Mental Health of Refugees and Asylum Seekers in Low- and Middle-Income Countries

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Abstract

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There is a growing acknowledgement of the importance of mental health and well-being among refugees and asylum-seekers as a result of high rates of mental distress. Most research, however, has focused on refugees and asylum-seekers who live in high-income countries, even though the vast majority (approximately 80 percent) reside in lower- and middle-income countries (LMICs). This three-paper dissertation brings attention to this research gap and examines issues surrounding the mental health of refugees and asylum-seekers living LMICs. Three different cross-sectional data sources were included in this dissertation from study participants recruited from Malaysia, Jordan, and Turkey in 2018. Additionally, three separate analyses were conducted, which include descriptive analyses and multivariable regressions.

The first dissertation paper examines the scope and prevalence of mental health counseling utilization in Malaysia. Using Andersen's Health Service Utilization as a conceptual framework, I examine how certain predisposing factors (socio-demographic characteristics), enabling factors (availability of resources), and need factors (mental health symptom severity) are associated with counseling utilization. The second dissertation paper examines suicidal behaviors among Syrian refugee women living in Jordan. Incorporating the Three-Step Theory (3ST) of suicidal behaviors, I examine how psychological pain, connectedness, and postmigration stressors are associated with suicidal behaviors. Lastly, my third dissertation paper examines the scope and prevalence of vicarious posttraumatic growth (VPTG) among service providers working with Syrian refugees in Istanbul, Turkey. Using a constructivist self-

development theory, I examine how greater exposure to traumatic material, in addition to having a greater support system, and having greater years of professional experience is associated with higher levels of VPTG.

Study results from Malaysia emphasize the need to understand individual and contextual determinants of mental health service use. I hypothesize that refugees and asylum seekers with certain predisposing factors (female, older age, married, higher education, lived longer in Malaysia, registered refugee), have greater enabling factors (easy access to healthcare, larger household income, do not need interpreter services, greater health literacy, and live with greater number of people in household), and have greater need factors (higher PTSD symptoms) will be more likely to attend counseling services. Almost three-quarters (71.89%) of participants surveyed had never attended mental health counseling services. The majority (71.89%) had never attended mental health counseling services, and among those who screened positive for PTSD, only a minority (16.49%) attended counseling services. My hypothesis was partially supported. Participants from Afghanistan and Myanmar were less likely to attend mental health counseling compared to Somalia and other countries ($p<0.001$). Not having easy access to health facility (OR:0.10, 95% CI:[0.03, 0.32]), needing interpreter services (OR:0.23, 95% CI:[0.07, 0.75]), and higher PC-PTSD scores (OR:0.69, 95% CI:[0.52, 0.91]) was associated with lower odds of counseling attendance. Other determinants of health service use such as gender, marital status, education level, years in Malaysia, registration status, household income, health literacy, and number of people in household did not show significant associations.

Study results from Jordan highlight that greater research and public awareness regarding suicidal behaviors is needed among Syrian refugee women. I hypothesize that screening positive for PTSD, social isolation (have no friends or family members available to help), and greater

number of postmigration stressors is associated with suicidal behaviors. Approximately one-tenth (9.86%) of participants reported suicidal behaviors (suicidal ideation and/or attempt) in the past 6-months. My hypothesis was partially supported. Screening positive for PTSD (aOR:4.02, 95% CI:[1.33, 12.15]) was associated with increased odds of suicidal behaviors, while having 1 friend or family member available to help when in need (OR:0.31, 95% CI:[0.13, 0.78]) decreased odds of suicidal behaviors. No associations between the number of postmigration stressors and suicidal behaviors were found.

Lastly, results from Turkey emphasizes the importance of focusing on service providers wellbeing. I hypothesize that greater exposure to traumatic material, in addition to having a greater support system, and having greater years of professional experience is associated with higher levels of VPTG. Among service providers recruited 44.66% reported moderate-to-high levels of VPTG. My initial hypothesis was partially supported. Moderate/high/severe secondary traumatic stress (aOR:3.98, 95% CI:[1.26, 12.59]), greater social support (aOR:1.05, 95% CI:[1.00, 1.10]), and greater organizational support (OR:1.11, 95% CI:[1.02, 1.20]) was associated with moderate-to-high VPTG. Proportion of clients who disclose trauma, and years in profession did not show significant associations.

Mental health utilization, suicidal behaviors, and the well-being of service providers are issues that have all been linked to the mental health and well-being of refugees and asylum-seekers. These topics have been minimally examined among forcibly displaced people living in LMICs. Clinicians and organizations must promote greater awareness of and screening for mental health conditions. Additionally, mental health and suicidal behaviors is often associated with stigma and discrimination, which means that providing basic psychoeducation surrounding

mental health, its impact, as well as awareness of services available, and normalizing treatment at the individual and clinic level is essential for increasing engagement of mental health services.

To further reduce global mental health disparities and provide equity in mental health care and treatment, future research and psychosocial interventions must prioritize and focus on the well-being of refugees and asylum-seekers living in LMICs.

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Dedication

This dissertation is dedicated to study participants who took their time and energy to share their stories and experiences.

Introduction

The world continues to see an unprecedented number of forcibly displaced persons, with well over 100 million people displaced by mid-2022 – doubling over the past decade (UNHCR, 2022b). Conflict-related violence, forced displacement, and adaptation to post-emergency context have resulted in the forcibly displaced, including refugees and asylum-seekers, to be at risk for mental health conditions (Hassan et al., 2016a) (Siriwardhana et al., 2014). This is reflected in the higher rates of common mental health conditions such as post-traumatic stress disorder (PTSD) (31.46%; 95% CI 24.43–38.5%), depression (31.5%; 95% CI 22.64–40.38%), anxiety (11%; 95% CI 6.75–15.43%), and psychosis (1.51%; 95% CI 0.63–2.40%) (Blackmore et al., 2020a) than compared to the general population. Although there is growing acknowledgement of the importance of mental health among refugees and asylum-seekers, most studies have focused on high-income countries; even though the vast majority (approximately 80 percent) of refugees and asylum-seekers reside in lower- and middle-income countries (LMICs) (Silove et al., 2017). To reduce mental health disparities and provide equity in care, research and potential psychosocial interventions must focus on the well-being of refugees and asylum-seekers living in LMICs.

The gap between refugees and asylum-seekers living in LMICs needing mental health services and those with access to these services remains substantial. Healthcare facilities, governmental and non-governmental organizations, as well as multilateral organizations, continue to collaborate to provide a range of mental health services to forcibly displaced people (Cratsley et al., 2021). Despite this effort, refugees and asylum-seekers continue to underutilize mental health services and experience additional barriers to seeking care (de Anstiss et al., 2009) (Satinsky et al., 2019). Poor health literacy, language barriers, cost, and stigma associated with

seeking care include some of the many barriers faced by refugees and asylum seekers (Satinsky et al., 2019). Previous research has shown that untreated mental health conditions can compound and contribute to negative chronic personal, social, and economic consequences (Knapp, 2003), highlighting the importance of accessing mental health services among refugees and asylum-seekers.

Furthermore, psychological pain and feelings of helplessness are common emotions expressed by refugees and asylum seekers that are both associated with suicide and suicidal behaviors (Klonsky & May, 2015). Suicide, a serious global public health problem that occurs predominantly in LMICs, disproportionately affects vulnerable groups such as refugees and asylum-seekers (World Health Organization, 2021). Despite the risk factors associated with being forcibly displaced, issues surrounding suicide and suicidal behaviors have been minimally examined. This is in part due to the lack of good quality country data in LMICs, varying methodological approaches, and stigma associated with suicide; all which contribute to under-reportion and misclassification of suicide and suicidal behaviors (Vijayakumar & Jotheeswaran, 2010).

Lastly, the mental health of refugees and asylum-seekers is affected by the wellbeing of service providers and the professional care they can provide. Adverse psychological consequences associated with supporting traumatized individual and listening to painful stories of suffering and despair have been well documented among a variety of service providers, which include: social workers, asylum attorneys, interpreters, and other professionals working with refugees and asylum-seekers (Roberts et al., 2021) (Harris & Mellinger, 2021) (Geiling et al., 2021) (Brooks, Dasgupta, et al., 2022). Some of these adverse consequences include the development of secondary traumatic stress (STS) that are similar to PTSD-like symptoms

(Collins & Long, 2003) (Branson, 2019). Despite these adverse psychological consequences, few studies have focused on how working with traumatized individuals can result in positive psychological growth. Focusing on positive psychological growth as well as the wellbeing of service providers is essential, so that service providers can effectively treat refugees and asylum-seekers that are in distress.

Using theoretical frameworks to guide the hypothesis for each aim, this dissertation focuses on issues surrounding the mental health of refugees and asylum-seekers living in LMICs; specifically 1) mental health service utilization, 2) suicidal behaviors, and 3) the wellbeing of service providers. These issues have all been linked to the mental health and wellbeing of refugees and asylum-seekers but have been minimally examined among those living in LMICs, resulting in a vast disparity and gap in research and knowledge. The purpose of the proposed three paper dissertation is to address the following:

Paper 1: to examine the scope and prevalence of mental health counseling utilization among refugees and asylum-seekers in Malaysia.

Malaysia serves as a transitional point for refugees and asylum seekers and is one of the largest host countries for refugees in Southeast Asia (European Civil Protection and Humanitarian Aid Operations - European Commission, 2013). Over 175,000 refugees and asylum-seekers reside in Malaysia, with the overwhelming majority from Myanmar, as well as other countries including Pakistan, Yemen, Syria, Somalia, Afghanistan, Sri-Lanka, Iraq, and Palestine (United Nations High Commissioner for Refugees, 2023). Refugees in Malaysia have limited legal rights, few social and health supports, widespread economic insecurity (Buscher & Heller, 2010) (Shaw et al., 2019) and experience high levels of emotional and psychological

distress (Shaw et al., 2019) (Kaur et al., 2020). The gap between people needing care and those with access to care remains substantial; especially among refugees and asylum-seekers who experience additional barriers when seeking mental health services (Fenta et al., 2006) (de Anstiss et al., 2009). Untreated mental health conditions can result in negative chronic personal, social, and economic consequences (Knapp, 2003). Using Andersen's Health Service Utilization as a conceptual framework, I examine how certain predisposing factors (socio-demographic characteristics), enabling factors (availability of resources), and need factors (mental health symptom severity) are associated with counseling utilization.

Paper 2: to examine the prevalence of suicidal behaviors among Syrian refugee women living in Jordan, and to examine the relationship between psychological pain, social connectedness, and postmigration stressors.

The Syrian refugee crisis continues to be one of the largest humanitarian crises of our time (UNHCR, 2021). Jordan, which hosts 1.3 million Syrian refugees, is one of the largest per capita refugee countries in the world (3RP, 2022). Syrian refugees in Jordan face a variety of socioecological mental health risk factors related to adaptation to their new country (Hassan et al., 2016a) (Brooks, Meinhart, et al., 2022). Refugee women, specifically, experience additional stressors throughout their displacement (Ward & Vann, 2002), including sexual, physical, and psychological abuse (UN Women, 2018), resulting in greater risk to adverse mental health outcomes (Jansen, 2006) and suicide. Only a limited number of studies have examined suicide and suicidal behaviors among refugees, especially in LMICs (Vijayakumar, 2016). Only a handful of studies have examined suicidal behaviors among Syrian refugees – despite the scale of the ongoing Syrian refugee crisis (Kashyap & Joscelyne, 2020) (Cogo et al., 2022).

Incorporating the Three-Step Theory (3ST) of suicidal behaviors, I examine how psychological pain, connectedness, and postmigration stressors are associated with suicidal behaviors.

Paper 3: to examine the scope and prevalence of vicarious posttraumatic growth (VPTG) among service providers working with Syrian refugees in Istanbul, Turkey.

Turkey hosts the largest number of Syrian refugees worldwide – with a staggering 3.7 million registered under temporary protection (Regional Refugee & Resilience Plan, 2022). Service providers in Turkey continue to help Syrian refugees who are traumatized by war and who experience ongoing displacement-related stressors related to adjustment to their new country (Alpak et al., 2015). Listening to stories of abuse, suffering and despair can psychologically impact service providers negatively, while helping those heal from the trauma can be rewarding. Vicarious posttraumatic growth (VPTG) is the development of positive growth as a result of indirect trauma associated from working with traumatized individuals (Arnold et al., 2005a). Service providers who report VPTG express increased levels of sensitivity, compassion, insight, tolerance, empathy and spirituality (Arnold et al., 2005a). Gaining insight to the growth and resilience of service providers assisting Syrian refugees is essential, so that service providers can effectively treat those in distress, and as no clear end is in sight for this protracted humanitarian crisis. Furthermore, there is a dearth of literature and research on VPTG among refugees and asylum-seekers living in LMICs.

Using a constructivist self-development theory, I examine how greater exposure to traumatic material, in addition to having a greater support system, and having greater years of professional experience is associated with higher levels of VPTG.

Chapter 1: Utilization of mental health counseling services among refugees and asylum-seekers in Malaysia

Abstract

Objectives: despite high levels of emotional and psychological distress experienced as a result of forced displacement, refugees and asylum-seekers often underutilize mental health counseling services. This paper examines the scope and prevalence of mental health counseling utilization among adult refugees and asylum-seekers in Klang Valley, Malaysia. I also examine how certain predisposing factors (socio-demographic characteristics), enabling factors (availability of resources), and need factors (mental health symptom severity) are associated with counseling utilization.

Methods: 286 refugees were recruited from three health clinics using venue-based random sampling in 2018. I used Andersen's Health Service Utilization as a conceptual framework to examine the relationship between *predisposing*, *enabling*, and *need factors* on counseling attendance using a multilevel logistic regression. I hypothesize that refugees and asylum seekers with certain *predisposing factors* (female, older age, married, higher education, lived longer in Malaysia, registered refugee), have greater *enabling factors* (easy access to healthcare, larger household income, do not need interpreter services, greater health literacy, and live with greater number of people in household), and have greater need factors (higher PTSD symptoms) will be more likely to attend counseling services.

Results: Approximately a third (34.28%) of participants surveyed screened positive for PTSD. The majority (71.89%) of participants had never attended mental health counseling services, and among those who screened positive for PTSD, only a minority (16.49%) attended counseling services. My hypothesis was partially supported. Certain predisposing factors were associated

with counseling attendance. Participants from Afghanistan and Myanmar were less likely to attend counseling compared to Somalia and other countries ($p<0.001$) and a direct association with age (OR:1.03, 95% CI:[1.00, 1.06]) was found with counseling attendance. Enabling factors that were associated with counseling attendance include Not having easy access to health facility (OR:0.10, 95% CI:[0.03, 0.32]) and Needing interpreter services (OR:0.23, 95% CI:[0.07, 0.75]). Lastly, greater need factors, or higher PC-PTSD scores (OR:0.69, 95% CI:[0.52, 0.91]) was associated with lower odds of counseling attendance. Gender, marital status, education level, years in Malaysia, registration status, household income, health literacy, and number of people in household did not show significant associations.

Implications: understanding barriers to care can benefit health clinics to address gaps in counseling utilization.

Introduction

Malaysia serves as a transitional point for refugees and asylum seekers, and one of the largest host countries for refugees in Southeast Asia (European Civil Protection and Humanitarian Aid Operations - European Commission, 2013). Over 175,000 refugees and asylum-seekers are registered with UNHCR in Malaysia, and an overwhelming majority are from Myanmar (over 150,000), while others are from Pakistan, Yemen, Syria, Somalia, Afghanistan, Sri-Lanka, Iraqi and Palestine (United Nations High Commissioner for Refugees, 2023). Although the Malaysian government allows UNHCR to operate in the country, refugees have limited legal rights, few social and health supports, widespread economic insecurity (Buscher & Heller, 2010) (Shaw et al., 2019), and often experience high levels of emotional and psychological distress (Chuah et al., 2018) (Shaw et al., 2019) (Kaur et al., 2020) (Low et al., 2014).

Despite these documented vulnerabilities, refugees often underutilize mental health services (Satinsky et al., 2019). In a systematic review of mental health care utilization among refugees and asylum seekers in Europe, untreated mental health conditions can have negative chronic personal, social, and economic consequences (Knapp, 2003). Although there is a growing acknowledgement of the importance of mental health, the gap between people needing care and those with access to care remains substantial; especially among refugees and asylum seekers who experience additional barriers when seeking mental health services (Fenta et al., 2006) (de Anstiss et al., 2009).

This paper examines the utilization of mental health counseling services of 286 urban refugees and asylum-seekers in Klang Valley, Malaysia. Using Andersen's Healthcare Service Utilization (HSU) framework, this paper uses a multi-level model that incorporates individual and contextual determinants of health services use (Andersen, 1995). Health service utilization

models can be used to help explain why an individual may or may not use a health service. Andersen's HSU explains health service utilization through three major components: 1) predisposing factors; 2) enabling factors; and 3) need for care (Andersen, 1995). Andersen suggested that an individual's use of health services is comprises of their predisposition or belief in service use, factors that may enable or impede care, as well as their severity of symptom or their need for care (Andersen, 1995). This framework has been revised and applied to several different populations – including immigrants and refugees – to include contextual determinants such as immigration status, assimilation, and ethnic culture (Fenta et al., 2006) (Yang & Hwang, 2016). This paper uses predisposing, enabling, and need factors identified in Andersen (1995) and Yang & Hwang (2016) as contextual determinants of health service utilization among refugees and asylum-seekers in Malaysia.

