POST MIGRATION FACTORS ASSOCIATED WITH ELEVATED SYMPTOMS OF POSTTRAUMATIC STRESS DISORDER, DEPRESSION, AND ANXIETY, AMONG REFUGEES IN CAPE TOWN.

DISSERTATION

Submitted in partial fulfilment of the requirements for the degree of

Master of Arts in Psychology

Rhodes University

By

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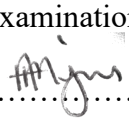
January 2024

Declaration

I declare that this thesis is my own work and that any work that is not mine has been rightfully and properly acknowledged. The thesis is submitted for the degree of Master of Arts by thesis in Psychology at Rhodes University. It has not been submitted previously for any degree or examination at any other university.



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January 2024

Abstract

There has been a heavy influx of refugees in South Africa due to wars, conflicts, political persecution, and economic recessions around the world. As a result, South Africa hosts the highest number of African refugees, who are susceptible to mental health problems because of their exposure to war, violence, and post migration stressors. The current study assessed post migration predictors of post-traumatic stress disorder (PTSD), depression and anxiety symptoms among refugees in Cape Town South Africa. A cross-sectional survey of refugees from war- and conflict-torn countries settled in Cape Town was conducted between February and May 2023. Study participants ($N = 147$) were selected using respondent driven sampling technique. Data were collected using a questionnaire made up of the Post-traumatic Stress Disorder Checklist (PCL-5), Patient Health Questionnaire (PHQ-9), Generalised Anxiety Disorder-7 (GAD-7), and the Post-Migration Difficulties Checklist (PMLDs), to assess PTSD, depression, anxiety and PMLDs, respectively. Descriptive and inferential statistics were used to analyse the questionnaire data. The prevalence of PTSD, anxiety and depression symptoms was 26.5%, 33.3% and 33.3%, respectively. Regression analyses identified discrimination, poor access to health services, and poor access to food as the major predictors of common mental disorders among refugees. The document-seeking process, unemployment stress, language difficulties, not getting help with welfare, fears of being sent home and isolation, were also associated with symptoms of mental health conditions. These results suggest that psychological distress symptoms are highly elevated among refugees and are associated with post-migration stressors. Mental health interventions for refugees should not only address psychological difficulties but also consider the socio-economic needs of refugees.

Key Definitions and Constructs

A refugee is defined as someone who has fled war, conflict, violence, or persecution and have crossed an international border to find safety in another country (UNHCR ,2023). According to the South African law an individual can qualify for refugee status if she/he can prove that his/her life have been in danger in his/her country of origin as result of, tribe , religion , race ,nationality, political opinion, sexual orientation and if there is war in the country of origin which makes it unsafe for an individual to go back home (Department of Home Affairs, 1998).

Post-migration stress is the subjective appraisal of reoccurring or persistent post-resettlement related living conditions as distressing (Malm, Tinghög, Narusyte & Saboonchi, 2020).

Mental Disorder is any pattern of psychological or behavioural symptoms that cause an individual significant distress, impairs their ability to function in life and significantly increases their risk of death, pain, disability, or loss of freedom, (Comer, 2015).

Post-traumatic stress disorder (PTSD) is a mental health condition that is triggered by a Traumatic event(s)— either experiencing, witnessing it, learning a relative or close friend was exposed to a trauma or repeated or extreme exposure to aversive details of trauma. Symptoms may include recurrent distressing memories, recurring nightmares flashbacks, or dissociative reactions in which the person re-experience the trauma, intense or prolonged psychological distress in the face of reminders and avoidance of distressing memories and thoughts about the trauma (American Psychiatric Association, 2013).

Major depressive disorder also known as clinical depression is a serious common mood disorder that causes persistent feelings of sadness, loss of interest, low self-worth, lack of energy, guilt, or related symptoms (Comer, 2015). It affects how you feel, think, and behave and can lead to a variety of emotional and physical problems such as, lack of drive and energy, appetite changes, poor concentration, agitation or psychomotor retardation, suicidal ideation, and sleep disturbances (American Psychiatric Association, 2013).

Generalized anxiety disorder involves persistent and excessive worry about numerous events and activities that interferes with daily activities (Comer, 2015). Symptoms include, finding it difficult to control the worry, restlessness, being easily fatigued, feeling keyed up, difficulty concentrating, irritability, difficulty staying or falling asleep and muscle tension. (American Psychiatric Association, 2013).

Dedication

This thesis is dedicated to the refugees from war- and conflict-torn countries resettled in Cape Town who made it possible to complete this thesis.

Acknowledgements

I could not have completed this thesis without the help and support of several people. First and foremost, I thank my supervisor, Dr Duane Booysen for guidance, constant support, and valuable feedback. I would also like to thank my co-supervisor, Professor Ashraf Kagee for his constructive and prompt feedback.

This endeavour would not have been possible without refugees from war and conflict torn countries resettled in Cape town who so open-heartedly participated in the study and shared their post migration life experiences. I am enormously grateful to Baptist Refugee ministry for helping me to get in touch with the refugees.

Last but not least, my deepest gratitude goes to my family, especially my cousins Justin and Callista. Their support and belief in me inspired me to take this journey and complete the study.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This study examined the post-migration stressors associated with elevated symptoms of post-traumatic stress disorder (PTSD), major depressive disorder and generalised anxiety disorder symptoms among refugees in Cape Town. The chapter begins with a background to the study, which briefly describes the refugee situation globally, regionally, and locally, as well as a summary of worldwide research findings regarding predictors and prevalence of common mental disorders among refugees. This is then followed by the problem statement, aims and research questions. The introduction closes with the significance of the study and the overall structure of the thesis.

1.2 Background to the study

There is an unprecedented rise in the number of refugees due to the increased conflicts, wars, climate change, human rights deprivation, regional conflicts, and persecution around the world (UNHCR, 2020). According to the United Nations High Commissioner for Refugees (UNHCR, 2021), there are about 108.4 million internally displaced individuals globally and 35.3 million are refugees, displaced because of war and conflicts in Syria, Ukraine, Afghanistan, Somalia, South Sudan, Ethiopia, Cameroon, Democratic Republic of the Congo, Rwanda, and Myanmar (UNHCR, 2022).

The increased number of wars, conflicts and economic crises in African countries corresponds with the increased number of refugees in Africa. Globally, about 76 % of refugees are hosted in the world's poorest countries, while high income countries host around 20% of refugees. As a result, they place a heavy burden on African economies struggling to grow and with limited resources to sustain the needs of refugees (UNHCR,

2022). Notably, South Africa is one of the major destinations of refugees. According to the UNHCR, South Africa hosts about 250, 250 refugees and asylum seekers (UNHCR, 2023). The Democratic Republic of the Congo is a major source of refugees and asylum-seekers from war- and conflict-torn countries resettled in South Africa, although there are also influxes from Burundi, Somalia, Rwanda, and South Sudan (Freedman, Crankshaw & Mutambara, 2020).

South Africa is one of the most developed countries in Africa, with a relatively stable economy and this has led to a heavy influx of refugees from the African continent (Vuningoma et al., 2021). Unlike other refugee host nations, South Africa does not have refugee camps. Refugees settle in communities and mainly survive without state or humanitarian aid (Schockaertet et al., 2020). As a result, refugees may encounter several challenges in sustaining a living, navigating an alien community, and adapting to the social context of South Africa (Idemudia et al., 2013).

Despite the high number of refugees in South Africa, studies examining how refugees are resettled in African states are limited. Studies conducted in high income countries and a few studies in Africa indicate that host countries are far from being safe sanctuaries for refugees (Bogic, Njoku & Priebe, 2015). Refugees encounter multiple traumatic events usually termed post-migration stressors or post-migration living difficulties, in the literature (Tinghög et al., 2017, Bogic et al., 2015). Frequently reported post-migration stressors include the refugee status determination process, detention, discrimination, social isolation, acculturation, language difficulties, living conditions, and economic difficulties (Borho et al., 2020).

These post-migration stressors can impede recuperation, aggravate mental health problems, or precipitate mental health difficulties (Tinghög et al., 2017). An abundance of studies reports higher rates of mental disorder symptoms among refugees, compared to the

general population (Bogic et al., 2015, Henkelmann et al., 2020). For instance, a systematic review by Hajak et al. (2021), found a high prevalence of depression, anxiety, and PTSD symptoms in refugees, as well as predictors for mental health outcomes including discrimination, uncertain asylum status, separation from family, unemployment, and language difficulties.

Similarly, a study conducted in Turkey to assess the prevalence of common mental disorders among Syrian refugees in Istanbul, found a higher prevalence of mental disorders among this population (Acarturk et al., 2021). Using the Post-traumatic Stress Disorder Checklist (PCL-5) and the Hopkins Symptoms Checklist (HSCL-25) to assess PTSD, anxiety, and depression, prevalence was 36.1%, 34.7% and 19.6%, respectively. Being female, facing economic problems, trauma exposure, and a lack of safety, justice, and social support, were found as significant predictors of PTSD (Acarturk et al., 2021). Together the studies indicate that host country contextual factors are risk factors for mental disorders among refugees.

Research from South Africa also corroborates findings from high income countries. Studies that have examined the association between post-resettlement conditions and the mental health challenges of refugees have reported strong, positive correlations between post-migration stressors and mental health difficulties. For example, Thela, Tomita, and Maharaj et al. (2017) examined the resettlement adaptation and mental health of refugees/migrants in Durban, South Africa. Using the 25-item Hopkins Symptom Checklist and the Harvard Trauma Questionnaire, they found 49.4% anxiety symptoms, 54.6% depression symptoms, and 24.9% post-traumatic stress symptoms. Symptoms of mental disorders were associated with discrimination, separation from family, low income, older age and being divorced or widowed. However, this study did not differentiate between

refugees and migrants as defined by international law, and it also explored a few post-migration stressors.

In South Africa, there is no study that captures diverse post-migration stressors and highly heterogeneous refugee populations. Existing studies have focused on the mental health of one nationality and on a single migration stressor in relation to mental health difficulties (Maharaj, Tomita & Thela et al., 2017, Mhlongo, Tomita & Thela et al., 2018, Schockaert et al., 2020, Womersley et al., 2020, Freedman, 2020, Rugunanan & Smith, 2011). While prior studies indicate that the mental health difficulties of refugees are best captured by models integrating pre- and post-migration factors (Nickerson, Bryant, Silove & Steel, 2011, Miller & Rasmussen, 2017), their complex interaction and cause-effect relationships remain unclear in the South African context. Considering the growing concern in the literature about the need to examine the predictors of common mental disorders holistically (Silove, 2013, Miller & Rasmussen, 2016), a more detailed understanding of diverse traumatic experiences of refugees and their relationship with mental disorders in the South African context is needed. The magnitude of mental disorders among refugees can vary, depending on host country conditions (Cheung et al., 2018). Thus, this study examines the proportion of refugees with elevated symptoms of PTSD, major depressive disorder, and generalised anxiety disorder and their post migration predictors.

1.3 Problem statement and rationale

Considering the heavy influx of highly heterogeneous refugee populations in a middle-income country plagued with socio-political challenges, refugees in South Africa are likely to experience stressors that can precipitate or compound serious mental health challenges, nevertheless, there is limited literature on refugee experiences in South Africa. Studies examining the relationship between factors of resettlement in relation to mental

disorders are scarce. Examining the interaction between post migration stressors and refugee mental health can contribute to a theoretical understanding on the stressors encountered by refugees in South Africa and how they affect refugee mental health functioning. The unavailability of such data limits the implementation of psychosocial interventions. Without a detailed understanding of the lived realities of refugees in South Africa, global agencies, such as the UNHCR will not know how to assist this population. There is thus a need to examine the prevalence and predictors of PTSD, major depressive disorder, and generalised anxiety disorder symptoms among refugees in South Africa.

1. 4 Research aim and objectives

The broad aim of the study was to determine the post migration factors that predict symptoms of PTSD, major depressive disorder, and generalised anxiety disorder among refugees in Cape Town. More specifically, the study objectives were,

1. To find the proportion of refugees who scored in the elevated range on the PTSD Checklist for DSM-5(PCL-5), the Patient Health Questionnaire - 9 (PHQ-9) and the General Anxiety disorder 7 (GAD-7) among refugees in Cape Town.
2. To find the post migration factors associated with elevated symptoms of PSTD, major depressive disorder and generalised anxiety disorder among refugees in Cape Town

1.5 Research questions

1. What is the proportion of refugees who scored in the elevated range on the PTSD Checklist for DSM-5(PCL-5), the Patient Health Questionnaire - 9 (PHQ-9) and the General Anxiety disorder 7 (GAD-7) among refugees in Cape Town?
2. What are the post-migration predictors for elevated symptoms of PSTD, major depressive disorder and generalised anxiety disorder among refugees in Cape Town?

1.6 Significance of the study

It is envisaged that the study will contribute to the body of refugee mental health research in South Africa. According to my knowledge, there is no study that has explored diverse post-migration stressors in relation to mental disorders among the highly heterogeneous refugee population in South Africa. The study demonstrates that mental health problems in refugee populations not only stems from prior war exposure but from living difficulties encountered in host countries. The study highlights post migration stressors with significant impact on refugee mental health in the South African context. It is anticipated that the data will contribute to theory and understanding of the connection between post-migration stressors and psychological distress amongst mental health service providers, and other relevant stakeholders. The study may also assist clinicians and non-governmental organisations that collaborate with refugees in South Africa to understand the predictors of refugee mental health problems and thereby devise and provide psycho-social support to ameliorate mental health related distress.

1.7 Thesis structure

The thesis is divided into five chapters.

Chapter 1 provides the background of the study, the purpose of the study, the problems that the study aims to answer, the research questions, and what study results may achieve.

Chapter two presents a review of the literature related to the aim of this study. It discusses literature from which the research topic stems. It provides a detailed analysis of the literature on post-migration stressors associated with PTSD, major depressive disorder, and generalised anxiety disorder symptoms in refugee populations.

Chapter three presents the research methodology of the study. It explains the steps, procedures and materials used by the researcher in conducting the study. Specifically, the chapter

describes the research design, the study sample, sampling procedure, sample size, recruitment, research instruments, data collection, data analysis, and ethical considerations.

Chapter four presents and discusses research findings. It provides a detailed account of the research findings according to the objectives of the study and comprehensively analyses the results of the study.

Chapter five interprets the main findings of the study with reference to the existing literature, summarises the research findings, proffers recommendations, and describes the limitations of the study.

1.8 Chapter summary

The first chapter introduced the study by providing the background to the study, identifying the research problem, stating the research aim, research questions and the significance of the study. The next chapter identifies and discusses previous studies related to the research.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of the literature related to the research study by exploring and analysing the prevalence and predictors of post-traumatic stress disorder (PTSD), major depressive disorder and generalised anxiety disorder symptoms among refugees in Cape Town. The literature was accessed using a systematic search strategy, in social sciences and medical databases that include Soc Index, Psych info, Medline, Academic Search Premier, CINAHL (399), Nursing/Academic Edition, Africa-Wide Information, Pub Med, and APA Psych net. Google Scholar was also used to find peer-reviewed articles. The references of the assessed articles and systematic reviews were also used to identify any further relevant literature. The selection of articles was limited to those published between 2000 and 2023, in order to understand the trends in the subject under study. The literature was searched, using a combination of keywords and phrases, “mental health”, “psychological disorders”, “mental disorders”, “PTSD”, “depression”, “anxiety”, “refugee” and “post-migration stressors” or “post-migration adaptation” or “post-migration resettlement factors,” were used.

2.2 Prevalence of mental disorders among refugees

Research has repeatedly demonstrated that refugees experience several traumatic events that predispose them to mental disorders. Refugees from war- and conflict-torn countries can be exposed to grave traumatic events in their country of origin and during life-threatening journeys to safety (Schlaudt, Bosson & Williams et al., 2020). Most refugees lose family members, body parts, experience or witness sexual and physical violence, torture, imprisonment, serious stabbings, and gunshot wounds that may lead to amputations in severe cases. These experiences significantly harm the physical, psychological, and emotional

wellbeing of refugees, and consequently contribute to the onset of mental disorders, such as PSTD, major depressive disorder and anxiety (Haldane & Nickerson, 2016, Schlaudt et al., 2020, Abu Suhaiban, Grasser & Javanbakht, 2019, Acarturk et al., 2021). In fact, between 10 and 40% of refugees experience common mental disorders after exposure to serious traumatic events in their countries of origin (Lindert et al., 2009, Borho et al., 2020). For example, a study assessing trauma exposure in refugees who had experienced and witnessed violence, both experiencing and witnessing a traumatic event, was significantly associated with symptoms of depression, anxiety, and PTSD (Schlaudt et al., 2020). A robust dose–effect relationship has been found between trauma exposure and mental health disorders in refugee populations. Individuals who have experienced different kinds of traumatic events repeatedly for a long term, report severe mental disorder symptoms particularly PTSD, depression, and anxiety (Priebe, Kleindienst, Schropp, Dyer & Kruger-Gottschalk et al., 2018, Sengoelgea, Johnson-Singha & Mittendorfer-Rutzc et al., 2019), though they can also co-occur (Teodorescu et al., 2012, Park et al., 2019, Acarturk, 2021).

The prevalence of PSTD, major depressive disorder, and generalised anxiety disorders have been extensively studied across different refugee populations. A plethora of studies indicate that rates of mental disorders among refugees are significantly higher than those seen in the general population (Fazel, Wheeler & Danesh, 2005, Henkelmann et al., 2020, Borho et al., 2020). Cross-sectional studies consistently report that around 50% of refugee samples have symptoms of at least one common mental disorder (Teodorescu et al., 2012, Bogic et al., 2012, Nesterko et al., 2019, Leiler et al., 2019, Acarturk et al., 2021). Meta-analysis studies indicate that pooled PTSD prevalence among refugees is above 30% (Henkelmann et al., 2020, Blackmore et al., 2020, Patel et al., 2022),whereas among the general population PTSD prevalence is around 3.9% (Koenen et al., 2017) .

