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The association of migration-related stress with poor mental health among recently resettled Afghan refugees

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ABSTRACT

Background: The resettlement of Afghan refugees in Oklahoma City, OK, provides a critical context for examining the mental health challenges faced by this population due to post-migration stressors.

Methods: This study utilized online surveys to recently resettled Afghan refugees in Oklahoma City, with support provided by bilingual research assistants to accommodate low literacy rates. Surveys, initially in English, were professionally translated into Dari and Pashto and validated through back-translation.

Results: Participants ($N = 348$) were majority of Pashtun ethnicity. High rates of mental health issues were evident, with 62.1 % of participants screening positive for depression and 20.1 % for probable GAD. Logistic regression analysis revealed that lower pre-migration socioeconomic status (SES) and high post-migration stressors such as discrimination and loss of homeland were significantly associated with increased mental health problems. Stress related to the worry for and loss of their homeland was a substantial predictor of high distress (AOR = 2.71, $p < 0.001$), anxiety (AOR = 1.99, $p = 0.001$) and depression (AOR = 2.65, $p<.001$). Experiences of discrimination post-resettlement was also associated with anxiety (AOR 4.92, $p < 0.001$).

Discussion: The findings highlight the profound impact of post-migration stressors on the mental health of Afghan refugees. This study underscores the need for targeted interventions to address the specific challenges faced by refugees, such as language barriers, employment, legal support, and anti-discrimination measures, to facilitate better integration and improve mental health outcomes.

Conclusion: Enhanced community integration programs and comprehensive support services are essential to mitigate the mental health challenges faced by Afghan refugees, suggesting a broader application for such approaches in similar resettlement contexts globally.

1. Introduction

The global refugee crisis, marked by millions displaced due to conflict, persecution, and environmental catastrophes, remains a daunting challenge for the modern era. This crisis not only tests the resilience of those directly affected but also the capacity of host countries to integrate and support new arrivals. Among the groups displaced, Afghan refugees stand out, their plight intensified by recent geopolitical developments and long-standing conflicts. The Afghan immigrant population in the U.S. has tripled since 2000, with over 76,000 Afghan migrants and refugees resettled in the U.S. following the country's military withdrawal from Afghanistan in August 2021 (Camarota and Zeigler, 2021, International Rescue Committee (IRC) 2023). This population faces serious health disparities with a particular emphasis on mental health disorders, such as elevated rates of post-traumatic stress disorder (PTSD), depression, and anxiety disorders compared to the general U.S. population (Stempel and Alemi, 2021, Knights et al., 2022, Alemi et al., 2016, Badrfam and Zandifar, 2021).

The journey from Afghanistan to the U.S. often exacerbates existing vulnerabilities due to a significant loss of social support and identity for

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many refugees. This loss, coupled with the challenges of resettlement, contributes to the mental and physical health issues faced by this population (Azagba et al., 2019, Alemi et al., 2023, Alemi et al., 2023, Ahmad et al., 2020). Culturally, many rely primarily on social and religious coping mechanisms and are less likely to seek clinical treatment, possibly due to barriers such as language, transportation, financial constraints, and unfamiliarity with the U.S. healthcare system (Alemi et al., 2016, Azagba et al., 2019, Alemi et al., 2023, Siddiq et al., 2022, Stead et al., 2016, Kieseppä et al., 2020, De Anstiss and Ziaian, 2010). Considering the above, addressing the unique mental health needs of Afghan immigrants through culturally informed healthcare interventions and supportive policies becomes essential.

Immigrants encounter significant acculturative stress, economic challenges, and marginalization upon resettlement. Afghan people in the U.S. frequently report perceived discrimination, which contributes to distress and depression (Alemi et al., 2017, Alemi and Stempel, 2018, Glanz et al., 2015, Kaifi and Mujtaba, 2010). Across the pre-, peri-, and post-migration phases, the challenges of acculturative stress, communication barriers, social isolation, and discrimination predispose immigrants to mental illnesses including distress, depression and anxiety (Derr, 2016, Rivera et al., 2016, Abebe et al., 2017, Jia et al., 2022, Kim et al., 2020, Nesterko et al., 2019, Henkelmann et al., 2020, Blackmore et al., 2020, Sangalang et al., 2019). Differences in language, social norms, and values further contribute to tension, anxiety, fear, and panic as immigrants adapt to unfamiliar environments (Duinhof et al., 2020, Kiselev et al., 2020, Immigrant-based Disparities in Mental Health Care Utilization - Shawn Bauldry, Magdalena Szaflarski 2017). Afghan culture derives great resilience from a profound sense of social and family cohesiveness; thus, family separation, social isolation, and the cultural clash associated with immigration bear a drastic mental health cost (Panter-Brick and Eggerman, 2012, Miller et al., 2018). Furthermore, post-migration changes in socioeconomic status can lead to stress, identity questioning, and mental health challenges (Bhugra and Becker, 2005). Consideration of pre-migration socioeconomic status, therefore, provides a baseline to measure the impact of migration. Collectively, these factors place the U.S. Afghan immigrant population at heightened risk of mental health disorders.