I hypothesize that refugees and asylum seekers with certain predisposing factors, have greater enabling factors, and have greater need factors will be more likely to utilize mental health counseling services.

Predisposing factors

Predisposing factors include demographics, social structure, and health beliefs (Andersen, 1995). Existing literature on immigrants and refugees suggest gender, age, marital status, education level, ethnicity/country of origin, length of stay in country, and immigration status to be predisposing factors associated with utilization of mental health services. Among gender differences in mental health utilization, previous studies indicated immigrant and refugee men to express reluctance when seeking help and report solitary ways to cope with their mental health (Young & Chan, 2015) (Pottie et al., 2005). Older age have also been associated with being less engaged with treatment; however, this association may be associated with poor health literacy

among older refugees (Young & Chan, 2015) (Lee et al., 2010). Among Ethiopian immigrant and refugees in the U.S., marital status was associated with mental health service utilization (Ayele et al., 2020). Higher levels of education is typically associated with greater health service utilization (Blackwell et al., 2009).

Ethnicity is another predisposing factor that has been associated with mental health utilization among immigrants, as culture, beliefs, values, and tradition influence how immigrants seek help (Yang & Hwang, 2016). However, mental health utilization among different ethnic groups have been minimally examined partially due to studies with small sample size. Furthermore, refugees residing in host countries that are not signatories to the UN Refugee Convention are particularly vulnerable and may be less likely to utilize mental health services (Shaw et al., 2019) (Buscher & Heller, 2010). Lastly, length of stay is also associated with health service utilization, as new immigrants and refugees have to adapt to the culture, society, and health care system of the new country (Yang & Hwang, 2016).

Enabling factors

Enabling factors include personal, family, and community resources that are associated with utilization of mental health services (Andersen, 1995). The literature among immigrant and refugees identifies several enabling factors, which include household income, access to healthcare, need for interpretation, and health literacy. A qualitative study of healthcare professionals who work with refugees and asylum-seekers in Malaysia reported that a key barrier to healthcare is an inability to afford healthcare due to inadequate livelihoods (Chuah et al., 2018). This echoes with findings among immigrant populations, where household income is associated with increased mental health service utilization (Yang & Hwang, 2016). Ease of access to healthcare has been associated with mental health utilization, where Dari and Arabic-

speaking refugees in Malaysia indicated that transportation, childcare and sickness were barriers to access to mental health services (Yang & Hwang, 2016).

Language barriers have been constantly associated with lowered health and mental health service utilization in refugee populations (Kohlenberger et al., 2019) (Wong et al., 20061211) (Salami et al., 2019). Furthermore, poor health literacy is reported as a barrier in utilizing mental health services among other refugee resettled in Sweden and the US (Murphy et al., 2019) (Wångdahl et al., 2018). This is also true for refugees in Malaysia, where both language and poor health literacy have been associated with lower utilization of health services in previous studies (Chuah et al., 2018).

Need factors

Need for care include perceived and clinically evaluated mental health needs (Andersen, 1995). A review of individuals seeking treatment after a traumatic event indicate that higher levels of psychopathology to be associated with seeking mental health treatment (Gavrilovic et al., 2005). A systematic review of immigrant in the US suggests that those with a psychiatric diagnosis, poor self-reported mental health, or former exposure to traumatic experience were more likely than others to use services (Derr, 2015). Among Ethiopian refugees in Canada, the number of somatic symptoms experienced was positively associated with increased mental healthcare utilization; however, having a mental disorder (depression, generalized anxiety, or post-traumatic stress disorder) was associated with decreased mental healthcare utilization (Fenta et al., 2006). The association between having a mental disorder and lower mental health utilization may be related to stigma and fear related to being diagnosed with a mental health condition (Lee et al., 2010) (Salami et al., 2019).

Study Aim

This paper examines the scope and prevalence of mental health counseling utilization among adult refugees and asylum-seekers in Klang Valley, Malaysia. This paper incorporates Andersen's HSU framework to examine individual and contextual determinants of health services use. Finding of this study will provide a better understanding of the individual and contextual determinants of mental health counseling services and will address gaps in counseling utilization among refugees and asylum-seekers in Malaysia. I hypothesize that refugees and asylum seekers with certain predisposing factors (female, married, higher education, lived longer in Malaysia, registered refugee), have enabling factors (easy access to healthcare, larger household income, do not need interpreter services, greater health literacy, and live with greater number of people in household), and have greater need factors (higher PTSD symptoms) will be more likely to utilize mental health counseling services.

Methods

Study Design and Sample

This study used quantitative data collected in 2018 that examined healthcare utilization as well as mental and physical needs of 286 urban refugees and asylum seekers living in Malaysia. Participants were randomly selected using a time-based randomization and venue-based recruitment at three health clinics in Klang Valley, Malaysia. Health clinics were selected to assess the healthcare needs of a diverse refugee population. Four-hour time-blocks were assigned to each clinic based on operating hours and room availability, and time blocks were randomized every week using a random number generator. Study participants were enrolled between July 2018 and September 2018.

Participants were eligible if they were 18 years or older, self-identified as a refugee or asylum-seeker living in Malaysia, a registered patient at the clinic, and able to give informed consent. Surveys were interview-administered by trained, community-based research assistants in the participant's language of choice (Arabic, Burmese, English, Farsi, Rohingya, Somali, or Urdu). Surveys were completed in a private area of the clinic, or when not possible, scheduled and completed at a later date in a private area within the community. All participants were compensated 10 RM (approximately 2.42 USD). Study protocols received ethics approval from Yale University and a rapid review ethics expert in Malaysia prior to the start of the study.

Measurement

Dependent Variable

Attend counseling services: utilization of mental health counseling services was measured by asking participants how often do they see counselors at the clinic (never/yearly/monthly/weekly). I dichotomized this variable and compared participants who Never attended counseling services at the clinic to those who utilized counseling services in some capacity: Yearly, Monthly, or Weekly.

Predisposing Factors

I included seven variables as predisposing factors. This included self-identified gender (male/female), age in years (continuous), country of origin (Afghanistan/Myanmar/Somali/other), marriage status (married/other), education level (none/some schooling/secondary school or higher), years in Malaysia (continuous), and refugee status (registered with UNHCR/not registered with UNHCR).

Enabling Factors

I included five variables as enabling factors. This included household income (continuous in Malaysian Ringgit) and the number of people in the household (continuous). I also asked participants whether their health clinic is easy to access (agree/disagree or don't know), and if they require services of an interpreter when they come to the clinic (disagree/agree or don't know). I combined responses agree and don't know in one category for the variable *require services of an interpreter* as participants uncertain if they need interpretation should request for an interpreter regardless.

Health Literacy: I used the three Brief Health Literacy Screener (BHLS) questions to measure health literacy (Chew et al., 2004) and translated into participants language of choice. Participants were asked: a) How often do you have someone (family member, friend, hospital/clinic worker or caregiver) help you read hospital materials; b) How often do you have problems learning about your medical condition because of difficulty understanding written information; and c) How confident are you filling out forms by yourself. Items were scored on a scale of 0 to 4. Like previous studies (Hardie et al., 2011) (Mantwill & Schulz, 2017), scores were added (after reverse-scoring question on confidence) to produce a score between 0-12. Cronbach's alpha among our sample is acceptable (α=0.68).

Need-related Factors

I included a single variable to measure PTSD as need-related factors. The Primary Care Post-Traumatic Stress Disorder Screen (PC-PTSD): is a brief 4-item screener for post-traumatic stress disorder (PTSD) (Prins et al., 2003) that has been used among several refugee populations (Leiler, Bjärtå, et al., 2019) (Em et al., 2014) and translated into participants language of choice. Participants were asked four questions regarding avoidance, intrusions, arousal and emotional

numbing: (0) No – (1) Yes. Scores were added to produce a symptom severity score between 0-4. Cronbach's alpha among our sample is acceptable (α=0.80). A PC-PTSD cutoff score (score of 3 or higher) was used to describe the percentage of sample that had a positive screening for PTSD (Prins et al., 2003).

Data Analysis

Descriptive statistics were used to examine characteristics of our study population, and to examine the utilization of mental health counseling services. Chi-squared and Fisher's exact test was used to calculate significant differences in categorical variables between the dependent and independent variable, while an independent sample t-test was used to calculate differences for continuous variables between the dependent and independent variable.

A multilevel mixed-effects logistic regression was used to test the hypothesis that certain predisposing factors (gender, age, marriage status, education, years in Malaysia, refugee status), greater enabling factors (healthcare facility access, household income, require services of an interpreter, health literacy, number of people in household), and greater need factors (PTSD symptom severity) will be associated with greater utilization of mental health counseling services while accounting for clustering at the clinic level. The intraclass correlation for the intercept-only model is ICC=0.089, suggesting that attendance of counselling services varied across clinics. I excluded the variable country of origin from our regression analysis due to wide ranging confidence intervals. All analyses will be completed using STATA (version 15.1).

Results

Characteristics of the sample

Characteristics of refugees and asylum-seekers enrolled in our study are presented in Table 1-1. Two-thirds of participants identified as female (66.8%). Participants were 37 years old

(SD=12.6) on average (range: 18-80), and were seeking asylum from Afghanistan (38.1%), Myanmar (38.1%), Somalia (14.3%), or other countries (9.44%). Most participants reported being married and living with their partner (61.9%). Less than half reported no history of education (47.9%). On average, participants lived in Malaysia for 4.2 (SD=3.7) years, and most were registered as a refugee with the UNHCR (81.8%). Participants, on average, reported a monthly household income of 1040 RM (SD=515.5) (approximately 250 USD), and a household size of 6 people (SD=2.2). Two-thirds agreed that their health facility is easy to access (66.3%), while three-quarters (76.8%) disagreed that they require service of an interpreter. The average score for the Brief Health Literary Screener was 7.45 (SD=3.26) (range: 3-15).

Several significant associations between predisposing factors and attendance of mental health counseling services in the bivariate analysis were found (Table 1-1). Participants who attended counseling services were, on average, significantly older in age (M=36.34, SD=11.63) compared to those who never attended counseling services (M=40.65, SD=14.46). Among refugees and asylum seekers who attended counseling, significant differences were found in the bivariate analyses of country of origin, where most participants from Afghanistan (99/109=90.83%) and Myanmar (98/109=89.91%) never attended counseling services, while most from Somalia (35/46=85.37%) and other countries (23/27=85.19%) attended counseling services in some capacity. I also found a significantly higher proportion of participants who were married and living with their partner to have never attended counseling services ($p=0.003$). A significantly higher proportion of participants who agreed their healthcare facility was easy to access to attend counseling services in some capacity ($p<0.001$) was found. I also found a significantly higher proportion of participants who disagreed they required service of an interpreter to have attended counseling services in some capacity ($p<0.001$).

Table 1-1: Bivariate association between predisposing, enabling, and need factors on utilization of counseling services

	Overall sample (n=286)	Participants who never attend counseling services (n=202)	Participants who attend counseling services (n=79)	Chi-squared, T-test, or Fisher's exact
	n(%) or x̄(SD)	n(%) or x̄(SD)	n(%) or x̄(SD)	
Predisposing Factors				
Gender				
Female	191 (66.78)	127 (62.87)	59 (74.68)	p=0.060
Male	95 (33.22)	75 (37.13)	20 (25.32)	
Age (n=285)	37.60 (12.60)	36.34 (11.63)	40.65 (14.46)	**p=0.010** [a]
Country of Origin				
Afghanistan	109 (38.11)	99 (49.01)	10 (12.66)	
Myanmar	109 (38.11)	98 (48.51)	11 (13.92)	**p<0.001** [b]
Somalia	41 (14.34)	1 (0.50)	35 (44.30)	
Other	27 (9.44)	4 (1.98)	23 (29.11)	
Marriage Status				
Married living w/partner	177 (61.89)	138 (68.32)	39 (49.37)	**p=0.003**
Other	109 (38.11)	64 (31.68)	40 (50.63)	
Highest Level of Education				
None		100 (49.50)	36 (45.57)	
Some schooling	137 (47.90)	46 (22.77)	15 (18.99)	p=0.430
Secondary school or higher	64 (22.38) 85 (29.72)	56 (27.72)	28 (35.44)	
Years in Malaysia (n=284)	4.25 (3.69)	4.27 (3.93)	4.17 (3.03)	p=0.829 [a]
Refugee Status				
Not registered	52 (18.18)	38 (18.81)	13 (16.46)	p=0.645
Registered	234 (81.82)	164 (81.19)	66 (83.54)	
Enabling Factors				
Household monthly income (n=285)	1039.88 (515.50)	1075.40 (474.02)	970.99 (611.43)	p=0.130 [a]
Household Size (including self) (n=279)	6.11 (2.18)	6.13 (2.04)	6.16 (2.18)	p=0.912 [a]
Healthcare facility easy to access (n=285)				
Agree	189 (66.32)	115 (56.93)	69 (88.46)	**p<0.001**
Disagree/don't know	96 (33.68)	87 (43.07)	9 (11.54)	
Require services of an interpreter (n=284)				
Disagree	218 (76.76)	142 (70.30)	71 (92.21)	**p<0.001** [b]
Agree/do not know	66 (23.24)	60 (29.70)	6 (7.79)	
Health literacy score (n=285)	7.45 (3.26)	7.26 (3.33)	7.88 (3.06)	p=0.150 [a]
Need Factors				
PC-PTSD sum score	1.72 (1.55)	2.03 (1.50)	1 (1.43)	**p<0.001** [a]
PC-PTSD cutoff score				
Screen negative	186 (65.72)	120 (66.30)	61 (33.70)	**p=0.002**
Screen positive	97 (34.28)	81 (83.51)	16 (16.49)	

Note. Chi-square test used unless otherwise noted; [a] T-test used; [b] Fisher's exact test used;
n = sample size; SD = standard deviation

Lastly, refugees and asylum seekers who never attended counseling services were, on average, had a significantly higher PC-PTSD sum score than compared to those who attended counseling services ($p<0.001$). A significantly higher proportion of participants who screened positive for PTSD never attended counseling services ($p=0.002$).

PTSD symptoms and utilization of mental health counseling services

Approximately one-third (34.3%) of refugees and asylum-seekers in our sample screened positive (PC-PTSD score ≥3) for PTSD (Table 1-2). PC-PTSD scores ranged from 0 to 4, with a mean score of 1.72 (SD=1.5). Most participants never attended counseling services (71.9%), while 28.1% reported to have attended counseling services in some capacity (weekly/monthly/yearly). Most participant were recruited from Clinic A (44.4%), followed by Clinic C (34.3%), and Clinic B (21.3%)

Table 1-2: PTSD symptoms, utilization of counseling services, and clinic location

Variables	n(%) or $\bar{x}$(SD)
Primary Care PTSD Screen (PC-PTSD) Sum Score	
0	91 (32.16)
1	55 (19.43)
2	40 (14.13)
3	36 (12.72)
4	61 (21.55)
Primary Care PTSD Screen (PC-PTSD) Cutoff Score (≥3)	
Screen negative for PTSD	186 (65.72)
Screen positive for PTSD	97 (34.28)
Attend counselling services	
No	202 (71.89)
Yes	79 (28.11)
Clinic Location	
Clinic A	127 (44.41)
Clinic B	61 (21.33)
Clinic C	98 (34.27)

Note. n = sample size; % = percentage;

Hypothesis Testing – Predisposing, Enabling, and Need Factors

Associations between predisposing factors and attendance of mental health counseling services in the multivariable analysis was found (Table 1-3). Age was the only predisposing variable significant in our multilevel logistic regression (OR:1.03, 95% CI:[1.00, 1.06]), where age was associated with 3% increased odds of attending counseling services. No significant associations were found between gender, marital status, highest level of education, years in Malaysia, and refugee status on attending counseling services.

Significant associations between enabling factors and attendance of mental health counseling services in our multivariable analysis were also found (Table 1-3). Healthcare facility was not easy to access was associated with an 90% decreased odd of attending counseling services (OR:0.10, 95% CI:[0.03, 0.32]). Furthermore, required services of an interpreter was associated with an 77% decreased odd of attending counseling services (OR:0.23, 95% CI:[0.07, 0.75]). No significant associations were found between household monthly income, household size, and health literacy score on attending counseling services.

Lastly, a significant association between PTSD symptoms severity and attendance of counseling services in the multivariable analysis was found (Table 1-3). Each additional increase in PC-PTSD score was associated with 31% (between 9% - 48%) decreased odds in attending counseling services (OR:0.69, 95% CI:[0.52, 0.91]).

