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HUMANITARIAN DISASTER: MENTAL HEALTH DISORDERS AT PRIMARY HEALTHCARE CLINIC

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Abstract

INTRODUCTION: Little is known about the mental health of Rohingya refugees attending the Malaysian Field Hospital primary health clinic after arriving in Bangladesh. The objectives of this study were to assess the prevalence of mental health disorders, somatic symptoms and to ascertain the determinants of mental health disorders among the Rohingya refugee community attending the primary health clinic.

MATERIAL AND METHODS: A cross-sectional, face-to-face interview using the DASS-21 Questionnaire was conducted among 180 random samples of patients from the Rohingya community. Symptoms of illnesses were recorded before giving the appropriate treatment. Data was collected to obtain the prevalence of mental health disorders, including anxiety, depression, somatic symptoms, and to study the association and predictors of mental health disorders.

RESULTS: 70.6% of respondents reported having mental health disorders. 70% presented with anxiety and 51.6% had depression. Among the respondents with mental health disorders, 70.8% presented with somatic symptoms. Mental health disorders were associated with female gender, older age, formal education, unemployment, high number of households, being in Bangladesh one year or less, and presence of somatic symptoms. Being in Bangladesh one year or less (AOR, 11.73; 95% CI 3.38–40.71) and presence of somatic symptoms (AOR, 12.1; 95% CI: 4.02 to 36.44) were significant predictors of mental health disorders.

CONCLUSIONS: The prevalence of mental health disorders among Rohingya refugees attending the primary health care clinic was high, and they presented with somatic symptoms.

KEY WORDS: mental health disorders; primary health care; somatic symptoms

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INTRODUCTION

A health emergency is an imminent threat that can produce a broad spectrum of health consequences. Health has been recognized as input and an outcome under the United Nations Disaster Risk Reduction (UNDRR), and integrating health mitigation is essential to materialize the Sendai Framework commitment for Disaster Risk Reduction 2015–2030 [1]. Health Emergency and Disaster Risk Management (Health-EDRM) is a term described by the World Health Organization (WHO) that refers to the universal analysis and management of health risks posed by disasters [2]. Health-EDRM involves a multidisciplinary effort to provide a holistic countermeasure approach in facing the negative health consequences of a disaster, especially among

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vulnerable groups of children, women, the elderly, and special needs. Experiences of the Mobile Army Surgical Hospital have highlighted the importance of primary health care provision during emergencies in Pakistan [3]. The primary healthcare clinic (PHC) role is not limited to any stage of disaster management. Instead, all phases involved consider the physical, psychological, and social dimensions of victims' well-being in managing acute and chronic care management as the crisis is prolonged [4]. Besides managing acute and chronic diseases, PHC has a vital role, in responding and addressing mental health issues among disaster victims [5].

A general poor psychological health had been recorded amongst civilian populations affected and traumatized by armed conflicts, thus, contributing to a broader understanding of overall human health and well-being rather than focusing on individual illnesses [6]. This problem tends to be missed by frontline healthcare providers as they are more focused on the acute physical illness presented by patients. Thus, fewer refugees with mental disorders are detected and managed within primary health care facilities [7]. A study concluded that depression, anxiety, and somatization are the most common mental disorders presented in primary care settings [8]. Somatic symptoms are prevalent among individuals with mental health disorders, and psychological stressor is a known mediator of somatization. This study aims to study mental health disorders among the Rohingya refugees attending the Malaysian Field Hospital (MFH) outpatient clinic in Cox Bazar, Bangladesh, and to inquire about the prevalence of depression and anxiety. Also, to look into different symptoms of illnesses presented by the participants with mental health disorders. Finally, to determine any association and predictors from the socio-demographic factors and somatic symptoms with mental health disorders.

MATERIAL AND METHODS

Study design and the respondents

A cross-sectional study was conducted among the Rohingya refugees attending the PHC clinic at the MFH. This study was conducted between December 2019 and February 2020, involving 180 participants using universal sampling. The sample size was calculated based on the study done by Bogic et al. [9], and we managed to collect 180, which was adequate.