Similarly, major depressive disorder world-wide prevalence rate is 4.4% (WHO, 2017), while pooled prevalence in refugee populations is above 30% (Blackmore et al., 2020, Patanè et al., 2022). Notably, a systematic review of studies conducted in highly developed countries reported 37% pooled depression prevalence (Henkelmann et al., 2020). A recent systematic review of studies conducted in Uganda found 67.6% pooled depression prevalence (Kaggwa et al., 2022) and in a study conducted in South Africa, 54.6% had elevated depression symptoms (Thela et al., 2017). Regarding anxiety, a recent systematic review reported 13 % and 42% for diagnosed and self-reported anxiety respectively, while a study conducted in South Africa found the 49.4% anxiety disorder prevalence in a sample of refugees settled in Durban (Thela et al., 2017). Together, these studies show a chronic burden of mental disorders in refugee populations and high chances of mental disorder prevalence in refugees settled in Cape Town.

However, there is robust and consistent evidence that the prevalence of mental disorders in refugee populations significantly differ across studies (Porter & Haslam, 2005, Fazel et al., 2005, Bogic et al., 2015, Morina et al., 2018, Charlson et al., 2019, Henkelman et al., 2020, Patanè et al., 2022). For example, a previous meta-analysis reported significant variations of PTSD (4.4–86 %), depression (2.3–80 %,) and unspecified anxiety disorder (20.3–88 %) (Bogic, Njoku & Priebe, 2015). Variability in results is attributed to methodological factors, sample characteristics, the nature of displacement and the post-migration environment (Giacco & Priebe, 2018). Thus, recent studies have generally focused on the factors that predict, moderate, and aggravate the development of psychological disorders, such as demographic characteristics, social support, resilience, and post-migration stressors. Hence, of particular interest in this study are post-migration stressors and their association with mental disorder symptoms.

2.3 Post-migration stressors associated with mental disorders among refugees

Refugees settled in both high- and low-income countries often encounter multiple pervasive traumatic displacement factors, usually termed post-migration stressors in the literature (Tinghög et al., 2017). When compared to pre-migratory traumatic events, post-migration stressors are equal or even more associated with psychological disorders (Chu, Keller & Rasmussen, 2013, Miller & Rasmussen, 2017). These stressors can impede recuperation, aggravate mental health problems, or precipitate the development of mental disorders (Tinghög et al., 2017, Chen et al., 2017). Commonly reported post-migration stressors include the asylum-seeking process, detention, discrimination, social isolation, loss of homeland, language difficulties, living conditions, economic difficulties, and stressors, such as discrimination and social isolation contribute more to depression and anxiety symptoms than pre-migration traumatic experience (Solberg, Vaez, Johnson-Singh & Saboonchi, 2020). Each of these is discussed in the section below.

2. 3. 1 Detention stress and its association with mental disorders among refugees

Upon arrival in host countries, refugees may spend months or years in immigration detention centres when they have been denied protection or whilst their asylum applications are being processed (Filges, Montgomery & Kastrup, 2018, Bagio et al., 2020). During detention, refugees are exposed to traumatic experiences, such as sexual abuse from staff, violence and torture, abuse from fellow detainees, hunger and malnutrition, social isolation, and poor access to health services (Von Werthern et al., 2018, Harris & Pickles, 2018, Filges, Montgomery & Kastrup, 2018). An example of such occurrences is reported by Landau (2006) who indicated that refugees detained at Lindela in South Africa, commonly report experiences of violence, sexual abuse, extortion, and bribery. Exposure to traumatic experiences during detention may appear as a new stressor or a reminder of pre-migration traumatic experiences, and thus add to the additive effect of trauma exposure, thereby

proliferating chances of developing PTSD, depression, and anxiety symptoms (Schauer et al., 2003, Bagio et al., 2020).

Several studies have confirmed the adverse impact of immigration detention in generating and aggravating mental disorder symptoms (Fazel et al., 2005, Steel et al., 2004, Von Werthern et al., 2018, Bagio et al., 2020).To assess the impact of immigration detention on mental health, Cleveland and Rousseau (2013) interviewed a sample of asylum seekers who had a mean detention of 31 days, and found that clinical cut points were much higher for asylum seekers who had been detained for a mean of 31 days, than the non-detained group for depression ($\chi^2 = 13.813$, df = 1, $P < 0.001$), posttraumatic stress ($\chi^2 = 4.117$, df = 1, $P = 0.04$), and anxiety ($\chi^2 = 4.567$, df = 1, $P = 0.03$) symptoms. Similarly, a recent study found that the odds of meeting the criteria of PTSD were significantly higher for asylum seekers who had been detained, *OR* = 8.20, 95% CI (2.61, 26.73), than non-detainees (Forrest & Steel, 2023).

There is also evidence that anxiety, depression, and PTSD symptoms last beyond the immigration detention period and can persist for 10 months (Ichikawa, Nakahara & Wakai, 2003), 2 years (Steel, Momartin & Silove et al., 2011) or 4 years (Coffey, Kaplan & Sampson et al., 2010) after release. Despite the detrimental effect of immigration on the mental health of refugees, the relationship between detention and mental disorders has been nonetheless neglected, especially in Africa (Bagio et al., 2020). The mental health of detained refugees is not well understood; thus, it is part of this study to assess the association of immigration detention with refugee mental health.

2.3.2 Refugee status determination process and its association with mental disorders among refugees

Research indicates that the refugee status determination process is a major post migration stressor that contributes to the development of mental disorders (Schockaert et al.,

2020). In countries, such as South Africa, when refugees apply for refugee status, it takes several months or even years to be granted refugee status and during that waiting period, refugees cannot acquire formal employment, proper housing, banking and social services, due to insecure residency status (Landau, 2006, Rugunanan & Smith, 2011, Raghavan, Rasmussen, Rosenfeld & Keller, 2013, Hainmueller, Hangartner & Lawrence, 2016, Khan, Mbatani & Marais, 2021). Without documentation, refugees are also frequently arrested for street walking and engaging in petty trade (Landau, 2006).

The effects of insecure residence status coupled with the uncertainty of the legal process outcome can be stressful and consequently, precipitate the development of mental disorders, such as depression and anxiety (Laban, 2005, Schockaert et al., 2020). This period may be more traumatic than the events that compelled them to leave their country of origin, thus exacerbating existing mental health difficulties (Miller & Rasmussen, 2017, Hocking, Kennedy & Sundram, 2015). Hajak, Sardana, Verdeli and Grimm (2021), examined 303 articles and concluded that waiting for an asylum decision is associated with higher levels of depression, anxiety, and PTSD, compared with refugees who have permanent residence. Similarly, Hvidtfeldt , Peterson and Norredam (2020) also found that the protracted asylum-decision waiting periods were associated with mental disorders, such as an increased risk of psychotic, affective and nervous disorders which were 30% higher for refugees who have been waiting for 7–12 months (HRs 1.29, 95% CIs: 1.13–1.47), and 59% higher for refugees who have been waiting for 24 months (HRs 1.59, 95% CIs: 1.28–1.98), compared with refugees who have been waiting for fewer than 7 months. Raghavan et al. (2013) also found that having asylum status, lessened mental disorder symptom severity. Considering the long asylum waiting period in South Africa, refugees might be at risk of developing mental health problems.

There is also evidence that interviews with immigration have an influence on the mental health of refugees, particularly refugees who have been exposed to grave traumatic events. There is evidence that narrating and trying to remember the details of the traumatic events during the interview, can compound the trauma or lead to the onset of PTSD symptoms (Bogner, Herlihy & Brewin, 2007, Nickerson et al., 2011). In a study examining how the asylum-interviews influence the mental health of asylum seekers, there were significant increases within the intrusion symptoms of PTSD (t (39) =6.87, p=0.000, d=1.38) after the interview (Schock, Rosner & Knaevelsrud, 2015). Taking cognisance that refugees in Cape Town fled from political persecution, conflict, and war, they might be at a higher risk of PTSD onset or exacerbation of symptoms during interviews.

Schockaert et al. (2020) also observed that refugees are exposed to traumatic experiences during the document-seeking process and these traumatic experiences are associated with mental disorders. Schockaert et al. (2020) in a qualitative study, explored the experiences of Congolese refugees and asylum seekers who submitted their claims in Pretoria, found that refugees were exposed to violence, fights, rape, and theft, and as a result reported mental disorder symptoms. Nevertheless, the study focused only on Congolese asylums seekers, it did not capture experiences of the diverse refugee groups in South Africa (Sudan, Somalia, Zimbabwean etc.) and had a small sample. There is thus a need to examine how the asylum-seeking process affects the mental health of diverse refugee groups in South Africa.

2.3.3 Discrimination stress and its association with mental disorders among refugees

Refugees may experience discrimination in host countries which has the potential to negatively impact their mental health and integration into the host country (Borho et al., 2020.) Discrimination can be in the form of physical violence, torture, insults, threats, together with limited access to key resources and opportunities necessary for a living, such as

healthcare, employment, education, housing, social services, and professional development (Ziersch, Due & Walsh, 2020, Chiumento et al., 2020). High rates of discrimination have been observed across different refugee populations, and in a German study, discrimination was observed in one-third of the Syrian refugees (Viazminsky et al., 2022). In a study conducted in Johannesburg, almost half of the study participants experienced discrimination in South Africa (Thela et al., 2017).

High levels of racial or xenophobic discrimination can contribute to severe injury or the death of refugees, for instance, South Africa's 2008 xenophobic attacks posed serious threats to refugee protection (Womersley, Severy & Van Cutse, 2018). Bandeira et al. (2010) indicate that the total number of refugees attacked and displaced because of the 2008 xenophobic attack, ranged between 80,000 and 200, 000. Reporting on xenophobic attacks in South Africa, Landau (2013) indicates that in 2012, around 140 refugees were killed in violent and grotesque ways. To ascertain the psychological impact of the xenophobic attacks on refugees, Womersley et al. (2018) examined the presence of PTSD among Congolese refugees who were exposed to xenophobic attacks in South Africa, using the Harvard Trauma Questionnaire (HTQ). They found that 85% of the sample had elevated PTSD symptoms. However, this study comprised a small sample (n=27) of the refugee population. Meta-analytic studies of mental disorder prevalence in refugee populations indicate that studies with small samples have a much higher prevalence than the apparent true prevalence (Bogic et al., 2015, Turrini et al., 2017).

However, there is more evidence to show that discrimination and xenophobic acts can cause or increase psychological distress, depression, PTSD and anxiety disorders among refugees (Anderson, 2013, Freedman, Crankshaw & Mutambara, 2020, Borho et al., 2020). For instance, a study comprising 423 adult refugees and asylum seekers living in South Australia for more than 7 years found that 22% of the participants had experienced

discrimination in public transport, within the community and in employment opportunities, and 90% of discrimination victims reported that discrimination had affected their health (Ziersch et al., 2020). Similarly, a study assessing the prevalence and risk factors for mental distress among Syrian refugees in Germany, found discrimination as the most significant post-migration predictor of anxiety ($\beta = 0.263$, $p = 0.013$) and depression ($\beta = 0.271$, $p = 0.008$) symptoms (Borho et al., 2020). A study conducted in Jordan also found that discrimination predicted PTSD symptoms (Brooks et al., 2022). Considering the effects of discrimination on the mental health of refugees, it is critical to assess the prevalence and effects of discrimination among refugees resettled in countries with frequent xenophobic attacks on foreigners.

2.3.4 Separation from family and worries about family stress associations with mental disorders.

Separation from family has been marked as a major cause of long-term trauma in refugee populations, particularly forced separation. Forcibly separating from family during migration and consequently resettling in an alien land, without familiar support systems, can cause significant distress to many refugees (Ali-Naqvi et al., 2023). Refugees can worry excessively about the safety and financial needs of those left behind and feel a sense of helplessness while perambulating foreign lands without a familial support system (Savic et al., 2013, Thela et al., 2017, Ali-Naqvi et al., 2023). In a recent study conducted in Hong Kong, 80.9% of the sample was stressed with separation from family and 83.0% of the sample was greatly stressed about the safety of members left behind (Ng et al., 2023). Without family reunification, mental anguish can persist for a long time and consequently predispose refugees to the risk of developing mental disorders, such as depression, anxiety, and PTSD (Ali-Naqvi et al., 2023).

Several studies have been conducted to determine the impact of family separation on refugee mental health. For example, Nickerson et al., (2010) interviewed 315 Iraq refugees resettled in Australia and refugees with family members in Iraq reported higher levels of depression and PTSD symptoms than those who did not have family members in Iraq. Higher levels of PTSD were experienced by refugees with family members in Iraq ($M = 2.1$), than those without family members in Iraq ($M = 1.7$) (Mean difference = −.34, t (298) = −3.39, 95% Confidence Interval (CI) = −.53 to −.14, $p = .001$). Participants with family in Iraq also exhibited higher levels of depression ($M = 2.00$) than those without family in Iraq (Mean = 1.64) (Mean difference = −.30, t (299) = −3.35, 95% CI = −.48 to −.13, $p = .001$). Intrusive fears about the safety of the family still living in war and conflict back home, independently predicted the risk of depression and PTSD (Nickerson et al., 2010). Tinghög et al. (2017) also found that feelings of sadness, due to family absence was positively associated with PTSD, and depression symptoms. Similarly, in a study conducted in Durban, one-third of the sample had experienced family separation, and this was associated with a higher risk of PTSD (OR = 2.2, 95% CI: 1.2–4.2) and depression (OR = 2.5, 95% CI: 1.4–4.5) symptoms. Family separation was an independent predictor of depression and PTSD symptoms.

2.3.5 Social isolation and loneliness stress association with mental disorders among refugees

Refugee mental health problems are also attributed to social isolation and loneliness, since the migration process and resettlement in the host country break familiar social ties and for many, it can be difficult to restart a new life when they are socially and emotionally isolated (Hynie, 2018, Savic et al., 2013, Ali-Naqvi et al., 2023). Emotional loneliness can be the result of family absence and uncertainty about family reunification, while social loneliness is a result of a poor social support system (Bogic, Njoku & Priebe, 2015, Hynie, 2018, UN, 2021, Ali-Naqvi, 2023). Without family and a familiar support system, refugees

spend most of the time alone, which makes them ruminate about prior events and their future, consequently leading to the onset of mental disorder symptoms (Brooks et al., 2022, Nowak et al., 2023). For example, Sengoelge et al. (2020) reported that social hardship was correlated with higher anxiety and depression symptoms (B = 0.786 [CI 0.598, 1.021), while social support was associated lower mental disorder symptom severity (B = -0.103). Similarly, Strømme, Igland and Haj-Younes et al. (2021) found that refugees with poor social support had elevated symptoms of anxiety and depression (RR = 6.2 [CI 3.6, 10.8]). These findings are also substantiated by a recent systematic review which found that loneliness and/or social isolation were significantly associated with mental disorder symptoms in all the studies included in the review (Nowak et al., 2023). Nevertheless, in the South African context, research has not focused on the psychological effects of isolation and loneliness among refugees. Thus, it remains unclear if isolation and loneliness contribute to the development of mental health symptoms in refugees resettled in low-income countries.

2.3.6 Loss of Homeland stress and its association with mental disorders among refugees

Refugee mental health difficulties are also aggravated by homesickness experienced by refugees in host countries. Refugees settled in host country communities experience strain and anxiety because of losing familiar cultural cues and encountering unfamiliar cultural norms (Yoon, Zhang & Feyissa, 2022). They must navigate an alien community, learn a new language and culture, while at the same time learn to cope with the loss of their native land, their family, cultural identifiers, such as religion, language, dietary habits, and customs, and the way of life to which they were accustomed (Murray, Davidson & Schweitzer, 2010). Refugees may find themselves ruminating about home, which Eisenbruch (1991) coined “cultural bereavement”. Individuals may live in the past and suffer from feelings of guilt over abandoning their culture and homeland and longing for home so much that it ends up hurting. This grieving, often without knowing when returning home will be possible, may cause

significant psychological stress which may culminate in psychological disorders and reactions, such as depression, social withdrawal, difficulties with concentration, anger, and hostility (Bhugra, Gupta & Bhui et al., 2011, Yoon, Zhang & Feyissa, 2022). In a study exploring the effects of homesickness on PTSD and depression symptoms among asylum seekers resettled in Germany, ruminations about home were positively associated with depression symptoms and the total homesickness measure score (adjustment difficulties, missing family and friends and ruminations about home) was associated with depression and PTSD (Rosner, Hagl, Bücheler & Comtesse, 2022). Generally, there are limited studies examining homesickness and mental health disorders, especially conducted in the African context.

2.3.7 Communication difficulties stress and its association with mental disorders among refugees

Since language is the key to communication and adaptation, difficulties, or failure to speak host community language can be stressful for refugees and consequently precipitate or compound mental disorders (Hynie, 2018). Limited community language skills can impede refugees from accessing employment opportunities, accommodation, and health services (Chiumento et al., 2020, Kalich, Heinemann & Ghahari, 2016, Hynie, 2018). According to Donnelley et al. (2011), limited English skills hindered most refugees from accessing mental health counselling and support services in Canada. The effects of poor language skills can cause significant stress that endanger refugee mental health. In a study conducted in Switzerland, more than fifty percent of refugees reported being greatly stressed by language difficulties (Kiselev et al., 2020). In the same vein, a study conducted among Syrian refugees found that those who experienced language difficulties had significantly higher levels of anxiety disorder (OR = 1.77 [CI 1.30, 2.40]), depression (OR = 2.39 [CI 1.78, 3.19]), and PTSD (OR = 2.77 [CI 2.00, 3.83]) than refugees without language difficulties (Tinghög et

al., 2017). Solberg et al. (2020) also found language difficulties were associated with depressive disorders (OR = 1.95 [CI 1.18, 3.23]), PTSD (OR = 5.43 [CI 1.87, 5.18]) and anxiety symptoms (OR = 2.02 [CI 1.26, 3.26]).

However, there is emerging evidence that traumatic exposure affects the capacity to acquire the host country language. In a study conducted among Bosnians in Australia, Kartal, Alkemade and Kiropoulos (2019), found that trauma worsens language acquisition, and that host language acquisition was found to be negatively associated with PTSD (−.411), depressive (−.296) and anxiety (*r*−.359) symptoms. The indirect pathway from trauma to mental health via language acquisition was significant for PTSD (β = .067, p = .028) and anxiety symptoms (β = .063, p = .026). In another study, Schiess-Jokanovic et al. (2021) revealed that treatment-seeking refugees with complex PTSD, reported problems with language acquisition than any other post-migration stressor.

