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# Prevalence and Factors Associated with Major Depression Disorder among Rohingya Refugees in Bangladesh

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**Abstract**

***Background:*** *Rohingya refugees are a persecuted minority and one of Myanmar's largest populations of stateless people. Mental health problems, particularly depression, have been identified as a major public health issue for those living in refugee camps in Southeast Bangladesh. The prime objective is to assess the prevalence and factors associated with depression among Rohingya refuges.*

***Materials and methods:*** *A camp-based cross-sectional study with 384 adult refugees was conducted in January to June 2019 at Modhurchora, Kutupalong refugee camp in Cox's Bazar. Data were collected by face to face interviews through using a semi-structured questionnaire, level of exposure to trauma by Harvard Trauma Questionnaire and depression symptoms by using SIGECAP Questionnaire.*

***Results:*** *The mean age of the Rohingya refugees was 31.9±11.8 years and two-thirds of them (66.4%) were from the age group 18-34 years. The mean scores of depression among Rohingya refugees were 6.9±1.2 and 38.3±6.0 by SIGECAPQ and HTQ respectively. Levels of depression by SIGECAPQ scores, about three out of four refugees were suffering from severe depression and by HTQ scores, the majority of the refugees (96.9%) were suffering from severe depression.*

***Conclusion:*** *The study revealed high levels of depression among Rohingya refugees. Addressing these risk factors could be imperative for improving mental health outcomes in this vulnerable population.The study emphasised the significance of providing psychosocial support services in this camp.*

**Key words:** Depression; Factors; Prevalence; Rohingya refugees.

## INTRODUCTION

Every year, millions of people are forced to escape their homes due to violence, war, and natural catastrophes, while they stay displaced outside of their home countries.[1] The number of people without homes who are commonly classified as refugees has grown significantly during the last few decades around the world.[2] On August 25, 2017, violence erupted in Rakhine state, Myanmar, as the Myanmar military launched a counter-offensive in response to attacks by Rohingya terrorists. As a result, around 621,000 Rakhine state residents fled to Bangladesh. With previously displaced refugees, the total number of Rohingya in Bangladesh now exceeds 800,000. The majority of the refugees are now living in Cox's Bazar in pre-existing camps and settlements, settlement extensions, spontaneous settlements, and among the host community.[3] Kutupalong and Balukhali are two of the main populated areas.[4] An estimated 439,600 refugees have reportedly arrived in the camp communities of Kutupalong and Modhurchora since August 2017. Because there was no pre-existing dwelling in existence previous to the arrival of the refugees, living conditions in the Extensions are clearly worse than in the unprepared settlements. Efforts to build this infrastructure have been hampered by poor access due to a lack of roads and difficult conditions.[1,3]

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Persons who have been forcibly moved face several social vulnerabilities and are vulnerable to mental illnesses.[5] These socioeconomic vulnerabilities include inadequate shelter and overcrowding, a lack of protection, restricted access to water, food instability, limited access to health care, a lack of personal documentation and an increase in the number of forced evictions.[5,6] The prevalence of Post-Traumatic Stress Disorder (PTSD) and depressive disorder is commonly explored in conflict settings, as psychological trauma is predicted to be widespread among this group.[7] In comparison to other groups, refugees have higher rates of psychological distress, psychosomatic problems, and clinical mental disorders such as depression and post-traumatic stress disorder.[8] The most frequent mental health consequence of exposure to distressing stressors associated with conflict is depression.[9]

The prevalence of depression among displaced persons has been identified to be higher in numerous portions of the world.[10] It is imperative to any understanding of the Rohingya people's predicament to emphasise their exposure to war-related traumatic events, including as the loss of family members, witnessing extreme violence, and injury or loss of property.[11] These incidents have been associated with depression. Due to a lack of psychosocial resources and specialised mental health interventions, camp individuals have virtually no way of assisting individuals' psychological health needs, particularly depression.[12] The prime objective of the study to assess the prevalence and factors associated with depression among Rohingya refugees.

## MATERIALS AND METHODS

This was a camp-based cross-sectional survey conducted from January to June 2019 in a purposively selected Rohingya refugee camp named Modhurchora (Camp-3) Kutupalong refugee campin Cox's Bazar, a district under the Chittagong Division, geographically the largest of the eight administrative divisions of Bangladesh. This camp was selected as the study area as it is one of the largest camps in Bangladesh.

Participants'were conveniently selected from 384 Rohingya refugees aged ≥18 years, and who were living for at least 1 year in this camp. A diagnosed history of severe medical or psychiatric illness among the participant was excluded from this study.

