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COVID-19-Related Stigma Among Older Adults Residing in the Rohingya Refugee Camps in Bangladesh

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The onset of the COVID-19 pandemic and its overwhelming physical and mental health burden can stigmatize those affected. This study aimed to assess the prevalence of COVID-19-related stigma and its associated factors among the older people residing in the Rohingya refugee camps of Bangladesh. This cross-sectional study was conducted among 864 older adults aged 60 years and above residing in selected Rohingya refugee camps in Bangladesh. The data were collected using face-to-face interviews conducted between November and December 2021. COVID-19-related stigma was measured using the eight-item Stigma Scale adapted to the Rakhine language. A linear regression model was used to identify the factors associated with COVID-19-related stigma among the participants. Participants, on average, had stigmas on three items and 52.8% had a high COVID-19-related stigma score. The average stigma score was higher among the participants who had formal schooling ($\beta = 0.58$, 95% CI [0.21, 0.94]), was dependent on family for a living ($\beta = 0.41$, 95% CI [0.12, 0.74]), resided away from health center ($\beta = 0.25$, 95% CI [0.01, 0.50]), whose family income decreased during the pandemic ($\beta = 0.27$, 95% CI [0.03, 0.51]), had close friends or family members previously diagnosed with COVID-19 ($\beta = 1.64$, 95% CI [1.08, 2.20]), and had less communication during the pandemic ($\beta = 1.80$, 95% CI [1.24, 2.34]). The study findings suggest raising awareness among the older population on COVID-19 and the mitigating strategies to deal with physical and mental well-being through appropriate health literacy interventions and mass media campaigns in Rohingya camps.

Clinical Impact Statement

The present study documented a high prevalence of COVID-19-related stigma among the participants, which can result in severe physical and mental health outcomes and decreased quality of life. High level of COVID-19-related stigma can significantly widen the existing inequity and COVID-19 vaccine hesitancy among this vulnerable population. Findings suggest that relevant policymakers and public health practitioners should undertake immediate interventions to increase the awareness on COVID-19, particularly targeting the older populations in the camps to reduce their COVID-19-related stigma.

Keywords: stigma, COVID-19, older adults, Rohingya refugees

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The authors would like to provide their background information to the readers considering that their identities can influence their approach to science. Three authors self-identified themselves as women and nine authors self-identified themselves as men. With respect to race, all authors self-

identified themselves as South Asian.

The data are available upon reasonable request from the corresponding author.

Sabuj Kanti Mistry, Uday Narayan Yadav, and A. R. M. Mehrab Ali contributed in conceptualization. Sabuj Kanti Mistry, Mahmudur Rahman, and Rashidul Alam Mahumud contributed in formal analysis. A. R. M. Mehrab Ali and Sabuj Kanti Mistry contributed in funding acquisition,

continued

Stigma can be defined as a deleterious label acting as an identification mark of disgrace or a particular characteristic related to a definite context, quality, or person (Goffman, 2009; Kurzban & Leary, 2001). COVID-19-related stigma is a process of separating, stereotyping, labeling, and discriminating against the individuals affected by COVID-19 (Huda et al., 2020). In major outbreaks, such as influenza (H1N1), bubonic plague, Ebola virus disease, Zika virus, cholera, and Asiatic flu, widespread stigmatizations of the affected population were reported (Ransing et al., 2020). Similar to prior outbreaks, the COVID-19 pandemic has also stigmatized the affected individuals (Bhanot et al., 2021).

