Research Article

Stress Perception and Quality of Life among Resettled Refugees during COVID-19 Pandemic: Pilot Study

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Abstract

Objectives: To explore stress perception and Quality of Life (QoL) among resettled refugees located in Midwest of the U.S. during the COVID-19 pandemic.

Methods: Exploratory descriptive study. Participants were invited to take an online survey through a Facebook® advertising campaign targeting resettled refugees located in South Dakota and Minnesota from May to June 2021. Online survey included the Perceived Stress Scale (PSS-10), and the World Health Organization-BREF QoL.

Results: Participants who experienced having COVID-19 infection reported higher stress score (M=22.14, n=11, p=<0.001). QoL scores were the lowest for physical health, psychological health and environmental domains. Social relationships domain had the highest QoL score.

Conclusions: Current information about stress perception and QoL among resettled refugees in the U.S. will improve our understanding of the aetiology of mental health disparities especially during the COVID-19 pandemic.

Policy implications: developing a fine-tuned assessment of risks and resettled refugee's needs can guide subsequent public health policies. Public health policy makers are encouraged to address health disparities among refugee populations and provide measures to decrease perceived stress and improve QoL especially during a global pandemic.

Introduction

Historically, the percentage of refugees coming to the United States (U.S.) has fluctuated with global events and changing U.S. priorities. From fiscal 2008 to 2017, an average of 67,100 refugees arrived in U.S. each year. During this time, half or more refugees came from Asia, with many from Iraq and Burma [1].

Resettled refugee populations face unique challenges in following recommendations to protect their health especially during the coronavirus disease 2019 (COVID-19) pandemic. COVID-19 exposed the layers of inequity that undermine health and well-being of vulnerable refugees [2]. Inequitable access to care, information and health promotion resources is well documented, and healthcare challenges are increased during COVID 19 [3]. Refugees are at a greater risk to contract COVID-19 due to poverty, living in crowded housing, being employed in service-sector jobs, experiencing language and health care access barriers, and having higher rates of co-morbidities including diabetes and hypertension [4].

Mental health challenges are prevalent in the refugee population due to a combined effect of pre and post migration stressors as they relate to resettling [5]. Stress associated with attempts to integrate into a new culture is directly linked to mental health outcomes among refugees [6]. Many refugees suffer from anxiety, depression, and post-traumatic stress disorder (PTSD), but exact and up-to-date prevalence estimates are not available [7].

The World Health Organization (WHO) defines Quality of Life (QoL) as the "individuals' perceptions of their position in life

in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" [8]. QoL is a subjective concept incorporating individuals' sense of well-being, physical health, psychological health, personal beliefs, social relationships, and their relationship to their environment. Health is one of the main elements of QoL, and goes beyond measuring the traditional measures of mortality and morbidity and asks individuals how concerned or satisfied they are with their lives [9].

Refugees are a vulnerable population due to being displaced to a foreign country. Having to quickly resettle in new country and learn a new language and different culture may impact their QoL. COVID-19 restrictions on air travel may have decreased the migration of refugees to other countries including U.S. On the other hand, resettled refugees in their host countries encounter many consequences of COVID-19, including but not limited to increased unemployment rates and health consequences. There is a lack of literature that reported stress perception and quality of life among refugees resettled in the U.S. especially during the COVID-19 pandemic. This study is one of the pioneer studies that investigated those variables among this vulnerable population during the COVID-19 pandemic time.

Purpose

The purpose of this study was to explore stress perception and QoL among resettled refugees located in Midwest of the U.S. especially during the COVID-19 pandemic.

Methods

Exploratory descriptive design was used for this pilot study. Participants were invited to take an online survey to explore their stress perception using the Perceived Stress Scale (PSS-10) [10], and the Quality of life (QoL) tool included the WHO-QOL-BREF QoL [11].

Participants

Convenience sampling method was used. Inclusion criteria included: Adults over 18 years old, self-identify as a resettled refugee from any other country, currently living in the state of South Dakota, able to read English, and voluntarily consent to take the online survey. Participants were invited to take the online survey through a Facebook® advertising campaign. Potential participants were screened using a pre-online survey questions to ensure the participant meets the study inclusion criteria.

