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RESEARCH ARTICLE

Characteristics Associated with Fear of COVID-19 among Syrian Refugee Parents in Canada

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ABSTRACT:
Introduction: The aim was to assess the prevalence and factors associated with fear of COVID-19 among Syrian refugee parents in Ontario, Canada.
Methods: A sample of 540 Syrian refugee parents who resettled in Ontario were interviewed between March 2021, and March 2022. The level of fear was measured using the Fear of COVID-19 scale. Multiple linear regression analysis was performed to assess the relationships between socio-demographic, migration, and health-related factors and fear of COVID-19.
Results: The mean (SD) score for the Fear of COVID-19 scale was 15.6 (6.02), and 15.4% of the participants were categorized as having high levels of Fear of COVID-19. Results of the multiple linear regression analysis showed that low self-rated English/French language ability was significantly associated with increased fear of COVID-19 (Adjβ=0.65, p=0.047). When compared to participants who do not need an interpreter, those who needed an interpreter, and were always provided with one, were at reduced fear of COVID-19 (Adjβ=-1.56, p=0.061). In addition, findings indicated that low self-perceived socioeconomic status, more years spent in Canada, living in a refugee camp, and poor self-rated mental health contributed significantly to elevated levels of fear of COVID-19.
Discussion: Targeted intervention and prevention strategies for reducing the fear of COVID-19 should be considered for the Syrian refugee population in Canada. Language ability is one of the factors related to increased fear of COVID-19, thus, providing information and interventions in different languages is essential for this population.

Keywords: Syrian, Refugee, Canada, COVID-19, Fear of COVID-19, Language.

1. Introduction

The emergence of the novel Coronavirus disease (COVID-19) in late 2019 has developed a global health crisis. In addition to presenting public health challenges and creating massive economic disruption, the COVID-19 pandemic has had profound psychological and social impacts on our communities. Its universally high rates of infection and mortality have caused worldwide fear and anxiety. [1] Fear of COVID-19 has been associated with decreased life satisfaction and giving rise in sleep disturbances. [2] According to Di Crosta et al,[3] it is reasonable to expect an increase in acute stress disorders, Post-Traumatic Stress Disorder, and emotional and sleep depressive disorders due to factors such as fear of being infected with COVID-19 or having a loved one infected. Srivastava et al,[4] even show that fear of contracting COVID-19 resulted in several cases of suicide in India.

Literature suggests that fear of COVID-19 significantly varies in different countries, regions, and across different demographic groups. Fitzpatrick et al [5] collected information from a representative sample of 10,368 American adults in 2020, and asked participants to rate their fear of COVID-19 from "0 not at all fearful" to "10 very fearful." Results indicated that participants were fearful with an average score of 7 being reported. Results from this study also highlighted that factors such as being female, Asian, Hispanic, foreign-born, married, laid off work, and having children resulted in significantly higher levels of fear of COVID-19 compared to counterparts. [5] Another study conducted in Australia that gathered information on 587 individuals who were aged 18 years and older reported that 16.9% of the participants strongly agreed with the statement "I am most afraid of COVID-19". [6] This study suggested that those who were 30-59 years old, female, unemployed, living with family members, and whose financial situation was impacted by the pandemic were more likely to experience higher levels of fear from COVID-19 compared to others. [6]

2. Theoretical/conceptual framework

We hypothesize that as a highly vulnerable group, refugees may experience higher levels of fear than others. Many refugees are afraid of losing their jobs due to the pandemic or getting arrested, being deported, or losing their legal status in their host countries. [7] An additional concern is the fear of social stigma and the impact that COVID-19 has had on increasing restrictions and crackdowns on refugees in host communities. [8] Elisabeth et al [9] further suggest that language barriers in the host country, poverty, low health literacy, and lack of adequate knowledge about the nature of COVID-19 and the safety measures in place may create feelings of confusion and fear among refugee populations.

Since the war that began in Syria in 2011, Canada has welcomed over 56,000 Syrian refugees. [10] Little is currently known about the prevalence and characteristics of fear of coronavirus among Syrian refugees. It is essential to explore the psychological impact of the COVID-19 pandemic on vulnerable populations in Canada to ensure our communities overall health and well-being. The main purpose of this paper is to investigate the prevalence of fear of COVID-19 among Syrian refugee parents in Ontario and assess other self-reported factors associated with this fear.