Despite compelling evidence of the bidirectional relationship between language acquisition and mental difficulties, in the South African context, research has not paid attention to this relationship, particularly in refugee populations. Research has explored how language difficulties affect refugees' access to medical services, and studies report that refugees' inability to speak local languages contribute to labelling and stereotyping of refugees by healthcare staff and the performance of medical procedures without consent (Crush & Tawodzera, 2014, Adams & Rother, 2017). In light of the implications of language difficulties in the post-migration setting, it is within the scope of this study to examine how language difficulties are correlated with the symptoms of major depressive disorder, generalised anxiety disorder and PTSD.

2.3.8 Unemployment Stress and its association with mental disorders among refugees

Refugees' stress is also aggravated by poor employment opportunities experienced by them in their host countries. Unemployment is very common among these populations due to

their lack of proficiency in the host country language, a lack of identity documents, the unrecognizability of their educational and professional qualifications in host countries, and restrictions on their right to work (Hocking, Kennedy & Sundram, 2015, Chen, Hall, Ling & Renzaho, 2017, Hynie, 2017). For example, Nofal (2017) found that Syrian refugee parents in Ottawa did not have jobs, due to a lack of proficiency in Canadian languages, a lack of credentials, and the absence of experience and knowledge of Canadian society and culture. Studies conducted in the United Kingdom, United States of America and South Africa observed that refugees are twice as likely to be unemployed, compared to other immigrants(Jamil, Aldhalimi & Arnetz, 2012, Ruiz & Vargas-Silva, 2018, Thela et al., 2017).

As a result, most refugees fail to afford basic commodities, suffer from malnutrition and starvation, fail to secure safe accommodation, and can remain in a situation of poverty for many months or years (Hocking, Kennedy & Sundram, 2015). This has a deleterious impact on the psychosocial wellbeing of refugees, especially when they were employed in their country of origin or had a better socio-economic status, due to a sharp drop in socio-economic status (Porter & Haslam, 2005, Schweitzer, Melville, Steel & Lacherez, 2006). Numerous studies have found a positive association between unemployment and mental disorder symptoms (Teodorescu et al., 2012a, Bogic, Njoku & Priebe, 2015, Chen, Hall, Ling & Renzaho, 2017). Walther et al. (2020) found that depression and anxiety symptoms were lower for employed refugees than unemployed refugees in Germany. Similarly, Acarturk, McGrath and Roberts et al. (2021) found that refugees with better economic situations had better mental health outcomes than those facing economic difficulties (PTSD: OR 0.19 [95% CI 0.05–0.64], anxiety: OR 0.26 [95% CI 0.12–0.59]), and depression: OR 0.16 [95% CI 0.07–0.38]) among Syrian refugees residing in Turkey.

In South Africa, there is a dearth of research on how unemployment and poverty predict mental health symptoms. A study by Idemudia et al. (2013), on trauma exposures and

PTSD among Zimbabwean refugees in South Africa, poverty (t (125) = 3.244, P < .01) predicted PTSD. However, this study focused on Zimbabwean refugees who are mainly economic refugees. Hence, research on how unemployment and economic difficulties predict symptoms of a major depressive disorder, generalised anxiety disorder, and PTSD among refugees in the post-migration phase, is needed.

2.3.9 Poor access to health services stress and its association with mental disorders among refugees

Despite refugees' higher need for medical and psychological care, research indicates that refugees have difficulties in accessing both emergency and long-term healthcare services in host countries (Khan, Mbatani & Marais, 2021). For example, Wong et al. (2017) reported than 72.2% of refugees in Hong Kong had difficulties in accessing medical care. There is evidence that barriers to refugees' mental and medical healthcare differ across countries, although there are interconnections of barriers across states (Zihindula, Meyer-Weitz & Akintola, 2015). Commonly reported barriers are language issues, discrimination against refugees by healthcare workers and the unavailability of refugee documentation (Zihindula, Meyer-Weitz & Akintola, 2015, Khan, Mbatani & Marais, 2021). For example, a recent global systematic review found that refugees do not have access to health services and barriers to help-seeking included fear of mental health stigma, financial strain, language proficiency, unstable accommodation, a lack of understanding of how to access services, immigration status, a lack of trust in authority figures, and concerns about confidentiality (Byrow, Pajak, Specker & Nickerson, 2020).

Similarly, studies conducted in South Africa found that medical xenophobia is rampant in the South African health system (Crush & Tawodzera, 2014, Munyaneza & Mhlongo, 2019, Freedman, Crankshaw & Mutambara, 2020). In these studies, refugees were expected to produce identity documents in order to receive treatment, healthcare workers

refused to communicate with patients in English or permit the use of translators, non-South African citizens were required to wait until all South African patients had received medical attention, and refugees and asylum seekers had difficulties in accessing ARVs in public hospitals (Crush & Tawodzera, 2014, Odhiambo, 2012). For these reasons, refugees avoid seeking medical and psychological healthcare and this compounds or triggers mental health challenges (Bandeira, Higson-Smith, Bantjies & Polatin, 2010).

Studies report a positive relationship between poor access to health services and mental disorders (Bapolisi et al., 2020, Nesterko et al., 2020). For example, Brooks et al. (2022) found that anxiety about not receiving medical treatment, was positively associated with PTSD, and poor access to psychological services was positively associated with depression among Syrian refugee women residing in Jordan. In Turkey, Acarturk et al. (2021) also found that poor access to adequate healthcare was associated with anxiety (OR 1.40 [95% CI 1.06–1.85]), and depression (OR 1.40 [95% CI 1.06–1.85]). Similarly, Nesterko et al. (2020) found that the subjective need for healthcare was a significant predictor for elevated depression symptoms ($\beta = .15$, $p < .01$), somatisation ($\beta = .24$, $p < .001$), anxiety symptoms (, $\beta = .16$, $p < .01$), and PTSD ($\beta = .14$, $p < .01$). Despite the growing body of evidence on the detrimental effect of poor access to health services on refugee mental health, research in South Africa has not explored the association between poor access to health services and mental disorders. It is thus within the scope of this study to explore how limited access to medical and psychological care, frequently reported in the literature predicts mental disorders.

2.3.10 Poor access to food and its association with mental disorder symptoms

Poor access to food has been linked to the onset of mental disorders as a result of psychological distress, individuals experience when they cannot afford food, skip meals, and/or have poor access to nutritious and culturally appropriate foods (Maynard et al., 2018,

Weaver et al., 2021, Kamelkova et al., 2022, Dlamini et al., 2023). Food insecurity has been reported in different refugee populations, including refugees in South Africa. In the United States, Anderson et al. reported that 37% of Sudanese refugee households experienced food insecurity (Anderson et al., 2014). In Canada, 52 % of refugee households were food insecure (Chevrier et al., 2023). Moreover, in a systematic review conducted in high income countries, food insecurity ranged from 40% to 71% (Mansour, Liamputtong & Arora, 2020), and in a study conducted in South Africa, 23.1% reported not having enough food and 54.3% reported eating less (Maharaj et al., 2017).

Constant worry about the source of one's next meal contributes to significant psychological distress symptoms, such as depression and anxiety symptoms (Maynard et al., 2018). For example, a national survey conducted in South Africa found that 20.4% of South African households are food insecure and food insecurity was associated with greater odds of having higher anxiety and depression symptoms (Dlamini et al., 2023). This finding is also corroborated by Maharaj et al. (2017) who found that not eating enough was significantly associated with anxiety (aOR = 4.52, 95 % CI: 2.09-9.80) and depression (aOR = 4.51, 95 % CI: 2.01-10.09) among African refugees settled in Durban. It is thus important to examine how poor access to food correlates with mental disorders among refugees settled in South Africa.

2.3.11 Accumulated post-migration stressors and their association with mental disorder s among refugees

Research also indicates that accumulated post-migration stressors are strongly associated with mental disorder symptoms. Refugees who experience a high number of post-migration stressors often report higher anxiety, depression, and PTSD symptoms. For example, Ryan, Benson and Dooley (2008), found that refugees with higher overall scores in the post-migration checklist had higher rates of distress. Similarly, in a study conducted in the

Netherlands, Groen, Richters and Laban et al. (2019) reported that the accumulated post-migration stressors were positively associated with depression and anxiety (HSCL-25) ($\beta = 0.428$ [CI 0.170, 0.710]) and PTSD symptoms (HTQ) ($\beta = 0.396$ [CI 0.140, 0.713]) among refugees in the Netherlands. Nickerson, Schnyder and Bryant et al. (2015) also found that increases in migration-living difficulties were associated with higher rates of depression and PTSD.

2.4 Post-migration stressors and mental disorders across demographics

Post-migration stressors and their effects differ across demographics. Demographic characteristics, such as gender, age, marital status, and education have been marked as risk factors for the development of psychiatric disorders. As will be elaborated below, the demographic variable can determine the type of trauma, predict, moderate, or buffer the development of a psychological disorder. According to Tolin and Foa (2006), refugee women are more likely to meet PTSD criteria than men, although refugee men experience more traumatic events during their lifetime than women. This is so because experiences of refugee women are unique and more adverse when compared to men (WHO, 2021). Refugee women are at higher risk of gender-based violence, rape, forced impregnation, forced abortion, sexual trafficking, sexual slavery, intentional spreading of sexually transmitted diseases and unwanted pregnancy by their family members, other refugees, community, authorities, and xenophobic strangers (Schockaert et al., 2020, Schlaudt et al., 2020, WHO, 2021, Vallejo-Martín, Sánchez Sancham & Canto, 2021).

The traumas faced by refugee women predispose them to the onset of PTSD and other disorders, since the dissociative response is more common in individuals who have experienced sexual aggression (Griffin, Resick & Mechanic, 1997). For example, Norris (2009) contends that survivors of rape are at greater risk of developing PTSD than victims of natural disasters, and events involving deaths, such as wars, car accidents, physical assault,

robbery, and fire. A global systematic review examining the impact of traumatic experiences on mental health found that refugee women experience more sexual assault and forced sex than men do, and these traumatic experiences are associated with a greater risk of having PTSD (Vallejo-Martín, Sánchez Sancha & Canto, 2021).

Several studies also found a higher prevalence of depression, anxiety, and PTSD among women than men (Alpak, Unal & Bulbul et al., 2015, Acarturk, Cetinkaya & Senay et al., 2018, Nesterko et al., 2020, Chlaudt et al., 2020). For instance, a cross-sectional survey of Syrian adult refugees resettled in Istanbul, Turkey substantiated the above findings and found female refugees to be at higher risk of PTSD and depression (Acarturk et al., 2021). However, some studies did not find a significant difference between genders in terms of PTSD, depression, and anxiety (Bogic et al., 2015, Henkelman et al., 2020). Bapolisi, Song, Kesande, Rukundo and Ashaba (2020), found no differences between males and females on PTSD prevalence. The similitude could be a result of exposure of all genders to same or similar traumatic experiences or the influence of confounding variables, such as resilience and social support.

The level of education has been identified as a factor determining the magnitude and effect of post-migration difficulties on the mental health of refugees, although there are variations across studies. Illiterate refugees have been found to have a higher prevalence of mental health difficulties than educated refugees, due to the availability of employment opportunities for educated refugees (Bogic et al., 2012). In a study conducted in Bangladesh, Hossain, Pearson and McAlpine et al. (2021) found that poor education correlated with higher rates of PTSD. However, a study by Tinghög et al. (2017) in Sweden found no differences in the mental health condition between literate and illiterate refugees. According to the above authors, such a pattern of results could be attributed to the cancellation of the buffering effect of higher education in refugees' status since refugees with higher educational

qualifications may experience a greater loss of status or downward social mobility if they failed to secure employment in host countries. In agreement, Sengoelge et al. (2019) found that education did not provide a protective role for the mental health of refugees, both illiterate and educated refugees had high rates of PTSD and depression. These findings indicate that education can only play a protective role in the mental health of refugees if it enables them to acquire employment and other necessities for a living.

Regarding marital status, research shows conflicting evidence. While some studies did not find an association between marital status and mental disorders (Mangrio, Sjöström, Grahn & Zdravkovic, 2021), some studies report a significant association between marital status and mental disorders (Tinghög et al., 2017, Sengoelge et al., 2019, Nesterko et al., 2020). In a study examining how marital status and certain post-migration family structures are associated with the risk of mental illness among Arab refugees in Sweden, marital status did not have any significant association with the risk of mental illness (Mangario et al., 2021). However, Tinghög et al. (2017) found a high prevalence of mental health difficulties in divorced and widowed refugees, partner absence, and diminished social support.

Refugee age has been often hypothesised as a predictor of mental health difficulties in refugee populations. Available studies report inconsistent result association between age and mental health symptoms among refugees. Some studies report severe mental health in older refugees than younger refugees, where the disorder of stress increases with age, regardless of sex (Song et al., 2018, Nesterko et al., 2020). Notably, a study of Syrian refuges in Sweden found that PTSD, depression, and anxiety symptoms were more common among older refugees (Tinghög et al., 2017). Furthermore, a study by Schlaudt et al. (2020) of refugees from Sudan, Syria, Iraq and the Democratic Republic of Congo found a high prevalence of mental disorders among older refugees. However, the meta-analysis by Fazel, Wheeler and Danesh (2005) showed a higher prevalence of PTSD in adolescents and young adults,

compared with adults. Contrary to this evidence, Cheung, and Chung et al. (2018) found no age-related differences in PTSD prevalence among Syrian refugees who had witnessed traumatic events or who had lost family members or friends.

2.5 Chapter summary

In view of the above literature, it should be noted that there are diverse post-migration stressors affecting refugees' mental health. Consequently, poor mental health may reduce adaptation, heighten post-migration stressors, and therefore impede recovery or increase the risk of mental disorders among refugees. The high prevalence of common mental disorders in the post-migration phase demonstrates the need for and importance of addressing the socio-political context of resettlement to promote the mental health of refugees. However, in South Africa, refugee post-resettlement adaptation has not been extensively explored. There is a scarcity of literature examining heterogeneous refugee populations and diverse post-migration stressors in relation to common mental disorder symptoms. Existing studies on the association between post-migration stressors and mental health problems, focus on only one nationality and a single migration stressor. Thus, this study will quantitatively explore diverse post-migration stressors affecting refugees resettled in Cape Town and how they are associated with PTSD, major depressive disorder and generalised anxiety disorder symptoms.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The chapter describes the research methodology and design. More specifically, it explains the procedures and materials I utilised in assessing, describing, and analysing the predictors of post-traumatic stress disorder (PTSD), generalised anxiety disorder and major depressive disorder symptoms among refugees in Cape Town. It provides the logic behind the methods chosen in this study and details the research approach, research design, target population, sampling, sample size, recruitment, data collection procedure, measures, data analysis, and ethical considerations of the study.

3.2 Research approach

This study is within a positivism paradigm, which assumes that a single, tangible reality exists that can be understood, identified, and measured (Park, Konge & Artino, 2020). Within this paradigm, this study employed a quantitative methodology which highlights quantification in collecting and analysing data (Bryman, 2012). Quantitative research is indispensable to this study because it enabled me to measure and quantify research variables (elevated symptoms of PTSD, major depressive disorder, generalised anxiety disorder, and post-migration stressors). A quantitative approach was also chosen due to its objectivity and generalisability in assessing a phenomenon (Bryman, 2012).

3.3 Research design

The study adopted a cross-sectional design. A cross-sectional study is a snapshot of a particular group of people at one point in time (Setia, 2016). I assessed the outcome and the exposures in the study participants at the same time. Thus, this study assessed the symptoms of PTSD, major depressive disorder, generalised anxiety disorder, and post-migration

difficulties simultaneously. This design was chosen because it is useful for studying the prevalence of a particular phenomenon by analysing the relationshipsbetween risk factors, determinants, and their outcomes, and can be conducted relatively fast (Creswell, 2012). However, this design cannot prove causal relationships between variables, relationships can be attributed only to the correlation or association between the outcome and the identified variable (Yegidis, Weinbach & Myers, 2012).

3.4 Study setting

The study was conducted in the city of Cape Town Metropolitan Municipality. Cape Town is the legislative capital of South Africa and the capital of the Western Cape Province. The city is both a destination and a point of onward migration for economic migrants, refugees and asylum seekers from African countries (Muvhuti, 2018). The city of Cape Town has refugees from Somalia, Burundi, Democratic Republic of Congo, South Sudan, Cameroon, Rwanda, Ethiopia, Burundi, and Zimbabwe. The study setting was chosen due to the dearth of research on the mental health difficulties among refugees in Cape Town.

3.5 Study population

The study population comprised refugees from conflict and/or war-torn countries (Rwanda, Democratic Republic of Congo (DRC), Somalia, Cameroon, and Burundi), residing in Cape Town. I opted for this refugee population because it is more prone to the development of mental disorders than other refugee groups, due to its exposure to traumatic events in the country of origin, during migration, and in the post-migration phase. Refugees from these countries are unable to return to their homeland because of the ongoing wars, conflicts, and political unrest, they must stay in South Africa, even amid post-migration challenges. No study has been found examining the mental health of this particular population in the post-migration environment. Most studies have focused on Zimbabwean

refugees, who are mainly economic refugees and can return to their country when they face post-migration stressors in South Africa.

Inclusion and Exclusion Criteria

Refugees were included if they

- originated from a conflict- or war-torn country.
- were 18 years or older.
- have been in South Africa for more than a year.
- were not under influence of drugs and not suffering from any serious psychological disorder which disables one from answering research questions.

Refugees were not included if they

- did not come from war or conflict torn areas.
- were below 18 years.
- had recently arrived in South Africa (less than a year)
- were under the influence of drugs or suffering from any psychological disorder which influences the ability to answer research questions.