Table 1-3: Multilevel logistic regression between predisposing, enabling, and need factors on participants who utilized counseling services (n=281)

	OR (95%CI)	p-value
Predisposing Factors		
Gender		
Female (ref.)	-	
Male	0.48 (0.20, 1.13)	p=0.091
Age	**1.03 (1.00, 1.06)**	**p=0.035**
Marriage Status		
Married (ref.)	-	
Other	1.84 (0.79, 4.26)	p=0.156
Highest level of Education		
None (ref.)	-	
Some schooling	1.08 (0.39, 2.95)	p=0.882
Secondary school or higher	2.59 (0.91, 7.37)	p=0.076
Years in Malaysia	0.96 (0.85, 1.09)	p=0.552
Refugee Status		
Not registered (ref.)	-	
Registered	1.02 (0.36, 2.94)	p=0.966
Enabling Factors		
Household income	1.00 (1.00, 1.00)	p=0.168
Household Size	1.09 (0.92, 1.29)	p=0.304
Health facility is easy to access		
Agree (ref.)	-	
Disagree/I don't know	**0.10 (0.03, 0.32)**	**p<0.001**
Require services of an interpreter		
Disagree (ref.)	-	
Agree/I don't know	**0.23 (0.07, 0.75)**	**p=0.015**
Health literacy score	1.06 (0.91, 1.24)	p=0.447
Need Factors		
PC-PTSD score	**0.69 (0.52, 0.91)**	**p=0.007**

Note. CI = confidence interval; OR = odds ratio.
Accounting for clustering at the clinic-level (ICC=0.089).

Discussion

This paper provides examines the utilization of mental health counseling services among clinic-attending refugees and asylum-seekers in Malaysia. My hypothesis was partially supported, in that several (not all) predisposing, enabling, and need factors were associated with attendance of counseling services. I found the proportion of refugees and asylum-seekers from Afghanistan and Myanmar were significantly less likely to attend counseling compared to those from Somalia and other countries. This finding was only found in the bivariate analysis as the variable country of origin was excluded from the regression analysis due to wide ranging

confidence intervals. I also found age to be directly associated with counseling attendance, while not having easy access to health facility, needing interpreter services, and higher PC-PTSD scores to result in lower odds of attending counseling services. I did not find other predisposing factors (gender, education level, years in Malaysia, and refugee status) and enabling factors (household income, household size, and health literacy score) to be associated with counseling attendance. Furthermore, my initial hypothesis was not supported in that participants with higher PTSD symptoms will have greater odds of attending counseling services. Instead, I found lower PTSD symptoms to be associated with higher odds of attending counseling services.

Overall, approximately a third (34.28%) of participants surveyed screened positive for PTSD, which is similar to pooled estimates of global PSTD prevalence among refugees and asylum-seekers 31.46% (95% CI 24.43–38.5) (Blackmore et al., 2020b). However, the majority (71.89%) of participants surveyed had never attended mental health counseling services, and among those who screened positive for PTSD, a minority (16.49%) attended counseling services in some capacity. These finding are similar to previous study of mental health utilization among Ethiopian refugees in Canada, where a small proportion (12.5%) sought mental health services from healthcare professionals, while a larger proportion consulted traditional healers (18.8%) (Fenta et al., 2006). A study of refugees in Germany also found that 28.9% of sampled refugees met the screening cut-off for mental health treatment, but none had received psychotherapy (Boettcher et al., 2021).

Several reasons may explain why certain predisposing factors were significant in our study. Differences in culture, beliefs, values, and tradition may be one reason why we the proportion of refugees from Somalia and other countries to attend counseling services more than those from Afghanistan or Myanmar. Studies on immigrant health utilization literature have

noted the importance of culture and country of origin (Yang & Hwang, 2016), where people from different cultures may be more comfortable seeking support for mental health from traditional or religious healers. One reason why married refugees and asylum seekers may be less likely to utilize counseling is because married individuals receive social support from their partners, which can act as a buffering for stressful events (S. Cohen & McKay, 1984). Similar findings have been reported in previous refugee literature, where lower levels of mental distress among the married were reported in a study of Dari- and Arabic-speaking refugees in Malaysia (Shaw et al., 2019), as well as among Arab immigrant women in the US, where higher support from husband was associated with lower depression (Aroian et al., 2015). Future studies in Malaysia may benefit from examining cultural nuances among refugees from different countries and its influence on utilization of mental health services.

Several reasons may explain why we found certain enabling factors to be significant. As refugees and asylum-seekers experience a variety of barriers when seeking healthcare, having easy access to their healthcare facility may represent facing less barriers when seeking care. Barriers to healthcare have been previous reported, where a qualitative study of healthcare professionals, program staff and experts on refugee and migrant health in Malaysia indicated that poor health literacy, lack of legal status, language and cultural differences, and inability to afford healthcare were all barriers associated to healthcare. A study of Dari and Arabic-speaking refugees in Malaysia also reported several barriers that include childcare, sickness and transportation (Shaw et al., 2019). Similar to previous studies, we also found having language barriers has been constantly associated with lowered health and mental health service utilization in refugee populations (Kohlenberger et al., 2019) (Wong et al., 20061211) (Salami et al., 2019). A scoping review of interpreters working with refugees in mental health settings noted the

complex challenges refugees face when engaging with care, and recommended to allocate funding to address lack of available adequate interpretation, as well as the need to standardize the training of interpreters, and for clinicians to establish a practitioner-interpreter-client relationship triad to help with effective intervention (Fennig & Denov, 2021).

One possible reason why we found lower PTSD symptoms to be associated with higher utilization of mental health services may be in part due to the stigma associated with being diagnosed with a mental health condition. This has been reported in previous studies (Lee et al., 2010) (Salami et al., 2019), where refugees and asylum-seekers may feel comfortable seeking mental health counseling if they are confident that they will not be diagnosed with a mental illness. A mixed-method study of Somali refugee adolescence and their caregivers found low rates of mental health service utilization, but mentioned that religious and school personnel were accessed more frequently (Ellis et al., 2010). Furthermore, differences in how cultures view health and illness may result in individuals feeling more comfortable in seeking traditional, religious, and indigenous systems of medicine and healing (Gopalkrishnan, 2018), rather than mental health services that are largely based in western notions of mental illness (Fernando, 2014).

Limitations

This study has several limitations. First the study is cross-sectional in design, which limits our ability to draw causal inferences, where associations were treated without consideration of temporality. Second, the study includes a small sample size. As a result the variable country of origin as excluded from the regression analysis due to wide ranging confidence intervals. Third, our study asked participants about their utilization of counseling services but did not include whether they were engaged in other mental health services including

other forms of traditional or religious healing. Fourth, the mental health symptoms were self-reported rather than diagnosed by a clinician. We did not include other common mental health conditions such as depression and anxiety in our analysis. Participants with high levels of depression and anxiety may have utilized mental health services differently than compared to participants who had PTSD.

We attempted to reduce social desirability bias throughout our study by providing comprehensive training for research assistants and providing a safe environment for our participants. Our sample only included refugees and asylum seekers who access health clinics, which limits our ability to generalize our results. Future research should examine mental health utilization over time and should also examine general levels of mental distress or cross-cutting mental health symptoms instead of specific diagnosis.

Implications

Despite these limitations, the findings have important implications to reduce mental health disparities among refugees and asylum-seekers living in LMICs. As many refugees and asylum-seekers present with mental health symptomology as a result of their displacement journey, understanding how they utilize mental health services is vital. It is therefore necessary that health facilities that serve this population to incorporate a routine mental health screener to engage refugees and asylum seekers in discussing their mental health, to assist them in being aware of available services, and to connect them with mental health services when needed.

As refugees and asylum-seekers from certain countries may utilize mental health service less often than others, health facilities will benefit from conducting a qualitative study or targeted focus group to ask clinic attendees their feedback/input on existing mental health services. This may include asking about barriers to seeking care, quality of interpretation services, sources of

mental health support (traditional and religious healers), as well as the mental health services that are offered. This feedback will provide health facilities with the opportunity to further strengthen mental health services and to develop culturally congruent services within the health facility.

Chapter 2: Suicidal behaviors among clinic-attending Syrian refugee women in Jordan: associations between PTSD, social support, postmigration stressors and suicidal behaviors

Abstract

Objectives: This paper examines the scope and prevalence of suicidal behaviors (suicidal ideation and attempt) among a sample of Syrian refugee women living in non-camp settings in Jordan. I examine a number of questions surrounding suicidal behaviors among Syrian refugee women and hypothesize that suicidal behaviors are associated with increased psychological pain, lack of connectedness, and greater number of postmigration stressors.

Methods: Participants (n=507) were recruited using a clinic-based systematic sampling from four health clinics throughout Jordan in 2018. Associations between psychological pain (PCL-5 cutoff score), connectedness (average number of friends and family members available to help when in need), and postmigration stressors (number of postmigration living difficulties) were examined using multivariable logistic regressions. Based on previous research and incorporating the Three-Step Theory (3ST) of suicidal behaviors, I hypothesize that screening positive for PTSD, social isolation (have no friends or family members available to help), and greater number of postmigration stressors is associated with suicidal behaviors.

Results: Approximately one-tenth (9.86%) of participants reported suicidal behaviors (suicidal ideation and/or attempt) in the past 6-months. Forty-six women reported suicidal ideation (9.07%) while fourteen reported a suicide attempt in the past 6-months. My hypothesis was partially supported. Screening positive for PTSD (aOR:4.02, 95% CI:[1.33, 12.15]) increased odds of suicidal behaviors, while having 1 friend or family member available to help when in need (OR:0.31, 95% CI:[0.13, 0.78]) decreased odds of suicidal behaviors. No associations

between the number of postmigration stressors and suicidal behaviors in the multivariable model was found.

Implications: Suicidal behaviors are a public health issue that disproportionately affects vulnerable populations that need greater public awareness. Agencies and practitioners working to address suicidal behaviors among Syrian refugee women should provide interventions that aim to reduce psychological trauma and social isolation. These interventions include screening for PTSD and suicidal behaviors during routine visits with service providers, as well as providing or referring to group-based psychotherapy or peer support groups to decrease isolation. Furthermore, policy must target to reduce the stigma associated with suicidal behaviors.

Introduction

Suicide is a serious global public health problem that disproportionately affects vulnerable populations, including refugees (World Health Organization, 2021). There is a dearth of information in the literature about suicide among refugees, especially in Lower-Middle-Income-Countries (LMIC) (Vijayakumar, 2016). Lack of good quality country data in LMIC, stigma associated with suicide, and likely under-reporting and misclassification of suicide, are associated with the difficulties in conducting research on suicide (Vijayakumar & Jotheeswaran, 2010). Among studies that examined suicidal behaviors among refugees, rates of suicidal behaviors vary, possibly reflecting the differences in methodological approaches (Vijayakumar & Jotheeswaran, 2010) (Kashyap & Joscelyne, 2020). A systematic review of suicidal behaviors among forcibly displaced populations reflects this heterogeneity, as prevalence of suicidal ideation (0.17%-70.6%) and suicide attempts (0.14%-15.1%) vary considerably among displaced populations (Cogo et al., 2022).

Only a handful of peer-reviewed articles have examined suicidal behaviors among Syrian refugees (Kashyap & Joscelyne, 2020) (Cogo et al., 2022). This is despite the fact that the Syrian refugee crisis continues to be one of the largest humanitarian crises of our time – with over 6.8 million Syrians forcibly displaced from their country of origin (UNHCR, 2022b). The majority of these studies list Syrian refugees as a subsample among other refugee groups, while only one study that specifically examined suicidal behaviors among Syrian refugees in Egypt (I. A. Kira et al., 2017).

One of the largest per capita refugee countries in the world in Jordan, which hosts 1.3 million displaced Syrians (3RP, 2022). Syrian refugees in Jordan face socioecological mental health risk factors from a variety of postmigration stressors related to adaptation to their new

country including discrimination, isolation, and access to health and mental health services (Hassan et al., 2016b) (Brooks, Meinhart, et al., 2022). Refugee women, furthermore, experience disproportionate amounts of displacement stressors (Ward & Vann, 2002), including sexual, physical, and psychological abuse (UN Women, 2018), resulting in a greater risk to adverse health and mental health outcomes (Jansen, 2006). Despite these added stressors experienced throughout displacement, no existing study has examined suicidal behaviors among Syrian refugee women living in Jordan.

Suicidal Behaviors – Theoretical Background

The literature generally distinguishes between suicide and suicidal behaviors (Nock et al., 2008) (Silverman et al., 2007a) (Silverman et al., 2007b). Suicide is defined as the act of intentionally ending one's own life, while suicidal behaviors include nonfatal suicidal thoughts and behaviors (Nock et al., 2008). Suicidal behaviors can be further classified specifically into three categories: suicide ideation, suicide plan, and suicide attempt (Nock et al., 2008). *Suicide ideation* refers to the thoughts of engaging in behavior intended to end one's life, while *suicide plan* is the formulation of a specific method through which one intends to die. *Suicide attempt* refers to the engagement in potentially self-injurious behavior in which there is at least some intent to die (Nock et al., 2008).

The development of theories to explain suicidal behaviors has resulted in renewed research interest in suicide over the past decade. This has resulted in increased research on suicidal behaviors among refugee populations, even though the adaptation of theory for refugee populations is just emerging. There is currently no specific theory to explain suicidal behaviors among refugee populations. One leading theory that has been applied in a handful of studies among refugee populations is the Three-Step Theory (3ST).

The Three-Step Theory (3ST) roots suicide in a "Idea-to-Action" framework (Klonsky & May, 2015). First, the 3ST theory hypothesizes that suicide results from the combination of pain and helplessness. This pain is typically described as emotional or psychological pain. Second, among those experiencing pain and hopelessness, connectedness is a key protective factor against escalating ideation, in that it prevents the escalation of suicidal ideation. Connectedness typically means connection to other people, but can also mean attachment to a job, role, or a perceived sense of purpose that keeps a person interested in living (Klonsky & May, 2015). Lastly, the theory states that the progression from ideation to attempts as facilitated by dispositional, acquired, and practical contributors to the capacity to attempt suicide (Klonsky & May, 2015). Several studies have shown the 3ST theory to be supported in studies that examined suicidal behaviors among Congolese refugees in Rwanda and North Korean refugees in South Korea (Ingabire & Richters, 2020) (Park et al., 2018).

Psychological Pain

The 3ST highlights how suicidal ideation and behaviors are rooted in psychological pain. This is reflected in extant literature, where psychological pain or having a mental illness such as PTSD or depression is considered a risk factor for suicide and suicidal behaviors (Panagioti et al., 2009) (Hawton et al., 2013). Among refugee populations, exposure to severe trauma and PTSD is a risk factor for suicidal behavior (Ferrada-Noli et al., 1998). Existing models of suicidal behaviors suggests that PTSD symptoms is associated with poorer occupational and social functioning, leading to greater life impairment and subsequently suicidal behaviors (Panagioti et al., 2009). An alternative model suggests that suicidal behaviors when associated with depressive symptoms is linked to severe PTSD symptoms (Panagioti et al., 2009). This suicidal behavior and PTSD association is especially important among refugee populations, as

refugees have a significantly higher rate of PTSD than compared to the general population (Fazel et al., 2005).

Several studies have examined the relationship between mental illness and suicidal behaviors among refugees. Among North Korean refugee youth in South Korea, higher levels of PTSD symptoms are associated with suicidal ideation (Park et al., 2018). A study of randomly selected Bhutanese refugees in the US indicate significant associations between mental health conditions and suicidal ideation, including PTSD (Cochran et al., 2013). Among Congolese refugees living in Rwanda, they found poor mental health to be associated with suicidal ideation and/or attempts (Ingabire & Richters, 2020). A study of refugees resettled in Sweden indicated that refugees with depression comorbidity reported higher frequency of suicidal thoughts, while PTSD non-depressive refugees reported increased frequency of suicide attempts (Ferrada-Noli et al., 1998). Among refugees residing in asylum accommodations in Sweden, refugees (including Syrian refugees) who reported moderate to severe levels of emotional distress were much more likely to exhibit suicidal ideation than those with low levels of distress (Leiler, Hollifield, et al., 2019). These studies highlight the close association between mental health conditions, psychological pain, and suicidal behaviors.

Connectedness

The 3ST indicates that isolation and lack of connectedness are a key risk factor of suicidal behavior. Although no peer-reviewed studies have examined this relationship among Syrian refugees, several studies with other refugee populations highlight the association between connectedness and suicidal behaviors. A study of 579 Bhutanese refugees resettled in four different states in the United States indicate that suicidal ideation was associated with lower levels of social support (Hagaman et al., 2016). Among asylum seekers in the UK, high levels or

self-harm and suicide are reported among detained asylum seekers than compared to the UK prison population. Furthermore, this study suggests social isolation to be risk factor for suicides (J. Cohen, 2008). A case report of an Afghan refugee in resettled in the US indicated how post-migration loss of family, social support, and the struggle to adapt to cultural difference contributed to mental health disorder and suicidal behaviors (Morrow & Krishna, 2019). Although social isolation has been reported among non-refugee populations as a risk factor for suicide, only a handful of studies have examined social isolation among refugee populations.

Postmigration Stressors

Although the 3ST does not incorporate postmigration stressors into its theoretical framework, several existing literature on refugee suicidal behavior have emphasized the link between postmigration stressors and suicidal behaviors. A study of treatment-seeking survivors of torture resettled in New York examined a range of postmigration stressors and found that being female, having not submitted an asylum application, and a history of rape or sexual assault, to be associated with suicidal ideation (Lerner et al., 2016). A study of Bhutanese refugees resettled in four different states in the U.S. highlight how stressors such as unemployment among men, illiteracy and family conflict among women, were associated with feelings of alienation from family and friends (Ellis et al., 2015). Furthermore, postmigration stressors have been a examined as a strong predictor of suicidal behaviors among multiple refugee and asylum-seeking populations (Kashyap & Joscelyne, 2020).