Severe symptoms of or death from COVID-19, limited knowledge about the disease, and fear and anxiety associated with it may create stereotyping, discrimination, and labeling toward persons infected with the disease (Turner-Musa et al., 2020). Several studies identified that social isolation, quarantine, lower education level, inadequate knowledge and public health information, misinformation, and lack of proper awareness were associated with the increased level of COVID-19-related stigma (Grivel et al., 2021; Nursalam et al., 2020). Most countries have undertaken measures such as social isolation and home quarantine to curb the transmission of the virus, which in turn resulted in increased levels of uncertainties, health concerns, and anxiety among the population with stigmatization toward the disease and those affected (Lin et al., 2021; Lohiniva et al., 2021; Yuan et al., 2021). Such COVID-19-related stigmatization impacts individuals' physical and mental health and has been found to be associated with lower health-related quality of life (Mahmoudi et al., 2021), higher levels of anxiety (Ozbaran et al., 2022), depression (Hosseinzadeh et al., 2022), psychiatric symptoms (Peprah & Gyasi, 2021; Vanderlind et al., 2021), and sleep disturbances (Fu et al., 2022). Additionally, stigma can also impact an individual's health by creating barriers to health-seeking behavior and treatment adherence (Mahajan et al., 2008; Scott et al., 2015). Specifically, in Bangladesh during the COVID-19 pandemic, stigma was manifested in terms of discrimination against health care professionals (who were asked to evacuate rental units) and COVID-19 patients (who were denied health services Khan et al., 2022; Mistry et al., 2022).

Like many other countries of the world, Bangladesh was seriously affected due to the COVID-19 pandemic (Gautam et al., 2022). As of May 3, 2023, more than 2 million confirmed COVID-19 cases and 29,446 deaths have been reported in Bangladesh (World Health Organization, 2023b). To curb the COVID-19 pandemic in Bangladesh, the government closed all educational institutions, and public and private offices, banned social gatherings, imposed home quarantine, and restricted travel from countries with high infection burden (Banna et al., 2022; Emon et al., 2020). Such restrictive measures, although important to curb the transmission of infection, increased the mental health burden, and also contributed to increased fear and stigma about the disease (Shoib et al., 2021; Venkatesh & Edirappuli, 2020). Several studies conducted in Bangladesh reported high levels of stigma associated with COVID-19 and its related physical and mental health outcomes (Kibria et al., 2022; Mahmud & Islam, 2021; Siddiqi &

Khan, 2022). Notably, COVID-19-related stigmatization can be higher among older adults with a refugee background because of their limited literacy, vulnerability to COVID-19, high COVID-19 fear, and lack of decision-making capacity (Mian & Khan, 2020; Tehrani, 2020). However, there are limited studies of COVID-19-related stigma among refugees globally, including in Bangladesh.

The Rohingyas are Muslim minorities from Myanmar, forcefully displaced from their motherland since the 1970s and currently sheltered in refugee camps, the majority in Bangladesh's Cox's Bazar. The United Nations High Commissioner for Refugees reported that 925,380 people currently reside in the Rohingya refugee camps in Bangladesh, of which 3.6% were aged 60 years or above (United Nations High Commissioner for Refugee, 2022). Rohingya camps are characterized by a high population density (40,000 people living per square kilometer) and limited access to safe water, satiation, and health facilities (Kamal et al., 2020). Crowded areas lacking basic sanitation make the refugee camps vulnerable to COVID-19 transmission. As of May 7, 2023, 6,813 confirmed COVID-19 cases and 45 deaths were reported in the Rohingya camps (World Health Organization, 2023a). Rohingya refugees may experience more COVID-19-related stigma than the host communities because of their low educational attainment, refugee status, and unhealthy living conditions, coupled with COVID-19-related misinformation, myths, and lack of information that are widespread in camps (Georgeou et al., 2022; Mian & Khan, 2020; Peprah, 2020).

Older Rohingyas, who are already a vulnerable group facing posttraumatic stress disorders with experience of extreme violence, loss of family members and property, and horrible memories of wars, have been greatly affected by the COVID-19 pandemic. Rohingya older adults had difficulty in accessing medicine and routine medical care during this pandemic (Mistry, Ali, Yadav, Huda, et al., 2021). A recent study among Rohingya older adults showed a high level of COVID-19-related misconceptions. Misconceptions may also produce fear and stigmatization of those affected by COVID-19 (Mistry, Ali, Yadav, Ghimire, et al., 2021). However, no previous research has examined the level of COVID-19-related stigma and its associated factors among the older adults residing in the Rohingya refugee camps. Therefore, the present study aimed to explore the prevalence and factors associated with COVID-19-related stigma among older adults from the Rohingya refugee camps in Bangladesh. We hypothesize a high prevalence of COVID-19-related stigma among older adults in the Rohingya refugee camps and that various sociodemographic, health, and COVID-19-related factors are associated with the COVID-19-related stigma.