Economists have illustrated the assets immigrants provide to the modern economy. Since the year 2000, immigrants have been responsible for 43 % of U.S. labor force growth (Basso and Peri, 2020). During times of economic recession, immigrants have consistently shown greater internal mobility than the native-born U.S. population, relocating to follow the job market and therefore increasing the country's economic efficiency (Basso and Peri, 2020). Amidst the rapidly growing U.S. STEM sector, immigrants represent 23.1 % of the U.S. STEM labor force and hold 45 % of the nation's doctoral degrees in STEM fields, contributing massively to growth in critical areas (National Science Board (NSB) 2021, American Immigration Council 2017, U.S. Congress 2020). Moreover, immigrants contribute to the strengthening and revitalization of U.S. cities through entrepreneurship and innovation (U.S. Congress 2020, American Economic Association 2024, Hunt and Gauthier-Loiselle, 2010), decreased homicide rates (Tufail et al., 2023, Ousey and Kubrin, 2014), sharing of their rich cultural heritage, and opportunity for intercultural learning and competency among native-born residents. Against the backdrop of war and violence responsible for the modern refugee crisis, the successful integration of immigrants into host cultures, with their own cultural heritage preserved and honored, offers a ray of hope for cross-cultural peace and unity. For all these reasons, the successful integration of Afghan refugees should be a priority for policymakers and domestic residents alike.

Given the complexity of the Afghan refugee experience, this study aims to examine mental health issues within this community by employing theoretical frameworks and theories. These include Lazarus & Folkman's stress and coping theory, which describes stress as a relationship with one's environment in which demands exceed individual resources, creating the perception of a harmful environment (Lazarus, 2009). If environmental stressors are perceived as surpassing individual capacity, mental health suffers. Cultural stress theory posits that acculturative stressors are differentially experienced by parents and children, causing family strain that manifests as behavioral health concerns in children (Salas-Wright et al., 2021). Acculturative stress theory focuses on conflict created by experiences of discrimination and frustration in the host culture when the individual's needs are unmet due to cultural barriers (Berry, 2006). Finally, ecological systems theory focuses on the micro-, macro-, meso-, and exosystemic social environments which shape the experience of acculturation (Salas-Wright et al., 2021).

These theories converge on the idea that immigration stress is linked to deteriorating mental health and increased likelihood of maladaptive coping mechanisms. Therefore, understanding the prevalence and indicators of mental health disorders within Afghan communities is vital for designing supportive interventions to reduce health disparities and enhance mental wellness in this population.

Importantly, Oklahoma has resettled 1800 Afghan individuals, with nearly 1000 resettling in Oklahoma City (Polansky, 2021, Hicks, 2023). This is the third highest number of accepted individuals in the United States, making it a strategic site for studying issues related to resettlement, integration, and health disparities within this particular population, with findings in this setting potentially relevant to broader contexts. Therefore, the purpose of this study is to characterize the prevalence, correlates, and indicators of mental health problems across migration phases among the recently resettled Afghan community in Oklahoma City, providing insights that will inform interventions to reduce health disparities and enhance mental wellness among this vulnerable population.