Study purpose

This paper examines the scope and prevalence of suicidal behaviors (suicidal ideation and attempt) among 507 clinic-attending Syrian refugee women living in non-camp settings in Jordan. First, I examine the frequency of suicidal behaviors among our sample of Syrian refugee

women. Second, I examine the association between psychological pain (PTSD), connectedness (average number of friends and family members available to help when in need), and postmigration stressors (postmigration living difficulties) on suicidal behaviors. I hypothesize that screening positive for PTSD, social isolation (have no friends or family members available to help), and greater number of postmigration stressors are associated with suicidal behaviors after controlling for age, marital status, number of children <18 in the household, years of education, years in Jordan, and clinic location. Gaining insight to the scope, prevalence, and risk factors associated with suicidal behaviors among Syrian refugee is vital, especially as the Syrian refugee crisis remains protracted with no end in sight.

Methods

Study Design and Sample

Data from Women ASPIRE, a quantitative study that examined health inequities of 507 Syrian refugee women living in non-camp settings in Jordan, was used for this study. Participants were recruited from health clinics from four different cities in Jordan: Amman, Ramtha, Mafraq and Zarqa. Partnered health clinics were selected by identifying geographic location with highest concentration of Syrian refugees in Jordan.

Participants were enrolled between April and November 2018 using a clinic-based systematic sampling. Every 3rd or 5th (depending on clinic size) participant seeking health services was screened for eligibility. Eligibility criteria included participants who identified as Syrian refugees, female, 18 years or older, did not live in a refugee camp, and did not show any signs of cognitive impairment (Folstein et al., 1975). Compensation packages of daily useable goods (valued approximately 7 USD) were provided to participants. Recruitment and surveys

were completed by trained research assistants in private rooms at participant health clinics. Surveys were interviewer-administered in Arabic. Study protocols were approved by Columbia University Institutional Review Board and Ethics Committee of University of Jordan prior to the start of the study.

Measurement

Dependent Variable

Suicidal ideation: measured by asking participants *Have you had thoughts about ending your life or committing suicide in the past 6 months* (No/Yes).

Suicide attempt: measured by asking participants *Have you tried to kill yourself or attempted suicide in the past 6 months* (No/Yes).

Suicidal behaviors: measured by combining any reported suicidal ideation or attempt in the past 6 months (No/Yes).

Independent Variables

Posttraumatic Stress Disorder

The PTSD Checklist for DSM-5 (PCL-5): a 20-item Likert self-report scale was used to measure the presence and severity of PTSD symptoms validated in Arabic (Weathers et al., 2013) (Ibrahim et al., 2018). The PCL-5 asks participants how bothered they have been by PTSD symptoms during the past 30 days; (0) Not at all – (4) Extremely. Total scores were summed, ranging from 0 to 80. Like previous studies, a cutoff score of 23 and higher was used as a screener for probable PTSD (Ibrahim et al., 2018). Cronbach's alpha estimating internal consistency among our sample is acceptable (α=0.94).

Post Migration Stressors

Post-Migration Living Difficulties (PMLD): the PMLD is a checklist used to measure the severity of postmigration problems commonly encountered by refugees and asylum seekers (Silove et al., 1997). A shortened 14-item checklist was used to ask a range of postmigration problems related to poverty, unemployment, discrimination, separation from family members, and issues related to immigration applications challenges using a 5-point Likert scale; (1) No problem at all – to (5) Very big problem, or (6) Not applicable. Adapted version of this checklist have been used (M'zah et al., 2019) (Brooks, Meinhart, et al., 2022). Like previous studies, the PMLD scale was dichotomized (Brooks, Meinhart, et al., 2022) (Schick et al., 2018) (Schweitzer et al., 2018). Participants who rated a PMLD as a Big or Very Big problem were compared to those who rated it as No Problem at all, Moderate Problem, or Not Applicable. A PMLD cumulative score was also created by combing the fourteen dichotomous PMLD items. Scores were added, ranging from 0-14. Cronbach's alpha estimating internal consistency among our sample is acceptable (α=0.79).

Social Support from Friends or Family Members

Social support was measured by asking participants the number of friends or family members they currently have who can help them in eight different situations of need. Participants were asked the number of friends and family members they have: 1) to talk to when feeling upset, angry, or need help, 2) to ask for advice about personal problems, 3) to borrow money when in need, 4) to ask to stay at their place for a while, 5) to ask for tasks such as helping take

care of kids, 6) to talk about relationship problems they are having with spouse, 7) to ask for legal support, and 8) to ask for help to find a job.

The average number of friends or family members a participant has in their social network was measured by averaging the number of friends or family members participants reported in their eight different situations of need. The Stata *round* function was used to round the average number of friends or family members to a whole number. Scores were categorized according to participants who reported (0) zero friends or family members, (1) one friend family member, and (2) two or more friends or family members.

Covariates

Several sociodemographic characteristics such as age (continuous variable in years), marital status (unmarried/married), number of children <18 years old in the household (continuous), years of education (continuous), years in Jordan (continuous), and clinic location (Sweileh/Zarqa/Mafraq/Ramtha) was used in our adjusted model as previous literature linked these sociodemographic characteristics with suicidal behaviors.

I included the CES-D as a covariate in our adjusted model, as previous literature has highlighted the association between depression and suicidal behaviors among traumatized refugee populations (Ferrada-Noli et al., 1998).

The Center for Epidemiological Studies Depression Scale (CES-D): a 4-item Likert scale to measure self-reported symptoms of depression validated in Arabic (Melchior et al., 1993) (Ghubash et al., 2000). Participants were asked if they felt or behaved depressed, lonely, had crying spells, and sad during the last week; (0) Rarely or none of the time (less than 1 day) – (3)

Most or all of the time (5-7 days). Scores were summed, ranging from 0 to 12. A score of 4 or higher was used as a screener for probable depression (Melchior et al., 1993). Cronbach's alpha estimating internal consistency among our sample is acceptable (α=0.79).

Data Analysis

Descriptive statistics were used to examine sociodemographic characteristics (age, marital status, number of children <18 in household, years of education, years in Jordan, clinic location) or participants. Descriptive statistics were also used to examine the frequency distribution and average scores of suicidal behaviors, mental health symptoms severity, postmigration stressors, and the number of friends or family members who can help in need. Independent sample t-tests were used to calculate significant mean differences for continuous variables between dependent and independent variables, while Chi-square tests or Fisher exact tests was used to calculate significant differences between categorical variables of dependent and independent variables.

A multivariable logistic regression model was used to test the major hypothesis that examined the association between the average number of friends or family members who can help in need, PTSD cutoff score, and postmigration stressors, on suicidal behaviors. Adjusted covariates for the multivariable model include age, marital status, number of children <18 in household, years of education, years in Jordan, clinic location, and depression cutoff score. We did not utilize multilevel modeling to account for nested data as the interclass correlation coefficient (ICC) across clinics was close to 0 (Peugh, 2010). All analyses were completed using STATA (version 15.1) (StataCorp, 2017).

Results

Characteristics of the Sample

Characteristics of participants enrolled in the study are presented in Table 2-1. A total of 507 Syrian refugee women were surveyed from four health clinics throughout Jordan: Amman (30.18%), Ramtha (25.25%), Mafraq (24.85%), and Zarqa (19.72%). Ages ranged from 18 to 74 years old (not shown), with a mean age of 34.15 years old (SD=10.99). Most women were married (90.14%), with the mean number of children <18 is 3.39 (SD=2.08). The average number of years of education is 7.09 (SD=3.67). Most women surveyed were originally from As-Suwayda, Daraa or Qunitra (35.9%), followed by Hama or Homs (22.7%), Aleppo or Idlib (18.9%), Damascus or Rif Dimashq (11.8%), and Al-Raqqah, Deir ez-Zor, or Hasaka (10.7%). The mean number of years lived in Jordan was 5.18 (SD=1.38).

Table 2-1: Characteristics of Syrian Refugee Women living in non-camp settings in Jordan (N=507)

	N	$\bar{x}$ (SD) or %
Age (SD)		34.15 (10.99)
Marital Status		
Unmarried	50	9.86
Married	457	90.14
Children under 18 in household		3.39 (2.08)
Years of education	503	7.09 (3.67)
Years in Jordan		5.18 (1.38)
Clinic Location		
Amman	153	30.18
Zarqa	100	19.72
Mafraq	126	24.85
Ramtha	128	25.25
Governorate of Origin in Syria		
Aleppo or Idlib	96	18.93
Al-Raqqah, Deir ez-Zor, or Hasaka	54	10.65
Damascus or Rif Dimashq	60	11.83
As-Suwayda, Daraa or Qunitra	182	35.90
Hama or Homs	115	22.68

Note. n = sample size; % = percentage;

Suicidal Behaviors

Less than one-tenth of women surveyed (9.07%) reported having suicidal ideation within the past 6-months (Table 2-2). Out of the 507 participants, forty-nine (9.66%) reported history of a suicide attempt, while fourteen (2.76%) reported a suicide attempt within the past 6-months. Approximately one-tenth (9.86%) of women reported a suicidal behavior (suicidal ideation and/or attempt) in the past 6-months.

Table 2-2: Suicidal behaviors and mental health symptoms

Variables	n(%) or $\bar{x}$(SD)
History of suicide attempt	
No	458 (90.34)
Yes	49 (9.66)
Suicidal ideation past 6 months	
No	461 (90.93)
Yes	46 (9.07)
Suicidal attempt past 6 months	
No	493 (97.24)
Yes	14 (2.76)
Suicidal behaviors past 6 months (suicidal ideation and/or attempt)	
No	457 (90.14)
Yes	50 (9.86)
PTSD PCL-5 Symptom severity score	32.74 (19.36)
PTSD PCL-5 Average item score	1.64 (0.97)
PTSD PCL-5 Cutoff Score (n=506)	
Screen negative for PTSD	171 (33.79)
Screen positive for PTSD	335 (66.21)
CESD Symptom severity score	5.32 (3.65)
CESD Average item score	1.33 (0.91)
CESD Cutoff Score	
Screen negative for Depression	188 (37.08)
Screen positive for Depression	319 (62.92)

Note. n = sample size; % = percentage;

Several significant bivariate associations between suicidal ideation, suicide attempt, and suicide history were found (Table 2-3). A significantly higher proportion of participants who reported a suicidal ideation ($p<0.001$) or suicide attempt in the past 6-months ($p<0.001$) reported

a history of suicide attempts. Additionally, a significant higher proportion of participants who reported a suicide attempt in the past 6-months reported a suicidal ideation in the past 6-months ($p<0.001$).

Table 2-3: Bivariate analysis between suicidal behaviors and mental health symptoms

		Suicidal Ideation past 6 months (n=507)			**Suicide Attempts past 6 months (n=507)**		
	Total (n = 507) n(%) or x̄(SD)	Participants who did not report Suicidal Ideation (n = 461) n(%) or x̄(SD)	Participants who reported Suicidal Ideation (n = 46) n(%) or x̄(SD)	Chi-Squared or T-test	Participants who did not report Suicide Attempts (n = 493) n(%) or x̄(SD)	Participants who reported Suicide Attempts (n = 14) n(%) or x̄(SD)	Chi-Squared or T-test
History of suicide attempt							
No	458 (90.34)	428 (92.84)	30 (34.78)	**p<0.001**	458 (92.90)	0 (0.00)	**p<0.001**
Yes	49 (9.66)	33 (7.16)	16 (65.22)		35 (7.10)	14 (100.00)	
Suicidal ideation past 6 months							
No	461 (90.93)	-	-	-	457 (92.70)	4 (28.57)	**p<0.001**
Yes	46 (9.07)	-	-		36 (7.30)	10 (71.43)	
PTSD PCL-5 Symptoms Severity Score (n=506)	32.74 (19.36)	31.19 (18.85)	48.26 (17.67)	**p<0.001**[b]	32.36 (19.28)	46.29 (17.93)	**p<0.0078**[b]
PTSD PCL-5 Cutoff Score (n=506)							
Screen negative	171 (33.79)	166 (97.08)	294 (87.76)	**p<0.001**[a]	169 (98.83)	323 (96.42)	p=0.155[a]
Screen positive	335 (66.21)	5 (2.92)	41 (12.24)		2 (1.17)	12 (3.58)	
CESD Symptom Severity Score	5.32 (3.65)	5.09 (3.57)	7.59 (3.71)	**p<0.001**[b]	5.23 (3.61)	8.36 (3.73)	**p=0.0015**[b]
CESD Cutoff Score							
Screen negative	188 (37.08)	179 (38.83)	9 (19.57)	**p=0.010**	186 (37.73)	2 (14.29)	p=0.094[a]
Screen positive	319 (62.92)	282 (61.17)	37 (80.43)		307 (62.27)	12 (85.71)	

Note. n = sample size; % = percentage; SD = standard deviation
Chi-square test used unless otherwise noted; significant p-values (p < .05) are highlighted in bold
[a] Fisher's exact test used
[b] T-test used

Mental Health Symptoms

PTSD symptom score ranged from 0-78 (not shown), with a mean of 32.74 (SD=19.36) and average item score of 1.64 (SD=0.97). Among the participants surveyed, approximately two-thirds (66.21%) of women surveyed screened positive for PTSD. Depression symptom score ranged from 0-12 (not show), with a mean of 5.32 (SD=3.65) and average item score of 1.33 (0.91). Less than two-thirds (62.92%) of women surveyed screened positive for depression.

Significant associations between mental health symptoms and suicidal behaviors in the bivariate analysis was found (Table 2-3). Participants who reported suicidal ideation in the past 6-months had, on average, a higher PTSD PCL-5 symptoms severity score ($p<0.001$) as well as a higher CESD depression symptoms severity score ($p<0.001$) than compared to those who did not report suicidal ideation in the past 6 months. This was also significant for participants who reported suicidal attempts in the past 6-months where, on average, had a higher PTSD PCL-5 symptoms severity score ($p=0.0078$) as well as CESD depression symptom severity score ($p=0.0015$) than compared to those who did not report suicidal attempts. Furthermore, a significantly higher proportion of participants who screen positive for PTSD ($p<0.001$) as well as those who screen positive for depression ($p=0.010$) reported suicidal ideation in the past 6 months. However, no significant associations between participants who reported suicide attempts in the past 6-months and PLC-5 or CESD cutoff scores was found.

Post-migration Stressors

Post-migration Living Difficulties (PMLD) scores ranged from 0-13 (not shown), with a mean score of 7.43 (SD= 2.98) (Table 2-4). This represents that on average, participants experienced between 7-8 Big/Very Big problems or postmigration stressors as a refugee in Jordan. The top three Big/Very Big postmigration stressor experienced was Poverty (79.09%), Fears of Forced Return to Syria (78.85%), and Worry no Treatment for Health Problem (74.51%). The least experienced Big/Very Big postmigration stressor experienced was Communication (6.32%), followed by Immigration Application Challenges (15.84%), and Discrimination (16.17%).

Several significant bivariate associations between PMLDs and suicidal behaviors was found (Table 2-4). A significantly higher proportion of participants who reported Loneliness and

Boredom (p=0.001), Isolation (p=0.005), or Family Separation (p=0.044) as a Big/Very Big Problem reported suicidal ideation in the past 6-months. A significantly higher proportion of participants who reported Loneliness and Boredom (p<0.001) and Isolation (p=0.033) as a Big/Very Big Problem reported suicide attempts in the past 6-months was found. Furthermore, a significantly higher proportion of participants who reported Loneliness and Boredom (p<0.001), Isolation (p=0.003), and Family Separation (p=0.025) as a Big/Very Big Problem reported suicidal behaviors in the past 6-months. Lastly, participants who reported suicidal ideation in the past 6-months had on average, a higher PMLD total score (p=0.014) than compared to those who did not have suicidal ideation. Participants who reported suicidal behaviors in the past 6-months had on average, a higher PMLD total score (p=0.006) than those who did not report suicidal behaviors. No significant relationships between suicide attempts in the past 6-months and PMLD total score was found.