Materials and Method

Study Design and Participants

This cross-sectional study was conducted between November and December 2021 among older adults aged 60 years and above residing in five selected refugee camps in Cox's Bazar, a Southern

supervision, and methodology. Afsana Anwar, Sabuj Kanti Mistry, and A. R. M. Mehrab Ali contributed in investigation. Afsana Anwar, Mahmudur Rahman, Suvasish Das Shuvo, Abira Nowar, Probal Kumar Mondal, and Abu Ansar Md. Rizwan contributed in writing—original draft. Sabuj Kanti Mistry, Uday Narayan Yadav, Md. Nazmul Huda, Saruna Ghimire, A. R. M.

Mehrab Ali, and Rashidul Alam Mahumud contributed in writing—editing and revising.

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district of Bangladesh. A sample size of 973 was calculated considering an unknown prevalence of stigma, a 5% margin of error, a 95% confidence interval, 80% power of the test, and a 25% nonresponse rate. However, of the approached 973 participants, 864 participants consented to participate in the study (response rate of 88.8%). A national nongovernment organization, that is, Social Assistance and Rehabilitation for the Physically Vulnerable, situated locally and actively working in the Rohingya refugee camps gathered the list of all participants, which served as the sampling frame for the study. Simple random sampling was used to select the required number of participants from the list. The inclusion criteria for the participants were 60 years or above and a resident of the Rohingya refugee camps. The age of the participants was verified through their SMART card issued by the United Nations High Commissioner for Refugees. Overall, most of the participants were aged 60–69 years (72.3%), male (56.3%), married (79.1%), without formal schooling (89.0%), lived with family (90.5%), had more than four members in family (56.9%), and were dependent on family for a living (84.5%). The majority of the participants were unemployed/retired (89.1%), lived on aid alone (67.1%), and experienced decreased family income during COVID-19 (61.8%).

Procedure

Data were collected through face-to-face interviews at participants' home using a pretested semistructured questionnaire in the Rakhine language. Each interview lasted around half an hour. Two enumerators, fluent in Rakhine dialects and having previous experience administering health surveys on electronic platforms, recorded the data in the SurveyCTO mobile app (<https://www.surveyccto.com/>). The enumerators received 3 days of extensive training before the data collection on contents like data collection tools, techniques, and procedures for maintaining COVID-19 safe behaviors during the data collection (e.g., maintaining social distancing and wearing facemasks).

The original questionnaire was developed in English, translated to Rakhine, and then back-translated to English. This Rakhine version of the questionnaire was piloted with 10 older adults from a different camp. The participants in the pilot testing approved the questionnaire without any corrections or modifications.

Measures

Outcome Measure

Stigma was measured using the eight-item Stigma Scale adapted to the Rakhine language (Abuhammad et al., 2021). The eight items are listed in Table 1. Each item was nominally coded as a yes/no statement where a correct response scored 0, and each stigma scored 1. The cumulative score of the eight items ranged from 0 to 8, with a higher score indicating a higher level of stigma. We also classified COVID-19-related stigma into low (if the stigma score was below the mean of the scale value, i.e., <4) or high (if the stigma score was equal to or higher than the mean of the scale value, i.e., ≥ 4) among the participants. We found the scale reliable among our study participants with an acceptable internal consistency (Cronbach's $\alpha = 0.74$). While the present study did not check for psychometric properties of the scale among the Rohingya population, the validity and reliability test of the original scale demonstrated it as a valid and reliable scale (See et al., 2011).

Table 1

Prevalence of COVID-19-Related Stigma Among the Participants (N = 864)

| Stigma items | N | % |
|--|-----|------|
| Infection with COVID-19 is a punishment from God | 671 | 77.7 |
| Previous COVID-19 patients have to be isolated | 622 | 72.0 |
| People who have been infected with COVID-19 should expect some restrictions on their freedom | 474 | 54.9 |
| Infected people did not meet the standards for hygiene | 363 | 42.0 |
| It is unsafe to deal with people who have been infected with COVID-19 | 335 | 38.8 |
| It should not be allowed to work for those who have been infected with COVID-19 | 314 | 36.3 |
| You do not want to be a friend of someone who has been infected with COVID-19 | 303 | 35.1 |
| Those infected with COVID-19 should be ashamed of themselves | 94 | 10.9 |