1.1. *Background*

Formative work, described in Bekteshi et al., 2024 (Bekteshi et al., 2024), was completed prior to data collection and included initial interviews with stakeholders, such as community representatives, healthcare providers, and resettlement personnel (both Afghan and non-Afghan), to better understand the most relevant topics affecting Afghan refugees' health (Bekteshi et al., 2024, Reaching the Unheard 2023). A needs assessment was developed to integrate these topics, including the Refugee Post-Migration Stress Scale (RPMSS) (Malm et al., 2020) and the 14-item Refugee Health Screener (Hollifield et al., 2013), both validated for use among refugee populations. The survey was reviewed and approved by key stakeholders. The research protocol received approval from the Institutional Review Board at the University of Oklahoma Health Sciences Center. Utilizing a snowball sampling approach, participants were initially recruited at community events, with subsequent dissemination of study contact information through their social networks. Informed consent was secured from all participants before survey participation. Eligible participants were: 1)18 years or older, 2) resettled from Afghanistan within the past year, and 3) able to understand Dari, English or Pashto.

2. Methods

2.1. *Data collection*

2.1.1. *Procedures*

Online surveys were administered via the Research Electronic Data Capture program (REDCap) (Harris et al., 2009, Harris et al., 2019) to members of the Afghan refugee community in Oklahoma City, OK. Participants completed the survey in their primary language (English, Dari, or Pashto). To accommodate low literacy within the community, two male multilingual individuals from the recently resettled Afghan community fluent in English, Pashto, and Dari, the predominant languages spoken in Afghan communities, were enlisted as research assistants (RAs). RAs provided survey support during one-on-one sessions. Nearly all participants (97.13 %) received RA assistance due to low

literacy. In these instances, RAs interacted with participants in person and provided a smartphone device on which participants took the survey. RAs would read survey questions and responses to participants, then hand the device to the participant who selected their response and proceeded the screen to the next question before handing the device back to the RA, ensuring privacy of responses. Conducting surveys in this way required approximately one hour per person.

Survey questions in English were translated into Pashto and Dari by a professional translation company (Translate by Humans, 2023). These translated materials underwent back-translation to English for validation by a research assistant fluent in all three languages (Brislin, 1970). Discrepancies between the original and back-translated versions were addressed, and adaptations were made to ensure cultural relevance.

2.2. Measures

2.2.1. Demographics

Participants reported their biological sex (Male vs. Female), marital status (Partnered vs. No partner), age (years), and ethnicity (Pashtun, Tajik, or Other). Socioeconomic status in the Afghan population was assessed by asking participants whether their home/dwelling in Afghanistan had running electricity, using items adapted from a previous survey (yes vs. no) (Central Statistics Organization 2018). Participants also reported their education level (in years) and the main occupation of the family's primary provider while residing in Afghanistan (responses were grouped into three categories: 1) sales, clerical, manual labor, agricultural; 2) military, and 3) professional). This study focuses on the primary provider, given that most women in this population do not work (UN Women, 2024, United Nations Development Programme (UNDP) 2023). As such, a change or loss in this role due to migration can lead to economic insecurity and increased family tension, both of which may contribute to depression and anxiety. Current monthly household income (MHI) was measured categorically (<\$1000 vs. ≥ \$1000).

2.2.2. Mental health/stress

The Refugee Post-Migration Stress Scale (RPMSS) ($\alpha = 0.80$), validated for use among refugee populations, with confirmatory factor analyses presented by scale authors (Malm et al., 2020), assessed six stress dimensions of post-migration stress: experiences of discrimination ($\alpha = 0.90$), financial burdens ($\alpha = 0.85$), inadequate perception of competence in the host country ($\alpha = 0.83$), concerns about home country ($\alpha = 0.95$), loss of connection with individuals in the country of origin ($\alpha = 0.94$), social strain ($\alpha = 0.86$), and familial strain ($\alpha = 0.78$). Participants rated the frequency of their stress related to each item on a 5-point Likert scale, ranging from 1 (never) to 5 (very often). Constructs for each domain were created from the mean score of the items within each domain, with higher scores indicating greater post-migration stress, as scoring instructions from the scale developers indicate. Due to high correlation ($r = 0.81$, $p < .001$) between the constructs measuring concerns about home country and loss of connection with individuals in the country of origin, one combined construct ($\alpha = 0.95$) was created using the mean of items from both constructs, as is suggested given the similar conceptual alignment of both constructs (Hair et al., 2010).