3.6 Sampling

Respondent-driven sampling was used to recruit participants (Lattof, 2018). Respondent driven Sampling is a probability sampling strategy used to find difficult-to-reach populations. Thus, I accessed refugees through organisations that work with refugees in the Cape Town area. Fifteen refugees who reflect diversity were selected from the refugees visiting the Baptist Refugee Ministry. The selected refugees recruited other refugees, who themselves become recruiters. This process continued until the survey estimated sample was reached (McCreesh, Frost, Seeley et al., 2012). This sampling method was chosen due to its

ability to eliminate sampling bias, such as oversampling the same group of people and for efficiency in collecting extensive data for all refugee populations (Lattof, 2018).

The sample frame of the population understudy is unknown as there is currently no exact number of refugees residing in South Africa. Thus, the study adhered to Roscoe's (1975) guidelines for determining sample size instead of formulas. Roscoe (1975) suggested that while sample sizes less than 500 and larger than 30 are appropriate for quantitative research, where samples are to be divided in categories, each category must have a minimum of 30 respondents, in studies with more than one dependent variable the sample size should be preferably 10 times or more as large as the number of variables in the study. Thus, the sample size was 147 respondents, which was calculated with regard to the dependent variables of the study using G power software (Faul et al., 2007).

3.7 Procedures

After receiving Ethical clearance for the study from the Rhodes University Ethics, I contacted participants through the Baptist Refugee Ministry. The Baptist Refugee Ministry is a faith-based, non-profit organisation helping refugees living in South Africa - administratively, spiritually, socially, educationally, and economically. I chose this organisation because it works with many refugees from different countries, thereby making it easier to access the estimated sample.

I sent a letter to the Baptist Refugee Ministry seeking permission to contact potential study participants visiting the centre. After receiving permission, the Baptist Refugee Ministry informed their clients of the opportunity to participate in the study and connected me with those interested. Once the participants were identified and consent forms were signed, the data collection process begun.

Data were collected from February to May 2023 using questionnaires which were completed face-to-face at the Baptist Refugee Ministry in Woodstock, Bellevue Baptist Church, Elsies River Burundian Refugee Church, and Kensington refugee tent. I could not meet all the participants at the Woodstock Baptist Church as envisaged because most refugees had completed their projects and had stopped visiting the centre when I received ethical approval. Participants who were still visiting the centre referred other refugees from the Kensington Refugee tent, Bellevue Baptist Church and Elsies River, who were not keen to come to the centre, due to a lack of direct benefits for participating. In every meeting, participants were given information sheets to read and become familiar with the aim, purpose, and duration of the study, as well as their rights, before consenting to participate. They participated only after fully understanding the details of the study and had given both written and verbal consent.

3.8 Measures

The study questionnaire was made up of established screening measures of PTSD, major depressive disorder, generalised anxiety disorder, and post-migration stressors. The measures are freely available, and copyright was adhered to. As will be detailed below, screening measures were selected with regard to psychometric properties, brevity, cross-cultural validity, and prior use in refugee populations.

Post-traumatic stress outcome was assessed by the PTSD Checklist for DSM-5 (PCL-5) (Bovin et al., 2015). The PCL-5 is a 20-item, self-report measure which assesses symptoms of PTSD, based on the DSM-V diagnostic criteria and has been found to have good convergent and discriminant validity, test–retest reliability (r=.84), and high internal consistency (α=.96) (Bovin et al., 2015). The PCL-5 has also been found to be an effective measure in assessing PTSD symptoms in a South African setting (Kagee et al., 2021). In this study, all the endorsed items were summed up to yield a total score, then a cut-off of 32 was

applied to screen PTSD. A cut-off score of 31–33 is indicative of probable PTSD across studies (National Centre for PTSD, 2015).

The Patient Health Questionnaire - 9 (PHQ-9) was employed to assess major depressive disorder symptoms (Kroenke et al., 2001). The PHQ is a 9-item scale used to detect depression severity. Total scores of the scale range from 0 to 27. The PHQ-9 has been found to have good psychometric properties, with an internal reliability ranging from .86 –.89 and a test-retest reliability of r = .84 (Kroenke et al., 2010). In its first validation in Africa, the PHQ-9 showed reasonable accuracy in classifying cases of depression among HIV patients in South Africa (Cholera et al., 2014). To screen major depressive disorder symptoms, research has suggested a cut-off between 8 and 11 for reasonable sensitivity and specificity (Manea, Gilbody & McMillan, 2012). Thus, a cut-off of 9 was applied in this study.

Generalised anxiety disorder symptoms were measured by the general anxiety disorder 7 (GAD-7). The GAD-7 is a 7-item measure designed to diagnose generalised anxiety disorder. The GAD-7 has good internal consistency (Cronbach's α = .92, test-retest reliability of r = .83) and good convergent validity, as indicated by its correlations to the Beck Anxiety Inventory, r = .72 (Kroenke et al., 2010.) The measure has been validated for use in primary healthcare settings in Africa (Chibanda et al., 2016). Recent research suggests that if the GAD-7 is to be employed in assessing any anxiety disorder, a cut-off score of 8 provides more reasonable sensitivity and specificity than the cut-off of 10, recommended at its initial validation (Plummer, 2015). Hence, a cut-off of 8 was used to screen generalised anxiety disorder symptoms.

Post-migration stressors were assessed by the post-migration living difficulties checklist (PMLD, Silove et al., 1997). The PMLD is a 24-item scale which assesses resettlement stressors or difficulties experienced within the past 12 months. The PMLD has

been found to have high validity and an internal consistency of .90. The Cronbach's α for PMLD subscales are as follows: Health and Welfare Problems .84, Refugee Determination Process .76, General Adaptational Stressors .77, Family Concerns .79, and Social and Cultural Isolation .82 (Bentley, Dolezal & Alsubaie, 2019).

In addition, the questionnaire also assessed the sociodemographic characteristics of respondents, such as sex, marital status, nationality, reason for living, mental health history, employment status, education, and age.

3.9 Data presentation and analysis

Quantitative data were statistically analysed, and the analyses were aided by the Statistical Package for Social Sciences (SPSS) version 22. The proportion of the sample who scored within the elevated range of PTSD, major depressive disorder, and generalised anxiety disorder symptoms was calculated as frequencies and percentages. Chi-square tests were used to compare mental health outcomes across demographic variables.

Multiple regression models were performed, with dependent variables being PTSD, major depressive disorder, and generalised anxiety disorder symptoms, the independent variables being post-migration stressors. The Pearson correlation coefficient was also performed to test correlations between dependent and independent variables. The statistical procedures were chosen because they allow the researcher to account for all factors in one model and this helps to provide accurate and precise understanding of the association of each post-migration stressor and mental disorder symptom.

3.10 Validity and reliability

Validity and reliability were maintained by using pretested screening measures with good reliability and validity. External validity was ensured by using the sample size large enough to capture the diversity and variability of the entire refugee population in Cape Town.

However, the impact of research assessment on validity and reliability of the data should not be overlooked, validity and reliability might have been affected by several factors. Firstly, the questionnaires were not translated into the test takers native language which possibly led to misinterpretation of content and inaccurate responses (Zohrabi,2013)

Secondly there is substantial evidence from refugee populations as well as the general populations that response bias is common in survey research (Bogic, 2012; Miles; Els & Ramizova 2022). Participants can answer the questions in a way that does not reflect their true or honest opinions, attitudes or behaviours and their stories change depending on how they are being asked, when, who they are talking to, who is the intended audience and why they are being asked. The participants in the present study may have withheld information for a wide variety of reasons such as lack of trust, shame and the stigma of mental illness (Heelsum 2013; Miles, Els & Ramizova 2022).

3.11 Ethical considerations

Ethical clearance for the study was obtained from the Rhodes University Ethics Committee APPROVAL NUMBER 2022-05863-7258 (see appendix 1) and the Baptist Refugee Ministry granted the gatekeepers' approval letter since most of the participants were refugees visiting the Baptist Refugee Ministry (see appendix 2). As will be explained below, ethical principles and guidelines were adhered to according to the Helsinki Declaration (World Medical Association, 2013) and the Department of Health guidelines (Department of Health, Republic of South Africa, 2015).

Before the commencement of the study, potential study participants were informed about the details of the research which included purpose, aim, objectives, duration, participant role, benefits, compensation, risks, and confidentiality. I also went through the consent form with potential participants to ensure that they understood the study information,

research procedures, and their role as participants. When potential respondents had fully understood the study information, consent forms were provided to participants to provide written consent. Refugees who did not have any reservations about participating in the study, voluntarily signed the consent form and then proceeded to answer the questionnaire. Participants were given the right to withdraw at any stage if they so wished.

To guarantee beneficence, I informed the study participants about the unavailability of direct benefits for participating in the research, although the study results might benefit them and other refugees, if study findings contribute to the development of intervention programmes. To ensure non-maleficence, I ensured that participants would not be harmed physically or emotionally during data collection. Participants who refused to pursue issues that evoked negative feelings or emotions, would not be pursued. A counsellor was on standby to attend those who were psychological distressed after responding to questionnaires. A list of mental health services providers was also provided to participants for help.

Confidentiality, privacy, and anonymity were maintained throughout the study. To ensure privacy, no participant was forced to reveal information they did not want to reveal. To ensure anonymity no identities were included in the study. Participant codes were used to label data instead of names and personal-identifying information, such as a name, emails, phone numbers, identities, photographs, and IP numbers were not collected in the study. Demographic variables which were included, did not reveal identities. Signatures were collected only to indicate consent. I maintained confidentiality regarding participant information before, during, and after the research process. Participant data would be protected from use, access, transfer, modification, theft, or loss.

3.12 Chapter summary

This chapter described the materials and procedures used in gathering and analysing data throughout the study. It described all the important aspects which include the research approach, the study setting, the study participants, sampling, sample size, recruitment, sample characteristics, data collection and analysis, and finally the ethical considerations adhered to in the study. The next chapter, therefore, presents the results of the study.

CHAPTER 4

RESULTS

4.1 Introduction

This chapter presents and interprets the results that were obtained from the questionnaires. Tables and charts were used to present the data. The chapter firstly presents the demographic characteristics of the sample and then present the research findings. Specifically, the chapter reports on the proportion of the sample with elevated common mental disorder symptoms and post-migration stressors affecting participants. Associations between mental disorder symptoms and post-migration stressors as well post-migration predictors of PTSD, generalised anxiety disorder, and major depressive disorder symptoms are presented in this chapter.

4.2 Sample characteristics

As detailed in table 1, the sample consisted of 147 respondents of which 51.7% were males and 48.3% were females, both genders being well represented. Most of the respondents were between the ages of 30 and 44 (44.2%), while 28.6% identified in the 18-29 age group, 25.2% in the 45-59 age group, and 2.0% were 60 or above. This is so because most potential study participants who were reached and could understand English, were between 30 and 44 years. In terms of marital status, 49% of the respondents were married, 32.7% were single, 5.4% divorced, and 12.9% widowed.

More than half of the participants were refugees from the Democratic Republic of the Congo (54.4%), whereas 15% came from Burundi, 10.2% Somalia, 8.4% Cameroon, 6.1% South Sudan and 5.4% Rwanda. Refugees from the Democratic Republic of the Congo (DRC) participated in the study more than other nationalities because they are one of the largest refugee groups in South Africa, most war refugees come from the DRC. The majority

of the respondents had left their country of origin because of war (67.3%), whereas 23.1% were fleeing from conflict and 9.5% from persecution. Another important factor is that most refugees who participated in the survey had valid refugee status (81%) and only 17% had expired refugee status, while 2% did not have any papers at all.

Table 1

Characteristics of the Sample (N=147)

Variable	Category	*N*	*%*
Gender	Male	76	51.7
	Female	71	48.3
Age group	18-29 years	42	28.6
	30-44 years	65	44.2
	45-59 years	37	25.2
	60+ years	3	2.0
Marital status	Single	48	32.7
	Married	72	49.0
	Divorced	8	5.4
	Widowed	19	12.9
Country of origin	Burundi	23	15.6
	Cameroon	12	8.2
	DRC	80	54.4
	Rwanda	8	5.4
	Somali	15	10.2
	South Sudan	9	6.1
Reason for leaving	Conflict	34	23.1
	Persecution	44	9.5
	War	99	67.3
Level of education	No education	12	8.2
	Primary school	10	6.8
	Did not complete High School	13	8.8
	High School	66	44.9

	University/College	46	13.3
Living situation	Living alone	34	23.1
	Living with children	12	8.2
	Living with family	101	68.7
Employment statu	Employed	38	25.9
	Part-time employed	22	15.0
	Self-employed	21	14.3
	Student employment	2	4
	Unemployed	64	43.5
Visa status	Valid	119	81.0
	Expired	25	17.0
	No papers	3	2.0

4.3 Proportion of refugees who scored within the elevated range on the PTSD Checklist for DSM-5(PCL-5), the Patient Health Questionnaire - 9 (PHQ-9) and the General Anxiety disorder 7 (GAD-7).

Table 2 presents refugee mental health outcomes based on the proportion of participants who scored above or equal the cut-offs values for each measure. The elevated range for each measure were scores above or equal the commonly used cut offs' (PCL-5 cut off ≥ 32, PHQ-9 cut off ≥ 9, GAD-7 cut off ≥ 8). As indicated in Table 2, refugees who scored in the elevated range on the PCL-5, GAD-7 and PHQ -9 were 26.5%, 33.3% and 33.3%, respectively. Almost half of the study participants (45.6%) scored in the elevated range on at least one measure and 16.3 % scored in the elevated range on all three measures. Nearly a quarter of the sample (24.5%) scored in the elevated range of both major depressive disorder and generalised anxiety disorder symptoms, while 19. 7% scored in the elevated range of major depressive disorder and post-traumatic stress disorder symptoms.

Table 2

Proportion of refugees who scored in the elevated range of post-traumatic stress disorder (PTSD), major depressive disorder (MDD) and generalised anxiety disorder (GAD) symptoms.

Elevated Symptoms	Total Population	%
PTSD (PCL-5 cut off ≥ 32)	39	26.5%,
MDD (PHQ-9 cut off ≥ 9)	49	33.3
GAD (GAD-7 cut off ≥ 8)	49	33.3
One of the three measures	67	45.6
PTSD, MDD and GAD	24	16.3
MDD and GAD	36	24.5
MDD and PTSD	29	19.7
PTSD and GAD	29	19.7

4.4 Comparison of mental health outcomes across demographics

To compare symptom burden of post-traumatic stress disorder, major depressive disorder and generalised anxiety disorder symptoms across demographics, the chi-square test for independence was employed. The chi test of independence determines whether there is a significant relationship between variables. As shown in Table 3, chi-square analysis found no significant association between gender and occurrence of mental disorder symptoms.

Table 3

Comparison of mental health outcomes and gender

	Male	Female	x^2	p value
PTSD	46.2	53.8	.65[a]	.42
MDD	49.0	51.0	.22[a]	.64
GAD	44.9	55.1	1.36[a]	.24

* p \0.05

There were also no significant differences between the country of origin and the occurrence of post-traumatic stress disorder, major depressive disorder, and generalised anxiety symptoms (see table 4).

Table 4

Comparison of mental health outcomes and country of origin.

	Burundi	Cameroon	Congo	Somalia	South Sudan	Rwanda	x^2	p value
PTSD	17.9	10.3	51.3	5.1	10.3	5.1	3.39[a]	.64
MDD	10.2	6.1	61.2	14.3	4.1	4.1	.4.34[a]	.50
GAD	16.3	4.1	65.3	2.0	4.1	8.2	5.48[a]	.36

* p \0.05

As demonstrated in table 5, there was no significant association between marital status and frequency of elevated symptoms of post-traumatic stress disorder and generalised anxiety disorder. Elevated symptoms of post-traumatic stress disorder and generalised anxiety disorder were independent of marital status. However, there was a significant association between marital status and frequency of elevated symptoms of major depressive disorder symptoms.

Table 5

Comparison of mental health outcomes and marital status

	Single	Married	Divorced	Widowed	x^2	p value
PTSD	33.3	41.0	12.8	12.8	6.00[a]	.11
MDD	32.7	40.8	12.5	10.2	8.05[a]	.05
GAD	34.7	44.9	10.2	10.2	3.83[a]	.28

* p \0.05

As detailed in table 6, there was also no significant association between the level of education and elevated symptoms of post-traumatic stress disorder, major depressive disorder, and generalised anxiety disorder symptoms.

Table 6

Comparison of mental health outcomes and highest level of education.

	No formal education	Attended Primary School	Did not complete High School	Completed High School	Attended University/ College	x^2	p value
PTSD	7.7	10.3	5.1	48.7	28.2	2.11[a]	.72
MDD	8.2	12.3	14.3	40.8	24.5	7.021[a]	.14
GAD	10.2	12.3	67.3	46.9	16.3	11.37[a]	.02

* p \0.05

4.5 Post-migration stressors affecting refugees in Cape Town.

Figure 4.1 presents the post-migration stressors affecting refugees in Cape Town. Post-migration stressors were presented to participants, and they were asked to indicate post-migration stressors that stressed them during their stay in South Africa. The refugee status determination process emerged as a major post-migration stressor. Study participants (80%) expressed significant emotional distress because of the delays in the processing of their refugee status applications. While some refugees were stressed by waiting for a decision for more than a year, some refugees with valid refugee statuses were stressed by waiting for their children's claims. Protests against the prolonged document-seeking process caused conflict between the refugees and immigration officials and more than half of the participants (56%) reported being worried by the conflict. Refugees were also stressed about the interviews with immigration (61%), the never-ending immigration interviews for permit renewal with immigration officials caused significant distress and constantly brought back unwanted memories of pre-migration trauma.

The study results also indicate that discrimination affected most refugees in Cape Town. Three-quarters of the sample (75%) reported to have experienced discrimination in form of xenophobic violence, insults, and limited access to housing, employment, and education. The high number of refugees facing discrimination indicate that discrimination is rampant in Cape Town, with it being experienced in many spheres of their life.

Refugees also reported being greatly stressed about not being able to return home, 72% of the participants were worried about not being able to visit their home in the case of an emergency, and 68% were stressed about the safety of family members who were still back home. Worries about home depict homesickness among refugees, they long for their homeland and miss their family members and culture. Despite missing home, refugees expressed significant fear of being sent back home (48%).