Methods

Participants and Data Collection

A cross-sectional sample of 540 Syrian refugee parents were interviewed between March 2021, and March 2022. The inclusion criteria were as follows: being a Syrian refugee above 16 years of age, being a parent with at least one child under 18 years of age, residing in Ontario, Canada, and having been resettled in Canada after 2015. Participants were recruited through convenience sampling, with the assistance of key community members and partner settlement organizations, Access Alliance Multicultural Health and the Arab Community Centre of Toronto (ACCT).

All study materials were translated to Arabic to reduce barriers of access for those who are not comfortable participating in English. To comply with social distancing recommendations due to the COVID-19 pandemic, the questionnaire surveys were administered remotely over the phone. Trained research assistants read out the consent form to participants and audio-recorded the participants' oral consent. The research assistants conducted the questionnaires orally by reading out the questions in Arabic, in the Syrian dialect, and recording participants' oral responses on a Qualtrics (Qualtrics, Provo, UT) [11] survey on password-protected electronic tablets. Participants then received a $20 honorarium as compensation for their time.

Measures

The major outcome of this study was assessed using psychometric tool, the Fear of COVID-19 Scale (FCV-19S), which was translated into Arabic. FCV-19S has strong psychometric properties and is valid and reliable in evaluating the fear of COVID-19 among populations [12]. The

scale consists of 7 items which measured how uncomfortable and afraid the participants felt about COVID-19. The items ranged from broad (e.g. "I am most afraid of COVID-19.") to specific (e.g. "My hands become clammy when I think about COVID-19."). Responses were measured using a 5-point Likert scale ranging from "1- strongly disagree" to "5- strongly agree." Each response was scored and the total score, ranging from 7 to 35, was calculated for all the items on the FVC-19S. Scores ranging between 7 to 21 and 22 to 35 indicated low and high levels of fear of COVID-19, respectively. [6]

Sociodemographic and other self-reported factors were assessed. Sociodemographic factors included gender (mother, father), age, number of children, the highest level of formal education completed (none or elementary school, middle school, high school, university education, and postgraduate education), working status (yes, no), and self-perceived socioeconomic status measured by the question "In your current condition, here in Canada, would you say most people would categorize a household like yours as?" (Values ranging from 1=lower income to 5=upper income). Migration-related factors consisted of participants' self-ratings of their official Canadian language ability, often referring to English, (values ranging from 1= excellent to 6=not at all), the need for and availability of a language interpreter (categorized into four levels: participants needed an interpreter and were always provided with an interpreter, they needed an interpreter and were sometimes provided with an interpreter, they needed an interpreter and were never provided with an interpreter, and they never needed an interpreter), feeling satisfied with the support received from friends, based on the question "How satisfied are you with the support you get from your friends?" (values ranging from 1=very satisfied to 5=very unsatisfied), experience of living in a refugee camp (yes, no), and the number of years that the participants had been in Canada. Lastly, health-related factors included whether participants had a family doctor (yes, no), their self-rated mental health (collected on a five-point Likert scale, ranging from 1=excellent to 5=poor), and their trust in healthcare professionals in Canada, captured by the question "To what extent do you trust healthcare professionals in Canada?" (measured on a five-point Likert scale ranging from 1=not at all to 5=an extreme amount).

Analysis

Descriptive statistics were reported for the FCV-19S and the different sociodemographic and other self-reported factors. Simple linear regression analysis was performed to assess the bivariate relationship between each of the factors and FCV-19S. Furthermore, multiple linear regression analysis was conducted with FCV-19S scores as the dependent variable and the sociodemographic, personal and health-related factors as the independent variables. Unadjusted and adjusted beta coefficients (β) and 95% Confidence Intervals (95% CI) were reported. All regression models were adjusted for the clustering effect of belonging to the same family. All analyses were conducted using the Statistical Package for Social Science (SPSS, version 28.0). The project was approved by the Research Ethics Board at York University (certificate # e2019-128).

Results

Results, in Table 1, showed that the average (SD) age of the 540 participants was 39.7 (7.3) years, and the average (SD) number of years in Canada was 4.3 (1.7) years. Mothers constituted 60.9% of the sample, and 62.1% of participants had a high school level education or higher. Most of the participants were not employed (65.6%) and reported their household as being lower or lower-middle income (60.2%). Moreover, almost half of the participants did not need a language interpreter for their appointments (47.1%), and most participants had a family doctor in Canada (93.1%) and were satisfied or very satisfied with their friendships in Canada (57.4%). Participants had a mean (SD) fear of COVID-19 scores of 15.6 (6.02) and 15.4% of the participants were categorized as having high levels of FCV-19 (scores between 22 to 35) [6]. Results, in Table 2, showed that 20.9% of participants strongly agreed that their heart races or palpitates when they think about getting COVID-19 and 30.9% agreed or strongly agreed that they are most afraid of COVID-19 (Table 2).