Data collection

Patients attending the outpatient clinic who met the selection criteria were invited into the study. Participants were informed that this study was voluntary before written consent was obtained. Local translators questioned each participant, filled in the demographic data, and Depression, Anxiety, and Stress Scale (DASS-21) questionnaire was answered with their assistance. The interview was conducted by the translator who is well versed in English and Bengali languages, also the regional dialect of Bengali spoken by Chittagonian translator similar to ethnic Rohingya. The participant was then referred to see designated doctors for further evaluation of symptoms presented and treatment at the outpatient department.

Study instrument

DASS-21 Questionnaire, a useful validated tool to clarify emotional disturbance, can be utilized in a busy primary care setting [10]. The essential function of the DASS-21 is to assess the severity of symptoms of depression and anxiety. There are seven questions for each depression and anxiety scale score. The respondents were asked of any presence of symptoms for the past one-week period. A reliability coefficient for each subscale ranged from 0.70 to 0.72 and was found to be a valid measuring instrument [10]. This study obtained approval from the Research and Ethics Committee, Malaysian Field Hospital reference no. HMM.500-5/4/391-(1).

Statistical analysis

Statistical analysis was performed using IBM SPSS (Statistical Package for the Social Sciences) software version 22 [11]. The dependent parameter in this study was mental health outcomes and presented as the presence of mental health or absence of mental health. The independent parameters included in the statistical analysis were basic socio-demographic profiles and somatic symptoms. Each factor was analyzed using either Mann-Whitney U test or the Chi-square test to determine its association with a mental health disorder. The relationship between socio-demographic factors and somatic symptoms on mental health disorders was calculated using the univariate and multivariable logistic regression model. The magnitude of association between different variables with mental health disorders was measured as odds ratio (OR) with 95% confident interval (CI).

Table 1. Descriptive socio-demographic analysis of the respondents (n = 180)

Socio-demographic	n	%
Gender		
Male	70	38.9
Female	110	61.1
Age		
15–25	33	18.3
26–35	39	21.7
36–45	43	23.9
46–55	36	20.0
56–65	22	12.2
> 65	7	3.9
Religion		
Islam	143	79.4
Hindu	27	15.0
Christian	10	5.6
Marital Status		
Single	25	13.9
Married	132	73.3
Widowed	23	12.8
Education level in Myanmar		
Non formal	98	54.4
Elementary	63	35.0
Intermediate	10	5.6
Secondary	8	4.4
Tertiary	1	0.6
Occupation in camp		
Yes	41	22.8
No	139	77.2
Number of household		
1–3	4	2.2
4–5	101	56.1
More than 5	75	41.7
Length of stay in Bangladesh		
12 months or less	105	58.3
More than 12 months	75	41.7

Table 2. Prevalence of anxiety & depression scores and mental health disorders among participants (n = 180)

Status	n	%
Anxiety		
Normal	54	30.0
Mild anxiety	20	11.1
Moderate anxiety	105	58.3
Severe anxiety	1	0.6
Depression		
Normal	89	49.4
Mild depression	25	13.9
Moderate depression	47	26.1
Severe depression	19	10.6
Mental health disorders		
Yes	127	70.6
No	53	29.4
Total	180	100

RESULTS

Table 1 shows the socio-demographics of the study group. Females comprised 61.1% of participants. The median age recorded was 40 years and 6 months old, and 63.9% of respondents were less than 46 years old. The majority of participants were Muslims (79.4%) and married (73.3%). 54% of the participants attended non-formal education compared to 46% attending formal education back in Myanmar. The majority (77.2%) are currently unemployed in the refugee camp, and family household numbers were 56.1% and 41.7% for 4–5 and more than five people, respectively. 58.3% of the refugees spent one year or less in Bangladesh.