Explanatory Variables

Explanatory variables considered in this study were related to demographics, economics, health, and COVID-19. All of these variables are categorical; response categories for each variable are provided in Table 2. The demographic and economic variables included age, sex, marital status, formally schooled, family size, dependent on family for a living, family monthly income in Bangladeshi taka, current occupation, living arrangements, and a relative change in family income during COVID-19. Health-related variables included walking distance to the nearest health center and suffering from noncommunicable chronic conditions. Self-reported information on noncommunicable chronic conditions, such as arthritis, hypertension, heart diseases, stroke, hypercholesterolemia, diabetes, chronic respiratory diseases, chronic kidney disease, and cancer, was collected. COVID-19-related variables included feeling concerned about and overwhelmed by COVID-19; close friends or family members diagnosed with COVID-19; difficulty in obtaining food, medicine, routine medical care, and earning during COVID-19; frequency of communication with friends and family during COVID-19; and feeling isolated from others.

Statistical Analysis

The distribution of the variables was assessed through descriptive analysis (frequencies and percentages). We used a multiple linear regression model to explore the factors associated with COVID-19-related stigma. The initial model was run with all potential covariates, and then, the final model was selected using the backward elimination criteria with the Akaike information criterion (AIC). Adjusted β -coefficient (β), p value, and 95% confidence interval (95% CI) are reported. All analyses were performed using the statistical software package Stata (Version 14.0).

Ethics Approval

The study protocol was approved by the institutional review committee of Jashore University of Science and Technology, Jashore, Bangladesh (Ref: ERC/FBST/JUST/2020–61). All participants enrolled in the study provided voluntary verbal and written informed consent before administering the survey.

Table 2
Characteristics of the Participants (N = 864)

| Characteristics | N | % |
|--|-----|-------|
| Age (year) | | |
| 60–69 | 625 | 72.3 |
| ≥70 | 239 | 27.7 |
| Sex | | |
| Male | 486 | 56.3 |
| Female | 378 | 43.8 |
| Marital status | | |
| Married | 683 | 79.1 |
| Without partner ^a | 181 | 21.0 |
| Formal schooling | | |
| No | 769 | 89.0 |
| Yes | 95 | 11.0 |
| Family size | | |
| ≤4 | 372 | 43.1 |
| >4 | 492 | 56.9 |
| Dependent on the family for a living | | |
| No | 134 | 15.5 |
| Yes | 730 | 84.5 |
| Family monthly income in Bangladeshi taka (BDT) ^b | | |
| Living on aid alone | 580 | 67.1 |
| <5,000 | 220 | 25.5 |
| ≥5,000 | 64 | 7.4 |
| Current occupation | | |
| Employed | 94 | 10.9 |
| Unemployed/retired | 770 | 89.1 |
| Family income during COVID-19 | | |
| Unchanged | 330 | 38.2 |
| Decreased | 534 | 61.8 |
| Living arrangement | | |
| Living with family | 782 | 90.5 |
| Living alone | 82 | 9.5 |
| Walking distance to the nearest health center | | |
| <30 min | 592 | 68.5 |
| ≥30 min | 272 | 31.5 |
| Suffering from noncommunicable chronic conditions | | |
| No | 431 | 49.9 |
| Yes | 433 | 50.1 |
| Feeling concerned about COVID-19 | | |
| Not concerned | 169 | 19.6 |
| Somewhat to very concern | 695 | 80.4 |
| Feeling overwhelmed by COVID-19 | | |
| Hardly | 190 | 22.0 |
| Sometimes/often | 674 | 78.0 |
| Close friends or family members previously diagnosed with COVID-19 | | |
| No/not sure | 795 | 92.01 |
| Yes | 69 | 7.99 |
| Difficulty in getting food during COVID-19 | | |
| No difficulty | 163 | 18.9 |
| Some difficulty | 701 | 81.1 |
| Difficulty in getting medicine during COVID-19 | | |
| No difficulty | 232 | 26.9 |
| Some difficulty | 632 | 73.2 |
| Difficulty in earning during COVID-19 | | |
| No difficulty | 83 | 9.6 |
| Some difficulty | 781 | 90.4 |
| Difficulty receiving routine medical care during COVID-19 | | |
| No difficulty | 234 | 27.1 |
| Somewhat difficulty | 630 | 72.9 |
| Frequency of communication during COVID-19 | | |
| Same as previous | 613 | 71.0 |
| Less than previous | 251 | 29.1 |
| Feeling isolated from others | | |
| Hardly | 250 | 28.9 |
| Sometimes/often | 614 | 71.1 |

Note. BDT = Bangladeshi taka.