Table 1: Characteristics of study participant

Factor	Number	(%)	Mean (SD)
Socio-demographic factors			
Gender			
Mother	329	60.9	
Father	211	39.1	
Age			39.7 (7.32)
Number of Children			3.35 (1.47)
Education*			2.97 (1.29)
Working status			
Yes	186	34.4	
No	354	65.6	
Socioeconomic status in Canada (self-rated)$			2.11 (1.02)
Migration-related factors			
Canadian language ability (self-rated)#			3.03 (1.23)
Interpreter			
Always available when needed	105	19.4	
Sometimes available when needed	64	11.9	
Never available when needed	76	14.1	
Interpreter not needed	245	47.1	
Friendship satisfaction^			2.52 (1.01)
Lived in a refugee camp			
Yes	62	11.5	
No	472	87.4	
Years in Canada			4.28 (1.66)
Health-related factors			
Family doctor			
Yes	503	93.1	
No	37	6.9	
Mental health (self-rated)~			3.06 (1.18)
Trust in healthcare professionals in Canada+			3.39 (1.12)

**Scale from 1-5 (1= None or elementary school and 5= Postgraduate), $Scale from 1-5 (1= Lower income and 5= Upper income), #Scale from 1-6 (1= Excellent and 6= Not at all),^Scale from 1-5 (1= Very satisfied and 5= Very unsatisfied, ~Scale from 1-5 (1= Excellent and 5= Poor), +Scale from 1-5 (1= Not at all and 5= An extreme amount).*

Results of the multiple linear regression model, in Table 3, showed that the relationship between self-perceived socioeconomic status and FCV-19 was significant wherein the higher the reported socioeconomic status, the less afraid participants were of COVID-19 (Adjβ = -0.76, SE=0.29, p= 0.009). In addition, lower self-rated Canadian language ability was significantly associated with increased FCV-19S scores (Adjβ=0.65, SE=0.33, p= 0.047), and participants who always had an available interpreter when needed had decreased FCV-19S scores with this relationship approaching significance (Adjβ= -1.56, SE=0.83, p= 0.061), when compared to participants who do not need an interpreter. Furthermore, refugees who had lived in a refugee camp experienced increased scores on the FCV-19S compared to those who did not (Adjβ =2.27, SE=0.87, p=0.010). Lastly, having been in Canada longer (Adjβ=0.58, SE=0.21, p= 0.005) and a decrease in self-rated mental health ratings fear (Adjβ=0.84, SE=0.25, p<0.001) was significantly associated with increased fear (Adjβ=0.84, SE=0.25, p<0.001).

Table 2: Distribution of individual items of the Fear of COVID-19 Scale (FCV-19S)

FEAR OF COVID-19 SCALE (FCV-19S) INDIVIDUAL ITEMS	Total	%
I am most afraid of coronavirus-19.		
Strongly disagree	149	27.6
Disagree	178	33.0
Neither agree nor disagree	46	8.5
Agree	113	20.9
Strongly agree	54	10.0
It makes me uncomfortable to think about coronavirus-19.		
Strongly disagree	130	24.1
Disagree	110	20.4
Neither agree nor disagree	69	12.8
Agree	190	35.2
Strongly agree	41	7.6
My hands become clammy when I think about coronavirus-19.		
Strongly disagree	194	35.9
Disagree	299	55.4
Neither agree nor disagree	22	4.1
Agree	20	3.7
Strongly agree	5	0.9
I am afraid of losing my life because of coronavirus-19.		
Strongly disagree	165	30.6
Disagree	258	47.8
Neither agree nor disagree	25	4.6
Agree	71	13.1
Strongly agree	21	3.9
When watching news and stories about coronavirus-19 on social media, I become nervous or anxious.		
Strongly disagree	133	24.6
Disagree	136	25.2
Neither agree nor disagree	82	15.2
Agree	144	26.7
Strongly agree	44	8.1
I cannot sleep because I'm worrying about getting coronavirus-19.		
Strongly disagree	181	33.5
Disagree	306	56.7
Neither agree nor disagree	22	4.1
Agree	24	4.4
Strongly agree	7	1.3
My heart races or palpitates when I think about getting coronavirus-19.		
Strongly disagree	191	35.4
Disagree	303	56.1
Neither agree nor disagree	18	23.3
Agree	23	4.3
Strongly agree	5	20.9
CATEGORIES		
Low (7-21)	456	84.6
High (22-35)	83	15.4
Mean (SD), range	15.56 (6.023), 7-35	