Table 2 shows that among the 180 participants who attended the PHC clinic, 11.1% had mild anxiety, 58.3% moderate anxiety, and 0.6% severe anxiety. 13.9% of respondents showed mild depression, 26.1% moderate depression, and 10.6% participants had severe depression. Overall, 70.6% had mental health disorders, presenting either with anxiety, depression, or both. Among participants with mental health disorders, 70.8% presented with somatic symptoms (Tab. 3). The majority presented with dyspepsia and gastrointestinal reflux (33.1%); 16.5% and 3.1% of participants had myalgia and multiple joint pains symptoms. 9.4% presented with symptoms of headaches, and 5.5% of the participants presented with palpitation. Two participants showed symptoms of abdominal pain (1.6%), and two had insomnia (1.6%). Table 4 shows the association between socio-demographic factors and somatic symptoms with mental health disorders. We found increasing age, female gender, received formal education in Myanmar, increased number of households, staying in Bangladesh one year or less, and presence

Table 3. Description of symptoms of illnesses presented by participants with mental health disorders (n = 127)

Illness	n	%
Dyspepsia and gastrointestinal reflux	42	33.1
Multiple joint pains	4	3.1
Myalgia/muscle pain	21	16.5
Headaches	12	9.4
Palpitation	7	5.5
Abdominal Pain	2	1.6
Insomnia	2	1.6
URTI Sx (cough/runny nose/fever)	7	5.5
Skin diseases	1	0.8
Chronic diseases	3	2.4
Surgical cases	1	0.8
Orthopaedic cases	25	19.7
Total	127	100

URTI — upper respiratory tract infection; Sx — symptom

of somatic symptoms was significantly associated with mental health disorders with p-value < 0.005.

Table 5 shows the final multivariable logistic regression model and mental health disorders were positively correlated with the duration of living one year or less in Bangladesh (AOR = 11.73, 95% CI = 3.38–40.71) and presence of somatic symptoms (AOR = 12.10, 95% CI = 4.02–36.44).

DISCUSSION

In this study, 70% of respondents had an anxiety disorder which is higher than the research findings among the Rohingya refugees in Selangor, Malaysia with 41.8% of anxiety noted [12]. Another study showed that anxiety among Iraqi refugees in Egypt was 59% [13]. Comparing these studies, Bangladesh is within the low middle-income countries group with limited governmental support towards the refugees, and international assistance is needed. This inequality in anxiety prevalence may be related to the difference in the level of local economic development, social support system, healthcare system, and living condition of refugee camps in Bangladesh compared to Malaysia and Egypt. The other cause might be linked to methodological variations with differences in instruments, sample size, and data collection technique.

Our findings found that 51.6% of the respondents had depression which differs from a study that showed a higher depression prevalence of 89% among Rohingya refugees residing in refugee camps in Bangladesh [14]. In our study, all participants were selected from the Kutupalong refugee camp, and taking into account two camps that differ in support, infrastructures, basic necessity needs, and health support system would pose different challenges to the inhabitants. Concentrated camps with security enforcement create less freedom and movement restriction for Rohingya refugees in Cox Bazar, coupled with internal daily stressors from lack of physical security, deprivation of wage-earning opportunity, and essential resources plus food security. Being in Bangladesh, a transit state, also made refugees feel hopeless with no ending resolution towards the conflict and not recognized as citizens in Myanmar. Displacement-related stressors such as discrimination, uncertainty regarding asylum status, and lack of access to primary resources and education contributed to mental health stressors that refugees have minimal control. A study done among Rohingya refugees residing in Selangor, Malaysia, showed 32.3% depression [12]. Rohingya refugees in Malaysia, being an upper-middle-income country, would face fewer challenges in finding economic activities and getting support from non-governmental organizations (NGOs) and United Nations High Commissioner for Refugees (UNHCR) in health services and education. The Karenina population is also being displaced due to political conflict in Myanmar showed 41.8% depression [15]. Having resided at the Thai-Myanmar border still makes them feel insecure from prosecution by Myanmar authorities, unlike refugees who have relocated in a country distant from the conflict area.