Human Subjects Protection

Institutional review board approval from the researchers' institution was obtained. Participation was voluntary and no personal identification was requested from participants. Each participant was given a numeric code automatically via Question Pro for the purposes of data analysis.

Data Collection

Data collection timeframe was from May 1st, 2021- June 10th, 2021. After reading the consent form and answering the screening questions for inclusion criteria, each participant completed questionnaires. Data collection took approximately 10 minutes for each participant. Demographic and health related variables were self-reported via the online questionnaire. Data included anonymous demographic questions related to age, gender, race, country of origin, ethnicity, education level, employment status, marital status, annual household income, any health problems, and how many years the participant has been living in U.S.

Instruments

Perceived stress was measured using the Perceived Stress Scale (PSS) [10]. The PSS is the most widely used psychological instrument for measuring perceived stress. It is a self-reported questionnaire developed to assess the degree to which situations in one's life are appraised as stressful, unpredictable, uncontrollable, and overloaded [10]. The PSS consists of ten items, is two-dimensional and includes positively and negatively phrased items. Participants give their responses on a five-point Likert scale. Scores are obtained by reversing scores in the four positive items and summing scores across all 10 items. PSS scores range from 0 to 40 with higher scores indicating higher perceived stress [10]. The PSS has good psychometric properties and displayed acceptable internal consistency with $\alpha= 0.86$ [12].

QoL was measured with the WHO-QoL-BREF. This is a self-reported questionnaire consists of 26-items and was developed by the WHO. The questionnaire was developed through field trials conducted in 14 countries using 12 different languages, making it cross-culturally valid and ideal for use in multicultural groups such as immigrant population [11]. The questionnaire measures QoL scores in four domains: environmental (eight questions), physical (seven questions), psychological (six questions), and social (three questions). The four domain scores denote an individual's perception of quality of life in each domain [9]. In addition, there are two questions that measure the overall quality of life and overall health satisfaction; question#1 asks about an individual's overall perception of quality of life, and question#2 asks about an individual's overall perception of their health. The test-retest reliabilities for domains were "0.66 for physical health, 0.72 for psychological, 0.76 for social relationships and 0.87 for environment" [13]. Domain scores are scaled in a positive direction, with higher scores denote higher quality of life. The mean score of items within each domain is used to calculate the domain score. Mean scores are then multiplied by 4 to make domain scores comparable with the scores used in the WHOQOL-100 [11]. Scores range from 0-100 [14].

Results

Data was exported to SPSS 27 for statistical analysis. 15

participants signed the consent form, one participant did not meet the pre-screening survey requirement of being a resettled refugee living in U.S, thus this participant was excluded from the sample, and 3 participants did not fully complete the survey / dropped out. The final sample included 11 participants who met the inclusion criteria and fully completed the online survey.

Descriptive Statistics

Demographic characteristics are presented in table 1. Study Participants Demographics. The mean age was 46.9 years with a range of 22-67 years. The majority were female (63.64%, n=7), identify as Black African American (54.5%, n=7), and reported marital status as married (81.82%, n=9). Highest reported educational level was associate's degree (36.36%, n=4), and high school (36.36%, n=4). The average number of years living in U.S. was 12.45 years, with a range of 4-24 years. Most participants (36.36%, n=4) were actively employed part time and renting a home (72.73%, n=8).

		Frequency (n)	Percent
Gender	Male	4	36.36%
	Female	7	63.64%
Education Level	High school	4	36.36%
	Trade/vocational/technical	2	18.18%
	Associates	4	36.36%
	Doctorate	1	9.09%
Country of Origin	Sudan	6	54.54%
	Ethiopia	2	18.18%
	Somalia	1	9.09%
	Iraq	1	9.09%
	Palestine	1	9.09%

Table 1: Study Participant Demographics.

Participants were also asked if they ever had the COVID-19 infection, and if they took the COVID-19 vaccine (Table 2). Study Participant Health Related Variables reports the health-related variables of participants.