Table 3: Results of the bivariate and multivariate analyses of association between socio-demographic, migration, and health-related factors, and fear of COVID-19

Factor	Unadjusted β (SE)	95%CI (LB, UB)	p-value	Adjusted β (SE)	95%CI (LB, UB)	p-value
Socio-demographic factors						
Gender						
Mother	ref			ref		
Father	-1.08 (0.53)	-2.12, -0.04	**.043**	-1.23 (0.65)	-2.49, 0.42	.058
Age	0.01 (0.04)	-0.07, 0.08	.874	-0.02 (0.04)	-0.11, 0.06	.611
Number of Children	0.24 (0.18)	-0.11, 0.60	.172	0.11 (0.24)	-0.36, 0.58	.641
Education*	-0.20 (0.21)	-0.62, 0.22	.351	0.10 (0.33)	-0.55, 0.75	.761
Working status						
Yes	-1.00 (0.55)	-2.08, 0.09	.071	0.37 (0.68)	-0.97, 1.72	.585
No	ref			ref		
Socioeconomic status in Canada (self-rated)$	-0.78 (0.26)	-1.28, -0.28	**.002**	-0.76 (0.29)	-1.32, -0.19	**.009**
Migration-related factors						
Canadian language ability (self-rated) #	0.49 (0.21)	0.07, 0.90	**.021**	0.65 (0.33)	0.01, 1.29	**.047**
Interpreter						
Always available when needed	-0.33 (0.71)	-1.72, 1.07	.647	-1.56 (0.83)	-3.19, 0.07	.061
Sometimes available when needed	1.18 (0.84)	-0.47, 2.83	.162	0.24 (0.95)	-1.61, 2.10	.797
Never available when needed	0.21(0.78)	-1.33, 1.74	.790	-1.43 (0.87)	-3.14, 0.28	.102
Interpreter not needed	ref			ref		
Friendship satisfaction^	0.54 (0.25)	0.06, 1.03	**.028**	0.33 (0.27)	-0.20, 0.86	.218
Lived in a refugee camp						
Yes	2.47 (0.82)	0.87, 4.08	**.003**	2.27 (0.87)	0.55, 3.98	**.010**
No	ref			ref		
Years in Canada	0.40 (0.18)	0.05, 0.75	**.024**	0.58 (0.21)	0.18, 0.99	**.005**
Health-related factors						
Family doctor						
Yes	-1.56 (1.04)	-3.59, 0.48	.134	-1.24 (1.32)	-3.84, 1.35	.348
No	ref			ref		
Mental health (self-rated)~	1.08 (0.22)	0.66, 1.50	**<.001**	0.84 (0.25)	0.35, 1.34	**<.001**
Trust in healthcare professionals in Canada+	-0.15 (0.24)	-0.61, 0.32	.537	0.33	-0.19, 0.86	.212

**Scale from 1-5 (1= None or elementary school and 5= Postgraduate), $Scale from 1-5 (1= Lower income and 5= Upper income), #Scale from 1-6 (1= Excellent and 6= Not at all),^Scale from 1-5 (1= Very satisfied and 5= Very unsatisfied, ~Scale from 1-5 (1= Excellent and 5= Poor), +Scale from 1-5 (1= Not at all and 5= An extreme amount).*

Discussion

This study aimed to evaluate the prevalence of fear of COVID-19 and factors associated with this fear among Syrian refugee parents residing in Ontario, Canada. Results from this study highlighted that 15.4% of the participants were categorized as having high levels of fear from COVID-19. In addition, findings indicated that low Canadian language ability, low self-perceived socioeconomic status, more years spent in Canada, living in a refugee camp, and poor self-rated mental health contributed significantly to elevated levels of FCV-19. Overall, these findings are valuable as they can assist in guiding the government to implement interventions or prevention strategies to alleviate the fear of COVID-19 among Syrian refugee parents in Canada, which will result in their improved mental health and overall well-being. Contrary to what we hypothesized, the fear of COVID-19 among Syrian refugee parents in Canada was not higher than what had been reported in other studies for general populations.