Distress was evaluated using the 14-item Refugee Health Screener ($\alpha = 0.90$) (Hollifield et al., 2013). Participants rated the extent to which their common symptoms of distress were bothersome during the past month on a scale from 0 (not at all) to 4 (extremely). Responses were summed (0–48), with higher scores indicating greater distress. A summative score greater than 12 on items 1–14 indicated "high distress", and scores were dichotomized into categories of high distress or low distress. Depressive symptoms during the previous week were assessed using the 10-item Center for Epidemiological Studies Depression (CES-D) questionnaire ($\alpha = 0.62$) (Andresen et al., 1994). Responses were summed resulting in a 0–30 score, with scores 10 or greater indicating likely major depressive disorder (MDD). Probable generalized anxiety disorder (GAD) was assessed using the 7-item GAD-7 screener ($\alpha = 0.90$) (Spitzer et al., 2006). Responses were dichotomized, with scores greater or equal to 10 indicating probable GAD.

2.3. Analytic plan

Descriptive statistics were generated to analyze the sociodemographic and mental health characteristics of participants. Pearson correlation analyses were conducted to examine associations between migration-related stress variables and mental health outcomes. Logistic regression models were run in a two-step process to assess associations between post-migration stressors and the mental health outcomes of distress, anxiety, and depression. First, separate unadjusted logistic regressions were run with each independent variable and each outcome. Next, multivariate models were run, incorporating sociodemographic variables (sex, pre-migration socioeconomic status, age, and ethnicity) and all post-migration stressor variables that showed bivariate associations with a p-value of <0.05 in the adjusted model (Mickey and Greenland, 1989). Model fit statistics and Nagelkerke R^2 were also reported. Additionally, models were tested for multicollinearity using variance inflation factors (VIF), and all VIF values were under three.

3. Results

3.1. Participant characteristics

See Table 1 for a complete description of study participants. Overall, participants ($N = 348$) were 40.5 % female, 67 % married, and 70.7 % Pashtun, the largest ethnicity in Afghanistan (Minority Rights Group International 2023). On average, participants were 31.5 years of age (SD = 9.89) with 10.8 years (SD = 2.9) of education.

Nealy half of participants (47.2 %) reported that the main provider in their family was currently employed. Furthermore, 39.1 % reported a MHI <\$1000, while 56.6 % reported ≥\$1000, (4.3 %, $n = 15$ did not respond to item) (see Table 1). Screening for mental illness revealed

Table 1
Participant characteristics.

Sociodemographic Characteristics	M (SD) or % (n)
Sex, % Female (n)	40.5 % (141)
Ethnicity, % Pashtun (n)	70.7 % (246)
Age, years, *M* (SD)	31.5 (9.89)
Education of individual, years, *M* (SD)	10.8 (2.9)
Main Provider Occupation [a]	
Professional	28.1 % (87)
Sales, Clerical, Manual Labor, Agricultural	8.4 % (26)
Military	63.5 % (197)
Pre-resettlement (Afghanistan) Electricity in Home	34.2 % (119)
Marital status, % Married, (n)	67 % (233)
Time Spent in Refugee Camp, %, 5+ months	72.7 % (253)
Employed (Main Provider), % [b]	47.2 % (162)
Household Monthly Income Post-Resettlement	
<\$1000	39.1 % (136)
\$1000+	56.6 % (197)
Post Migration Stress	
Discrimination *M* (SD)	1.1 (0.43)
Financial Strain *M* (SD)	2.5 (0.97)
Competency in resettled country *M* (SD)	2.2 (1.2)
Loss of/Worry for people at home *M* (SD)	4.09 (1.16)
Social Strain *M* (SD)	1.6 (0.88)
Strain in Family *M* (SD)	1.2 (0.57)
Mental Health Outcomes	
Distressed (RHS-15, items 1–14 > 12), Highly Distressed % (n)	60.6 % (211)
Probable Generalized Anxiety Disorder (GAD-7 ≥ 10), % (n)	20.1 % (70)
Depression (CES-D), score≥10, % (n)	62.1 % (216)

[a] For main provider occupation, $n = 310$ with 38 missing responses (Noting "other" was classified as missing).
[b] For employment status, $n = 343$ with 5 missing responses.
[c]For total combined family income, $n = 333$ with 15 missing responses.

high rates of distress, depression, and probable GAD (60.6 %, 62.1 %, and 20.1 %, respectively).