		Frequency	Percent
Had COVID-19 infection	Yes	7	63.64%
	No	4	36.36%
Took the COVID-19 vaccine	Yes	2	18.18%
	No	9	81.82%
Reported health problems	Diabetes	3	14.29%
	Hypertension	4	19.05%
	Obesity	2	9.52%
	High Cholesterol levels	4	19.05%

Table 2: Study Participant Health Related Variables.

Perceived Stress Scale (PSS) Results

The Perceived Stress Scale (PSS) helps in understanding how different situations affect individuals' feelings and their perceived stress. The questions in this scale ask about participant's feelings and thoughts during the last month during a COVID-19 pandemic. PSS scores range of 27-40 are considered high perceived stress [10]. In this pilot study, 72.7% (n=8) participants reported a PSS score of higher than 27 indicating high perceived stress during the COVID-19 pandemic. Scores range from 14-26 are considered moderate stress [9], and 27.2% (n=3) of participants reported a score in this range indicating moderate stress. None of the participant PSS scores range from 0-13 which would be considered low stress. The total PSS mean equals 22.14 (SD=12.54, n=11).

Relation between COVID-19 pandemic and perceived stress score. A t-test was computed between the item "Have you ever experienced having the COVID -19 infection?" and the total PSS scores. Results reflected that participants' who reported

experiencing COVID- 19 infection had higher perceived stress score compared to those who did not experience COVID-19 infection (M=22.14, p=< 0.001, SD= 12.5).

Quality of life (QoL) Results

The WHOQOL-BREF items represent the multi-dimensional nature of quality of life. It covers a broad range of quality-of-life aspects related to four domains: physical health, psychological health, social relationships, and the environment. The lowest QoL domain score was for domain#3 "Physical domain" (M=3.74, QoL transformed score=25), followed by the "Psychological" (M=3.94) and "Environment domains" (M=4.81) both with QoL transformed score =38, and the "Social relationships" domain (M=3.6, QoL transformed score=94) (Table 3). WHOQOL-BREF Domains Mean Scores for the domains means, and QoL scores.

There are also two questions that measure overall QoL and overall health satisfaction. Question# 1 asked about an individual's overall perception of quality of life, and most participants (54.55%, n=6) reported "Neither poor nor good". Question# 2 asked about an individual's overall perception of their health, and most participants (36.36%, n=4) reported "Satisfied", and (27.27%, n=3) reported "Dissatisfied, and similar percentage for "Neither satisfied nor dissatisfied".

Correlation analysis using Pearson correlation coefficient was computed between the PSS total scores and the means of the 4 WHOQOL-BREF domains. Results reflected a negative correlation with no significance. Participants with higher PSS score reported Lower QoL mean scores (R= -0.30, p=0.69).

Domain	Facets incorporated within domains	*Mean Score x 4	Transformed QoL Scores (0-100)
1. Physical health	Activities of daily living Dependence on medicinal substances and medical aids Energy and fatigue Mobility Pain and discomfort Sleep and rest Work Capacity	3.74 x 4= 14.96	25
2. Psychological	Bodily image and appearance Negative feelings Positive feelings Self-esteem Spirituality / Religion / Personal beliefs Thinking, learning, memory and concentration	3.94 x 4= 15.76	38
3. Social relationships	Personal relationships Social support Sexual activity	3.6 x 4= 14.42	94

4. Environment	Financial resources	4.81 x 4= 19.26	38
	Freedom, physical safety and security		
	Health and social care: accessibility and quality		
	Home environment		
	Opportunities for acquiring new information and skills		
	Participation in and opportunities for recreation / leisure activities		
	Physical environment (pollution / noise / traffic / climate)		
	Transport		
*The mean score of items within each domain is used to calculate the domain score.			
Mean scores are then multiplied by 4 in order to make domain scores comparable with the scores used in the WHOQOL-100.			

Table 3: WHOQOL-BREF Domains Mean Scores.

