.edu/archives/fall2008/entries/war/

47. Allansson M, Melander E, Themnér L. Organized violence, 1989–2016. J Peace Res. (2017) 54:574–87. doi: 10.1177/0022343317718773

48. Spiegel PB, Checchi F, Colombo S, Paik E. Health-care needs of people affected by conflict: future trends and changing frameworks. Lancet (2010) 375:341–5. doi: 10.1016/S0140-6736(09)61873-0

49. Hall BJ, Olff M. Global mental health: trauma and adversity among populations in transition. Eur J Psychotraumatol. (2016) 7. doi: 10.3402/ejpt.v7.31140

50. UNHCR. Global trends UNHCR 2016 2017. Available online at: http://www.unhcr.org/5943e8a34.pdf (Accessed December 20, 2016).

51. IDCP. Global Overview 2016: People Internally Displaced by Conflict and Violence (2017).

52. Spiegel PB, Qassim M. Forgotten refugees and other displaced populations. Lancet (2003) 362:72–4. doi: 10.1016/S0140-6736(03)13812-3

53. Sabin M, Lopes Cardozo B, Nackerud L, Kaiser R, Varese L. Factors associated with poor mental health among Guatemalan refugees living in Mexico 20 years after civil conflict. JAMA (2003) 290:635–42. doi: 10.1001/jama.290.5.635

54. Roberts B, Damundu EY, Lomoro O, Sondorp E. Post-conflict mental health needs: a cross-sectional survey of trauma, depression and associated factors in Juba, Southern Sudan. BMC Psychiatry (2009) 9:7. doi: 10.1186/1471-244X-9-7

55. Mollica RF, Cardozo BL, Osofsky HJ, Raphael B, Ager A, Salama P. Mental health in complex emergencies. Lancet (2004) 364:2058–67. doi: 10.1016/S0140-6736(04)17519-3

56. Steel Z, Chey T, Silove D, Marnane C, Bryant RA, van Ommeren M. Association of torture and other potentially traumatic events with mental health outcomes among populations exposed to mass conflict and displacement: a systematic review and meta-analysis. JAMA (2009) 302:537–49. doi: 10.1001/jama.2009.1132

57. Ezard N. Substance use among populations displaced by conflict: a literature review. Disasters (2012) 36:533–57. doi: 10.1111/j.1467-7717.2011. 01261.x

58. Mollica, R.F., et al. 1997. "Effects of war trauma on Cambodian refugee adolescents' functional health and mental health status." *Journal of the American Academy of Child & Adolescent Psychiatry* 36, no. 8:1098-1106;

59. Fazel, M., Wheeler, J., & Danesh, J. (2005). Prevalence of serious mental disorder in 7000 refugees resettled in western countries: A systematic review. The Lancet, 365(9467), 1309–131460 Eitinger, L. (1959). The incidence of mental disease among refugees in Norway. Journal of Mental Science, 105, 326–328.

60. Eitinger, L. (1959). The incidence of mental disease among refugees in Norway. Journal of Mental Science, 105, 326–328.

61. Selten, J-P., Cantor-Graae, E., & Kahn, R.S. (2007). Migration and schizophrenia. Current Opinion in Psychiatry, 20, 111–115.

62. Westermeyer, J. (1988). DSM-III psychiatric disorders among Hmong refugees in the United States: A point prevalence study. American Journal of Psychiatry, 145(2), 197–202.

63. Kinzie, J.D., & Boehnlein, J.J. (1989). Post-traumatic psychosis among Cambodian refugees. Journal of Traumatic Stress, 2(2), 185–198.

64. Leao, T.S.M., Sundquist, J.M.P., Frank, G.M., Johansson, L.-M.M.P., Johansson, S.-E.P., & Sundquist, K.M.P. (2006). Incidence of schizophrenia or other psychoses in first- and

second-generation immigrants: A national cohort study. Journal of Nervous & Mental Disease, 194, 27–33.

65. Zolkowska, K.M. (2003). Psychiatric admissions for psychosis in Malmo during the NATO bombing of Kosovo. Journal of Nervous & Mental Disease, 191, 820–826.
66. Wenzel, T., Griengl, H., Stompe, T., Mirzaei, S., & Kieffer, W. (2000). Psychological disorders in survivors of torture: Exhaustion, impairment and depression. Psychopathology, 33(6), 292–296.
67. Kamau M, Steel Z, Catanzaro R, Bateman C, Ekblad S. Psychiatric disorders in an African refugee camp. Intervention (2014) 2:84–9.
68. Akinyemi OO, Owoaje ET, Ige OK, Popoola OA. Comparative study of mental health and quality of life in long-term refugees and host populations in Oru-Ijebu, Southwest Nigeria. BMC Res Notes (2012) 5:394. doi: 10.1186/1756-0500-5-394
69. Salah TT, Abdelrahman A, Lien L, Eide AH, Martinez P, Hauff E. The mental health of internally displaced persons: an epidemiological study of adults in two settlements in Central Sudan. Int J Soc Psychiatry (2013) 59:782–8. doi: 10.1177/0020764012456810
70. Llosa AE, Ghantous Z, Souza R, Forgione F, Bastin P, Jones A, et al. Mental disorders, disability and treatment gap in a protracted refugee setting. Br J Psychiatry (2014) 204:208–13. doi: 10.1192/bjp.bp.112.120535
71. Kim G, Torbay R, Lawry L. Basic health, women's health, and mental health among internally displaced persons in Nyala Province, South Darfur, Sudan. Am J Public Health. (2007) 97:353-61.
72. Siriwardhana C, Adikari A, Pannala G, Siribaddana S, Abas M, Sumathipala A, et al. Prolonged internal displacement and common mental disorders in Sri Lanka: the