Social Support and Isolation

Table 2-5 reflects the average number of friends or family members participants reported when they needed help, which ranged from 0-7 people (not shown) with a mean score of 1.42 (SD=1.04). Over one-tenth (12.18%) of participant reported having no friends or family members to ask for when they needed help, while over half (52.73%) reported having 1 friend or family members, and more than one-third (35.08%) reported having 2 or more friends or family members. The most common issues that participants reported were having no friends or family members to help with was to ask for legal support (75.64%), followed by help to find a job (64.88%), and stay at their [friend or family members] place for a while (45.63%). The three least frequent issues that participants reported having no friends or family members to help with

Table 2-4: Bivariate analysis between Postmigration stressors (PMLD) and suicidal behaviors

		Suicidal Ideation past 6 months (n=507)			Suicide Attempts past 6 months (n=507)			Suicidal Behaviors past 6 months (n=507)		
	Total (n = 507) n(%) or x̄(SD)	Participants who did not report Suicidal Ideation (n = 461) n(%) or x̄(SD)	Participants who reported Suicidal Ideation (n = 46) n(%) or x̄(SD)	Chi-Squared or T-test	Participants who did not report Suicide Attempts (n = 493) n(%) or x̄(SD)	Participants who reported Suicide Attempts (n = 14) n(%) or x̄(SD)	Chi-Squared or T-test	Participants who did not report Suicidal Behaviors (n=457) n(%) or x̄(SD)	Participants who reported Suicidal Behaviors (n=50) n(%) or x̄(SD)	Chi-Squared or T-test
PMLD Total (SD) n=503	7.43 (2.98)	7.33 (3.01)	8.47 (2.49)	**p=0.014***	7.39 (2.98)	8.71 (2.84)	p=0.103	7.31 (3.00)	8.53 (2.55)	**p=0.006****
Poverty (%)										
Big/Very Big Problem	401 (79.09)	361 (78.31)	40 (86.96)	p=0.189	390 (79.11)	11 (78.57)	p=1.00	358 (78.34)	43 (86.00)	p=0.206
No/Moderate Problem	106 (20.91)	100 (21.69)	6 (13.04)		103 (20.89)	3 (21.43)		99 (21.66)	7 (14.00)	
Fears of forced return to Syria (%) n=506										
Big/Very Big Problem	399 (78.85)	364 (79.13)	35 (76.09)	p=0.630	389 (79.07)	10 (71.43)	p=0.508	361 (79.17)	38 (76.00)	p=0.603
No/Moderate Problem	107 (21.15)	96 (20.87)	11 (23.91)		103 (20.93)	4 (28.57)		95 (20.83)	12 (24.00)	
Worry no treatment for health problem (%) n=506										
Big/Very Big Problem	377 (74.51)	340 (73.91)	37 (80.43)	p=0.333	365 (74.19)	12 (85.71)	p=0.534	337 (73.90)	40 (80.00)	p=0.348
No/Moderate Problem	129 (25.49)	120 (26.09)	9 (19.57)		127 (25.81)	2 (14.29)		119 (26.10)	10 (20.00)	
Worry of Family in Syria (%)										
Big/Very Big Problem	372 (73.37)	337 (73.10)	35 (76.09)	p=0.662	361 (73.23)	11 (78.57)	p=0.769	333 (72.87)	39 (78.00)	p=0.436
No/Moderate Problem	135 (26.63)	124 (26.90)	11 (23.91)		132 (26.77)	3 (21.43)		124 (27.13)	11 (22.00)	
Unable to Return Home in Emergency (%) n=506										
Big/Very Big Problem	365 (72.13)	330 (71.74)	35 (76.09)	p=0.531	357 (72.56)	8 (57.14)	p=0.229	326 (71.49)	39 (78.00)	p=0.330
No/Moderate Problem	141 (27.87)	130 (28.26)	11 (23.91)		135 (27.44)	6 (42.86)		130 (28.51)	11 (22.00)	
Not being able to find work (%) n=504										
Big/Very Big Problem	361 (71.63)	324 (70.59)	37 (82.22)	p=0.119	352 (71.84)	9 (64.29)	p=0.553	322 (70.77)	39 (79.59)	p=0.193
No/Moderate Problem	143 (28.37)	135 (29.41)	8 (17.78)		138 (28.16)	5 (35.71)		133 (29.23)	10 (20.41)	
Poor access to schooling for children (%)										
Big/Very Big Problem	318 (62.72)	287 (62.26)	31 (67.39)	p=0.492	308 (62.47)	10 (71.43)	p=0.585	284 (62.14)	34 (68.00)	p=0.416
No/Moderate Problem	189 (37.28)	174 (37.74)	15 (32.61)		185 (37.53)	4 (28.57)		173 (37.86)	16 (32.00)	
Loneliness and Boredom (%) n=506										
Big/Very Big Problem	289 (57.11)	252 (54.78)	37 (80.43)	**p=0.001****	275 (55.89)	14 (100.00)	**p<0.001*****	248 (54.39)	41 (82.00)	**p<0.001***
No/Moderate Problem	217 (42.89)	208 (45.22)	9 (19.57)		217 (44.11)	0 (0.00)		208 (45.61)	9 (18.00)	*
Isolation (%) n=503										
Big/Very Big Problem	251 (49.90)	219 (47.92)	32 (69.57)	**p=0.005****	240 (49.08)	11 (78.57)	**p=0.033***	216 (47.68)	35 (70.00)	**p=0.003****
No/Moderate Problem	252 (50.10)	238 (52.08)	14 (30.43)		249 (50.92)	3 (21.43)		237 (52.32)	15 (30.00)	
Family Separation (%)										
Big/Very Big Problem	248 (48.92)	219 (47.51)	29 (63.04)	**p=0.044***	239 (48.48)	9 (64.29)	p=0.286	216 (47.26)	32 (64.00)	**p=0.025***
No/Moderate Problem	259 (51.08)	242 (52.49)	17 (36.96)		254 (51.52)	5 (35.71)		241 (52.74)	18 (36.00)	

Poor access to psychological services (%)										
Big/Very Big Problem	194 (38.26)	171 (37.09)	23 (50.00)	p=0.086	188 (38.13)	6 (42.86)	p=0.783	170 (37.20)	24 (48.00)	p=0.136
No/Moderate Problem	313 (61.74)	290 (62.91)	23 (50.00)		305 (61.87)	8 (57.14)		287 (62.80)	26 (52.00)	
Discrimination (%) n=506										
Big/Very Big Problem	82 (16.17)	75 (16.27)	7 (15.22)	p=0.853	77 (15.62)	5 (35.71)	p=0.059	73 (15.97)	9 (18.00)	p=0.688
No/Moderate Problem	425 (83.83)	386 (83.73)	39 (84.78)		416 (84.38)	9 (64.29)		384 (84.03)	41 (82.00)	
Immigration Application Challenges (%) n=505										
Big/Very Big Problem	80 (15.84)	71 (15.47)	9 (19.57)	p=0.524	75 (15.27)	5 (35.71)	p=0.055	69 (15.16)	11 (22.00)	p=0.209
No/Moderate Problem	425 (84.16)	388 (84.53)	37 (80.43)		416 (84.73)	9 (64.29)		386 (84.84)	39 (78.00)	
Communication (%) n=506										
Big/Very Big Problem	32 (6.32)	28 (6.09)	4 (8.70)	p=0.519[a]	31 (6.30)	1 (7.14)	p=0.604[a]	28 (6.14)	4 (8.00)	p=0.544[a]
No/Moderate Problem	474 (93.68)	432 (93.91)	42 (91.30)		461 (93.70)	13 (92.86)		428 (93.86)	46 (92.00)	

PMLDs are listed according to greatest frequency of being a Big/Very Big Problem; Chi-square test used unless otherwise noted; significant p-values ($p < .05$) are highlighted in bold

SD standard deviation

[a] Fisher's exact test used

was having someone to talk to when feeling upset, angry, or need help (12.75%), ask to borrow money (19.68%), and to ask for advice about personal problems (20.68%). Significant associations between social support and suicidal behaviors was found in our bivariate analysis (Table 2-5). A significantly higher proportion of participants who reported having zero friends to ask for help with a task such as helping care of children reported suicidal ideation in the past 6-months (p=0.019) as well as suicidal behaviors in the past 6-months (p=0.013) than compared to those who did not report suicidal ideation or suicidal behaviors. Significant differences between the combined average number of friends and family members and suicidal behaviors was also found (p=0.043).

Hypothesis Testing – mental health, social support, and postmigration stressors

Several significant associations between mental health, postmigration stressors, social support and suicidal behaviors in the multivariable logistic regression was found (Table 2-6). Screening positive for PTSD was associated with a significant increased odds of suicidal behaviors in the past 6-months in the unadjusted model (OR:4.48, 95% CI:[1.59, 12.57]) and the adjusted model (aOR:4.02, 95% CI:[1.33, 12.15]). Furthermore, having on average 1 friend or family member to ask for help when needed was associated with a 60% decreased odd of suicidal behaviors in the unadjusted model (OR:0.40, 95% CI:[0.18, 0.92]) and a 69% decreased odds of suicidal behaviors in the adjusted model (OR:0.31, 95% CI:[0.13,0.78]) than compared to having on average zero friend or family members to ask for help. We did not find any significant associations between having 2 or more friends or family members to ask for help with suicidal behaviors. Lastly, associations between PMLDs and suicidal behaviors were not found, as no significant associations were found in the unadjusted or adjusted multivariable logistic regression.

Table 2-5: Bivariate association between suicidal behaviors and number of current friends and family members (FFM)

		Suicidal Ideation past 6 months (n=507)			Suicide Attempts past 6 months (n=507)			Suicidal Behaviors past 6 months (n=507)		
	Total (n = 507) n(%) or x̄(SD)	Participants who did not report Suicidal Ideation (n = 461) n(%) or x̄(SD)	Participants who reported Suicidal Ideation (n = 46) n(%) or x̄(SD)	Chi-Squared or T-test	Participants who did not report Suicide Attempts (n = 493) n(%) or x̄(SD)	Participants who reported Suicide Attempts (n = 14) n(%) or x̄(SD)	Chi-Squared or T-test	Participants who did not report Suicidal Behaviors (n=457) n(%) or x̄(SD)	Participants who reported Suicidal Behaviors (n=50) n(%) or x̄(SD)	Chi-Squared or T-test
Number of FFM you can ask for legal support n=505										
0 friends/family	382 (75.64)	346 (75.38)	36 (78.26)	p=0.965[a]	372 (75.76)	10 (71.43)	p=0.641[a]	344 (75.60)	38 (76.00)	p=0.766[a]
1 friend/family	69 (13.66)	63 (13.73)	6 (13.04)		66 (13.44)	3 (21.43)		61 (13.41)	8 (16.00)	
2 or more friends/family	54 (10.69)	50 (10.89)	4 (8.70)		53 (10.79)	1 (7.14)		50 (10.99)	4 (8.00)	
Number of FFM you can ask to help you find a job n=504										
0 friends/family	327 (64.88)	300 (65.50)	27 (58.70)	p=0.178[a]	318 (64.90)	9 (64.29)	p=1.00[a]	297 (65.42)	30 (60.00)	p=0.151[a]
1 friend/family	67 (13.29)	63 (13.76)	4 (8.70)		65 (13.27)	2 (14.29)		63 (13.88)	4 (8.00)	
2 or more friends/family	110 (21.83)	95 (20.74)	15 (32.61)		107 (21.84)	3 (21.43)		94 (20.70)	16 (32.00)	
Number of FFM you can ask to stay at their place for a while n=504										
0 friends/family	230 (45.63)	208 (45.41)	22 (47.83)	p=0.550	224 (45.71)	6 (42.86)	p=0.884[a]	206 (45.37)	24 (48.00)	p=0.801
1 friend/family	154 (30.56)	138 (30.13)	16 (34.78)		150 (30.61)	4 (28.57)		138 (30.40)	16 (32.00)	
2 or more friends/family	120 (23.81)	112 (24.45)	8 (17.39)		116 (23.67)	4 (28.57)		110 (24.23)	10 (20.00)	
Number of FFM you can talk about relationship problems with spouse n=448										
0 friends/family	182 (40.63)	165 (40.54)	17 (41.46)	p=0.552	176 (40.46)	6 (46.15)	p=0.938[a]	163 (40.45)	19 (42.22)	p=0.349
1 friend/family	128 (28.57)	119 (29.24)	9 (21.95)		125 (28.74)	3 (23.08)		119 (29.53)	9 (20.00)	
2 or more friends/family	138 (30.80)	123 (30.22)	15 (36.59)		134 (30.80)	4 (30.77)		121 (30.02)	17 (37.78)	
Number of FFM you can ask for help with a task such as helping take care of children n=505	140 (27.72)	120 (26.14)	20 (43.48)	**p=0.019**	132 (26.88)	8 (57.14)	p=0.065[a]	118 (25.93)	22 (44.00)	**p=0.013**
0 friends/family	147 (29.11)	140 (30.50)	7 (15.22)		145 (29.53)	2 (14.29)		139 (30.55)	8 (16.00)	
1 friend/family	218 (43.17)	199 (43.46)	19 (41.30)		214 (43.58)	4 (28.57)		198 (43.52)	20 (40.00)	
2 or more friends/family										
Number of FFM you can ask for advice about personal problems n=503										
0 friends/family	104 (20.68)	94 (20.52)	10 (22.22)	p=0.964	100 (20.45)	4 (28.57)	p=0.502[a]	92 (20.26)	12 (24.49)	p=0.786
1 friend/family	183 (36.38)	167 (36.46)	16 (35.56)		177 (36.20)	6 (42.86)		166 (36.56)	17 (34.69)	
2 or more friends/family	216 (42.94)	197 (43.01)	19 (42.22)		212 (43.35)	4 (28.57)		196 (43.17)	20 (40.82)	

Number of FFM you can ask to borrow money when you need it n=503										
0 friends/family	99 (19.68)	92 (20.13)	7 (15.22)	p=0.723	95 (19.43)	4 (28.57)	p=0.452[a]	90 (19.87)	9 (18.00)	p=0.899
1 friend/family	148 (29.42)	134 (29.32)	14 (30.43)		143 (29.24)	5 (35.71)		132 (29.14)	16 (32.00)	
2 or more friends/family	256 (50.89)	231 (50.55)	25 (54.35)		251 (51.33)	5 (35.71)		231 (50.99)	25 (50.00)	
Number of FFM you can talk to when you feel upset, angry, or need help (SD) n=502										
0 friends/family	64 (12.75)	57 (12.47)	7 (15.56)	p=0.815	60 (12.30)	4 (28.57)	p=0.079[a]	55 (12.14)	9 (18.37)	p=0.435
1 friend/family	142 (28.29)	129 (28.23)	13 (28.89)		137 (28.07)	5 (35.71)		128 (28.26)	14 (28.57)	
2 or more friends/family	296 (58.96)	271 (59.30)	25 (55.56)		291 (59.63)	5 (35.71)		270 (59.60)	26 (53.06)	
Combined average number of FFM (*continuous*) n=476	1.42 (1.04)	1.43 (1.06)	1.30 (0.82)	p=0.406	1.43 (1.05)	1.14 (0.86)	p=0.314	1.44 (1.06)	1.27 (0.87)	p=0.297
Combined average number of FFM n=476										
0 friends/family	58 (12.18)	50 (11.57)	8 (18.18)	p=0.114	55 (11.90)	3 (21.43)	p=0.545[a]	48 (11.21)	10 (20.83)	**p=0.043**
1 friend/family	251 (52.73)	234 (54.17)	17 (38.64)		244 (52.81)	7 (50.00)		233 (54.44)	18 (37.50)	
2 or more friends/family	167 (35.08)	148 (34.26)	19 (43.18)		163 (35.28)	4 (28.57)		147 (34.35)	20 (41.67)	

Number of friends or family members are listed in descending order according to greatest frequency of having zero friends or family members

Chi-square test used unless otherwise noted; significant p-values ($p < .05$) are highlighted in bold

SD standard deviation

[a] Fisher's exact test used

Table 2-6: Multivariable association between suicidal behaviors, social support, PTSD, and postmigration stressors

	OR (95%CI)	p-value	aOR (95%CI)	p-value
Average number of friend or family member can ask for help when needed				
0 friends or family members	*ref.* **0.40 (0.18, 0.92)**	**p=0.030**	*ref.* **0.31 (0.13, 0.78)**	**p=0.013**
1 friend or family member	0.56 (0.24, 1.30)	p=0.176	0.55 (0.22, 1.38)	p=0.203
2+ friend or family members				
PTSD PCL-5 Cutoff Score				
Screen negative for PTSD	*ref.* **4.48 (1.59, 12.57)**	**p=0.004**	*ref.* **4.02 (1.33, 12.15)**	**p=0.014**
Screen positive for PTSD				
Post migration stressors (PMLDs)	1.05 (0.92, 1.19)	p=0.474	1.05 (0.91, 1.21)	p=0.500

Note. OR = unadjusted odds ratio; aOR = adjusted odds ratio; *ref.* = reference category
The adjusted covariates were age, marital status, children under 18 in household, years of education, years in Jordan, depression, and clinic location

Discussion

This study provides the opportunity to examine the scope and prevalence of suicidal behaviors among Syrian refugee women living in non-camp settings in Jordan. Overall, the rates of suicidal ideation (9.07%) and suicide attempts (2.76%) in this study sample was on the lower end of the range of suicidal ideation (0.17%-70.6%) and suicide attempts (0.14%-15.1%) found in other studies of suicidal behaviors among forcibly displaced populations (Cogo et al., 2022). This paper found history of suicidal attempts, suicidal ideation and suicidal attempts in the past 6 months to be significantly associated with one another, supporting the close association between suicidal ideation and attempts as suggested by the 3ST theory of suicidal behaviors (Klonsky & May, 2015). As highlighted in previous systematic review of suicidal behaviors among displaced populations, comparing suicidal behaviors between studies is difficult, as heterogeneity between study populations, varying analytic approaches and sampling frames, and different study designs

make it difficult to compare between studies (Cogo et al., 2022). Study findings, regardless, provide valuable insight to understanding suicidal behaviors among forcibly displaced populations, specifically among Syrian refugees, where limited studies exist.

I found my hypothesis to be partially supported, in that greater psychological pain and social isolation (but not greater postmigration stressors) to be associated with greater odds of suicidal behaviors. Specifically, screening positive for PTSD significantly increased odds of suicidal behaviors than compared to those who screen negative for PTSD. Furthermore, having on average 1 friend or family member to ask for help when needed significantly reduced the odds of suicidal behaviors compared to those who had 0 friends or family members to ask for help when needed. However, I did not find significant associations between having on average 2 or more family members to ask for help when needed on suicidal behaviors. Lastly, my initial hypothesis was partially rejected as no significant association was found between the number of postmigration stressors and suicidal behaviors.