Related to post-migration stress, (Malm et al., 2020) survey respondents reported notable concerns about people back home in Afghanistan ($M = 4.09$, SD = 1.16) and a moderately low level of perceived competence in the host country ($M = 2.20$, SD = 1.20). Slightly over half of participants were unemployed (52 %), and the average financial strain score was 2.5 (SD = 0.97). Experiences of discrimination ($M = 1.10$, SD = 0.43), social strain ($M = 1.60$, SD = 0.88), and family strain ($M = 1.20$, SD = 0.57) were comparatively lower. See Table 2 for a complete list of correlations of continuous variables included in the logistic regression models.

Table 3

3.2. Logistic regression

3.2.1. Distress

The majority of respondents (60.6 %) indicated high levels of distress (Table 1). Regarding demographics, individuals with higher pre-migration SES (i.e., electricity in their home country) reported less distress compared to people of lower SES backgrounds (aOR 0.50, CI: 0.27, 0.90, $p \leq .001$). In the unadjusted model, lower stress due to perceived competency, greater social strain, and greater loss of/worry for their home in Afghanistan were associated with higher distress. In the multivariate model, only loss of/worry for their home in Afghanistan remained significantly associated with high distress (aOR 2.71, CI: 2.03, 3.61, $p \leq .001$).

3.2.2. Anxiety

Nearly one-fifth of participants (20.1 %) had GAD-7 scores indicative of probable GAD (Table 1). Among sociodemographic variables, only low pre-migration SES was associated with GAD in the unadjusted models. Of post-migration stressors, experiences of discrimination and loss of/worry for their home in Afghanistan were associated with probable GAD in the unadjusted model. In the multivariate model, only post-migration stressors remained significantly associated with probable GAD: stress related to discrimination (aOR 4.92, CI: 2.13, 11.39, $p<$ .001) and to loss of/worry for their home in Afghanistan (aOR 1.99, CI: 1.32, 2.99, $p = 0.001$).

3.2.3. Depression

Most participants (62.1 %) had scores indicative of MDD based on the CES-D (Table 1). In the unadjusted model, lower pre-migration SES and Pashtun ethnicity were associated with likely MDD upon resettlement. As for post-migration stressors, greater financial strain, lower current SES, lower competency, greater social strain, and loss of/worry for their home in Afghanistan were associated with likely MDD. Only low host country competency (aOR 0.45, CI: 0.28, 0.72, $p < 0.001$) and loss of/worry for their home in Afghanistan (aOR 2.65, CI: 1.82, 3.86, $p < 0.001$) remained significantly associated with MDD in the multivariate model.

4. Discussion

When examining migration-related distress and mental health concerns among Afghan refugees resettled in Oklahoma City, elevated financial strain, experiences of discrimination, and family conflict were highly reported among participants. Many survey respondents screened positive for MDD (>60 %) and/or GAD (>20 %). Findings underscored the critical role of post-migration factors—frequency of discrimination, consuming loss of and worry for home—in exacerbating mental health challenges, aligning with Lazarus & Folkman's stress and coping theory, which posits that the individual's appraisal of and ability to cope with stressors directly impacts their mental health outcomes. Afghan refugees have been faced with a difficult transition into a new culture fraught with post-migration stressors and offering limited opportunities for healing (Alemi et al., 2023). This study illuminates the great need for comprehensive community integration programs to assist in the healing process. To mitigate the impact of post-migration stressors, practical support including language training, job placement, and legal assistance is essential, alongside the development and enforcement of anti-discrimination laws and policies.

Consistently, participants' loss of/worry for immediate and extended family members and for their home country was associated with increased likelihood of poor mental health (MDD, GAD, and distress), highlighting the detrimental impact of social isolation and cultural dissonance on mental health, as suggested by acculturative stress theory (American Economic Association 2024). This finding emphasizes the need for culturally sensitive mental health interventions that reinforce social support systems and cultural identity among Afghan immigrants, fostering resilience during the acculturative process. Notably, family separation bears particular significance for Afghan immigrants, as cultural studies point to the family as the central institution of Afghan culture (Lipson and Omidian, 1992). Thus, beyond the individual family unit, the loss of family is tantamount to loss of the structures and parameters of culture. These results are consistent with past research which has identified the centrality of family as one of five key predictors of health among Afghan immigrants in the U.S. (Siddiq et al., 2023) and with several studies that cite family conflict as a key predictor of psychological distress and poor mental health among migrant populations (Sangalang et al., 2019, Dillon et al., 2013). Thus, loss of home and family significantly impacts Afghan refugees' mental health. Culturally sensitive counseling services focusing on family reunification, along with social connection initiatives that foster a sense of belonging, can greatly alleviate refugees' psychological distress stemming from cultural dissonance and isolation.