The mean score of FCV-19S (15.56) reported in our study was less than the percentages reported in India (45.2%) [13] and in Lebanon (44.8%) [14]. However, the mean score of FCV-19S reported in our study was consistent with those

reported for samples from Bosnian [15] Italian [16] English [17] and Eastern European [18] countries where the mean scores ranged between 15 and 18. Although the reason behind these unexpected results remains unclear, we speculate that having access to free and reliable healthcare in Canada may reassure Syrian refugee parents and alleviate their fear of COVID-19. In addition, it is possible that the myriad of traumatic experiences that refugees have passed through would make them resilient and less afraid of COVID-19.

One of the main findings of this study was that lower self-ratings of participants' official Canadian language ability, often referring to English, was significantly associated with increased FCV-19S scores. Additionally, the availability of having interpreters when needed approached significance to having decreased FCV-19S, when compared to not needing an interpreter. Previous studies show that language barriers in the host country can be associated with feelings of confusion and fear among refugee populations [9] and that a lack of available translated information about COVID-19 can lead refugees to seek information from non-reliable sources, such as social media. [19] Lower host country language abilities lead to lower health literacy, which can decrease one's ability to find, comprehend, and implement information required for appropriate health-related decision-making, as well as the ability to find assistance. [20,21] Studies suggest that people with lower health literacy showed more depression and lower quality of life during the COVID-19 pandemic. [22] The best way to lower corona-phobia is to raise more awareness and knowledge, [23] which requires no language barrier. Moreover, another study conducted during the pandemic reported that immigrants and refugees in Toronto, Canada, had anxiety and fear, and were at a higher risk of contracting COVID-19 due to not having access to COVID-19 guideline information in their preferred language at work. [24,25] Researchers stressed the importance of finding solutions to ensure equitable healthcare access for marginalized populations. [26]

The present study showed that low self-perceived socioeconomic status (SES), more years spent in Canada, and living in a refugee camp contributed significantly to elevated levels of FCV-19. Participants who reported lower self-perceived socioeconomic status were more afraid of COVID-19. This is consistent with Rubin & Stuart [21] prior work which indicated that people with lower socioeconomic status are usually faced with more mental stress during COVID-19 in general. Another Chinese study [28] reported a negative association between SES and psychological panic. Moreover, number of years spent in Canada was significantly associated with fear of COVID-19, wherein those who had spent fewer years in Canada had reduced scores on the FCV-19S compared to their counterparts. It is speculated that newcomers may be less afraid of COVID-19 because they are coming from potentially volatile and dangerous environments such as war or conflict zones. Having recently been exposed to the possibility of death in a warzone, newcomers may perceive COVID-19 as less dangerous compared to those who had arrived in Canada prior to 2015 where they have become accustomed to the relative stability and security of Canada.

Furthermore, the present study showed that refugees who lived in a refugee camp prior to arriving in Canada had higher FCV-19S scores compared to those who did not ($p=0.01$). According to Alemi et al, [29] this might be due to their fear of being forced to quarantine, being isolated from their families, or even killed to slow the spread of the pandemic. Their study showed that refugee residents in Rohingya camps with COVID-19 symptoms refrained from seeking medical attention and had a lower number of COVID-19 tests reported. [29] Finally, this study found that participants with lower-rated mental health had higher FCV-19S scores. Previous studies highlighted that the COVID-19 pandemic exacerbated anxiety and depression symptoms in general [30] due to fears related to lockdowns, [31] fear of worthlessness, and fear of infection. [32] Another study [33] found that fear of COVID-19 is related to increased negative mental health symptoms such as anxiety and depression symptoms.

As with most studies, the design of the current study is subject to limitations. The main limitation is information bias since the collected data is subjective and has been obtained through self-reported questionnaire items. Selection bias is another potential concern due to convenience sampling. In addition, the authors did not adjust for potentially confounding variables such as participants' personalities and coping abilities. Despite the mentioned limitations, this study is one of the first to look into the experience of refugee parents during the COVID-19 pandemic.

Conclusion

Our research has important policy implications, and the findings could aid in the development of more effective interventions tailored at alleviating mental health issues among Syrian refugee parents in Canada. Government initiatives should consider tackling fear around pandemics among this population to help enhance

their mental well-being. Our findings suggest that language barriers are significantly related to fear of COVID-19, thus governments should give attention to the availability of interpreters and health information in different languages, especially during times of crisis and mass confusion. To our knowledge, this study is the first to assess the prevalence of fear of COVID-19 among Syrian refugee parents in Canada and the factors associated with it. The present study provided the initial information needed for further investigation. Future research may focus on potential interventions that aim at directing policies and regulations that support vulnerable populations in Canada.

Conflict of interest: The authors have no conflicts of interest to declare.

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