^a Includes widowed, separated, and never married categories. ^b 1 BDT = 0.01 USD.

Results

Characteristics of the Participants

Table 2 describes participants' sociodemographic, economic, health, and COVID-19-related characteristics. More than half of the participants had at least one noncommunicable chronic condition (50.1%) and lived less than 30 min of walking distance from the nearest health center (68.5%). Most of our participants were concerned about (80.4%) and were overwhelmed by (78.0%) COVID-19. Also, 29.1% of the participants reported reduced communication during the pandemic, and most reported experiencing difficulties obtaining food (81.1%), getting medicine (73.2%), and earning money (90.4%) during COVID-19. Moreover, there were about 71.1% of participants reported feeling isolated.

Prevalence of COVID-19-Related Stigma

Table 1 shows the prevalence of stigma related to COVID-19 among the participants. On average, participants had stigma on three items (mean stigma score = 3.7 and range 0–8) and 52.8% had a high stigma score. The most prevalent COVID-19-related stigmas were as follows: infection with COVID-19 is a punishment from God (77.7%), previous COVID-19 patients have to be isolated (72.0%), and infected people should expect some restrictions on their freedom (54.9%). Other highly prevalent COVID-19-related stigmas were that COVID-19-infected people did not meet the standards for hygiene (42.0%) and it was unsafe to deal with them (38.8%). Other less prevalent yet notable stigmas related to COVID-19 included the prohibition of working (36.3%) and being friends (35.1%) with those infected with COVID-19.

Factors Associated With Stigma

We executed an initial regression model including all the variables presented in Table 2. The final model was run with variables retained from the initial model based on the lowest AIC values. The result of the final model on the factors associated with the average COVID-19-related stigma score is presented in Table 3. In adjusted analysis, we found that participants who had formal schooling had 0.58 units higher chance ($\beta = 0.58$, 95% CI [0.21, 0.94]) and who were dependent on family for a living had 0.41 units higher likelihood ($\beta = 0.41$, 95% CI [0.12, 0.74]) of having higher COVID-19-related stigma score. Similarly, participants who resided away from a health center had 0.25 units higher chance ($\beta = 0.25$, 95% CI [0.01, 0.50]) and whose family income decreased during the pandemic had 0.27 units higher chance ($\beta = 0.27$, 95% CI [0.03, 0.51]) of having higher COVID-19-related stigma score. Moreover, the participants whose close friends or family members were diagnosed with COVID-19 had 1.64 units higher chance ($\beta = 1.64$, 95% CI [1.08, 2.20]), and those who had less communication during the pandemic had 1.80 units higher chance ($\beta = 1.80$, 95% CI [1.24, 2.34]) to had a higher COVID-19-related stigma score.

Discussion

The findings support our hypothesis of a high prevalence of COVID-19-related stigma among the older adults residing in the Rohingya refugee camps in Bangladesh. Furthermore, consistent with our hypotheses, several factors such as formal schooling, dependency on family for a living, residing away from the health center, declined family income during the pandemic, close friends or

Table 3
Factors Associated With COVID-19-Related Stigma Among the Participants (N = 864)

| Characteristics | β | <i>p</i> | 95% CI |
|--|---------|----------|---------------|
| Formal schooling | | | |
| No | Ref | | |
| Yes | 0.58 | .002 | [0.21, 0.94] |
| Dependent on family for living | | | |
| No | Ref | | |
| Yes | 0.41 | .007 | [0.12, 0.74] |
| Walking distance to the nearest health center | | | |
| <30 min | Ref | | |
| ≥30 min | 0.25 | .038 | [0.01, 0.50] |
| Family income during COVID-19 | | | |
| Unchanged | Ref | | |
| Decreased | 0.27 | .025 | [0.03, 0.51] |
| Feeling overwhelmed by COVID-19 | | | |
| Hardly | Ref | | |
| Sometimes/often | 0.24 | .170 | [-0.10, 0.59] |
| Close friends or family members previously diagnosed with COVID-19 | | | |
| No | Ref | | |
| Yes | 1.64 | <.001 | [1.08, 2.20] |
| Frequency of communication during COVID-19 | | | |
| Same as previous | Ref | | |
| Less than previous | 1.80 | <.001 | [1.24, 2.34] |