Several reasons may explain why psychological pain (positive PTSD screening) is associated with suicidal behaviors among Syrian refugee women. One reason may be related to the hopelessness experienced because of prolonged stress and trauma experienced by many Syrian refugee women throughout their displacement journey. Being forcibly displaced is associated with multiple pre-migration stressors (Ward & Vann, 2002) that including sexual, physical, and psychological abuse for many refugee women (UN Women, 2018). Additionally, upon arrival to Jordan, Syrian refugee women experience a wide range of post-migration stressors as they adapt and survive to their new country – all which may further exacerbate existing mental health conditions (Hassan et al., 2016b) (Brooks, Meinhart, et al., 2022). As the Syrian refugee crisis extends well over a decade, the protracted crisis may prolong the

experience of psychological pain and therefore contribute to feelings of helplessness and suicidal behaviors. This is especially true for many refugees in protracted situations, who are unable to return back home or resettle to another country permanently, and who on average are displaced from their country of origin for approximately 25 years (US Department of State, 2016). Furthermore, the findings also supports the 3ST ideation-to-action framework that suggests suicidal behaviors to be rooted in psychological pain (positive PTSD screening) (Klonsky & May, 2015). Existing models of suicidal behaviors suggests that PTSD symptoms is associated with poorer occupational and social functioning, leading to greater life impairment and subsequently suicidal behaviors (Panagioti et al., 2009). This is especially relevant among refugee populations as they have a significantly higher rate of PTSD than compared to the general population (Fazel et al., 2005).

Several reasons may explain why social isolation (connectedness) was associated with suicidal behaviors. One reason is that social support – or having friends or family members available to ask for help when needed – may act as a buffer to stressful events (S. Cohen & Wills, 1985a). Furthermore, Syrian refugee women who are socially isolated are not able to find support to reduce levels of psychological pain. This is also reflected in the 3ST theory of ideation-to-action framework, where connectedness acts as a protective factor against escalation of suicidal ideation (Klonsky & May, 2015). Connectedness has been found to be associated with suicidal behaviors in previous studies of displaced populations, including asylum seekers in the UK as well as Bhutanese refugees resettled in the US (Hagaman et al., 2016) (J. Cohen, 2008). One possible reason why having 2 or more friends or family members available to ask for help was not associated with suicidal behaviors maybe because our study did not assess the quality of the social support received.

One possible reason why postmigration stressors (PMLDs) were not associated with suicidal behaviors is because connectedness may play some form of moderating role to postmigration stressors. Previous studies of Syrian refugee women have documented the association between postmigration stressors and mental health (Brooks, Meinhart, et al., 2022); however, the association between PMLDs and suicidal behaviors may be dependent on how much support an individual receives to manage their ongoing PMLDs. Furthermore, among the postmigration stressors assessed, we found Loneliness and Boredom as well as Isolation to be the only two PMLD associated with both suicidal ideation and suicide attempt. This further supports our hypothesis of the important role connectedness plays regarding suicidal behaviors.

Limitations

There are several limitations to this study. First, studies on suicide are challenging due to the small number of respondents who report suicidal behaviors. This study is no different, as a small number of participants reported suicide ideation (n=46) and suicide attempts (n=14) over the past 6 months. This small sample size limited the ability to complete multivariable analysis for suicide ideation and attempts separately. I attempted to mitigate this issue by combining suicide ideation and suicide attempts into one category: suicidal behaviors (n=50). Future studies should consider using a larger sample size to have enough power to analyze suicide ideation and suicide attempts separately.

Second, the cross-sectional design of this study limits the ability to draw causal inferences, and associations were treated without consideration of temporality. Participants were asked to recall suicide ideation and attempts in the past 6 months, limiting the ability to know how recent, distant, or current these suicidal behaviors were. Participants were also asked questions about current levels of PTSD, depression, connectedness, and postmigration stressors,

while suicidal behaviors were measured retrospectively. Future studies should be longitudinal in design and ask participants their current levels of suicidal behaviors as well as PTSD, depression and social connectedness.

Third, I measured the severity of depression and PTSD symptoms separately, while the comorbidity between these mental health conditions were not analyzed. It may be possible that participants who present with both PTSD and depression symptoms have a greater odds of experiencing suicidal behaviors. Structural equation modeling should be considered in future studies to see whether certain mental health symptoms are stronger in predicting suicidal behaviors.

Lastly, I examined the number of friends and family participants had in their social network but did not assess the quality of the support received. Participants with fewer friends and family may have a higher quality of support than compared to participants with a greater number of friends and family. I attempted to address the inability to measure the quality of their social network by focusing on social isolation (no friends or family in network). Future studies should examine both the number and quality of friends and family in their social network.

Implications

Suicide continues to be a serious global public health issue that disproportionally affects vulnerable populations including forcibly displaced populations. Very few studies have examined suicidal behaviors among Syrian refugees despite it being the largest humanitarian crisis of our time. As the Syrian refugee crisis continues to extend well over the past decade, there remains no clear end in sight for this protracted crisis. This highlights the need for future research to examine the contextual risk and protective factors associated with suicidal behaviors

among this population that increase levels of psychological pain and decrease social connectedness.

This study highlights the close relationship between psychological pain (PTSD symptomology), social connectedness, and suicidal behaviors. Clinicians and organizations working with Syrian refugees should screen for PTSD and suicidal behaviors during routine visits and refer to appropriate mental health counseling or psychosocial treatment. Furthermore, clinicians and organizations can also enhance social support systems for those who are isolated by providing group counseling or other interventions to enhance their support system. A recent systematic review of individuals at risk for suicide highlighted the efficacy of psychosocial group treatment and peer connection to increase social connectedness and to decrease suicide symptoms (Sullivan et al., 2021). Policy makers should also advocate to reduce the stigma surrounding suicide, as recent laws passed in Jordan have indicated fines and prison sentences for those who attempt suicide (Middle East Monitor, 2022).

Chapter 3: Vicarious posttraumatic growth among refugee service providers in Istanbul, Turkey

Abstract

Objective: As Turkey continues to host the largest number of Syrian refugees worldwide at over 3.7 million people, insight into the well-being and resilience of service providers who assist Syrian refugees traumatized by war and displacement is needed. This paper examines the scope and prevalence of vicarious posttraumatic growth (VPTG) among service providers working with Syrian refugees in Istanbul, Turkey. VPTG is the concept that exposure to traumatic material because of work with traumatized individuals can result in positive psychological growth, which include greater appreciation for life, changed priorities, meaningful intimate relationship with others, increased personal strength, and enriched spiritual life.

Methods: In 2018, data from 104 service providers were collected throughout Istanbul using a survey. Survey questions included trauma exposure (proportion of clients who disclose trauma, and level of secondary traumatic stress (STS)), level of support (perceived social support, perceived organizational support), years in profession, and levels of VPTG. A multivariable logistic regression was used to examine the major hypothesis on the relationship between trauma exposure, level of support, and years in profession on VPTG. I hypothesize that greater exposure to traumatic material, in addition to having a greater support system, and having greater years of professional experience is associated with higher levels of VPTG.

Results: Less than half (44.66%) of service providers surveyed had moderate-to-high levels of VPTG. Service providers who worked in an *Advising* capacity and who were *Translators* had the highest VPTG mean score and STS score. Out of the five VPTG subscales, *Personal Strength* and *Appreciation for Life* had on average, the highest level of growth. My hypothesis was

partially supported. Moderate/high/severe secondary traumatic stress (aOR:3.98, 95% CI:[1.26, 12.59]), greater social support (aOR:1.05, 95% CI:[1.00, 1.10]), and greater organizational support (OR:1.11, 95% CI:[1.02, 1.20]) was associated with moderate-to-high VPTG. Proportion of clients who disclose trauma, and years in profession did not show significant associations.

Implications: Service providers working with Syrian refugees in Istanbul may not be able to prevent themselves from experiencing STS and other negative psychological consequences as a result of working with traumatized individuals. Organizations, however, may be able to foster VPTG by providing general information about the negative psychological consequences of exposure to traumatic material, introducing a peer support program in the agency to facilitate social support, and by establishing a constructive feedback loop where service providers can express grievances to enhancing organizational support.

Introduction

The past decade has witnessed an overwhelming number of refugees displaced globally (UNHCR, 2021). The Syrian civil war, which began in 2011, accounts for the largest refugee population with over 6.8 million Syrian refugees displaced globally (UNHCR, 2021) (Cratsley et al., 2021). Turkey hosts the largest number of Syrian refugees with a staggering 3.7 million registered under temporary protection (Regional Refugee & Resilience Plan, 2022). Service providers in Turkey who help Syrian refugees have supported a population traumatized by war and who experience ongoing displacement-related stressors related to adjustment to the host country (Alpak et al., 2015) (Hassan et al., 2016a).

The adverse psychological consequences associated with supporting traumatized individuals and listening to painful stories of suffering and despair is well documented among a variety of service providers, including professionals and volunteers working with displaced populations (Roberts et al., 2021), asylum attorneys (Harris & Mellinger, 2021), interpreters (Geiling et al., 2021), and those working with Syrian refugees (Brooks, Dasgupta, et al., 2022). The cumulative effect of having an empathic relationship with traumatized clients can negatively affect service providers' personal and professional lives, and can contribute to the development of Secondary Traumatic Stress (STS) among service providers, which are similar to PTSD-like symptomology (Collins & Long, 2003) (Branson, 2019). Fewer studies; however, have examined how working with traumatized individuals can result in positive psychological growth.

Growth following trauma: posttraumatic and vicarious posttraumatic growth

A growing body of literature has explored how the aftermath of a traumatic event can provide an opportunity for growth. Calhoun and Tedeschi described this phenomenon as posttraumatic growth (PTG), which refers to the "positive psychological change experienced as a

result of the struggle with highly challenging life circumstances" (Calhoun & Tedeschi, 1998) (Tedeschi & Calhoun, 2004). Not all trauma survivors experience PTG, but for those who do, positive changes in certain aspects of their life include an increased appreciation for life, changed priorities, closer and more meaningful intimate relationships with others, increased personal strength, and an enriched spiritual life (Tedeschi & Calhoun, 2004).

Research on PTG has extended this growth to individuals indirectly affected by trauma, which includes service providers who work with trauma survivors. Vicarious posttraumatic growth (VPTG) is the development of positive growth as a result of indirect trauma from working with traumatized individuals (Arnold et al., 2005b). VPTG was first examined among psychotherapist working with traumatized clients who in addition to reporting negative psychological consequences of their work, also reported positive growth in certain areas of their life (Arnold et al., 2005b). VPTG has been reported in a wide range of service providers, including counselors working with survivors of domestic and sexual violence, therapist working with traumatized children, interpreters, as well as clinical and managerial staff working with refugees, doctors and nurses, and social workers (Manning-Jones et al., 2016) (K. Cohen & Collens, 2013).

A constructivist self-development theory (CSDT) can be used to understand how indirect exposure to trauma can result in VPTG (K. Cohen & Collens, 2013). The CSDT suggests that individuals construct their own realities through cognitive structures or schemas (beliefs, assumptions, and expectations about self and a safe world) (McCann & Pearlman, 1990). These schemas become shattered, invalidated, or modified when working with traumatized individuals and incorporating stories of trauma – resulting in distress within the service provider (K. Cohen & Collens, 2013) (McCann & Pearlman, 1990). VPTG is the growth associated with the

adaptation and adjustment of a new schema that incorporates trauma disclosed by traumatized individuals. Service providers who report VPTG express increased levels of sensitivity, compassion, insight, tolerance, empathy and spirituality (Arnold et al., 2005b). Our paper incorporates Cohen and Collens's (2013) CSDT framework as guide to understand VPTG (K. Cohen & Collens, 2013).

Vicarious exposure to trauma

Following the CSDT framework, vicarious or indirect exposure to trauma is a necessary steppingstone in the development of VPTG. Several studies have examined the relationship between the cumulative effect of vicarious trauma exposure and STS among services providers in relationship to VTPG. In a study of 255 social work professionals in Israel, service providers with greater exposure to cases with abused children was associated with higher levels of VPTG (Weiss-Dagan et al., 2022). In another study in Israel of 143 domestic violence therapist and 71 therapist at social service departments, the authors found STS to have a significant association with VTPG as both a linear and curvilinear variable (Ben-Porat, 2015), suggesting that at a higher level of STS, there is a plateauing or decline in VTPG. Similar findings have also been found among 317 aid workers working with Syrian refugees in Jordan, where increased vicarious trauma was associated with increased VPTG; however, the extent of exposure was not (Rizkalla & Segal, 2020). This complex relationship is also highlighted in a systematic review of quantitative studies of VPTG (Manning et al., 2015). Very few other studies have examined this relationship between vicarious trauma exposure and STS on VPTG. This has been expressed in a recent review of service providers working with displaced populations, where additional research is needed to examine the relationship between vicarious trauma exposure and VPTG (Ebren et al., 2022).

Support Systems

Extant literature has shown that the level of social support service providers receives in their personal lives and the support they receive at work is associated with VPTG. A systematic review of VPTG suggest that social support may facilitate VPTG by improving social resources, decreasing isolation, and enhancing coping and adaptation following indirect trauma exposure (Manning et al., 2015). There exists a gap in the literature examining the role of social support and VPTG among refugee service providers; however, a study of 227 ambulance personnel in China found a direct relationship between social support and VPTG and suggests fostering support to promote VPTG (Kang et al., 2018). The limited literature that examines the role of organizational support and VPTG is conflicting. A study of 118 therapist working with traumatized individuals highlighted that organizational support did not predict VPTG (Brockhouse et al., 2011). However, a recent study of aid workers working with Syrian refugees in Jordan highlighted how organizational support is crucial in mitigating the negative impact of trauma work, and enabling space for growth [VPTG] (Rizkalla & Segal, 2020). These studies highlight the need to further explore the role of organizational support and VPTG.

Years of professional experience

Existing literature has suggested how time [years of professional experience] might facilitate the development of VPTG among service providers. A systematic review of VPTG highlighted a wide range of service providers that include interpreters, and social workers, and those who work with refugees. These service providers initially react with distress as a result of traumatic exposure with traumatized individuals; however, over time are able to react and cope to the meaning of the traumatic exposure or event (Manning et al., 2015).

Study purpose

This paper examines the scope and prevalence of VPTG among 104 service providers working with Syrian refugees in Istanbul, Turkey. First, I examine the frequency of moderate/high vicarious posttraumatic growth (including its five subscales) among our sample of service providers. Second, I examine the association between trauma exposure (proportion of clients who disclose trauma, and level of secondary traumatic stress (STS)), level of support (perceived social support, perceived organizational support), and years in profession on vicarious posttraumatic growth. I hypothesize that greater exposure to traumatic material, in addition to having greater support systems, and greater experience as a professional is associated with higher levels of VPTG. Gaining insight to the growth and resilience service providers experience while serving a traumatized individuals is important, especially as there is no clear end in sight for the Syrian refugee crisis.

Methods

Study Design and Sample

Data collected from Providers ASPIRE, a mixed method study conducted in late 2018 that examined the mental health of service providers working with Syrian refugees in Istanbul, Turkey was used. A published list of existing civil society organizations (CSOs) and public agencies providing services to Syrian refugees in Istanbul were identified and invited to participate in the study. Agency focal points in each agency were contacted and facilitated connection to staff working with Syrian refugees. We used the quantitative arm of the Providers ASPIRE survey, which included 104 service providers recruited from 17 public agencies and

CSOs. Public agencies were government-run service centers whereas CSOs were independent organizations that provided programs for refugees funded from national or international institutions.

Participants were recruited on a rolling basis to generate a convenience sample. Participants were eligible if they were 18 years of age or older, worked with Syrian refugees more than 50% of the time, spoke English, Arabic or Turkish fluently, and did not show any signs of cognitive impairment (Folstein et al., 1975). Written consent was obtained from all participants. Recruitment and surveys were completed in private rooms at participant agencies by trained research assistants. Surveys were interviewer-administered in English, Turkish, or Arabic. In accordance with local custom, compensation was not provided to participants. Study protocols were approved by Columbia University Institutional Review Board and Ethics Committee of Istanbul Aydin University prior to the start of the study.

Measurement

Dependent Variable

The Post-Traumatic Growth Inventory (PTGI): a 21-item scale that has been used to measure vicarious post-traumatic growth (VPTG) among service providers (Calhoun & Tedeschi, 1998). The PTGI consists of five subscales that measure areas of growth 1) new possibilities; 2) relating to others; 3) personal strength; 4) spiritual change, and 5) appreciation for life associated. Validated in Turkish (Aydin & Kabukçuoğlu, 2020) and Arabic (I. Kira et al., 2012), the PTGI asks participants about changes that have occurred in their life as a result of working with refugees using a 6-point Likert scale; (0) I did not experience this change as a result of working with refugees – (5) I experienced this change to a very great degree as a result of working with

refugees. Total scores were added, ranging from 0 to 105. Like previous studies, a cutoff score of 63 and higher was used to represent moderate/high levels of growth, while scores lower than 63 represents low levels of growth (Wu et al., 2019). Cronbach's alpha estimating internal consistency among our sample was acceptable ($\alpha = 0.93$).

Independent Variables

Exposure to Vicarious Trauma

Proportion of clients who disclose trauma: a 5-point Likert scale that asks service providers the portion of their clients that disclose trauma: (0) no clients, (1) less than half but some clients, (2) around half of clients, (3) more than half but not all clients, and (4) all clients.