Another post-migration stressor that affected most refugees was unemployment. More than half of the participants were worried about not having permission to work in the post-migration environment and of not getting a job, they found it difficult to be employed in Cape Town. This result demonstrates poor employment opportunities for refugees in host countries and predicts economic problems among refugees. Refugees also reported significant anxiety about not having the food they want (50%), during their stay in South Africa. They could not afford to buy the food they prefer and settled on what they could afford. More than half of the sample (59%) stated that the source of their stress was not receiving help from the government, whereas 57.1% were also worried about not getting help from charities. Not being able to afford food they want and the high need for aid among refugees in Cape Town indicate economic problems among refugees.

In addition, refugees who had separated from family members (54%) during migration, were significantly concerned about their family members not knowing where and

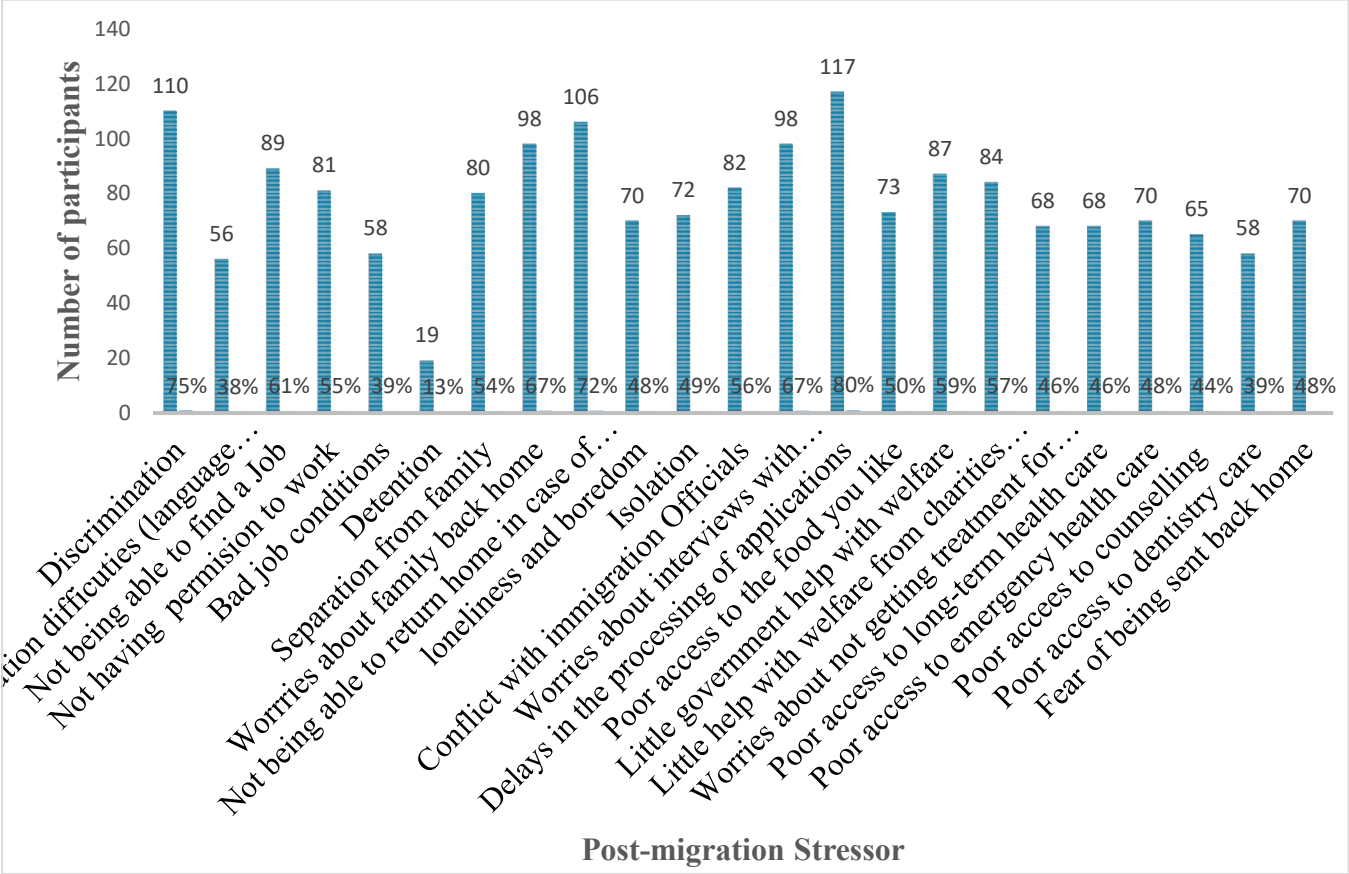
how their family members were resettled, caused significant distress. It is not surprising that 49% of refugees were stressed about being isolated, and 47.6% experienced loneliness in the post-migration environment. Residing in a foreign country, without familiar social networks or immediate family members, perpetuates loneliness and isolation.

Poor access to health services was also reported as major source of stress among refugees. Nearly half of the participants (47%) expressed significant distress about not getting emergency healthcare, whereas 46% of refugees were stressed about poor access to long-term healthcare and not getting treatment for health problems. Participants also reported stress about not having access to counselling (44%) and poor access to dentistry care (39%). These results reflect the high magnitude of unmet important needs in a post-migration environment that are likely to have negative implication on the physical and psychological health of refugees.

More than half of the participants (56%) complained about communication difficulties. They found it difficult to speak the host country language and this greatly stressed them. Regarding detention, only 13% reported being stressed about immigration detention. Most refugees had never been detained in South Africa.

Figure 4.1

Prevalence of post-migration stressors among refuges in Cape Town



4.6 Association between post-migration stressors and mental disorder symptoms

The Pearson correlation coefficient was computed to test the association between post- migration stressors and common mental disorder symptoms. As shown in Table 7, there was a positive association between the total score of the 23 post-migration stressors and mental disorder symptoms (post-traumatic stress disorder, major depressive disorder, and generalised anxiety disorder). Post-migration stressors were moderately correlated with major depressive disorder symptoms (.47) and generalised anxiety disorder (.50) symptoms. This means that an increase in post-migration stressors coincides with increased depression and anxiety symptoms among refugees. Participants who had higher post-migration living

difficulty scores had higher depression and anxiety symptoms. For post-traumatic stress disorder, the association with post-migration stressors was weak (.38).

Table 7

Post-migration stressors and mental disorder symptoms

		PTSD	MDD	GAD
Post-migration stressors	Pearson Correlation	.38**	.47**	.50**
	Sig. (2-tailed)	.00	.00	.00
	N	147	147	147

*. Correlation is significant at the 0.05 level (2-tailed).

The Pearson correlation coefficient was also employed to test the association of each post migration stressor with mental disorder symptoms. Each post migration stressor and its correlations with mental disorder symptoms is presented below.

4.6.1 Detention and its association with mental disorder symptoms

As shown in table 8, Detention was positively correlated with generalised anxiety disorder symptoms. A very low positive correlation coefficient of 0.19 suggests that there is very low positive correlation. Detention was not associated with post-traumatic stress disorder and generalised anxiety disorder symptoms, the p value is greater than the level of significance, which indicate that the relationship is not statically significant.

Table 8

Detention and Mental disorder symptoms Correlations

		PTSD	MDD	GAD
Detention	Pearson Correlation	.05	.07	.19*
	Sig. (1-tailed)	.29	.20	.01
	N	147	147	147

*. Correlation is significant at the 0.05 level (2-tailed).

4.6.2 Refugee determination status process and its association with mental disorder symptoms

As shown in table 9, the three mental health outcomes were positively associated with the refugee determination status process. Delays in the processing of refugee status applications were positively associated with post-traumatic stress disorder (.27), generalised anxiety disorder (.20), and major depressive disorder (.32) at 5% level of significance. Conflict with immigration officials was also positively associated with post-traumatic stress disorder (.27), generalised anxiety disorder (.26) and major depressive disorder (.35). Worries about interviews with immigration were also positively correlated with generalised anxiety disorder (.20) and major depressive disorder (.30) at 5% level of significance. The correlation coefficient values for refugee status determination variables are between .2 and .3 which indicate a low positive relationship. This means that although symptoms of mental disorder increase when stress associated with the refugee status determination process increase, the relationship is not strong.

Table 9

Refugee status determination process and mental disorder symptom correlations

		PTSD	MDD	GAD
Delays in the processing of application	Pearson Correlation	.27*	.32*	.20
	Sig. (1-tailed)	.00	.00	.01
	N	147	147	147
Conflict with immigration officials	Pearson Correlation	.27**	.35*	.26*
	Sig. (1-tailed)	.00	.00	.00
	N	147	147	147
Interviews with immigration	Pearson Correlation	.21	.30*	.23*
	Sig. (1-tailed)	.01	.00	.00
	N	147	147	147

*. Correlation is significant at the 0.05 level (2-tailed).

4.6.3 Discrimination and its association with mental disorder symptoms

For discrimination and mental health symptoms, discrimination stress was positively correlated with mental disorder symptoms (Table 10), the correlation was moderate for major depressive disorder (.42), and low for post-traumatic stress disorder (.32) and generalised anxiety disorder (.34). This means that discrimination stress increased when major depressive disorder symptoms increased among refugees.

Table 10

Discrimination and mental disorder symptoms correlations

		PTSD	Depression	Anxiety
Discrimination	Pearson Correlation	.32**	.42**	.34**
	Sig. (1-tailed)	.00	.00	.00
	N	147	147	147

*.

Correlation is significant at the 0.05 level (2-tailed).

4.6.4 Employment and its association with mental disorder symptoms

For the association between employment stress and mental disorder symptoms, not getting a job was positively correlated with all mental disorder symptoms. There was a moderate positive correlation with major depressive disorder (.41), and weak positive correlation with generalised anxiety (.35) and post-traumatic stress disorder (.32) at 0.05% level of significance. This indicates that when the stress of not having a job increased among participants, major depressive disorder symptoms also increased among refugees.

Table 11

Employment and mental disorder symptom correlations

		PTSD	MDD	GAD
No permission to work	Pearson Correlation	.21	.39**	.33**
	Sig. (1-tailed)	.01	.00	.00
	N	147	147	147
Not getting a job	Pearson Correlation	.32**	.41**	.35**
	Sig. (1-tailed)	.00	.00	.001
	N	147	147	147
Bad job conditions	Pearson Correlation	.08	.16	.23*
	Sig. (1-tailed)	.17	.03	.02
	N	147	147	147

*. Correlation is significant at the 0.05 level (2-tailed).

4.6.5 Separation from family, loneliness, isolation, and their association with mental disorder symptoms

Separation from family, loneliness, and social isolation were positively associated with generalised anxiety disorder symptoms. The associations were moderate for loneliness (.44) and isolation (.47), and weak for separation from family (.23). An increase in loneliness and social isolation significantly correlated with increased generalised anxiety disorder symptoms. However, for major depressive disorder and post-traumatic stress symptoms, the correlations were positively low, which suggests that separation from family, loneliness and isolation association with major depressive disorder and post-traumatic stress disorder is weak.

Table 12

Separation from family Loneliness and isolation and mental disorder symptoms correlations

		PTSD	MDD	GAD
Separation from family	Pearson Correlation	.20**	.32**	.23**
	Sig. (1-tailed)	.01	.00	.00
	N	147	147	147
Loneliness	Pearson Correlation	.24**	.34**	.44**
	Sig. (1-tailed)	.00	.00	.00
	N	147	147	147
Isolation	Pearson Correlation	.29**	.38**	.47**
	Sig. (1-tailed)	.000	.000	.000
	N	147	147	147

Correlation is significant at the 0.05 level (2-tailed).

4.6.6 Poor access to health services and its association with mental disorder symptoms

Regarding the association between access to health service stress and mental health symptoms, all mental disorder symptoms were positively associated with poor access to health service stress. As shown in table 13, generalised anxiety disorder symptoms were moderately associated with worries about not getting treatment for health problems (.48), poor access to emergency healthcare (.46), poor access to long-term health care (.41), and poor access to counselling services (.46). Refugees who were significantly worried about not accessing health services had higher generalised anxiety disorder symptoms. However, for post-traumatic stress disorder and major depressive disorder symptoms, correlations with poor access to health service stress, the relationship was positively low, implying that the association is not that significant.

Table 13

Poor access to health services and mental disorder symptom correlations

		PTSD	MDD	GAD
Worries about not getting. treatment.	Pearson Correlation	.24**	.32**	.48**
	Sig. (1-tailed)	.00	.000	.000
	N	147	147	147
Poor access to emergency healthcare	Pearson Correlation	.36**	.30**	.46**
	Sig. (1-tailed)	.00	.00	.00
	N	147	147	147
Poor access to Long term health care	Pearson Correlation	.28**	.30**	.41**
	Sig. (1-tailed)	.00	.00	.00
	N	147	147	147
Poor access to counselling	Pearson Correlation	.35**	.39**	.50**
	Sig. (1-tailed)	.00	.00	.00
	N	147	147	147
Poor access dentistry care	Pearson Correlation	.32**	.33**	.43**
	Sig. (1-tailed)	.00	.00	00
	N	147	147	147

*. Correlation is significant at the 0.05 level (2-tailed).

4.6.7 Worries about help with welfare and its relationship with mental disorder symptoms

As detailed in table 14, the three mental health outcomes were positively associated with worries about not getting aid from the government and charities, although the correlations were low. This indicates that an increase in concern about not getting help does not always correspond with a higher prevalence of mental disorder symptoms among refugees. However, poor access to food was moderately correlated with depression (.40) and generalised anxiety disorder symptoms (.52). Increased worry about food coincided with higher depression and anxiety symptoms. The relationship between post-traumatic disorder and poor access to the foods you like was weak

Table 14

Worries about help with welfare and mental disorder symptoms correlations

		PTSD	MDD	GAD
Not getting help from charities	Pearson Correlation	.257**	.364**	.386**
	Sig. (1-tailed)	.001	.000	.007
	N	147	147	147
Not getting help from the government	Pearson Correlation	.281**	.323**	.383**
	Sig. (1-tailed)	.000	.000	.000
	N	147	147	147
Poor access to food one likes	Pearson Correlation	.259**	.400**	.516**
	Sig. (1-tailed)	.000	.000	.003
	N	147	147	147

*. Correlation is significant at the 0.05 level (2-tailed).

4.6.8 Homesickness and its association with mental disorder symptoms.

Regarding homesickness, the three mental health outcomes had a weak positive relationship with worries about not being able to return home and worries about family back home (table 15). The association was weak, especially for generalised anxiety disorder symptoms, and worries about family back home, it was not statistically significant.

Table 15

Homesickness and mental disorder symptoms correlations

		PTSD	MDD	GAD
Not being able to return home	Pearson Correlation	.16*	.22*	.17*
	Sig. (1-tailed)	.03	.00	.02
	N	147	147	147
Worries about family back home	Pearson Correlation	.14	.15	.05
	Sig. (1-tailed)	.04	.04	.26
	N	147	147	147

*. Correlation is significant at the 0.05 level (2-tailed).

4.6.9 Fear of being sent home and its association with mental disorder symptoms.

As shown in table 16, fear of being sent home was positively associated with post-traumatic stress disorder, generalised anxiety symptoms, and major depressive disorder symptoms, although the relationship is low.

Table 16

Fear of being sent home and mental disorder symptoms correlations.

		PTSD	GAD	MDD
Fear of being sent home	Pearson Correlation	.23**	.29**	.25**
	Sig. (2-tailed)	.00	.000	.00
	N	147	147	147

*. Correlation is significant at the 0.05 level (2-tailed).

4.6.10 Communication difficulties and its association with mental disorder symptoms

Regarding communication difficulties, stress and its correlation with mental disorder symptoms shows that the association was positively low for major depressive disorder and post-traumatic stress disorder symptoms, and not significant for generalised anxiety disorder symptoms.

Table 17

Communication difficulties and mental disorder symptoms correlations

		PTSD	GAD	MDD
Communication difficulties	Pearson Correlation	.20*	.15	.21*
	Sig. (2-tailed)	.01	.07	.01
	N	147	147	147

*.Correlation is significant at the 0.05 level (2-tailed).

4.7 Post-migration factors predicting elevated symptoms of post-traumatic stress disorder, major depressive disorder, and generalised anxiety disorder

To find the post-migration predictors of elevated symptoms of major depressive disorder, generalised anxiety disorder and post-traumatic disorder, regression analysis was conducted.

4.7.1 *Post-migration factors predicting elevated symptoms of post-traumatic stress disorder*

As shown in table 18, the dependent variable (posttraumatic stress disorder) was regressed on to the predictor variables of post migration stress (discrimination, detention, communication difficulties, poor access to counselling, poor access to emergency health care, poor access to food one likes, refugee status determination process, not getting a job , bad job conditions, not having permission to work, unemployment ,separation from family members, not being able to return home, not getting treatment for health problems, loneliness ,isolation and not getting aid) .The linear combination of the independent variables explained 17% of the variance in post-traumatic stress disorder symptoms, $F(2,144) = 14.51$, $p < .001$ .Poor access to emergency health care*($\beta 1 = .28$, $p<.05$)* and discrimination *($\beta 2 = .21$, $p<.05$)*were the only variables that uniquely predicted post-traumatic stress disorder symptoms . The other postmigration factors did not have a statistically significant impact on post-traumatic stress disorder symptoms.