Interestingly, higher stress related to lack of competency in the United States was associated with lower odds of MDD when controlling

Table 2
Correlation matrix.

		1	2	3	4	5	6	7	8
1	Discrimination	–							
2	Financial Strain	.200[c]	–						
3	Competency in Resettled Country	.252[c]	.661[c]	–					
4	Social Strain	.415[c]	.425[c]	.612[c]	–				
5	Family Strain	.264[c]	.220[c]	.272[c]	.555[c]	–			
6	Loss of/Worry for People at Home	−0.087	−0.090	−0.300[c]	−0.244[c]	−0.044	–		
7	Age[1]	−0.033	0.035	0.063	0.014	0.098	0.059	–	
8	Education of Individual[2]	0.132	−0.053	−0.289[c]	−0.160	−0.153	−0.106	−0.041	–

[1] For age, $n = 342$ with 6 missing responses.
[2] For education of individual, $n = 144$ with 204 missing responses.
[a] $= p < 0.05$,
[b] $= p < 0.01$,.
[c] $= p < 0.001$.

Table 3
Logistic regression.

	Distress		Anxiety		Depression	
	Crude OR[95 % CI]	Adjusted OR[95 % CI] $N = 327$	Crude OR[95 % CI]	Adjusted OR[95 % CI] $N = 315$	Crude OR[95 % CI]	Adjusted OR[95 % CI] $N = 289$
Demographics						
Sex						
Female	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*
Male	1.31 (0.85, 2.03)	1.08 (0.63, 1.85)	1.11 (0.64, 1.90)	1.02 (0.57, 1.83)	1.44 (0.91, 2.29)	.80 (0.37, 1.69)
Pre-Migration Socioeconomic Status						
Low SES	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*
High SES	.31 (0.19, 0.49)[c]	.49 (0.27, 0.90)[c]	.50 (0.27, 0.93)[a]	.56 (0.26, 1.22)	.44 (0.27, 0.74)[b]	.33 (0.15, 0.72)[b]
Relationship Status						
No partner	*Ref*	–	*Ref*	–	*Ref*	–
Partner	1.22 (0.83, 1.77)	–	1.21 (0.78, 1.87)	–	.81 (0.55, 1.20)	–
Age	1.01 (0.99, 1.04)	1.01 (0.98, 1.04)	1.01 (0.98, 1.04)	1.01 (0.98, 1.04)	1.00 (0.98, 1.02)	.98 (0.95, 1.02)
Ethnicity						
Pashtun	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*
Tajik	.85 (0.51, 1.43)	1.63 (0.81, 3.28)	.88 (0.47, 1.64)	.86 (0.40, 1.86)	.47 (0.27, 0.81)[b]	.44 (0.18, 1.12)
Other	.36 (0.14, 0.91)[a]	1.46 (0.48, 4.89)	N/A	N/A	.14 (0.05, 0.40)[c]	.22 (0.04, 1.23)
Type of Employment						
Sales, Clerical, or Labor	*Ref*	–	*Ref*	–	*Ref*	*Ref*
Military	2.13 (0.93, 4.85)	–	.93 (0.35, 2.46)	–	.51 (0.18, 1.43)	.99 (0.25, 3.84)
Professional	1.07 (0.45, 2.57)	–	.59 (0.20, 1.74)	–	.38 (0.13, 1.12)	.94 (0.22, 4.06)
Years of Education	.88 (0.77, 1.00)	–	1.01 (0.93, 1.31)	–	1.00 (0.88, 1.12)	–
Post-Migration Socioeconomic Status						
LE $1000	*Ref*	–	*Ref*	–	*Ref*	*Ref*
>$1000	.58 (0.37, 0.92)	–	.70 (0.41, 1.19)	–	.44 (0.27, 0.74)[b]	.72 (0.32, 1.61)
Post-Migration Stressors (1= least stress - 5= most stress)						
Discrimination	1.45 (0.78, 2.68)	–	2.70 (1.51, 5.57)[c]	4.92 (2.13, 11.39)[c]	.79 (0.33, 1.88)	–
Financial Strain	.89 (0.71, 1.11)	–	1.08 (0.82, 1.42)	–	.58 (0.44, 0.75)[c]	1.15 (0.69, 1.89)
Competency	.69 (0.57, 0.82)[c]	.93 (0.70, 1.23)	.81 (0.64, 1.03)	–	.43 (0.35, 0.54)[c]	.45 (0.28, 0.72)[c]
Social Strain	.68 (0.53, 0.88)[b]	1.09 (0.76, 1.57)	.93 (0.68, 1.26)	–	.45 (0.33, 0.61)[c]	1.18 (0.71, 1.96)
Family Strain	1.08 (0.74, 1.60)	–	1.15 (0.75, 1.76)	–	.88 (0.60, 1.31)	
Loss of/Worry for Home	2.85 (2.21, 3.66)[c]	2.71 (2.03, 3.61)[c]	1.92 (1.37, 2.67)[c]	1.99 (1.32,2.99)[c]	3.59 (2.69, 4.80)[c]	2.65 (1.82, 3.86)[c]
Model Nagelkerke R^2		.347		.206		.543