Based on the migration model, refugees residing in transit countries have a higher prevalence of mental health disorders compared to those who have resettled in host countries as they face future uncertainty, exposure to violence, minimal privileges, and human rights, basic needs deprivation, and restricted movements in refugee camps [16]. Although displacement from conflict-related areas experienced by the Rohingya community entails them towards safety, the migratory journey was traumatic, and there is continuous insecurity within the refugee camps. In this study, 70.8 % of the participants with mental health disorders presented with symptoms categorized as somatization. A study was done using a Somatic Symptom Scale among the Rohingya refugees living in Kutupalong, and Nayapa-

Table 4. Association between sociodemographic factors and somatic symptoms with mental health disorders (n = 180)

Variables	Mental health disorders				p value
	Yes		No		
	n	%	n	%	
Gender					
Male	43	61.4	27	38.6	
Female	84	76.4	26	23.6	0.032
Age in years (continuous)					
Median (IQR) years	42 (22)	–	36 (22.5)	–	0.046*
Religion					
Islam	99	69.2	44	30.8	0.243
Hindu/Christian	28	75.7	9	24.3	
Marital status					
Married	93	70.5	39	29.5	0.960
Single/Single parent	34	70.8	14	29.2	
Education in Myanmar					
Non formal	51	61.4	32	38.6	
Formal	76	78.4	21	21.6	0.013
Occupation in camp					
Yes	21	51.2	20	48.8	
No	106	76.3	33	23.7	0.002
No of household (continuous)					
Median (IQR)	6 (2)	–	5(1)	–	< 0.001*
Length of stay in Bangladesh					
12 months and less	98	93.3	7	6.7	< 0.001
More than 12 months	29	38.7	46	61.3	
Somatic symptoms					
Yes	88	92.6	7	7.4	< 0.001
No	39	45.9	46	54.1	

*p-value based on Mann-Whitney U Test

ra camps noted up to 67% rate of endorsement somatization [14]. Similarly, Mussell et al. noted that the prevalence of severe levels of depression (PHQ-8 score > or = 15) and severe levels of anxiety (GAD-7 score > or = 15) was nearly fivefold and fourfold respectively in patients with gastrointestinal symptoms compared to patients without symptom ($p < 0.001$) among primary care patients [17]. Place of origin and culture can profoundly influence every aspect of illness and adaptation, interpretations to symptoms, explanations of illness, patterns of coping, health-seeking response, styles of communication, emotional expression, and relationships between patients and healthcare providers. These pose significant challenges to humanitarian healthcare actors in delivering their services. A study systematically assessed the content of „thinking a lot" among the Cambodian refugee context, and these characteristics differ among local ethnic psychology and severity of cognition, and somatic complaints during episodes of „thinking a lot" [18]. Therefore, it is essential to give explicit attention to cultural dimensions of the illness experienced by the refugees attending the PHC clinics.

In this study, being female was significantly associated with mental health disorders ($p = 0.033$), similar to other studies elsewhere [19–21]. The possible explanation could be that the female gender is

Table 5. Simple logistic and multivariable logistic regression for variables associated with mental health disorders (n = 180)

Variables	Simple Logistic Regression				Multivariable Logistic Regression			
	Crude OR	95% CI		p-value	Adjusted OR	95% CI		p-value
		Upper	Lower			Upper	Lower	
Gender								
Male	1.00	–	–		1.00	–	–	
Female	2.03	1.06	3.89	0.033	1.56	0.45	5.44	0.482
Age in years (categorical)								
17–39	1.00	–	–		–	–	–	
40 and above	2.23	1.16	4.30	0.017	–	–	–	
Age in years (continuous)	1.02	0.99	1.04	0.129	1.03	0.99	1.08	0.181
Religion								
Islam	1.00	–	–		1.00	–	–	
Hindu/Christian	1.38	0.60	3.17	0.445	1.65	0.47	5.83	0.439
Marital status								
Married	1.00	–	–		1.00	–	–	
Single/single parent	1.02	0.49	2.11	0.961	0.78	0.23	2.63	0.693
Education in Myanmar								
Non formal	1.00	–	–		1.00	–	–	
Formal	2.27	1.18	4.37	0.014	0.97	0.25	3.73	0.963
Occupation in camp								
Yes	1.00	–	–		1.00	–	–	
No	3.06	1.48	6.33	0.003	0.79	0.18	3.51	0.759
No of household								
1–5	1.00	–	–		–	–	–	
6–8	5.29	2.38	11.74	< 0.001	–	–	–	
No of household (continuous)	2.84	1.87	4.31	< 0.001	1.38	0.79	2.41	0.255
Duration less than year								
Yes	22.21	9.06	54.44	< 0.001	11.73	3.38	40.71	< 0.001
No	1.00	–	–		1.00	–	–	
Somatic symptoms								
Yes	14.83	6.15	35.75	< 0.001	12.10	4.02	36.44	< 0.001
No	1.00	–	–		1.00	–	–	
Hosmer and Lemeshow Test; p = 0.843								
Model's predictability: 70.6%								