Table 18

Regression analysis for post-migration stressors and elevated symptoms of post-traumatic stress disorder

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.41[b]	.17	.16	17.50

a. Predictors: (Constant), poor access to emergency medical care, discrimination

Dependent variable: post-traumatic stress disorder

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
2	Regression	8884.40	2	4442.20	14.51	.00[c]
	Residual	44087.29	144	306.16		
	Total	52971.69	146			

a. Dependent Variable: post-traumatic stress disorder symptoms

b. Predictors: (Constant), poor access to emergency medical care, discrimination

Coefficients

Model		Unstandardised Coefficients		Standardised Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.28	3.70		.89	.38
	Poor access to emergency medical care	3.15	.95	.28	3.33	.00
	Discrimination	2.52	.99	.21	2.55	.01

a. Dependent variable: post-traumatic stress disorder symptoms

4.7.2 *Post-migration factors predicting elevated symptoms of generalised anxiety disorder*

As can be seen in table 19, the dependent variable (elevated symptoms of generalised anxiety disorder) was regressed on the predictor variables of post migration stress (detention, discrimination, poor access to food , not getting aid , long asylum waiting period, interviews with immigration , conflicts with immigration, communication difficulties, poor access to emergency health care ,poor access to counselling, poor access to long term health care, not getting a job, not having permission to work ,bad job conditions, separation from family members, fear of being sent back home not being able to return home, not getting treatment for health problems, loneliness ,isolation and not getting aid) . The independent variables significantly predicted elevated symptoms of generalised anxiety disorder. Poor access to food one likes and poor access to counselling services were the only post migration predictors that uniquely predicted elevated symptoms of generalised anxiety disorder symptoms. The two variables explained 33% of the variance in generalised anxiety disorder symptoms.

Table 19

Regression analysis for post-migration factors and elevated symptoms of generalised anxiety disorder

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.57[b]	.33	.32	4.61

a. Predictors: (Constant): Poor access to the foods one likes, poor access to counselling services

Dependent Variable: Anxiety symptoms

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1506.03	2	753.02	35.46	.00[c]
	Residual	3058.23	144	21.24		
	Total	4564.26	146			

a. Dependent Variable: Anxiety symptoms

Coefficients

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.73	.77		-.95	.34
	Poor access to the foods one likes	1.07	.26	.34	4.08	.00
	Poor access to counselling services	1.00	.27	.31	3.71	.00

Dependent Variable: generalised anxiety disorder symptoms

Predictors: (Constant): Poor access to the foods one likes, poor access to counselling service

4.7.3 *Post-migration factors predicting elevated symptoms of major depressive disorder*

As shown in table 20, the criterion variable (elevated symptoms of major depressive disorder) was regressed on to the predictor variables of post migration stress (discrimination, poor access to food one likes, detention, not getting aid , communication difficulties, not getting treatment for health problems, poor access to long term health care, poor access to counselling, poor access to dentistry services, poor access to emergency health care, interviews with immigration, long asylum waiting period , conflicts with immigration, not getting a job, bad job conditions, not having permission to work, not being able to return home, fear of being sent home, separation from family members, loneliness and isolation). As shown in table 20, it was found that two variables explained 21.8% of the variance. Discrimination significantly predicted elevated symptoms of post-traumatic stress disorder ($\beta 1 = .30$, $p<.05$), as did poor access to food one like ($\beta 2 = .26$, $p<.05$).

Table 20

Regression analysis for post-migration stressors and elevated symptoms of major depressive disorder

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.48[b]	.23	.22	5.51

Predictors: (Constant): discrimination, poor access to the foods one likes

Dependent: major depressive disorder

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1295.19	2	647.59	21.30	.00[c]
	Residual	4377.36	144	30.40		
	Total	5672.54	146			

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.58	1.15		-.50	.62
	Discrimination	1.15	.32	.30	3.57	.00
	Poor Access to the Foods you like	.92	.29	.26	3.16	.00

a. Dependent Variable: major depressive disorder symptoms

Predictors: (Constant): discrimination, poor access to the foods one likes

4.8 Chapter summary

In sum, the study found that symptoms of post-traumatic stress disorder, generalised anxiety disorder, and major depressive disorder are highly elevated and co-morbid among refugees from war- and conflict-torn countries resettled in Cape Town. The mental disorder symptoms were closely associated with post-migration stressors, mainly discrimination, poor access to health services, poor access to food one likes, not receiving aid, refugee determination status process, language difficulties, unemployment, and isolation. The next chapter will discuss the findings with reference to previous studies.

CHAPTER 5

DISCUSSION

5.1 Introduction

This chapter discusses the research findings with reference to the local, regional, and global literature. The first section discusses the proportion of the sample who scored within the elevated range of PTSD, generalised anxiety disorder, and major depressive disorder symptoms. The second section compares mental health outcomes across demographic variables. The third section examines the post-migration stressors affecting refugees in Cape Town and lastly, the chapter discusses associations between post-migration stressors and mental disorder symptoms.

5.2 Proportion of refugees who scored in the elevated range on the PTSD Checklist for DSM-5 (PCL-5), the Patient Health Questionnaire - 9 (PHQ-9) and the General Anxiety disorder 7 (GAD-7)

The study found elevated levels of PTSD, major depressive disorder, and generalised anxiety disorder symptoms among participants. Nearly half of the study participants (45.6%) scored in the elevated range on at least one measure (GAD-7, PCL5, PHQ-9), which indicates that they had clinically significant symptoms. This finding is significantly higher than the 16.5% annual prevalence, and 30% life prevalence of mental disorders observed in the general population of South Africa (Herman et al., 2009). Though the current study used self-reporting instruments which yield higher prevalence rates than diagnostic interviews utilised by Herman et al (2009), this result is similar to findings reported in other refugee populations using diagnostic interviews and self-reporting instruments (Teodorescu et al., 2012, Bogic et al., 2012, Nesterko et al., 2019, Leiler et al., 2019). In particular, the result coincides with Acarturk et al. (2021) who found that nearly half of Syrian refugees in Turkey had symptoms

of at least one mental disorder. Together, these research findings indicate a psychological burden on refugee populations and points to the need for therapeutic interventions.

The study also found elevated symptoms of major depressive disorder on the sample. One-third of the participants scored in the elevated range on the PHQ-9, which indicates the clinical significance of these symptoms. The finding is similar to findings reported in Turkey (34.7%), Germany (30.4%), and global systematic review (31%), [Acarturk et al., 2021; Borho et al., 2020; Patel et al., 2022]. However, the finding is much lower than findings frequently observed in low-income countries. A recent systematic review in Uganda found a prevalence of 67.6% among refugees resettled in Uganda (Kaggwa et al., 2022), a study conducted in Egypt found a prevalence of 63% (Sabry, Mostafa & Wahdan, 2020), and a similar study conducted in South Africa reported 54.6% depression prevalence among refugees settled in Durban (Thela et al., 2017). This pattern of results may be because of multiple economic and political problems in low-income countries, which are ultimately risk factors for mental disorders. Refugees who are already traumatised by the situation in the home country, may find it difficult to cope midst post-migration stressors (Thela et al., 2017, Patel et al., 2022, Kaggwa et al., 2022). In contrast, the low symptom burden in this study, may be because of methodological factors. The study detected moderate and severe depression symptoms only, mild symptoms were not detected. The study also employed probability sampling, probability-based samples have much lower prevalence than convenience-based samples (Patel et al., 2022).

The study found that more than one-quarter (26.5%) of the sample had elevated symptoms of PTSD which, on average, indicate a clinically significant range. This finding is similar to Kazour et al (2017) who reported 27.2% PTSD in a sample of Syrian refugees resettled in Lebalon. However, its much lower than prevalence rates among other refugee populations such as Syrian refugees in Turkey, which range between 60 and 80% (Mahmood,

Ibrahim, Goessmann et al. 2019; Acarturk et al. 2021; Bapolisi, et al 2020). Since PTSD develops because of exposure to traumatic events, variability in results is mainly attributed to the nature and frequency of the traumatic event/s experienced in both the pre- and post-migration phase. The nature and dose of trauma determine each individual outcome, with participants exposed to multiple life-threatening events or interpersonal trauma, such as rape and torture, exhibiting severe PTSD symptoms (Priebe, Kleindienst, Schropp, Dyer, Krüger-Gottschalk et al., 2018, Sengoelgea, Johnson-Singha, Mittendorfer-Rutzc et al., 2019). It is no surprise that the finding of this study is much lower than the 85% PTSD prevalence reported among refugees exposed to xenophobic attacks in Durban (Womersley, Severy & Van Custom, 2018). The study conducted in Durban comprised of refugees exposed to the same type of interpersonal trauma (xenophobic violence), which increased the participants' chances of having PTSD.

Despite the discrepancy of findings across studies, the current study adds to the evidence that refugees experience high rates of PTSD than the general population and point the need for trauma-focused interventions since PTSD symptoms can impair normal functioning. There is strong and consistent evidence from randomised controlled trials on the efficacy of evidence-based therapies for trauma and PTSD in refugee populations (Lambert & Alhassoon, 2015). Evidence based therapies can be essential in mitigating PTSD symptoms and cognitive impairments experienced by individuals.

The study also found that one-third of the study participants scored in the elevated range on the GAD-7, which indicates that they had clinically significant symptoms. This result coincides with 31.8% prevalence reported in Germany (Tinghög et al., 2017) and 36.1% anxiety symptom prevalence reported in Turkey (Acarturk et al., 2021). However, it is significantly lower than 49.4% prevalence rate of anxiety disorders reported in a similar study conducted in Durban (Thela et al., 2017). The discrepancy could be explained by

methodological factors. The study conducted in Durban had a convenience-based sample, convenience-based samples report a much higher prevalence than probability-based samples (Patel et al., 2022). The finding of this study indicates the clinical significance of these symptoms and likely need for interventions aimed at reducing the burden of mental disorder since anxiety symptoms can interfere with ability to daily function.

In this study, there was also substantial psychiatric co-morbidity among participants. Nearly one-quarter of the study participants had co-occurring elevated symptoms of major depressive disorder and generalised anxiety disorder, one-fifth had elevated symptoms of both major depressive disorder and PTSD, and almost one-sixth had co-morbid elevated symptoms of PTSD, major depressive disorder, and generalised anxiety disorder. These findings are consistent with those of previous research which reported high rates of refugees who presented co-occurring mental disorder symptoms (Teodorescu et al., 2012, Park et al., 2019, Bapolisi et al., 2020, Acarturk, 2021).Though high co-morbidity is often attributed to considerable symptom overlap between the three disorders (Brady et al., 2000, Price et al., 2019, Flory & Yehuda, 2019), the finding indicates high symptom burden, and the likely need for mental health services.

5.3 Comparison of mental health outcomes across demographics

Contrary to common research findings (Alpak, Unal, Bulbul et al., 2015, Acarturk, Cetinkaya & Senay et al., 2018, Chlaudt et al., 2020, Acarturk et al., 2021), the study found no significant association between gender and the occurrence of PTSD, major depressive disorder, and generalised anxiety disorder symptoms. However, this finding is consistent with Bogic et al. (2015), Henkelman et al. (2020), Bapolisi, Song, Kesande, Rukundo and Ashaba (2020), who found no differences between males and females on PTSD, depression and anxiety prevalence. The similitude can be a result of the exposure of both genders to the same

or similar traumatic experiences or the influence of confounding variables, such as resilience and social support (Bapolisi et al., 2020).

The study also found no significant association between the level of education and frequency of mental health outcomes. This contrasts with several studies that found that uneducated refugees had a higher prevalence of mental health difficulties than educated refugees (Bogic et al., 2012, Hossain et al., 2021). However, this finding is consistent with Tinghög et al. (2017) and Sengoelge et al. (2019), who found no differences in the mental disorder symptoms between literate and illiterate refugees. In the current study, education did not provide a protective role in the mental health of refugees, possibly because both illiterate and educated refugees had high rates of unemployment. Education can only play a protective role in the mental health of refugees if it enables them to acquire employment or enhance their quality of life.

There was also no significant association between marital status and most severe symptoms of PTSD and generalised anxiety disorder symptoms. This result coincides with Mangrio, Sjöström, Grahn and Zdravkovic (2021) who found no association between marital status and prevalence of mental disorders. However, in line with Tinghög et al. (2017), depression prevalence was high in divorced and widowed refugees. The absence of a partner might have diminished social support in the face of adversity and possibly caused the stress of providing for the children alone. Living with a partner plays a protective role in the development of mental disorders, particularly depression (Sengoelge et al., 2019)

5.4. Post-migration stressors affecting refugees in Cape Town

Consistent with previous studies examining the magnitude of post-migration stressors in host countries, this study found that refugees in Cape Town experienced post-migration stress. As will be detailed below, every post-migration stressor in the Post-Migration Living Difficulties Checklist was identified as the stressor in this study. The refugee status

determination process was reported as the major post-migration stressor, affecting more than 80% of the refugees reached. As described in previous studies (Landau 2006, Freedman et al., 2020, Schockaert et al., 2020, Khan, Mbatani & Marais, 2021), refugees settled in South Africa are frustrated and stressed by the never-ending interviews with immigration officials, which often result in conflict with immigration officials, exposure to traumatic events, loss of finance and time, and remind refugees of pre-migration trauma. The stress continues even after submitting refuge claims, they wait for years without any outcome, and the uncertainty regarding the outcome can be stressful for many.

This pattern of results does not only reflect how challenging the refugee determination process is in South Africa but also shows how difficult it is for refugees to sustain a living and integrate into the host society economically and socially. The long period of waiting for refugee status application outcome, deters refugees from participating in the workforce, educational and professional institutions, accessing proper housing and banking services; without these services, refugees cannot live meaningful lives (Hainmueller, Hangartner & Lawrence, 2016, Schockaert et al., 2020). For example, hundreds of refugees, frustrated with protracted and prolonged document renewal process, have been living in tents at Paint City and Wingfield in Cape Town for almost three years (Stoltz, 2022). They cannot afford safe accommodation, their children do not attend school, and they depend on aid for survival. The system which is meant to facilitate the meaningful integration of refugees is the same system which is delaying and hindering the resettlement of refugees. Commenting on the high number of pending asylum cases and long asylum adjudication in the Department of Home Affairs, Khan, Mbatani and Marais (2021) argue that South Africa has failed to meet its domestic and international obligations. Refugees in South Africa are suffering and have intense fears of being sent back home (54%) because of not being granted their constitutional

right (refugee status). Reforms in the implementation of legislation and policies towards refugees are necessary for promoting the meaningful integration of refugees.

In addition, the study results also indicate that a high number of refugees (75%) faced systemic and community discrimination in the Cape Town area, despite the open policy of integration. This form of discrimination in a population with a previous history of trauma, could potentially threaten refugees' safety, compound existing mental health difficulties, impair the quality of life, and erode successful integration. For example, in 2019 more than 500 refugees settled in Cape Town, could not bear up discrimination in communities and ended up protesting and requesting UNHCR to send them to Canada (Stoltz, 2022). To date, they are still residing in tents and are refusing to go back into communities for fear of xenophobic attacks. A study conducted in Durban found that almost half of the study participants experienced discrimination in South Africa, and it had affected their health (Thela et al., 2017). All this evidence demonstrates that discrimination is rampant in South Africa, and it greatly affects the psycho-social wellbeing of refugees.

However, high levels of discrimination reported in South Africa contrast with studies from high income countries, they report low levels of discrimination. Ziersch et al. (2020) reported 22% discrimination prevalence among refugees in South Australia and in a study conducted in Germany, discrimination was observed in one-third of Syrian refugees (Viazminsky et al., 2022). This pattern of results may be explained by the high levels of poverty and unemployment in low-income countries. Owing to limited resources in low-income countries, local populations view refugees as competitors for resources and thus, display negative attitudes towards foreigners (Thela et al., 2017). There is a need for systematic efforts aimed at reducing discrimination in host countries to promote refugees' quality of life, safety, and integration.

The result of the study also confirmed that unemployment is common among refugee populations. More than half of the study participants were stressed about not getting a job in South Africa. This result is similar to studies conducted in the United States of America, the United Kingdom and South Africa, where it is observed that refugees are twice as likely to be unemployed, compared to other immigrants (Jamil, Aldhalimi & Arnetz, 2012, Ruiz & Vargas-Silva, 2018, Thela et al., 2017). A great number of refugees struggle to acquire employment, while waiting for the refugee status determination application outcome and, even when granted the refugee status, potential employers do not always recognise their qualifications and may not be keen to employ refugees (Thela et al., 2017, Freedman, Crankshaw & Mutambara, 2020). Some refugees, especially refugee women, have poor access to employment opportunities due to language difficulties (Bogic et al., 2015).

Consequent to all these obstacles, a high number of refugees resettled in South Africa experience underemployment, downward mobility, poverty, and economic difficulties, despite possessing qualifications and work experiences. More than half of the study participants were worried about not getting help with welfare from the government and non-governmental organisations. The high need for aid among refugees might be a result of challenges in sustaining a living in South Africa, with refugees experiencing economic difficulties, food insecurity and poverty, as reported in previous studies (Thela et al., 2017, Maharaj et al., 2017, Idemudia et al., 2013). Promoting refugee employment in host countries, and addressing the aforementioned barriers are important issues to address concerning refugees settled in South Africa. It should be a priority for policy makers and organisations working with refugees to improve the socio-economic status of refugees.

The study also found that half of the sample had worries about poor access to food they like. This result is much higher than the 20.4% food insecurity reported in the South African national survey (Dlamini et al., 2023). The comparatively low prevalence of food

insecurity indicates that refugees are a particularly vulnerable group because of their limited employment opportunities and high levels of poverty experienced in host countries. Several studies have found a high prevalence of food insecurity among refugees in low- and high-income countries. In the United States, Anderson et al. found that 37% of Sudanese refugee households experienced food insecurity (Anderson et al., 2014), in Canada, 52% of refugee households were food insecure (Chevrier et al., 2023), and in a systematic review conducted in high-income countries, food insecurity ranged from 40% to 71% (Mansour, Liamputtong & Arora, 2020). In a study conducted in South Africa, 23.1% reported not having enough food and 54.3% reported eating less (Maharaj et al., 2017). Though the prevalence of food insecurity among countries varies across these studies, it is comparable to the findings of this study and shows that food insecurity is widespread among refugees. However, refugees settled in South Africa may be having poor access to food they prefer because they are self-reliant, refugees without a source of income are likely to be food insecure. The UNHCR and NGOs mandated to provide basic necessities can help this population with welfare, until they are fully established in host countries and can thus eliminate food insecurity.