The studied participants were interviewed through a pretested semi-structured questionnaire the face-to-face interview. Pre-test was done among the refugees of Nayapara refugee camp. The levels of depression were measured by the SIGECAP questionnaire and Harvard Trauma Questionnaire (HTQ).

- The SIGECAPQ consists of 8 questions related to symptoms of major depressive disorder, according to the DSM-5. Here, the score for "No' was '0' and for 'Yes' was '1'. The total range of scores is 1-8. Levels of depression were considered mild for scores 1-3, moderate for scores 4-6, and severe for scores 7-8.
- The HTQ was a checklist consisting of 41 questions to measure both traumatic events and symptoms in refugees. Here, the score for "No' was '0' and for 'Yes' was '1'. The total range of scores is 1-41. Levels of depression were considered mild for scores 1-15, moderate for scores 16-30 and severe for scores 31-41.

The data were checked and cleaned followed by categorizing data, coding and postcodes into IBM SPSS v 25 software. Descriptive analysis was carried out by calculating the mean and standard deviation for continuous variables and frequency and percentages for categorical variables. The Chi-square test and Fisher exact test were used to assess the significance of associations between two nominal variables and a P-value of <0.05 at a 95% confidence interval was taken as significant. The results were presented in tables and charts.

Participation was voluntary and confidentiality was maintained by using an individual code number for each participant. This study was developed under the Declaration of Helsinki and ethical approval was obtained from the Ethical Review Board of the American International University, Dhaka 1229, Bangladesh.

## RESULTS

Table I characterizes the socio-demographic outlines of Rohingya refugees. The mean age of the participant was 31.9±11.8 years and two-thirds of them (66.4%) were from the age group 18-34 years. The male and female ratio was 1:1. The majorities of the refugees were married (85.2%). One-third of them (32.0%) had no formal education and a significant number of refugees were unemployed (15.9%) and day labourers (18.5%).The mean duration of living in this camp was 2.7±0.6 years and more than two-thirds (68.2%) were living here for >2 years. The majorities of the refugees were substance users (95.6%) and they took different forms of substances like tobacco, ganja, yaba, alcohol etc. About two out of five refugees (17.7%) were not satisfied with the camp support provided by the authorities.

Figure I display the levels of depression among Rohingya refugees. Levels of depression were assessed by SIGECAPQ and HTQ scores. Levels of depression by SIGECAPQ scores, about three out of four refugees were suffering from severe depression and by HTQ scores, the majority of the refugees (96.9%) were suffering from severe depression.

Figure II portrays that the mean scores of depression among Rohingya refugees were 6.9±1.2 and 38.3±6.0 by SIGECAPQ and HTQ respectively.

Table II interprets the association of socio-demographic factors with levels of depression by SIGECAP questionnaires. Rohingya refugee's gender (p=0.000) marital status (p=0.000) education (p=0.001), occupation (p=0.000) substance user (p=0.000) and satisfaction with camp supports (p=0.000) were statistically significant withlevels of depression. Prevalence of severe depression was higher among male (80.7%) a married person (73.7%) education level secondary and above (85.0%), businessman (88.2%) substance user (74.1%) and person who was dissatisfied with supports (88.2%) in the camp.

Table III interprets the association of socio-demographic factors with levels of depression by Harvard trauma questionnaires. Rohingya refugee's gender (p=0.000) marital status (p=0.000) education (p=0.006) duration of living in the camp (p=0.008) substance user (p=0.000) and satisfaction with camp supports (p=0.008) were statistically significant withlevels of depression. Prevalence of severe depression was higher among male (100%) a married person (96.9%), education level secondary and above (100%) person who was living in the camp for >2 years (97.3%) substance user (99.3%) and person who was dissatisfied with supports (100%) in the camp.

**Table I** Socio-demographic outlines (n=384)

| Variables | Frequency | Percent (%) |
|---|---|---|
| **Age groups (Years)** | | |
| 18-34 | 255 | 66.4 |
| 35-49 | 89 | 23.2 |
| 50-65 | 40 | 10.4 |
| **Mean±SD= 31.9±11.8** | | |
| Gender | | |
| Male | 192 | 50.0 |
| Female | 192 | 50.0 |
| Marital status | | |
| Single | 57 | 14.8 |
| Married | 327 | 85.2 |
| **Highest level of education** | | |
| No formal education | 123 | 32.0 |
| Primary | 181 | 47.1 |
| Secondary & above | 80 | 20.8 |
| Occupation | | |
| Unemployed | 61 | 15.9 |
| Homemakers | 159 | 41.4 |
| Day labourers | 71 | 18.5 |
| Business | 51 | 13.3 |
| Others | 42 | 10.9 |
| **Duration of living in the camp (Years)** | | |
| ≤2 | 122 | 31.8 |
| >2 | 262 | 68.2 |
| Mean±SD= 2.7±0.6 | | |
| Substance uses | | |
| Yes | 367 | 95.6 |
| No | 17 | 4.4 |
| **Satisfaction with camp support** | | |
| Satisfied | 152 | 39.6 |
| Moderately satisfied | 164 | 42.7 |
| Dissatisfied | 68 | 17.7 |