more vulnerable physically, receives lower education and economic opportunity, and is at a greater risk of domestic violence. For various reasons, mental health disorders among the female gender may result from numerous factors, including genetics, biological changes associated with hormonal and pubertal, sociocultural factors, and feminine roles or stereotypes in taking care of the family unit [22]. Female gender is one of the significant determinants of mental health disorders ($p < 0.05$) among Somali refugees at the Melkadida camp in Ethiopia, and a similar result was found among female Syrian refugees with five times likely to have mental health disorders (AOR 5.1; 95% CI: 3.2–8.1) [23]. We postulate that in a post-disaster situation, females still need to take all the responsibilities of their family unit as wives, mothers, and primary

caregivers, with widows having to become the main source of income for the family, which is a significant stressor. These difficulties may increase the sense of hopelessness, decrease future opportunities leading to probable mental health disorders. On the contrary, men may not feel comfortable seeking assistance when dealing with distress, and it may be due to cultural norms about masculinity and cultural expectations that men may not acknowledge weakness and verbally discuss it.

This study elucidated that increased age was also significantly associated with mental health disorders ($p < 0.046$). Experiences of mental and physical health differ as the age advances. Younger refugees may have greater resilience to enduring stresses of displacement and to adapt to a new environment. All respondents with mental health disorders above the forty-year-old age group were either married or single parents, with greater responsibility for providing necessities and security to their respective family unit. They may also face emerging chronic diseases or existing medical illnesses and be exposed to work-related injury in refugee camps, negatively affecting their physical health and indirectly affecting mental health. As the age increases and for senior citizens, some widowed, with no formal education received, poor physical health, debilitating chronic diseases, decreased social support, and more isolation due to lack of extended and community support in the refugee camp may expose them further to have mental health disorders. Another study showed that stressors like a spouse's death, migratory grief, poor coping, and social support showed a significant association between mental health and increased age [24]. Poor living conditions in refugee camps shelters, minimal basic living needs are also a challenge and stressor as they are likely to have deteriorating physical ability to cope with daily tasking compared to younger refugees. Also, the older group's lack of meaningful work opportunities in refugee camps and loss of status as elders in a new place compared to their homeland may make them feel worthless. Our finding showed that mental health disorders were significantly associated with formal education in Myanmar ($p = 0.002$). We postulate that those who received formal education may have more insight into stressors and express better towards individual problems. Higher levels of education and socio-economic status before displacement were associated with worse mental health outcomes in the analysis done by Miller et al. [25]. Displacement leads to stunted intellectual continuity and education opportunities among the victims, plus significant loss of social status rather than a protective effect on refugees against their predicament. Also, different outcomes from various studies might be linked to methodological variations with differences in categorizing the levels of education in the instrument and data collection technique. The finding also revealed that mental health disorders showed a significant association with occupational status ($p = 0.002$). All of those working received daily wages, with job availability depending on demand and sometimes seasonal. Not being employed meant that a family unit is exposed to restricted economic activities, food, and health insecurity, thus exposing them to further poverty. Individuals who fall under low socioeconomic status would likely be vulnerable to psychological stress and reported association with mental health disorders [26]. Unemployment may also increase the risk of poor mental health if an individual suffers chronic medical illness, need surgical intervention, or experience bodily injury due to inadequate health care facilities and paying health care system in Bangladesh. Studies among refugees in Balkan countries showed employment was less associated with mental health diseases (OR = 0.60, CI: 0.44 to 0.81; $p < 0.001$) [27] and, access to employment had a linear relationship with better mental health ($p < 0.001$) for refugees post displacement [28]. Employment would provide practical, meaningful time in daily activities, a sense of financial security, and less feeling of hopelessness to provide essential self and the family unit [29].