Secondary Traumatic Stress Scale (STSS): a 17-item scale to measure symptoms associated with indirect exposure to traumatic events via one's professional relationship with traumatized clients (Bride et al., 2004a). Validated in Turkish (Kahil & Palabıyıkoğlu, 2018) and translated in Arabic (Ratrout & Hamdan-Mansour, 2020), the STSS asks participants how frequently they have experienced a listed emotional situation as a result of working with Syrian refugees using a 5-point Likert scale; (0) Never – (4) Always. Scores were added, ranging from 0-68. Like previous studies, a cutoff score of 38 or more was used to determine presence of STS (moderate-to-severe STS symptoms) (Bride et al., 2004a) (Duffy et al., 2015). Cronbach's alpha estimating internal consistency among our sample was acceptable ($\alpha = 0.88$).

Support Systems

Social Support: the Multidimensional Scale of Perceived Social Support (MSPSS) is a 12-item scale to measure support from three sources: family, friends and significant others (Zimet et al., 1988). Validated in Turkish (Eker & Arkar, 2001) and Arabic (Merhi & Kazarian, 2012), the MSPSS asks participants how they feel about their source of support through a 7-point Likert scale; (1) very strongly disagree – (7) very strongly agree, with higher scores representing higher levels of perceived social support (Eker et al., 2001). Cronbach's alpha estimating internal consistency among our sample was acceptable ($\alpha = 0.81$).

Organizational Support: the Survey of Perceived Organizational Support (SPOS) is a 8-item scale to measure an employees' perception to which their organization values their contribution and cares about their well-being (Eisenberger et al., 1986). Validated in Turkish (Azaklı, 2014) and translated in Arabic (Aldamman et al., 2019), the SPOS asks participants opinions about working at their agency through a 5-point Likert scale; (0) strongly disagree – (4) strongly agree; where higher scores representing higher levels of perceived organizational support (Azaklı, 2014). Cronbach's alpha estimating internal consistency among our sample was acceptable ($\alpha = 0.89$).

Years in profession

Years worked in profession: we asked participants the number of years they worked in their profession (1) up to one year; (2) one to five years; (3) six to ten years.

Sociodemographic

We included sociodemographic characteristics such as self-identified *gender* (male/female) and *average weekly client caseload* (continuous) as adjusted covariates, as previous literature has linked gender and caseload size with the mental health of service providers.

Data Analyses

I used descriptive statistics to examine sociodemographic characteristics (age, gender, nationality, level of education, agency type) of service providers, the frequency/type of traumas disclosed to service providers, as well as frequency distribution of VPTG and average PTGI scores. Independent sample t-tests were used to calculate significant mean differences for continuous variables between the dependent and independent variable, while Chi-square tests were used to calculate significant differences between categorical variables of the dependent and independent variable. We used the winsorization method for the covariate average client caseload due to the presence of outliers (Kwak & Kim, 2017). Outliers (client caseload of 90, 90, 130, 150) were replaced with the largest upper bound values in our observation (client caseload of 80).

I used a multivariable logistics regression model to examine the association between greater exposure to vicarious trauma (proportion of client who disclose trauma, secondary traumatic stress), greater support systems (perceived organization support, perceived social support), and length of time as a professional (years in profession) on vicarious posttraumatic growth. Adjusted covariates for the multivariable models include gender and average client caseload. All analyses were completed using STATA (version 15.1) (StataCorp, 2017).

Results

Characteristics of the Sample

Characteristics of service providers enrolled in our study are presented in Table 3-1. A total of 104 service providers were recruited throughout Istanbul; 73 were recruited from civil society agencies and 31 from public institutions. The average mean age was 28.56 years (SD=5.08), close to half identified as male (49.04%), and the majority were Turkish nationals (82.69%). Three quarters of service providers had a 4-year university degree (75.00%).

Table 3-1: Characteristic of service providers working with Syrian Refugees in Istanbul, Turkey (N=104)

	N	$\bar{x}$ (SD) or %
Age (SD)	90	28.56 (5.08)
Gender		
Male	51	49.04
Female	51	49.04
No response	2	1.92
Nationality		
Turkish	86	82.69
Syrian	16	15.38
Other	2	1.92
Interview language		
Turkish	93	89.42
English	7	6.73
Arabic	4	3.85
Level of education		
Middle/High School	8	7.69
Vocational (2-year) degree	4	3.85
University (4-year) degree	78	75.00
Graduate degree	14	13.46
Agency type		
Civil Society	73	70.19
Public Institution	31	29.81
Years in profession		
0-1 years	34	32.69
2-5 years	70	56.73
6+ years	11	10.58
Service Provider Profession		
Social worker	45	43.27
Manager/program officer/coordinator	16	15.38
Psychologist	11	10.58
Advising	6	5.77
Sociologist	5	4.81
Legal team/lawyer	4	3.85
Translator	3	2.88
Doctor/nurse	2	1.92
Other	12	11.54

Note. n = sample size; % = percentage;

Service providers reported a wide range of professions, including social worker (43.27%), manager/program officer/coordinator (15.38%), psychologist (10.58%), advising (5.77%), sociologist (4.81%), legal team/lawyer (3.85%), translator (2.88%), doctor/nurse (1.92%), and other (11.54%). Most service providers (84.62%) reported that their clients disclosed some type of traumatic experiences (Table 3-2). The three most frequent traumatic experiences disclosed were related to 1) war/terrorism/political violence; 2) traumatic grief/separation; and 3) serious accident or illness, while the least common were 1) natural disaster; 2) other; and 3) forced displacement.

Table 3-2: Trauma types disclosed to service providers

	n	%
Do clients ever share traumatic experience with you?		
No	16	15.38
Yes	88	84.62
Types of traumatic experiences disclosed by clients (n=88)		
War/terrorism/political violence	81	92.05
Traumatic Grief/Separation	68	77.27
Serious accident or illness	65	73.86
Physical assault	64	72.73
Emotional abuse	59	67.05
Neglect	55	62.50
Domestic violence	52	59.09
Sexual abuse/assault	49	55.68
School violence	43	48.86
Torture	37	42.05
Extreme interpersonal violence	34	38.64
Natural disaster	18	20.45
Other	11	12.50
Forced displacement	4	4.55

Note. n = sample size; % = percentage;

Vicarious posttraumatic growth

Less than half of the service providers (44.66%) experienced moderate/high VPTG (Table 3-3). The total average PTGI item score was 2.80(1.02), which represents that service

providers, on average, experienced small/moderate changes as a result of working with refugees. Among the five PTGI subscales, the highest average item scores were *Personal Strength* and *Appreciation for Life*, with an average item score of 3.10(1.18) and 3.10(1.19), respectively. The lowest average item subscale score was *Relating to Others* 2.44(1.15). Service providers working in an advising capacity 4.06(0.41) had the highest level of VPTG, followed by translator 3.59(0.57), and doctor 2.90(0.61) (Table 3-4).

Table 3-3: Vicarious Posttraumatic Growth Inventory Scores

Variables	n(%) or x̄(SD)
Post Traumatic Growth Inventory (PTGI) n=103	
Average item score	2.80 (1.02)
PTGI Cutoff Score	
Low growth (<63)	57 (55.34)
Moderate/high growth (≥63)	46 (44.66)
PTGI Subscales average item score	
Relating to others	2.44 (1.15)
New possibilities	2.93 (1.17)
Personal strength	3.10 (1.18)
Spiritual and existential change	2.55 (1.46)
Appreciation for life	3.10 (1.19)

Note. PTGI average item scores are scored using a scale from 0 = I did not experience this change as a result of working with refugees to 5 = I experience this change to a very great degree as a result of working with refugees;
PTGI Cutoff score (moderate/high growth) is equivalent to average item score ≥ 3.0;
n = sample size; % = percentage;

Table 3-4: VPTG, proportion client disclose trauma, STSS, SPOS, and MSPSS mean score by service provider profession

Service Provider: Profession (n=104)	VPTG mean item score	Proportion clients disclose trauma	STSS mean total score	SPOS mean total score	MSPSS mean total score
	x̄(SD)	x̄(SD)	x̄(SD)	x̄(SD)	x̄(SD)
Social worker (n=44)	2.78 (1.05)	2.18 (1.30)	31.33 (9.61)	29.23 (7.42)	**67.51 (10.31)**
Manager/program officer/coordinator (n=16)	2.68 (1.20)	1.69 (1.20)	33.06 (11.60)	31.13 (5.16)	61.06 (12.98)
Psychologist (n=11)	2.55 (1.29)	**2.73 (1.49)**	28.27 (8.50)	28.36 (4.54)	67.00 (10.97)
Advising (n=6)	**4.06 (0.41)**	1.67 (1.21)	**35.17 (11.87)**	**32.33 (4.13)**	65.17 (12.21)
Sociologist (n=5)	2.27 (0.92)	**2.60 (0.89)**	30.00 (9.46)	**32.20 (2.68)**	**67.80 (8.98)**
Legal team/lawyer (n=4)	2.30 (1.08)	2.50 (0.58)	**34.00 (4.08)**	32.00 (6.38)	47.00 (20.93)
Translator (n=3)	**3.59 (0.57)**	**2.67 (0.58)**	**39.33 (15.18)**	30.33 (8.50)	54.33 (5.03)
Doctor/nurse (n=2)	**2.90 (0.61)**	1.50 (2.12)	24.00 (2.83)	**38.00 (2.83)**	56.00 (9.90)
Other (n=12)	2.81 (0.89)	1.67 (1.30)	31.42 (13.22)	26.58 (7.68)	**67.25 (12.09)**

Note. top 3 highest mean scores are highlighted in bold

Vicarious Traumatic Exposure

The proportion of clients who disclosed traumatic experiences ranged from 0 to 4, with a mean of 2.11(1.28). This represents that on average, over half of clients disclosed traumatic experiences to service providers. Over one-quarter (27.88%) of service providers met the cutoff for moderate/high/severe secondary traumatic stress (STS), while over three-quarters (72.12%) met the cutoff for none/little/mild STS. Table 3-4 highlights the professions who had the highest proportion of clients disclose trauma, which include psychologist 2.73(1.49), translators 2.67(0.58), and sociologist 2.60(0.89), while those with the highest STS mean score was translator 39.33(15.18), advising 32.33(4.13), and legal team/lawyer 34.00(4.08).

Significant associations between vicarious traumatic exposure factors and VPTG was found in our multivariable model (Table 3-6), but not in our bivariate analysis (Table 3-5). In the multivariable model, moderate/high/severe secondary traumatic stress (STS) was significantly associated with a significantly increased odds in the unadjusted model (OR:4.05, 95% CI:[1.37, 12.02]) and a significantly increased odds in moderate to high VPTG in the adjusted model (aOR:3.98, 95% CI:[1.26, 12.59]). No significant association between STS and VPTG was found in the bivariate analysis. No significant association was found between the proportion of client who disclose trauma and VPTG. My original hypothesis that greater exposure to traumatic material was partially supported as higher levels of STS (but not proportion of clients who disclose trauma) was associated with moderate-to-high VPTG.

Support System

Significant associations between support system factors and VPTG were found in both the bivariate and multivariable analysis. Service providers with moderate/high VTPG had, on average, a significantly higher perceived organizational support (SPOS) score than compared to

those who had low VTPG (p=0.015). This was also true for perceived social support (MSPSS) scores, where service providers with moderate/high VPTG had, on average, a significantly higher MSPSS score than compared to those with low VPTG (p=0.022). This significance was also found in the multivariable model, where each additional increase in SPOS score was associated with a 11% increased odds of moderate/high VTPG in the unadjusted model (OR:1.11, 95% CI:[1.03, 1.20]) and the adjusted model (OR:1.11, 95% CI:[1.02, 1.20]), while each additional increase in MSPSS score was associated with a 5% increased odds of moderate/high VPTG in the unadjusted model (OR:1.05, 95% CI:[1.01, 1.10]) and the adjusted model (OR:1.05, 95% CI:[1.00, 1.10]). Service provider professions with the highest SPOS scores were doctor/nurse 38.00(2.83), advising 32.33(4.13), and sociologist 32.20(2.68), while the highest MSPSS scores were sociologists 67.80(8.98), social worker 67.51(10.31), and other 67.25(12.09) (Table 3-4). My hypothesis that having greater support system was supported as both social and organizational support was associated with moderate-to-high VPTG.

Table 3-5: Bivariate associations between vicarious traumatic exposure, support systems, and years in profession on moderate/high vicarious posttraumatic growth

	Overall sample (n=104)	Low VPTG (n=57)	Moderate/High VPTG (n=46)	t-test or Chi-squared
	n(%) or x̄(SD)	n(%) or x̄(SD)	n(%) or x̄(SD)	
Vicarious Traumatic Exposure				
STSS Scale – Secondary Traumatic Stress (SD)				
None/little/mild	75 (72.12)	45 (78.95)	29 (63.04)	p=0.074[a]
Moderate/high/severe	29 (27.88)	12 (21.05)	17 (36.96)	
Proportion of client who share trauma (SD)	2.11 (1.28)	2.12 (1.27)	2.07 (1.31)	p=0.822
Support System				
SPOS Scale – Perceived Organizational Support (SD) n=102	29.75 (6.69)	28.40 (6.82)	31.59 (6.03)	**p=0.015**
MSPSS – Perceived Social Support (SD)	64.92 (12.07)	62.07 (12.03)	68.37 (11.44)	**p=0.008**
Years in Profession				
Years in profession (%)				
0-1 years	34 (32.69)	17 (29.82)	17 (36.96)	p=0.444[a]

2+ years	70 (67.31)	40 (70.18)	29 (63.04)	
Covariates				
Gender (%) n=102				
Male	51 (50.00)	31 (55.36)	20 (44.44)	p=0.276[a]
Female	51 (50.00)	25 (44.64)	25 (55.56)	
Average weekly caseload (SD) n=103	27.85 (21.68)	22.89 (18.37)	34.24 (23.97)	**p=0.008**

Note. t-test unless otherwise noted; [a]Chi-square test;
SD = Standard Deviation; significant p-values highlighted in bold

Experience in profession, gender, and average weekly caseload

Among service providers surveyed, over half worked in their profession for 2-5 years (56.73%), approximately one third (32.69%) worked one year or less, and 10.58% worked 6 or more years (Table 3-1). No significant associations between years in profession and gender on moderate/high VPTG in both the bivariate analysis and multivariable models (Table 3-5 & 3-6). I did find service providers with moderate/high VPTG have a significantly higher average weekly client caseloads than compared to those with low VPTG in the bivariate model (p=0.008). My hypothesis that having greater years of professional experience was associated with higher levels of VPTG was not supported.

Table 6: Multivariable association between vicarious traumatic exposure, support systems, and years in profession on moderate/high vicarious posttraumatic growth (n=101)

	OR (95%CI)	p-value	aOR (95%CI)	p-value
Vicarious traumatic exposure				
Proportion of client who disclose trauma	0.90 (0.64, 1.27)	p=0.560	0.98 (0.68, 1.41)	p=0.921
Secondary Traumatic Stress Scale (STSS)				
None/little/mild	*ref.*		*ref.*	
Moderate/high/severe	**4.05 (1.37, 12.02)**	**p=0.012**	**3.98 (1.26, 12.59)**	**p=0.019**
Support Systems				
Perceived Organizational Support Scale (SPOS)	**1.11 (1.03, 1.20)**	**p=0.007**	**1.11 (1.02, 1.20)**	**p=0.016**
Perceived Social Support Scale (MSPSS)	**1.05 (1.01, 1.10)**	**p=0.013**	**1.05 (1.00, 1.10)**	**p=0.022**
Experience in Profession				
Years in Profession				
0-1 years	*ref.*		*ref.*	
2+ years	0.91 (0.36, 2.32)	p=0.842	0.93 (0.35, 2.44)	p=0.881

Note. OR = unadjusted relative risk ratio; aOR = adjusted relative risk ratio
The adjusted covariates were gender and average weekly client caseload

Discussion

This paper examines the scope and prevalence of VPTG among service providers working with Syrian refugees in Istanbul, Turkey. I found the rates of moderate-to-high VPTG (44.66%) among our service providers to be similar to other service providers that work with refugee and non-refugee populations. The average VPTG item score among our sample of service providers was slightly below a moderate degree of growth, which was lower than compared to other studies that examined VPTG among different service providers, which include aid workers working with Syrian refugees in Jordan (Rizkalla & Segal, 2020), domestic violence and social service therapist in Israel (Ben-Porat, 2015), psychiatric nurses in Israel (Zerach & Shalev, 2015), and health professionals in New Zealand (Manning-Jones et al., 2016).

One reason why the average VPTG item score may have been slightly lower is because of the wide variety of service providers we included among our sample (e.g., social worker, manager/program officer/coordinator, legal team/lawyer, psychologist, doctor/nurse). In the study sample, service providers who were in an advising capacity or were translators had a much higher VPTG score, while sociologist or legal team/lawyer had the lowest VPTG score. Differing VPTG scores were also found among a study of health professionals in New Zealand, where social workers had a higher VPTG score than compared to psychologist (Manning-Jones et al., 2016). Different VTPG scores between service providers may be associated with the unique training associated with each profession, in addition to the varying exposure to traumatic materials.