Discussion

15 reported that acculturation stress and the stress related to language barriers, discrimination, occupational challenges, and feelings of isolation from society and a sense of newness or loss are prominent among resettled refugees. 16 examined stress among refugees who resettled in the U.S. and reported three main findings. First, older age was associated with higher levels of financial stress and homesickness. Second, poorer levels of self-rated health and fewer somatic symptoms were related to higher levels of homesickness and language barriers. Third, higher educational attainment was associated with higher levels of financial stress [16]. This study examined stress perception and QoL among resettled refugees located in the Midwest of U.S. during the COVID-19 pandemic. Results reflected that participants who experienced COVID-19 infection reported higher perceived stress scores compared to those who did not get infected with COVID-19.

The COVID-19 pandemic impacts vulnerable populations unequally and increases the range of health disparities among the U.S. population. 17 investigated health and social vulnerability of Rohingya refugees in Malaysia. Results suggest that the Rohingya refugees are highly vulnerable, and "Factors contributing to their vulnerability are COVID-19 response, resilience, susceptibility, basic need conditions, anxiety, social stigma, awareness of COVID-19 prevention and isolation and fear" [17]. Pandemic containment measures impacted vulnerable populations to multiple financial, spiritual, physical and mental health stressors. In this study 63.6% (n=7) of participants experienced having the COVID-19 infection and reported a QoL with low score for physical health domain (QoL score= 26), followed by the psychological health and environmental domains (QoL score=38). On the other hand, 81.8% (n=9) of participants did not take the COVID-19 vaccine. And this rises the need for future studies to investigate the COVID-19 vaccination knowledge and acceptance rate among refugee population that already struggles with high rate of health disparities.

18 investigated the prevalence of possible mental disorders in Syrian refugees resettling in the U.S. The sample included 157 Adult Syrian refugees who were screened at one-month mandatory primary care health visit for Posttraumatic Stress Disorder (PTSD), anxiety and depression. Results reflected high PTSD (32.2%), anxiety (40.3%), and depression (47.7%). Possible prevalence of depression and anxiety were higher among women. The researchers found a high prevalence of possible psychiatric disorders related to trauma and stress among Syrian refugees newly resettled in the U.S. [18].

In this pilot study, the WHOQOL- BREF results showed that most participants had low QoL in the physical, psychological, and environmental domains. In contrast, higher QoL scores were reported for the social relationships' domain. This may be due to social support present within the refugee population. Resettled refugee population have an enclosed family support system [19]. 20 compared the relationship between "perceived social stress" and "perceived social support" among Syrian refugees located in Amman and Berlin, results reflected that Syrian refugee participants had high perceived stress and moderate to high social support, this trend is seen in this study too [20].

Study Limitations

The small sample size may have impacted the significance of the results. This study only included participants from South Dakota and Minnesota. Both states are located in the Midwest U.S., and this may impact the generalizability of the study.

Conclusion

This study has great potential to improve understanding of resettled refugees stress perception and QoL in U.S. during COVID 19 pandemic. Exploring those variables may help guide healthcare facilities in developing interventions specific for this medically underserved population and prevent the mental health consequences of COVID-19 sickness that can lead to lifelong mental health consequences, limit person's capacity to function and assimilate in the new environment.

This study is one of the pioneer studies that examined the perceived stress and QoL of former refugees in U.S. The findings from this project will be utilized to guide future projects that focus on resettled refugee mental health, chronic disease management, and QoL improvement initiatives.

Public health policy makers are encouraged to address health disparities among resettled refugees and provide measures to increase health and quality of life especially after the COVID-19 pandemic. Psychosocial services should help individuals make meaning from life experiences, and interventions should integrate formal and informal systems of care [21]. As resettlement agencies are many times the first to engage with refugees upon arrival to the U.S., they play an important role in educating refugees regarding protections from COVID-19 and access to care. Health promotion may involve multiple agencies [4]. In addition, prevention and intervention approaches should integrate risk, protective and promotive factors for refugee mental health [22]. Addressing the causes requires inclusion of refugees as key stakeholders to make needed changes. As rural U.S. prepares for future COVID-19 outbreaks, it is important that refugees are seen as part of the solution [2].

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