This study noted a strong influence of the number of households on psychological health ($p < 0.001$). Household crowding is a condition where the number of occupants exceeds the capacity of the unit floor area, resulting in adverse physical and mental health outcomes [30, 31]. According to United Nation Habitat, overcrowding occurs when more than three people per habitable room area [32]. Overcrowding in a household unit translates into poor living condition, has a significant association with psychological and mental stress ($p < 0.005$) among displaced Ethiopian adults post-conflict [33]. We postulate that the higher number of households is related to the increased responsibility of the head of a family unit to provide basic food and shelter for family members, thus increasing the vulnerability to mental health diseases. Also, the family members are

at risk of contracting communicable diseases due to the higher numbers in a shelter, a burden in seeking health treatment, managing a sick household member, and maintaining proper hygiene and comfort.

The arrival of refugees in Bangladesh happened in stages, and in this study, participants living one year or less were 12 times more likely to have mental health disorders compared to refugees with a more extended stay ($p < 0.001$). We postulated they might face challenges in adapting to the new environment, lacking support from the host country and availability of NGOs, which escalated their hardship significantly during the initial arrival period. In this study, most of the newly arrived participants were married, unemployed, and having a high number of households in a family unit additionally increased the daily stressors with lacking necessities, shelters, food security, employment opportunity, health, and social services compared to participants with a more extended stay in Bangladesh. Factors leading to worse outcomes were observed among newly arrived refugees in post-displacement conditions: living in institutional accommodation, experiencing restricted local economic opportunities, being repatriated to a previously fled country, or continuous unresolved conflict at home [28]. Future planning for refugees would need to consider evaluating the capacity to provide long-term health and well-being in the host country other than salvaging them from a life-threatening situation at the initial phase.

Medical doctors encountered somatization related symptoms at the PHC clinic. We found a significant association of somatic symptoms presented by the respondents with mental health disorders ($p < 0.001$) and somatization as a significant predictor (AOR 12.1; 95% CI: 4.02 to 36.44). Various studies addressed the significant relationship between mental health disorders and the presentation of somatic symptoms among refugees [34–37]. The possible reason behind this issue is that people who have mental illness are not psychologically minded, and in some cultures, they do not have an abstract language or concepts of emotional distress to express themselves. Therefore, they tend to converse their emotions somatically.

Limitation of the study

Since this study used a cross-sectional study design measuring the exposure and the outcome simultaneously, it does not allow to infer causation between the predictors and the outcome. Even though DASS-21 Questionnaire is available in the Bengali language among the Bangladeshi population and understood by the Rohingya refugees using the local interpreter, the questionnaires were culturally not validated among the specific Rohingya populations. Likewise, the study would give a more robust result if the sample size were more extensive, but the process was halted due to COVID-19 outbreak in Bangladesh.

CONCLUSIONS

Mental health disorders are prevalent among the Rohingya refugees attending the PHC clinic at the MFH, Cox Bazar. There is a need to strengthen the healthcare clinical set up by all actors who manage the refugees and establish good referrals between facilities depending on the locality of affected refugees .and support from available NGOs. Moreover, we recommend mental health education programs at the pre-departure course to equip medical team members with psychological first aid knowledge and appropriate communication skills to provide necessary protective and coping measures among refugees. Also, meaningful collaboration with healthcare providers in the refugee camps and host nations by organizing mental health outreach programs to increase awareness among the refugees. Tackling somatic symptoms can be a real challenge by PHC doctors, and the risk of being unnoticed results in suboptimal management, poor outcomes, and chronicity. Therefore, early detection in primary care, coupled with an appropriate and effective response, might be beneficial and cost-efficient to treat these patients. It is of utmost importance for the humanitarian health delivery team to have a local medical interpreter to engage better with the refugees. Failure to use appropriate interpreters is one of the most critical barriers to assessing the medical history of foreign patients, exploring their concerns, describing symptoms, social predicaments, and explaining necessary treatment. These findings would undoubtedly assist administrators in developing and implementing recommendations for PHC service in future Humanitarian Assistance and Disaster Relief (HADR) missions.

Conflict of interest

All authors declare no conflict of interest.

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