COMRAID study. PLoS ONE (2013) 8:e64742. doi: 10.1371/journal.pone.0064742

73. Porter M, Haslam N. Predisplacement and postdisplacement factors associated with mental health of refugees and internally displaced persons: a meta-analysis. JAMA (2005) 294:602–12. doi: 10.1001/jama.294.5.602
74. Mollica RF, Cardozo BL, Osofsky HJ, Raphael B, Ager A, Salama P. Mental health in complex emergencies. Lancet (2004) 364:2058–67. doi: 10.1016/S0140-6736(04)17519-3
75. Pincock S. Vikram Patel: promoting mental health in developing countries. Lancet (2007) 370:821. doi: 10.1016/S0140-6736(07)61400-7
76. Office of the United Nations High Commissioner for Refugees. Global Overview 2011. People internally displaced by conflict and violence. [http://www.unhcr.org/50f95f7a9.html]
77. Roberts B, Damundu EY, Lomoro O, Sondorp E. The influence of demographic characteristics, living conditions, and trauma exposure on the overall health of a conflict-affected population in Southern Sudan. BMC Public Health. 2010;10:518.
78. Burke MB, Miguel E, Satyanath S, Dykema JA, Lobell DB. Warming increases the risk of civil war in Africa. Proc Natl Acad Sci U S A. 2009;106(49):20670–4.
79. World Health Organization. Communicable disease risk assessment and interventions. Post-election emergency: Kenya. February 2008. [http://www.who.int/neglected_diseases/diseasecontrol_emergencies/EPR_DCE_2008_1rr%20.pdf]
80. Internal Displacement Monitoring Centre. Kenya - IDPs' significant needs remain as intercommunal violence increases. http://reliefweb.int/sites/reliefweb.int/files/resources/kenya-overview-dec2012.pdf]

81. Refugee Consortium of Kenya in Partnership with the Danish Refugee Council. Behind the Scenes. Lessons Learnt from Developing a National Policy Framework on Internal Displacement in Kenya. [http://drc.dk/fileadmin/uploads/pdf/IA_PDF/Great_Lakes_PDF/BehindTheScenes_KenyaIDPReport.pdf]
82. de Jong JT, Komproe IH, Van Ommeren M. Common mental disorders in postconflict settings. Lancet. 2003;361(9375):2128–30.
83. Fazel M, Wheeler J, Danesh J. Prevalence of serious mental disorder in 7000 refugees resettled in western countries. Lancet. 2005;365(9467):1309–14.
84. Porter M, Haslam N. Pre-displacement and post-displacement factors associated with mental health of refugees and internally displaced persons: a meta-analysis. JAMA. 2005;294:602–12.
85. Koehn PH. Globalization, migration health, and educational preparation for transnational medical encounters. Global Health. 2006;2:2.
86. Tay AK, Rees S, Chen J, Kareth M, Lahe S, Kitau R, et al. Associations of Conflict-Related Trauma and Ongoing Stressors with the Mental Health and Functioning of West Papuan Refugees in Port Moresby, Papua New Guinea (PNG). PLoS One.
87. Lopes Cardozo B, Vergara A, Agani F, Gotway CA. Mental health, social functioning, and attitudes of Kosovar Albanians following the war in Kosovo. JAMA. 2000;284(5):569–77.
88. Hamid AA, Musa SA. Mental health problems among internally displaced persons in Darfur. Int J Psychol. 2010;45(4):278–85.

89. Siriwardhana C, Adikari A, Pannala G, Siribaddana S, Abas M, Sumathipala A, et al. Prolonged internal displacement and common mental disorders in Sri Lanka: the COMRAID study. PLoS One. 2013;8(5), e64742.
90. Mels C, Derulyn I, Broekaert E, Rossel Y. The psychological impact of forced displacement and related risk factors on Eastern Congolese adolescents affected by war. J Child Psychol Psychiatry. 2010;51(10):1096–104.
91. Siriwardhana C, Ali SS, Robert B, Stewart R. A systematic review of resilience and mental health outcomes of conflict-driven adult forced migrants. Confl Health. 2014;8:13.