Note. "-" not included in model due to lack of significance. OR, odds ratio.
[a] $p \leq 0.05$.
[b] $p \leq .01$.
[c] $p \leq 0.001$.
All adjusted models control for sex, pre-migration socioeconomic status, age, and ethnicity.

for sociodemographic factors, financial strain, social strain, and stress related to loss of and worry for home. This is contrary to the expectation that lack of competency would be associated with poor mental health (Malm et al., 2020). Migrants coming from a high socioeconomic status background had lower risk of mental health disorders (though the pre-migration socioeconomic status association remained significant only for distress and MDD in the adjusted models). It may be that individuals with fewer resources for coping with the trauma of asylum-seeking experience lower positive coping after migration, as seen in prior research (Alzoubi et al., 2019). These findings further underscore the need for programs to enhance educational opportunities and offer career counseling specific to Afghan refugees' professional backgrounds, facilitating smoother economic and social integration into the U.S.

A strong relationship was observed between experiences of discrimination and distress as well as GAD. Discrimination and stress due to loss of home were most strongly associated with higher odds of anxiety when controlling for sociodemographic factors. This finding echoes Viazminsky et al.'s report of the association between anxiety symptoms and perceived discrimination among Syrian refugees in Germany (Viazminsky et al., 2022). Altogether, the strong association of discrimination with feelings of distress and GAD greatly reinforces the need for development and enforcement of anti-discrimination policies and community-level interventions designed to foster an environment of inclusivity and reduce stigma against refugees. Discrimination-induced employment barriers are another concerning aspect of the well-being of refugee populations. In this study, main provider employment was only 48 %, lower than the average male refugee employment rate in the U.S. (67 %) (Ager, 2018). Prior studies have established correlations between low SES, depression, and general distress (Hynie, 2018). Considering the 2022 federal poverty threshold for a household of five is $35,801 annually, it is alarming that a substantial majority, ranging from 96.8 % to 99.4 %, of Afghan refugee families in this study reported an income below this poverty line (Help for Afghan Refugee Families >Oklahoma Baptists 2023, Bureau, 2023). Overall, this data underscores the profound economic challenges faced by asylum seekers, refugees, and immigrants (Feyissa et al., 2022, Solberg et al., 2020).

4.1. Strengths

This study presents several notable strengths. In particular, the study focused on a historically hard-to-reach and understudied immigrant population: recently resettled Afghan refugees. Extensive formative work, including interviews with key informants from various sectors on their deemed topics of importance, literature reviews, and establishing ties with community partners, was undertaken to establish trust with this population (Reaching the Unheard 2023), who may be reticent about interacting with external parties and engaging with research initiatives (Alemi et al., 2016, Miller, 2004). This reluctance is often rooted in limited exposure to research protocols and apprehension about mental health stigma (Alemi et al., 2016).

This study prioritized cultural sensitivity, employing rigorous

methods to ensure culturally appropriate materials and accurate reflection of participants' experiences, detailed in Bekteshi et al., 2024 (Bekteshi et al., 2024). Collaborations with local agencies supporting resettled Afghans (The Spero Project and Catholic Charities of Oklahoma City) provided invaluable community resources and contextual insights (Bekteshi et al., 2024, The Spero Project 2023, Catholic Charities of the Archdiocese of Oklahoma City, 2023). Lastly, the study's ability to engage a substantial percentage (58 % [348 of the approximately 600]) of the recently resettled Afghan adult community in Oklahoma City enhances the representativeness of the sample.