My hypothesis that greater exposure to traumatic material, in addition to having a greater support system, and having greater years of professional experience is associated with higher

levels of VPTG was partially supported. I found higher levels of STS (but not proportion of clients who disclose trauma) and greater support systems (social and organizational support) to be associated with moderate-to-high VPTG. I did not find any significant association between greater years in profession and moderate-to-high VPTG. These findings suggest the important role STS and support systems have on VPTG.

Several reasons may explain our findings between greater exposure to traumatic material and VPTG. As suggested in a previous study of Syrian refugee service providers, one reason why no significant associations was found with the proportion of clients who disclose trauma is because VPTG may be associated closer to the type and severity of traumatic material, as well as its personalized impact on the service provider (Brooks, Dasgupta, et al., 2022). This may be the reason why STS may be a better predictor of VPTG, in that STS measures the PTSD-like symptoms associated with the cumulative effects of working and engaging with traumatized individuals (Bride et al., 2004b). The positive association between STS and VPTG is also highlighted in several studies examining VPTG, including a systematic review of VPTG among service providers (Ben-Porat, 2015) (Manning et al., 2015). However, the relationship between STS and VPTG appears more complex and nuanced (a curvilinear rather than linear relationship), as previous studies have shown that there may be a plateauing or decline in VPTG at higher levels of STS (Ben-Porat, 2015) (Manning et al., 2015).

In regard to service providers support systems, both higher social support and organizational support was associated with higher VPTG. One explanation is that having greater social support may act as a mitigating factor for indirect trauma exposure, as social support is theorized as a buffer for stressful events (S. Cohen & Wills, 1985b). Having greater social support has also been suggested to decrease isolation, enhance coping and adaptation, and

improve overall social resources (Manning et al., 2015). Similarly, greater organizational support may facilitate higher VPTG, as a recent study of aid workers working with Syrian refugees in Jordan suggested organizational support to be crucial in mitigating the negative impact of trauma work, and enabling space for growth (Rizkalla & Segal, 2020). This may be especially true among service providers in Turkey, where public opinion towards Syrian refugees have been less favorable in recent years (Saraçoğlu & Bélanger, 2019).

There may be several reasons why greater years in profession was not associated with higher VPTG. One reason is that level of exposure to traumatic material each profession experiences may vary (e.g., social worker vs doctor/nurse vs manager/program officer/coordinator), thus impacting the time it takes to develop VPTG. Furthermore, the time it takes for a service provider to cope and adapt to traumatic material and to develop VPTG is a personalized process that is dependent on a variety of factors unique for the service provider.

Limitations

There are several limitations to this study. First, service providers were recruited on a rolling basis to generate a convenience sample, which limits the generalizability of our results. Service providers were not randomly selected into the study, and self-selection bias may have occurred. Service providers who were severely psychologically impacted by working with traumatized clients may have not wanted to self-volunteer and participate in the study without being randomly selected and encouraged to do so.

Second, the cross-sectional design of our study limits our ability to draw causal inferences as associations were treated without consideration of temporality. As the name implies, vicarious post-traumatic growth measures a service providers' growth over time as they are impacted by their work with traumatized individuals – a challenging task to measure in a

cross-sectional study. This study attempted to mitigate this limitation by including service providers and the year of professional experience in all our analysis. Future studies should focus on the longitudinal aspect of VPTG, which surprisingly, very few studies have done.

Third, this study sample only included service providers currently working in their profession. Working with traumatized clients and listening to stories of despair and grief can be detrimental to a service providers' psychological wellbeing, which may cause certain individuals to leave their job or switch professions entirely. This study sample may include professionals who are incredibly resilient when working with traumatized individuals, or those who have just started their job or profession. Future studies should examine both negative and positive growth associated with professionals who left their jobs and who are no longer working with traumatized individuals.

Lastly, the small sample size (n=104) limited the ability to examine nuances between different service providers (e.g. social workers, psychologist, caseworkers, interpreters, managers etc.). This study attempted to mitigate this limitation by dividing service providers into direct and indirect professions; however, nuanced differences remain between professions. Future studies should include a larger sample size.

Implications and Conclusions

This study has important implications for the wellbeing of service providers that work with Syrian refugees and other traumatized populations. Although preventing negative psychological consequences such as STS may not be entirely possible among service providers, organizations can play an active role in facilitating social and organizational support to foster the development of VPTG. Focusing on the wellbeing of service providers, in turn, will enhance the quality of care received by the client.

The study findings suggest a close relationship between STS and VPTG. Organizations may benefit from providing general information and psychoeducation to service providers about the negative psychological consequences of exposure to traumatic material, the development of STS, and the growth associated with VPTG. Previous studies have also emphasized the role of supportive and educational supervision and peer support in managing exposure to traumatic material (Reuven Even Zahav et al., 2020).

This study also suggests the need for both social and organizational capacity building. Organizations may benefit from introducing a peer support program, which have shown to support resilience and well-being, especially after an adverse or emotionally stressful event, and to development of shared organizational responsibility (Shapiro & Galowitz, 2016). Furthermore, as suggested in previous studies (Brooks, Dasgupta, et al., 2022), organizations can also benefit from developing a constructive feedback loop, where service providers can express grievances and organization can provide positive feedback to their employees.

This research highlights the need to understand both the positive and negative psychological consequences of working with traumatized communities. It also emphasizes the importance of focusing on service providers wellbeing, by minimizing the impact of exposure to traumatic material and by fostering the development of VPTG. Future research should utilize qualitative and longitudinal approaches in understanding VPTG development, so the mechanisms behind VPTG, trauma exposure, support systems, and time can be better understood. One possible future study is to examine service providers who recently graduated and to track how trauma exposure, supports system, and VPTG develop over time. This includes service providers who continue to work within their profession as well as service providers who decide to change professions as well.

Conclusion: Major findings and implications for social work policy, practice, and research

Summary of key findings

As the number of forcibly displaced people continues to increase worldwide, it is necessary for practice, policy, and research to prioritize those affected by displacement. Furthermore, to reduce the global burden of mental health and to provide equity in care and treatment, emphasis is needed to focus on those who reside in LMICs, especially as only a small fraction of forcibly displaced people resides in high-income countries (HICs). This three-paper dissertation examines topics surrounding the mental health of refugees and asylum-seekers living in LMICs that have been minimally examined in research; specifically, the utilization of mental health counseling services, suicidal behaviors, and the well-being of service providers who serve forcibly displaced populations. I provide a brief overview of key findings below.

Study results in Malaysia highlight how individual and contextual determinants of health impact mental health service utilization for refugees and asylum-seekers. The study found that most refugees and asylum-seekers (71.89%) never attended mental health counseling services while over a-third (34.28%) of participants screened positive for PTSD. For those who screened positive for PTSD, only a minority (16.49%) attended counseling services. Having a higher PC-PTSD score (OR:0.69, 95% CI:[0.52, 0.91]) was associated with lower odds of counseling attendance. This finding highlights the gap between those who need and receive services and the underutilization of mental health counseling services in the Malaysia context. Possible reason for this may be a result of stigma associated with being diagnosed with a mental health condition, the gap between perceived need and actual need, and/or the preference in seeking traditional, religious, and indigenous system, rather than mental health services largely based in western notions of mental illness. Future research must incorporate these variables that impact healthcare service utilization.

Additionally, study result in Malaysia also highlights the need to identify contextual barriers of mental health treatment and care. The study found that not having easy access to health facility (OR:0.10, 95% CI:[0.03, 0.32]) and needing interpreter services (OR:0.23, 95% CI:[0.07, 0.75]) was associated with lower odds of counseling attendance. This finding indicates the need to understand and mitigate structural barriers in the social ecology to provide mental health services that are accessible and equitable for all. It also indicates the importance of incorporating a theoretical framework such as the Andersen's HSU model to understand how contextual factors influence healthcare service utilization.

Study results in Jordan examines the scope and prevalence or suicidal behaviors. The study found less than one-tenth of our sample of Syrian refugee women reported suicidal ideation (9.07%) and suicide attempts (2.76%) in the past 6-months. The study also found the close association between psychological pain, social connectedness, and suicidal behaviors. Screening positive for PTSD (aOR:4.02, 95% CI:[1.33, 12.15]) increased odds of suicidal behaviors while having 1 friend or family member available to help when in need (OR:0.31, 95% CI:[0.13, 0.78]) decreased odds of suicidal behaviors. These findings support the 3ST "Idea-to-Action" framework, in that suicide is rooted in psychological pain while connectedness acts as a key protective factor for escalating suicidal behavior. Furthermore, as two-thirds (66.21%) of participants screened positive for PTSD in the study, it is vital that treatment and interventions are tailored to address mental health symptoms, isolation, and suicidal behaviors. Future research should examine the interaction between psychological pain and connectedness on suicidal behaviors, as well as its role as a protective factor for suicidal ideation (moderating mediator).

Study results from Turkey indicate the necessity to focus on the well-being of those who provide mental health services to refugees and asylum-seekers. Study results indicate that over

half of clients disclosed traumatic experiences to service providers, while over one-quarter (27.88%) of reported moderate/high/severe STS. Despite hearing stories of pain and despair, almost half (44.66%) of service providers reported moderate-to-high VPTG. Furthermore, moderate/high/severe secondary traumatic stress (aOR:3.98, 95% CI:[1.26, 12.59]), greater social support (aOR:1.05, 95% CI:[1.00, 1.10]), and greater organizational support (OR:1.11, 95% CI:[1.02, 1.20]) was associated with moderate-to-high VPTG. These findings suggests that service providers working with traumatized Syrian refugees may not be able to prevent themselves from negative psychological consequences of their work; however, organizations must create an environment that fosters VPTG by facilitating social support and enhancing organizational support in the agency. Future research should examine the interaction between social support and organizational support, as well as its role as a protective factor (moderating mediator) for STS and its relationship to VPTG by utilizing structural equation modeling (SEM) or path analysis.

Implications for social work practice: policy, practice, and research

Implications of this three-paper dissertation can be viewed through an anti-oppressive social work practice lens. An anti-oppressive social work practice perspective incorporates the principles of social work justice activism that include providing services aimed at addressing mental health at an individual level, while also externalizing problems by understanding that social inequality and structures of oppression create disadvantaged life circumstances (Healy, 2022) (Morgaine & Capous-Desyllas, 2014). As the mental health of refugees and asylum-seekers are impacted by a variety of risk and protective factors at all levels of their socioecological environment, I include practice, research, and policy in my implications below.

Implications for Practice

As high rates of mental distress and mental health conditions remain to be a key feature of people who have been forcibly displaced, clinicians and organizations must promote greater awareness of and screening for mental health conditions. This includes incorporating a mental health screening tool into day-to-day practice, a suicide screener (for clinicians), and/or to refer to services appropriate for mental health treatment. This is especially important for health clinics or primary care physicians who are often the first line of contact for most displaced populations in LMICs. Additionally, mental health treatment and care is also often associated with stigma and discrimination, which means that providing basic psychoeducation surrounding mental health, its impact, as well as greater awareness of services available, and normalizing treatment at the individual and clinic level is essential for increasing engagement of mental health services.

Creating an environment that promotes well-being and mental health also extend to service providers who serve forcibly displaced populations. The effectiveness of services providers is closely associated their well-being; therefore, services providers must feel comfortable and not be penalized for seeking help when they experience negative psychological consequences of working with traumatized individuals. Organizations can also promote greater awareness of mental health services and basic psychoeducation on the impact of trauma among service providers. Organizations may also mitigate the negative impact of trauma-work by enabling nurturing space for service providers to grow. This may include providing trauma-informed supervision on a regular-basis while reducing the number of difficult/challenging clients in the service provide caseload. Having some form of feedback loop for employees to express grievances and where organizations can also provide positive feedback to their employees may be beneficial to overall well-being (Brooks, Dasgupta, et al., 2022).

Lastly, clinicians and organizations must incorporate feedback about mental health services provided from clinic attendees to reduce the gap between those who receive and those who need services. This includes understanding barriers to seeking care at the clinic, such as lack of transportation, lack of childcare, financial stressors, lack of transportation, or other factors in the socioecology that may prevent from seeking care. Furthermore, clinicians and clinics must engage with the community they serve to understand whether the mental health service provided is culturally tailored to their needs, or whether incorporating traditional or religious methods of healing is needed for adapt mental health interventions.

Implications for Research

Although research on the forcibly displaced populations has gained momentum in the last decade, many gaps in research still exists (Cratsley et al., 2021). Most refugee research continues to be completed in HIC, where resources and mental health infrastructure are more robust. As most displaced populations reside in LMICs, the burden of strained resources is compounded by a limited mental health infrastructure (Silove et al., 2017). This creates a gap in research that disproportionately affects the knowledge needed to provided effective and efficacious psychosocial interventions for refugees and asylum-seekers residing in LMICs. Other research gaps include the lack of longitudinal studies examining mental health symptomology over time, which may provide a clearer picture of mental health symptomology throughout the displacement and resettlement. Furthermore, the lack of gendered data in research results in difficulty to tailor psychosocial interventions according to sex and gender. For example, men and women experience different pre- and post-migration stressors during displacement and have higher prevalence of different common mental health disorders (Riecher-Rössler, 2017).

Another research challenge is capturing and understanding how mental health or mental distress is expressed in different cultures. A systematic review of 138 qualitative studies examining depression worldwide found that the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) diagnosis of Major Depressive Disorder (MDD) may not accurately reflect the experience of depression globally (Haroz et al., 2017). Specifically, out of the 15 features of MDD, only 7 were represented in the studies. This highlights that assessment tools to understand mental health draw from research and clinical experiences from Western populations. This indicates that mental health research among forcibly displaced populations must include culture-specific idioms of distress and conceptions of mental disorders. More research needs to include a process of culturally adapting and testing of mental health screening tool to ensure the reliability and validity of mental health symptoms being measured (Haroz et al., 2014).

Implications for Policy

As peaceful solutions to end conflict and displacement remains elusive, several global initiatives that include the mental health of refugees and asylum-seekers in LMICs have been developed by multilateral organizations that are promising. The United Nations High Commissioner for Refugees (UNHCR) introduced the Mental Health Psychosocial Support (MHPSS) as a guidebook and technical guidance to address mental health and psychosocial issues in humanitarian settings. The MHPSS emphasizes that in order to promote mental health and psychosocial wellbeing, interventions must include those that prioritize (listed by order of importance): 1) social considerations in basic service and security; 2) strengthen family and community support; 3) focused care and non-specialized support (emotional and practical support by community workers); and 4) specialized services (psychiatrist, psychologist, etc.)

(Refugees (UNHCR), 2013). The MHPSS highlights the importance of the socioecological environment in relation to mental health and has enabled a pathway to prioritize care for mental health and psychosocial support in resource-constrained environments.

Another global initiative that has impacted the mental health well-being of forcibly displaced populations is the World Health Organization (WHO) Mental Health Action Plan (2013-2030). The WHO developed the Mental Health Action Plan to incorporate a human right approach of advancing universal health coverage. Some objectives of the Mental Health Action Plan include, but is not limited to, strengthening effective leadership and governance for mental health, provide integrated mental health and social care services in community-based settings, and implement strategies for promotion and prevention in mental health (WHO, 2013). These objectives include global targets that: 1) increase services coverage for severe mental health disorders by 20%; 2) reduce the rate of suicide by 10%; and have 3) 80% of countries to collect and report mental health indicators every 2 years (Cratsley et al., 2021) (WHO, 2013). Furthermore, the WHO also developed the Mental Health Gap Action Programme (mhGAP) to target those residing in LMICs. The mhGAP provides planners, policymakers, and donors, with a set of programs to scale up services for mental health services in LMICs. This is especially important as most people affected by mental health (approximately 75% affected by mental health live in LMICs) do not have access to the treatment they need (WHO, 2018). As most refugees and asylum-seekers reside in LMICs and utilize existing mental health infrastructure of the host country, the Mental Health Action Plan and the mhGAP has far reaching consequences to those who are forcibly displaced.

Despite these promising global initiatives to reduce mental health, many gaps and challenges remain. First, there currently exists a funding shortage that has potentially

catastrophic consequences for programs that support displaced populations, which includes the $700 million UNHCR funding gap used to sustain essential programs (UNHCR, 2022a). Second, the effectiveness of some of the MHPSS programs have focused primarily on individual-level psychosocial interventions such as Cognitive Behavioral Therapy or Narrative Exposure Therapy, rather than MHPSS interventions that impact broader social dimensions (Bangpan et al., 2019). Lastly, even though there is a prioritization to address mental health at a global-level, some LMICs do not see mental health as a priority during emergencies (Walker et al., 2022), making it difficult to scale up and fund potential psychosocial interventions. Other obstacles to mental health treatment and intervention includes the criminalization of suicide in several LMICs (Mishara & Weisstub, 2016), which contributes to increased stigma surrounding the issues of suicidal behaviors.

The most effective solution to alleviate the mental health of refugee and asylum-seeker mental health is to tackle the primary cause of forced displacement – war and the lack of peaceful solutions to conflict (Norwegian Refugee Council, 2022). The lack of political will from many HICs to prevent and resolve conflict has contributed to the protracted nature of many humanitarian crises. Exerting diplomatic pressure from HIC to bring about peaceful solutions to conflict must be a global priority, especially as the number of people forcibly displaced continue to increase with no immediate end in sight (Norwegian Refugee Council, 2022) (UNHCR, 2022b).

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