The study also found that more than fifty percent of refugees were stressed by poor access to medical and psychological care. This finding corroborates previous studies conducted in South Africa (Crush & Tawodzera, 2014, Zihindula, Meyer-Weitz & Akintola, 2017, Munyaneza & Mhlongo, 2019, Freedman, Crankshaw & Mutambara, 2020, Khan, Mbatani & Marais, 2021). In these studies, refugees had poor access to medical and psychological care, regardless of whether they had serious health issues requiring immediate attention and barriers were lack of documentation, having refugee status, xenophobic attitudes of healthcare workers and language issues. The high number of refugees who cannot access health services in South Africa is concerning, as poor access to medical and psychological care can contribute to serious physical and mental difficulties that can affect a

refugee's quality of life. Interestingly, there is no recent literature that report about poor access to healthcare services by local South Africans as reported by refugees (Crush & Tawodzera, 2014, Amnesty International, 2015, Zihindula, Meyer-Weitz & Akintola, 2017). Poor access to healthcare by refugees might be linked to xenophobic attitudes and policies that do not support refugee access to health services (Zihindula, Meyer-Weitz & Akintola, 2017). Social inclusive policies that eliminate the aforementioned legal barriers and educate healthcare workers about the rights and needs of refugees may improve refugees' access to health services, and consequently promote refugee physical and mental wellbeing.

Furthermore, the study found that more than half of the participants (56%) were stressed by communication difficulties. This finding resonates with previous research that has shown that language difficulties are a major post-migration stressor, especially when they hinder refugee to access health services, employment, and accommodation (Crush & Tawodzera, 2014, Adams & Rother, 2017, Chiumento et al., 2020, Kalich, Heinemann & Ghahari, 2016, Hynie, 2018, Kiselev et al., 2020). In this study, the high number of refugees stressed with language is unsettling, and possibly indicates the presence of trauma or mental disorders, such as PTSD which interferes in language acquisition (Schiess-Jokanovic et al., 2021). It also shows that a high number of refugees are highly dependent and may experience economic difficulties. Without host language skills, refugees cannot acquire employment and/or stay employed, thus limiting economic independence. The provision of language courses at refugee reception facilities, screening trauma and related disorders in refugees who present language acquisition challenges, can be beneficial to the host country and refugees on the whole. This intervention may reduce the prevalence of a highly dependent population and enable refugees to participate and integrate into the host society.

In addition, it was found that more than half of the sample (54%) was significantly worried about being separated from their family members. This finding is common in refugee

populations (Ali-Naqvi, 2023). A recent study conducted in Hong Kong found that 80.9% of the refugees were stressed about being separated from family (Ng et al., 2023). Separation from family is stressful for refugees because it breaks familiar support systems, resulting in isolation, loneliness, and constant worry about the safety of family members back home. Uncertainty about family reunification and a poor support system in a foreign land can make one constantly worry (Bogic et al., 2015, Hynie, 2018, UN, 2021). It is not surprising that almost 50% of the sample was stressed by isolation and loneliness in the post-migration environment. The finding is also consistent with Savic et al. (2013) who found that resettling in an alien land without a familiar support system perpetuated loneliness and isolation among Sudanese refugees who had settled in Australia. These findings show that family separation significantly affects the psycho-social wellbeing of refugees in host countries, therefore, support systems for refugees without family members are essential in buffering social isolation and loneliness in the post-migration environment.

The study also found that more than half of the sample (68%) was worried about the safety of family members who were still back home. This result is similar to Ng et al. (2023), who found that 83.0% of refugees settled in Hong Kong were worried about the safety of family members who were still in the home country. Considering that that the sample was from war- and conflict-torn countries, family members back home were likely to be in war zones or conflict-torn areas that caused their lives to be at risk. Such circumstances severely threaten refugees' sense of well-being in host countries (Savic et al., 2013). It is important for refugees to try to migrate as a family unit and if it is not feasible, they should find means to stay connected with family members on social media platforms.

Regarding detention, the result of the study contrasts with Landau (2006) and Khan, Mbatani and Marais (2021), who noted that refugees in South Africa are frequently detained at Lindela Johannesburg, when their refugee status has expired, and they have been denied

protection. More than 85% of the had never experienced immigration detention in South Africa but refugees who had experienced detention, were part of the 2019 refugee protests in Cape Town, which resulted in the arrest of refugees who were refusing to leave the Home Affairs offices. This finding means that the detention of refugees is not common in Cape Town.

5.5 Post-migration stressors associated with post-traumatic stress disorder, generalised anxiety disorder and major depressive disorder symptoms

Regarding the association between post-migration stressors and mental disorders, the result of this study corroborated previous studies, as will be elaborated below most post-migration stressors were positively associated with mental disorder symptoms. However, contrary to common research findings that immigration detention is a major predictor of anxiety, depression, and PTSD among refugees (Von Werthern et al., 2018), the study found no association between detention and mental disorder symptoms. The disparity may be explained by the fact that only a few study participants had been detained during their stay in South Africa. Participants also marked detention as a mild migration stressor, which probably indicates that refugees are detained for a brief time or are not exposed to traumatic experiences that make detainees prone to the development of mental disorders.

Regarding, the relationship between mental disorders and poor access to food, the study results correspond to previous studies, poor access to food was the major predictor of major depressive disorder and generalised anxiety disorder symptoms. Although these findings cannot imply causality, several studies have settled that food insecurity is associated with mental disorder symptoms, mainly because of the constant worry about the source of one's next meal (Trudell et al., 2021, Kamelkova et al., 2023). Considering that refugees resettled in South Africa are self-reliant, those refugees without a source of income can

struggle to access food daily and may constantly worry about accessing food which heightens the development of generalised anxiety disorder and major depressive disorder symptoms. This finding is also corroborated by Maharaj et al. (2017), who found that eating less was significantly associated with anxiety and depression among African refugees settled in Durban. A national survey conducted in South Africa, also found that food insecurity was associated with depression and anxiety in the general population (Dlamini et al., 2023). These findings indicate that when basic needs are not met, individuals will continuously worry, which is noxious to mental health. Thus, if mental health is to be effectively addressed, promoting food security should be a vital part of the intervention or strategy. Several authors also argue that until daily stressors are addressed, refugees cannot focus on psychotherapy and recover from war-related trauma (Ehntholt & Yule, 2006, Mind, 2009, Misra et al., 2006). Current stressors should be eliminated to reduce psychological distress and foster recovery.

The study also confirmed that discrimination in the host country predicted mental disorder symptoms among refugees. Consistent with Solberg et al. (2020) and Brooks et al. (2022), discrimination was significantly associated with PTSD, major depressive disorder, and generalised anxiety disorder symptoms. Regression analysis also found discrimination as the major predictor for PTSD and major depressive disorder. Taking cognisance of the high levels of discrimination reported in this study, this finding is anticipated. The constant fear of xenophobic attacks and exposure to xenophobic violence is undoubtedly the source of mental distress among refugees in South Africa. Studies conducted in Durban, South Africa also indicate that discrimination is a risk factor for depression, and post-traumatic stress symptoms (Thela et al., 2017, Womersley et al., 2018). Some studies found weak evidence of an association between discrimination and mental disorders (Morgan, Melluish & Welham, 2017, Hecker et al., 2018), however, these studies had small sample sizes. Taken together, all

these findings indicate that discrimination is detrimental to the mental health of refugees, if the ongoing xenophobic attacks on refugees are not addressed, refugee mental health is at elevated risk and may continue to deteriorate.

In this study, all the studied mental disorder symptoms were significantly associated with poor access to health services. Poor access to emergency healthcare was a major predictor of PTSD, while poor access to counselling services emerged as the main predictor for anxiety symptoms in the regression analysis. Considering the physical and psychological harm experienced by refugees in all the migration phases, poor access to medical and psychological services can compound existing difficulties or precipitate the onset of mental disorders. The lack of treatment which is urgently needed for health problems in a population can cause significant distress that may culminate in mental disorder symptoms. These results coincide with Brooks et al. (2022) who found that anxiety about not receiving medical treatment was associated with PSTD, while poor access to psychological services was associated with depression among Syrian refugee women in Jordan. In Uganda, Bapolisi et al. (2020) also found that poor access to healthcare was associated with PTSD. This evidence shows that the system which is supposed to reduce the occurrence and recurrence of psychological distress in refugees, is the source of the distress. If host countries are to be safe sanctuaries for refugees, health services should be accessible to refugees. Without adequate medical and psychological facilities, the health of refugees can never improve. Promoting refugee access to health services is essential in improving refugees' psychological functioning.

The study also found that separation from family was associated with the three mental disorder symptoms. This finding affirms that family networks are protective factors for mental health (Ali-Naqvi et al., 2023). Being separated from family, increases refugee vulnerability in the host country, the stress of starting a new life without familiar support

systems, coupled with increased worries about the whereabouts and safety of family members, can cause significant psychological distress. In line with this finding, Solberg et al. (2020) and Tinghög et al. (2017) found associations between sadness due to family absence and mental disorder symptoms (PTSD, anxiety, and depression). These findings indicate family separation does not only break social ties and bonds but also cause emotional and psychological suffering which heighten the risk of mental disorders. Interventions that facilitate family reunification, such as Khumbula Ekhaya (a programme that unifies South African separated families) can be useful in promoting refugees' psychological wellbeing.

In addition, loneliness and isolation were significantly correlated with mental disorder symptoms, refugees who felt lonely and isolated reported more mental disorder symptoms. This result corroborates the protective role of close social networks and social support in buffering mental disorder. Without instrumental support in coping with post-migration stressors, refugees' mental health is at an elevated risk. Several studies have shown the interconnectedness between social support and the mental wellbeing of refugees (Brooks et al. 2022, Nowak et al., 2023). A recent systematic review observed that loneliness and/or social isolation were significantly associated with mental disorders symptoms, whenever they were studied (Nowak et al., 2023). Similarly, in a study conducted in Australia, loneliness and poor social integration were reported as the predictors of PTSD, depression, anxiety disorders, and other psychiatric disorders (Chen et al., 2017). In Sweden, Sengoelge et al. (2020) also reported that social hardship correlated with higher anxiety and depression symptoms, while greater social support was associated lower symptom severity. Together, these results depict the detrimental effect of isolation and loneliness in the mental health of refugees. Establishing structures that facilitate social inclusion and the support of refugees in host countries may be useful in promoting their mental health.

Moreover, unemployment stress had significant positive correlations with mental disorder symptoms, particularly major depressive disorder. Unemployment association with PTSD and anxiety symptoms was notably smaller. This result coincides with several findings in refugee populations (Bogic et al., 2012, Teodorescu et al., 2012, Bogic, Njoku & Priebe, 2015, Acarturk, 2021). In particular, Walther et al. (2020) found that depression and anxiety symptoms were lower for employed refugees, compared to unemployed refugees. Being unemployed, without a stable source of income over a long-term period, has been found to produce depression and anxiety symptoms (Bogic et al., 2015). Thus, the findings of this study imply that unemployment is the source of mental distress in refugees, therefore, helping refugees to find employment should be a key part of a mental healthcare plan. Structural interventions that promote the employment of refugees or assist them with a source of income, would be beneficial for mental health recovery. Longitudinal research has shown that neither psychological nor pharmacological treatment can improve refugee mental health if refugees do not have a source of income, thus, employment correlates with increased mental health functioning (Hocking et al., 2015). Mental health interventions that support refugee access to employment are essential for promoting the recovery from mental disorder symptoms.

Furthermore, concerns about not getting help with welfare from the government and charities were also positively associated with all mental disorder symptoms examined. Refugees who had constant worries about not receiving aid, had higher mental disorder symptoms. This finding shows that refugees in South Africa who are struggling to be independent, not getting social assistance when in need, is causing significant distress. In a study conducted in Uganda, PTSD was associated with the way aid is provided among refuges in Naville Camp, the provisions provided by global and local agencies were not sufficient to cover the needs of refugees (Bapolisi et al., 2020). Considering that refugees in

South Africa are settled in cities and must pay for housing and other expenses not applicable to refugees residing in camps, refugees in South Africa are likely to experience increased stress when aid is not provided.

In this study, communication difficulties were associated with major depressive disorder and post-traumatic stress disorder symptoms. Refugees who were greatly stressed by language difficulties had severe depression and PTSD symptoms. Though this result does not provide proof of directionality, research indicates that the association between mental disorders and language is bidirectional. There is ample evidence that difficulties in language acquisition and repetitive encounter with language barriers, might contribute to increased mental distress (Solberg et al., 2020). A study conducted among Syrian refugees found that refugees who experienced language difficulties had a significantly higher chance of developing depression, PTSD and anxiety, than those without difficulties (Tinghög et al., 2017). There is also evidence that refugees with PTSD, particularly complex PTSD, tend to have greater difficulties in learning the host country language and tend to interpret unfavourable events as very stressful (Iversen, Sveaass & Morken, 2014, Scott et al., 2015, Kartal, Alkemade & Kiropoulos, 2019). Schiess-Jokanovic et al. (2021) revealed that refugees with complex PTSD, reported problems with language acquisition more than any other post-migration stressor. This body of evidence indicates that refugees might be experiencing complex PTSD, which interferes with their ability to acquire the host language. It is thus necessary to screen mental disorders at refugee reception facilities and provide psychological intervention to refugees, before they settle in communities, so as to reduce the effects of PTSD on language acquisition.

In addition, the study found that the three mental health outcomes, had a weak positive relationship with anxieties about not being able to return home and worries about family back home. This result contrasts with Rosner, Hagl, Bücheler and Comtesse (2022),

who found that ruminations about home, missing family and total homesickness were associated with poorer mental health among asylum seekers resettled in Germany. The disparity can be a result of instruments, the current study assessed homesickness using a few items on the PMLD scale, while Rosner et al. employed a 20-item measure, explicitly developed to measure homesickness.

The study also found that the refugee status determination interviews were associated with mental disorders. Refugees who had been stressed by immigration interviews had higher symptoms of PTSD, generalised anxiety disorder, and major depressive disorder. Although this finding does not imply causality, there is evidence that the refugee determination interview is stressful and exacerbates mental health symptoms. Fears of potential adverse outcomes can contribute to depression and anxiety, while the interview itself can trigger PTSD symptoms (Bogner, Herlihy & Brewin, 2007, Nickerson et al., 2011). Reporting the traumatic experiences in detail during the interviews may activate PTSD symptoms. Schock, Rosner and Knaevelsrud (2015) who examined how the asylum interviews influence the mental health of asylum seekers, found significant increases within the intrusion symptoms of PTSD after the interview. Intrusions, that stem from the document-seeking process could trigger the development of PTSD, thus, refugees need to be treated with empathy during their immigration interviews to avoid compounding mental health problems or even the chronification of mental disorder symptoms.

Consistent with previous research, the prolonged refugee status-determination process was associated with PTSD, depression, and anxiety symptoms (Laban, 2005, Schockaert et al., 2020). Increased psychological distress corresponded with increased stress, related to the prolonged refugee-determination process. Uncertainty about the legal process outcome and barriers encountered because of insecure residence status while waiting for permit renewal, are undoubtedly the source of psychological distress and explain the link between the refugee

status-determination process and mental disorder symptoms. In line with this, Hvidtfeldt et al. (2020) also found that the increased risk of psychotic, affective and nervous disorders were 59% higher for refugees who have been waiting for 24 months, compared with refugees who have been waiting for 6 months. Raghavan et al. (2013) also found that having an asylum status, lessened mental disorder symptom severity. Considering that South Africa's Department of Home Affairs has the highest number of pending asylum cases and the longest asylum adjudication period in the world (Crush, Skinner & Stulgaitis, 2017), refugees in South Africa are at high risk of mental disorders. If the waiting period is not addressed, refugees will continue to experience mental distress. Reforms in the implementation of policies and the utilisation of psychological services among refugees with insecure residence status, is also essential in reducing psychological distress.

The study also found that fears of being sent home were positively associated with all the mental health outcomes. Taking cognisance of the fact that refugees who protested against resettlement factors in Cape Town were repatriated, and that the South African government was willing to repatriate the remaining refugees, rather than sending them to another country, this finding was expected. Constant fear of going back to the war zone, and possibly separating from their family members is the likely source of mental distress among refugees. Recent studies have also shown that the fear of being sent home can cause insomnia, stress (Ng et al., 2023) and mental disorder symptoms (Alem, Stampel, Baek et al., 2016). These findings indicate that when refugees' sense of safety and control over their lives is threatened, mental distress is inevitable. Host countries and the UNHCR must avoid instilling the fear of deportation in refugees, to minimise psychological stress.

Finally, the study found that accumulated post-migration stressors were positively correlated with generalised anxiety disorder, major depressive disorder symptoms, and PTSD symptoms. Refugees facing several post-migrations living difficulties had higher mental

disorder symptoms. This pattern of result is similar to several studies, such as Groen, Richters and Laban et al., (2019), who found that the accumulated post-migration stressors were positively associated with anxiety, depression, and PTSD symptoms among refugees in the Netherlands. Nickerson, Schnyder and Bryant et al. (2015) also found that increases in migration living difficulties were associated with higher rates of depression and PTSD. Ryan, Benson and Dooley (2008) found that refugees with higher overall scores in the post-migration checklist had higher rates of distress. This body of evidence indicates that post-migration significantly increases psychological distress in refugees. Mental health interventions for this population should address the socio-economic situation of refugees.

5.6 Limitations

The study had several limitations. First, it did not assess all potential predictors of common mental disorders. Pre-migration trauma, flight experiences, and the number and type of traumatic events were not assessed. These variables can also influence the severity of mental disorder symptoms. Second, the study employed self-reporting measures instead of clinician administered diagnostic interviews. Self-reporting instruments report a higher prevalence than diagnostic interviews (Patanè et al., 2022). The findings of the study are also limited by self-selection bias, as those who chose to participate might not have been reflective or the same as the broader population.

The sample included refugees who could read and understand English, it is possible that refugees who cannot read and understand English may experience more post- migration stressors and severe mental health problems. Finally, the study was cross-sectional and due to the nature of the study, it was not possible to examine causality between post- migration predictors and mental health symptoms.

5.7 Recommendations

Mental health service providers

The adverse impact of post-migration stressors on refugees' mental health highlights the need for holistic mental health interventions that address the social and economic needs of refugees in host countries. Socio-economic needs associated with psychological distress should be identified and be part of the mental health intervention or strategy. Perceived unmet socio-economic needs could contribute to relapse before recovery is complete or later. Addressing unmet socio-economic needs could go a long way towards reducing the occurrence, exacerbation, and recurrence of mental disorder symptoms.