4.2. Limitations

Several limitations should be acknowledged. First, the research design employed was cross-sectional; thus, causal inferences cannot be drawn from this data. Although efforts were made to capture constructs across various life stages, this approach may not fully capture the dynamic nature of participants' experiences. Second, the sample size of 348 may not be large enough to ensure the consistency of estimators. The research design was tailored to low literacy rates and emphasized privacy, but participants may still have been hesitant to share openly. Additionally, the composition of the research team solely comprising recently resettled Afghan male research assistants posed cultural limitations, as it required family members to be present during assessments for non-related female participants, potentially hindering open participation. Past studies have shown that women often have male counterparts or family members accompanying and overseeing them during interview sessions. This practice may impede willingness to participate and hinder female participants' ability to respond freely (Miller, 2004). These limitations underscore the necessity of continuously refining research methodologies to align with the cultural and social contexts of the studied population.

4.3. Contributions to the literature

This study offers a novel contribution to the existing literature by examining the intricate interplay of factors associated with the mental health of recently resettled Afghan immigrants across various stages of migration. There is a notable dearth of research focusing on the mental well-being of Afghan refugees in the U.S., particularly in regions with limited historical exposure to refugee populations (Polansky, 2021). This study sheds light on the multifaceted challenges faced by Afghan refugees during resettlement, emphasizing constructs that encompass post-migration stressors amenable to targeted interventions. The pivotal role of social support, coupled with the high cultural value placed on minimizing family and social strain, underscores the potential for strategic public health interventions to improve the mental health of recently resettled Afghan immigrants (Martén et al., 2019, Sarah Dryden-Peterson 2016, Ager and Strang, 2008, Kirmayer et al., 2011, Phillimore et al., 2023).

4.4. Policy and practice implications

The study's findings have implications for both policy and practice, highlighting the urgent need for integrated approaches to improve refugees' mental health. The clear link between discrimination and mental illness highlights the necessity for robust anti-discrimination policies. Implementing comprehensive legal frameworks to protect refugees from discrimination and fostering community programs that encourage inclusivity and understanding are critical steps toward a more supportive host culture environment for refugees (Alemi et al., 2023, Edge and Newbold, 2013). Economic instability also significantly contributes to mental health challenges among refugees. Policies aimed at enhancing refugees' economic integration, such as job training programs, recognition of foreign qualifications, and job placement assistance, are essential (Martin and Ruhs, 2019, Bloch, 2008). These measures can help refugees find meaningful employment, reducing financial strain and improving overall well-being. The significance of family and social support in refugee mental health suggests that family reunification should be a priority. Simplifying the process for family reunification and providing support for families during this process can alleviate feelings of isolation and support mental health (Kirmayer et al., 2011, Edge and Newbold, 2013).

Mental health services for refugees must be culturally sensitive and accessible. Training mental health professionals to recognize the unique challenges faced by refugees, including cultural and linguistic barriers, can improve efficacy of care. Additionally, involving community leaders and cultural brokers can help build trust with refugee communities, further encouraging engagement with mental health services. Initiatives aimed at enhancing community integration are vital. Programs such as language courses, community mentorship, and cultural exchange activities can reduce social isolation and foster a sense of belonging among refugees. Involving refugees in community planning and decisions can also empower them and improve their integration experience. Integrating these policy and practice recommendations can create a supportive framework that addresses the multifaceted nature of mental health challenges faced by refugees (Sarah Dryden-Peterson 2016, Ager and Strang, 2008). A strategic focus on reducing discrimination, promoting economic and social integration, and developing culturally sensitive mental health services can significantly improve the mental well-being and holistic integration of Afghan refugees resettling in U.S. communities.

CRediT authorship contribution statement

Munjireen S. Sifat: Writing – review & editing, Writing – original draft, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Sarah Kenney:** Writing – original draft, Project administration. **Venera Bekteshi:** Writing – review & editing, Writing – original draft. **Shawn C. Chiang:** Writing – original draft. **Motolani Ogunsanya:** Writing – review & editing. **Laili K. Boozary:** Writing – review & editing. **Adam C. Alexander:** Writing – review & editing. **Darla E. Kendzor:** Writing – review & editing, Supervision, Resources, Project administration, Funding acquisition, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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