Note. CI = confidence interval.

family members previously diagnosed with COVID-19, and less frequent communication during the pandemic were associated with higher COVID-19-related stigma. To the best of our knowledge, this is the first study exploring the COVID-19-related stigma among older adults in the Rohingya refugee camps.

While we did not find any study exploring COVID-19-related stigma among older adults in refugee settings, a study among the general Jordanian population (aged 18–65 years) showed that 64% population had stigma toward COVID-19-infected people (Abuhammad et al., 2021). A high prevalence of COVID-19-related stigma was also reported among the general population from Uganda (Amir, 2021), Lebanon (Haddad et al., 2021), and the United States (Grivel et al., 2021). A high level of stigma during COVID-19 pandemics is not novel and has been reported in the previous pandemics, such as the 2009 H1N1 pandemic (Fischer et al., 2019). Health illiteracy, more precisely, lack of knowledge about the etiology, transmission, and prevention of the severe acute respiratory syndrome coronavirus 2, may explain the highly prevalent stigma (Abuhammad et al., 2021). Previous studies have also documented higher COVID-19-related misconceptions among older adults in the Rohingya refugee camps (Mistry, Ali, Yadav, Ghimire, et al., 2021). As COVID-19 is a comparatively new disease, its etiology and transmission were evolving at the time this study was conducted. Thus, the general population may have scarce knowledge of the disease, resulting in rumors, misconceptions, and stigma (Romer & Jamieson, 2020). Other reasons associated with a higher level of stigmatization toward the COVID-19 affected could be the fear and panic associated with COVID-19 among the population (Dye et al., 2020). Previous research conducted among older adults in the Rohingya refugee camps also reported a high level of COVID-19-related fear (Mistry, Ali, Akther, et al., 2021).

We found that the stigmatization of those affected by COVID-19 was significantly higher among the participants who had formal schooling. This contradicts some of the previous studies (Abioye et al., 2011; Amuri et al., 2011; Duan et al., 2020; Kelly et al., 2019; Yuan et al., 2021) reporting lower education levels associated with a higher level of stigma. However, James et al. (2020) study during the previous Ebola outbreak showed that education level was not associated with stigma (James et al., 2020). Thus, the literature on the relationship between COVID-19 stigma and educational attainment is inconclusive. One possible reason for higher stigma among those with formal schooling could be that higher educational attainment might have enabled them to extract COVID-19-related information from different untrustworthy sources (Nursalam et al., 2020), resulting in rumors, misconceptions, and stigma.

Our study also showed that participants dependent on family for living and whose family income decreased during the pandemic had a higher level of COVID-19-related stigma. COVID-19 pandemic outbreak came with a consequential reduction in income and livelihood-generating activities, resulting in fear, panic, and stigma. A study conducted among the older displaced population from Durumi Internally Displaced Persons camps in Abuja, Nigeria, reported that older adults are the most vulnerable due to economic fallout during the pandemic (Ekoh et al., 2021). While Rohingya people mostly depend on aid, their opportunities of working as paid volunteers have been partially or fully stopped due to restrictions imposed during the pandemic (Inter-Sector Coordination Group Gender Hub, 2020). Moreover, decreased distribution of food items from general food distribution points and e-voucher distributions (Inter-Sector Coordination Group Gender Hub, 2020) and disturbances in the delivery of other essential services (Kamal et al., 2020) might have created fear and panic about their livelihood resulting in higher stigma toward those affected.