Policy makers

The magnitude and association of post-migration stressors with refugee psychological distress symptoms has implications for policy development and service delivery. Addressing post-migration stressors via the modification of migration policies and social services access, could substantially mitigate psychological distress in refugees. For example, excluding policies that adversely affect refugee mental health, such as the long asylum waiting period, and barriers to healthcare, may alleviate daily stressors experienced by refugees and promote better mental health functioning. Policies and programmes that support refugees to access health services, acquire employment, and build social capital in host communities, could also reduce mental disorder symptoms and adaptation difficulties.

Research

I also advocate for longitudinal research to discern how changes in the post migration environment or stressors affect mental health functioning in refugee populations. Specifically, these studies would provide evidence of whether mitigating post-migration stressors reduce psychopathology or improve psychological functioning.

5.8 Conclusion

The present study shows evidence of numerous mental health burdens in refugees from war- and conflict-torn countries settled in Cape Town. Post-migration stressors are

significant predictors of psychological symptoms in refugee populations, with poor access to healthcare, discrimination and poor access to food tending to be more strongly associated with mental disorder symptoms than any other post-migration stressors. Nevertheless, stress related to unemployment, social and interpersonal challenges, and the refugee status-determination process were also found to be associated with mental health outcomes, although the associations were not albeit, across disorders. An examination of the fundamental mechanisms that influence the association between post-migration stressors and mental disorder symptoms in refugees, as well as longitudinal research to elucidate directionality, would be helpful to inform policy and interventions that promote the psychological well-being of refugees in host countries.

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Appendix A: Ethics Approval

Rhodes University Human Research Ethics Committee
PO Box 94, Makhanda, 6140, South Africa
t: +27 (0) 46 603 7727
f: +27 (0) 46 603 8822
e: ethics-committee@ru.ac.za

https://www.ru.ac.za/researchgateway/ethics/

6 December 2022

agnes mujuru

Email: g22m7383@campus.ru.ac.za g22m7383@campus.ru.ac.za

Review Reference: 2022-5863-7258

Dear agnes mujuru

Title: Prevalence and post migration predictors of post traumatic stress disorder(PTSD), depression and anxiety symptoms among refugees in Cape town

Researcher: agnes mujuru

Supervisor(s): Dr Duane Booysen and Prof Ashraf Kagee

This letter confirms that the above research proposal has been reviewed and **APPROVED** by the Rhodes University Human Research Ethics Committee (RU-HREC). Your Approval number is: 2022-5863-7258

Approval has been granted for 1 year. An annual progress report will be required in order to renew approval for an additional period. You will receive an email notifying you when the annual report is due.

Please ensure that the ethical standards committee is notified should any substantive change(s) be made, for whatever reason, during the research process. This includes changes in investigators. Please also ensure that a brief report is submitted to the ethics committee on the completion of the research. The purpose of this report is to indicate whether the research was conducted successfully, if any aspects could not be completed, or if any problems arose that the ethical standards committee should be aware of. If a thesis or dissertation arising from this research is submitted to the library's electronic theses and dissertations (ETD) repository, please notify the committee of the date of submission and/or any reference or cataloguing number allocated.

Sincerely,

Dr Janet Hayward

Chair: Rhodes University Human Research Ethics Committee, RU-HREC

cc. Ethics Coordinator

Appendix B: Permission to conduct Research

RHODES UNIVERSITY
Psychology Department

Rhodes University

Drosty Road,

Grahamstown,

6139

National Coordinator of Baptist Refugees Ministry

23 Aberdeen St, Woodstock

Cape Town

7915

13 September 2022

Dear Mr Notyo

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

I am a registered master's student in the Department Psychology at Rhodes University. My supervisor is Dr Duane Booysen. I am conducting research on the prevalence and predictors of PTSD, depression, and anxiety symptoms among refugees in South Africa. My research objectives are:

1. To find out the prevalence of PTSD, depression, and anxiety symptoms among refugees in Cape Town.
2. To assess the post-migration predictors for PSTD, depression and anxiety symptoms among refugees in Cape Town.

The study is a cross-sectional study. I will assess the symptoms of depression, anxiety, post-traumatic stress disorder and post-migration difficulties using questionnaires. The questionnaire will require 20-30 minutes to complete. The responses supplied in the survey will be collected anonymously, and I will maintain the confidentiality of the research records and data collected, with no attempt to identify the respondents. The project will highlight the prevalence and severity of mental health conditions among refugees and asylum seekers in Cape Town. More importantly, the results could be used to inform social and mental health services for refugees and asylum seekers.

I have identified your organisation as a potential site for my study. I am therefore seeking your consent to establish your organisation as the study setting for my study. I would like to meet and recruit refugees that you are currently working with, for my study. To assist you in reaching a decision, I have attached to this letter:

(a) A copy of an ethical clearance certificate issued by Rhodes University.

(b) A copy of the research instruments I intend to use in my research.

Should you require any further information, please do not hesitate to contact me or my supervisor.

Our contact details are as follows:

Dr Duane Booysen	Prof Ashraf Kagee	Agnes Mujuru
d.booysen@ru.ac.za	skagee@sun.ac.za	agnesmujuru@gmail.com
+27 (0) 46 603 8507	+27 (0) 218083442	+27 (0)842144129

Upon completion of the study, I undertake to provide you with feedback.

Your permission to conduct this study would be greatly appreciated.

Yours sincerely

Signature

Name: Agnes Mujuru

Appendix C: Gatekeeper's Letter

BAPTIST REFUGEES MINISTRY

Baptist refugees Ministry
23 Aberdeen Street
Woodstock
Cape Town
7915

Rhodes University

Drosty Road,

Grahamstown,

6139

29. November 2022

Dear Agnes Mujuru

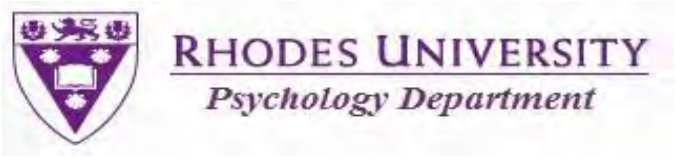
I hope and trust that this correspondence finds you well.

Baptist Refugees Ministry has received both your attached copies regarding your research studies and request.
In such note, we will be glad to assist you within our organization. In another hand, we will network also with other refugee and asylum seekers communities' partners in Cape Town.

For your information, due to the Covid-19 during the past two years many refugee and asylum seekers started leaving South Africa. The impact of the pandemic has left many families traumatized.

Sincerely yours
Rev. Pastor Eric Notyo Iyolo
National Coordinator of Baptist Refugee Ministry.
www.brmsa.org.za
073 33 60813

Appendix D: Information about the study



RHODES UNIVERSITY PSYCHOLOGY DEPARTMENT

E-mail: agnesmujuru@gmail.com, g22m7383@campus.ru.ac.zw

13 September 2022

To whom it may concern

Re: Invitation to participate in MA Research

You are invited to take part in a study conducted by Agnes Mujuru under the supervision of Dr Duane Booysen and Prof. Ashraf Kagee. You have been approached as a possible participant because you meet the inclusion criteria of the current study. Agnes Mujuru is a psychology postgraduate student completing a MA Psychology by thesis and is carrying out research on the prevalence and predictors of post-traumatic stress disorder (PTSD), depression and anxiety symptoms among refugees in Cape Town.

1. TITLE OF RESEARCH

Prevalence and post-migration predictors of post-traumatic stress disorder, depression and anxiety symptoms among refugees in South Africa.

2. PURPOSE OF THE STUDY

The purpose of this research is to determine the prevalence of depression, PTSD and anxiety symptoms among refugees in Cape Town, and how post-migration stressors experienced by refugees correlate with mental disorder symptoms. The main aim is to improve understanding of this phenomenon amongst mental health service providers, policy makers and other relevant stakeholders. The evidence will inform practices to promote the good mental health and well-being of refugees.

4. WHAT WILL BE ASKED OF ME?

If you agree to take part in this study, you will be asked to complete a questionnaire for approximately 25 - 30 minutes. The questionnaire assesses symptoms of PTSD, depression, anxiety, and post-migration stressors affecting refugees in Cape Town. You are expected to answer all the questions truthfully.

5. PROTECTION OF YOUR INFORMATION, CONFIDENTIALITY, AND IDENTITY

Any information that is obtained in connection with this study and that can identify you as an individual, will remain confidential and will be disclosed only with your permission or as required by law. The answers supplied in the survey are collected anonymously, and the researcher will maintain the confidentiality of the research records and data collected, with no attempt to identify the respondents. Participant data and information will be stored electronically, and only the primary investigator and her supervisors will have access to electronic copies.

6. PARTICIPATION AND WITHDRAWAL

If you volunteer to be in this study, you have the right to withdraw at any stage without consequences of any kind.

7. RESEARCHERS' CONTACT INFORMATION

If you have any questions or concerns about the research, please feel free to contact,

Researcher	**Supervisor**	**Co-Supervisor**
Agnes Mujuru	Dr Duane Booysen.	Prof Ashraf Kagee
Rhodes University	Rhodes University	Stellenbosch University
g22m7383@campus.ru.ac.zw	d.booysen@ru.ac.za.	skagee@sun.ac.za
0842144129	+27 (0) 46 603 8507	+27 (0) 218083442

8. DEBRIEFING

You are offered an opportunity, following the completion of the study, to question the researcher and the study's finding and/or to express any thoughts concerning the study.

The intention of this letter is thus to invite you to participate in this study. This invitation has been approved by the Rhodes University Department of Psychology's Research Project and Ethics Review Committee. If you decide to participate in this study, you will keep this information sheet and signed consent form.

Please find bellow-enclosed information on where to get help for psychological problems that you have experienced following your traumatic experiences.

Thank you for your time.

Yours sincerely

Signature:

Name: **Agnes Mujuru**

Where to seek help

If you feel in need for psychological help because of traumatic experiences, you can contact any of the mental health service providers below.

1. **Adonis Musati Project**. 21 Church Street, Wynberg,Cape town, 7824.
   Contact: +27 (0) 21 762 4886, admin@adonismusatiproject.org

2. **Scalabrini Centre of Cape Town.** 47 Commercial St, Cape town City centre, Cape town 8001. Contact: +27 21 465 6433, info@scalabrini.org.za

3. **Baptist Refugee Ministries** ,23 Aberdeen St, Woodstock, Capetown,7915
   Contact: +27727839598,

Appendix E : Participant Informed Consent Declaration

RHODES UNIVERSITY
Psychology Department

PARTICIPANT INFORMED CONSENT DECLARATION

(To be signed by research participants)

I _____ (participant's name) agree to participate in the research project by Agnes Mujuru, titled 'Prevalence and post-migration predictors of post-traumatic stress disorder, depression and anxiety symptoms among refugees in Cape Town'.

I am aware that:

1. The researcher is a student conducting the research as part of the requirements for a Master's at Rhodes University. The researcher may be contacted on +27(0) 842 144 129, agnesmujuru@gmail.com .
2. Rhodes University has given ethical clearance to this research project under the supervision of Dr Duane Booysen (d.booysen@ru.ac.za.) and Prof. Ashraf Kagee (kagee@sun.ac.za**).**
3. My participation is entirely voluntary and should I, at any stage, wish to withdraw from participating further, I may do so without any negative consequences.

4. I will not be compensated for participating in the research, but my out-of-pocket expenses will be reimbursed.
5. The researcher intends to publish the research results in the form of research articles. However, confidentiality and anonymity of records will be maintained, and my name and identity will not be revealed to anyone who has not been involved in conducting the research**.**
6. In terms of the Protection of Personal Information Act, it remains my right to request the researcher to provide me with a detailed explanation of exactly how confidentiality and anonymity will be achieved. I may request to know how my personal information will be stored securely, for how long it will be stored, and whether it is likely to be used again in further research.
7. In terms of the Protection of Personal Information Act, I possess the right to receive feedback about this research, unless I elect not to do so.
8. Any further questions that I might have regarding the research, or my participation, will be answered by Agnes Mujuru.
9. By signing this informed consent declaration, I am not waiving any legal claims, rights or remedies.
10. A copy of this informed consent declaration will be given to me, and the original will be kept on record.

I, ……., have read the above information and confirm that the above information has been explained to me in a language that I understand, and I am aware of this document's contents. I have asked all the questions that I wished to ask, and these have been answered to my satisfaction. I fully understand what is expected of me during the research.

I have not been pressurised in any way and I voluntarily agree to participate in the above-mentioned project.

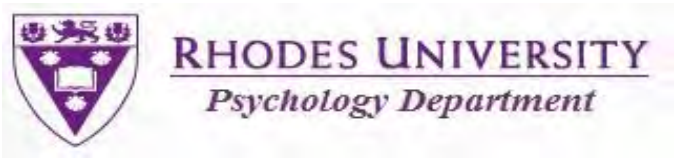
I **agree/disagree** (SELECT APPLICABLE) to the researcher's request to take photographs and/or videos of me as part of this research project, recognising that agreement here is likely to raise the risk of compromising my anonymity and that steps will be taken to ensure this does not happen, if my approval is granted.

I **agree/disagree** to the researcher's request to voice-record my comments and opinions during interviews, the purpose of which is to ensure the accurate recording of my views. Furthermore, I have the right to request a copy of interview transcriptions to confirm that my opinions are accurately recorded.

……. …….

Participant's signature **Date**

Appendix F *:* Questionnaire



DEMOGRAPHIC INFORMATION

Please indicate the following answers by making an (X) in the appropriate box.

1. **AGE** 18-29 ☐ 30-44 ☐ 45 -59 60 and above ☐

2. **GENDER:** Male ☐ Female ☐

3. **COUNTRY OF ORIGIN**: Congo ☐ Rwanda ☐

South Sudan ☐ Somalia ☐

Burundi ☐ Other (Specify) ☐

4. **MARITAL STATUS**: Single ☐ Widowed ☐ Married/ living together ☐

Separated ☐ Divorced ☐

5. **LIVING SITUATION:** Live alone ☐ Live with other adults ☐

No children ☐ Live with other adults and children ☐

Live with children ☐

6. VISA STATUS: **Valid refugee status** ☐ Expired ☐ No papers ☐

Permanent Visa ☐ Residency ☐ Citizenship ☐

7. **HIGHEST EDUCATIONAL LEVEL**: No formal education ☐

Completed primary school ☐ Attended high school but did not complete. ☐

Graduated from high school ☐ Graduated from university/college/Technikon. ☐

8**. EMPLOYMENT STATUS**: Employed full time ☐ Employed part time ☐

Student unemployment ☐ Self-employed ☐

Unemployed ☐ Retired ☐

9. MENTAL HEALTH HISTORY

a. Have you received counselling in the past? Yes/No

If yes, when, with whom & for what reason?

b. Have you been hospitalised for a mental health issue? Yes/No

If yes, when & for what reason?

c. Is there a family history of mental health problems or nervous problems? Yes/No

If yes, please explain.

10. POST-MIGRATION LIVING DIFFICULTIES QUESTIONNAIRE (PMLD)

To what extent did the following issues trouble you during the past period in South Africa	**No problem at all**		**A very serious problem**		
Communication difficulties (language barrier)	1	2	3	4	5
Discrimination	1	2	3	4	5
Separation from family	1	2	3	4	5
Worries about family back home	1	2	3	4	5
Unable to return home in case of emergency	1	2	3	4	5
No permission to work	1	2	3	4	5
Not being able to find work	1	2	3	4	5
Bad job conditions	1	2	3	4	5
Being in detention	1	2	3	4	5
Interviews by Immigration	1	2	3	4	5
Delays in processing application	1	2	3	4	5
Conflict with Immigration officials	1	2	3	4	5
Fear of being sent home	1	2	3	4	5
Worries about not getting treatment for health problems	1	2	3	4	5
Poor access to emergency medical care	1	2	3	4	5
Poor access to long-term medical care	1	2	3	4	5
Poor access to dentistry care	1	2	3	4	5
Poor access to counselling services	1	2	3	4	5
Little government help with welfare	1	2	3	4	5
Little help with welfare from charities (e.g. Red Cross)	1	2	3	4	5

Loneliness and boredom	1	2	3	4	5
Isolation	1	2	3	4	5
Poor access to foods you likes	1	2	3	4	5

11. PTSD Checklist for DSM-5 (PCL-5)

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:	**Not at all**	**A little bit**	**Moderately**	**Quite a bit**	**Extremely**
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	0	1	2	3	4

4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4
8. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something	0	1	2	3	4

seriously wrong with me; no one can be trusted; the world is completely dangerous)?					
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0	1	2	3	4
15. Irritable behaviour, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4

17. Being “super alert” or watchful or on guard?	0	1	2	3	4
18. Feeling jumpy or easily startled?	0	1	2	3	4
19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4

12. Patient Health Questionnaire

Over the last 2 weeks, how often have you been bothered by any of the following problems?

PHQ-9	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless				
3. Trouble falling or staying asleep or sleeping too much				
4. Feeling tired or having little energy				

5. Poor appetite or overeating				
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down				
7. Trouble concentrating on things, such as reading the newspaper				
8. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual				
9. Thoughts that you would be better off dead, or of hurting yourself in some way				
Add the score for each column				

Total Score (add up your column scores): _____

If you checked off any problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people? (Circle one)

Not difficult **Somewhat difficult**

Very Difficult **Extremely Difficult**

13. General Anxiety Disorder (GAD-7)

Over the last 2 weeks, how often have you been bothered by any of the following problems?

Please circle your answers.

GAD-7	**Not at all Sure**	**Several days**	**Over half the days**	**Nearly every day**
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying				
3. Worrying too much about different things				
4. Trouble relaxing				
5. Being so restless that it's hard to sit still				
6. Becoming easily annoyed or irritable				
7. Feeling afraid as if something awful might happen				
8. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual				

9. Thoughts that you would be better off dead, or of hurting yourself in some way				
Add the score for each column.				

Total Score (add up your column scores): _____

If you checked off any problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people? (Circle one)

Not difficult at all **Somewhat difficult** **Very Difficult** **Extremely Difficult**