The participants residing away from the health center had a higher COVID-19 stigma. A prior study among older adults in the Rohingya refugee camps of Bangladesh showed that participants who lived away from health centers had difficulty accessing medical services during this pandemic (Mistry, Ali, Yadav, Huda, et al., 2021). Prepandemic studies conducted among ethnic minorities from Myanmar (Tang et al., 2017) and refugees from Uganda (Kasozzi et al., 2018) also documented that medical services were limited to those who resided away from the health center. Therefore, people residing far away from the health center might have been more fearful of the disease, resulting in negative thoughts about the pandemic and stigma toward those affected (Dye et al., 2020).

We also found that the participants who had their close ones infected with COVID-19 had a higher stigma. Previous literature also documented that having family members, relatives, friends, colleagues, and neighbors tested positive or die of COVID-19 was an important reason for increasing COVID-19-related stigma in the community (Dye et al., 2020). This is because COVID-19-related morbidity and mortality among friends and family instigate fear and panic (Cho et al., 2021; Grivel et al., 2021), resulting in stigmatizing those affected. A positive diagnosis of COVID-19 among close ones could also negatively affect mental well-being as they could not spend quality time with their close ones, which could also instigate stigma toward those affected (Ekoh et al., 2021).

COVID-19-related stigma was higher among those less frequently communicating with others during the pandemic. The preventive measures undertaken to control the spread of the coronavirus, such as

social distancing and movement restrictions, could have increased social isolation because of limited social interactions (Peprah, 2020). Specifically, among our population, there is a greater emphasis on sharing goods and knowledge in a communal setting. Thus, social isolation may have limited knowledge sharing, which in turn may breed misconceptions and stigmas. Previous research among older Rohingya adults in Bangladesh showed that less communication during the COVID-19 pandemic increases misconception (Mistry, Ali, Yadav, Ghimire, et al., 2021) and fear (Mistry, Ali, Akther, et al., 2021). Both fear and misconception could instigate rumors, panic, and concomitant stigma (Dye et al., 2020; Islam et al., 2021).

Strengths and Limitations of the Study

To the best of our knowledge, this is the first study reporting stigma toward people with COVID-19 among the older adults residing in the Rohingya camps in Bangladesh. As the largest refugee setting in the world, the study population and area are unique. The information acquired from the study will contribute to the knowledge related to COVID-19-related stigma among the displaced, migrated, and refugee population. However, the study has some limitations of its own. Being cross-sectional in nature, the study only provides a glimpse of the situation but fails to establish causality. The generalizability of the study could also be affected because our study included a limited number of camps. Future large-scale mixed-method research covering the entire camp could help overcome these shortcomings and provide more generalizable evidence. We also could not check for psychometric properties of the Stigma Scale we used and future research should focus on exploring the validity and reliability of the tool on this population group. However, the original tool was reported to be valid and reliable (See et al., 2011).

Conclusion and Implications

This study found that a high percentage of the older adults residing in the Rohingya refugee camps had COVID-19-related stigma. This prevalence was higher among those formally schooled, experiencing declined family income during the pandemic, who resided distant from the health center, communicated less frequently during the pandemic, and whose friends or family members were previously diagnosed with COVID-19. Given that stigma is an important determinant of health and well-being and is associated with several physical and mental health outcomes and decreased quality of life (Thomas et al., 2015), the observed high prevalence of stigma among the studied population is concerning as it may result in poor health outcomes among this population. Stigma is also a barrier to health care access, adoption of healthy behaviors, and adherence to treatment (Knaak et al., 2017). Hence, in a community such as Rohingya refugees, who are already marginalized and experience health inequity, by virtue of their displacement and refuge, the existing stigma may exacerbate the inequality. In terms of COVID-19, stigma may also create barriers to testing and vaccine hesitancy (Shoib et al., 2021) among this vulnerable population. Hence, policymakers, public health practitioners, and relevant stakeholders working in the camps should undertake interventions to increase the awareness of COVID-19, particularly among the older populations, to counter stigmatization. Health illiteracy focused on the etiology, transmission, and prevention of the virus may be a

stepping stone in that direction, and the subgroups identified in this study may be the target population for such interventions. Organizing mass media campaigns and providing information, education, and communication materials such as pictograms on big banners and holdings and recorded voice messages could be useful. Otherwise, COVID-19-related stigma would lead to greater social exclusion and suboptimal reach to the affected and infected population, especially among this vulnerable group that is already experiencing inequalities in many aspects.

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