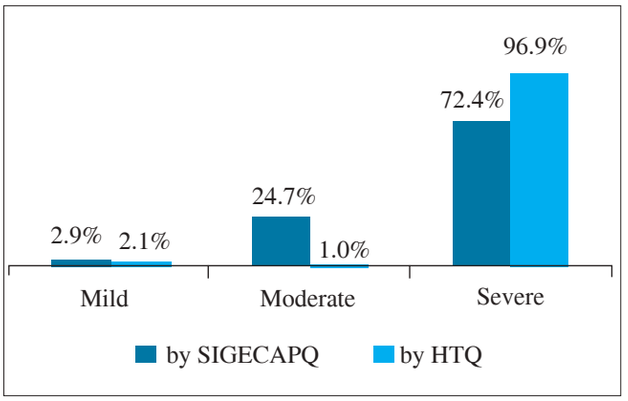


**Figure I** Levels of depression among Rohingya refugees (n=384)

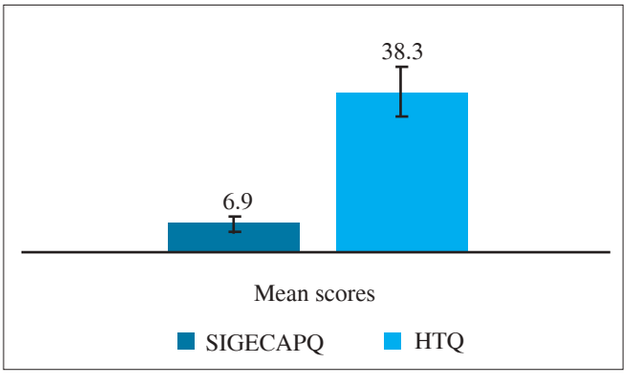


**Figure II** Mean scores of the depression(n=384)

**Table II** Association of socio-demographic outlines to the levels of depression (n=384)

| | | Levels of depression by SIGECAPQ | | | | | |
|---|---|---|---|---|---|---|---|
| Variables | | Mild n(%) | Moderate n(%) | Severe n(%) | Total n(%) | $\chi^2$ value | p-value |
| Age groups (Years) | 18-34 | 9(3.5) | 56(22.0) | 190(74.5) | 255(100) | 4.522 | 0.340 |
| | 35-49 | 2(2.2) | 27(30.3) | 60(67.4) | 89(100) | | |
| | 50-65 | 0(0.0) | 12(30.0) | 28(70.0) | 40(100) | | |
| Gender | Male | 0(0.0) | 37(19.3) | 155(80.7) | 192(100) | 19.326 | *0.000 |
| | Female | 11(5.7) | 58(30.2) | 123(64.1) | 192(100) | | |
| Marital status | Single | 9(15.8) | 11(19.3) | 37(64.9) | 57(100) | 40.354 | *0.000 |
| | Married | 2(0.6) | 84(25.7) | 241(73.7) | 327(100) | | |
| Highest level of education | No formal education | 0(0.0) | 32(26.0) | 91(74.0) | 123(100) | 19.254 | *0.001 |
| | Primary | 11(6.1) | 51(28.2) | 119(65.7) | 181(100) | | |
| | Secondary & above | 0(0.0) | 12(15.0) | 68(85.0) | 80(100) | | |
| Occupation | Unemployed | 0(0.0) | 8(13.1) | 53(86.9) | 61(100) | †27.151 | *0.000 |
| | Homemakers | 10(6.3) | 52(32.7) | 97(61.0) | 159(100) | | |
| | Day labourers | 0(0.0) | 20(28.2) | 51(78.2) | 71(100) | | |
| | Business | 0(0.0) | 6(11.8) | 45(88.2) | 51(100) | | |
| | Others | 1(2.4) | 9(21.4) | 32(76.2) | 42(100) | | |

| Variables | | Levels of depression by SIGECAPQ | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mild n(%) | Moderate n(%) | Severe n(%) | Total n(%) | $\chi^2$ value | p-value |
| Duration of living in the camp | ≤2years | 2(1.6) | 30(24.6) | 90(73.8) | 122(100) | 0.985 | 0.611 |
| | >2years | 9(3.4) | 65(24.8) | 188(71.8) | 262(100) | | |
| Substance uses | Yes | 3(0.8) | 92 (25.1) | 272(74.1) | 367(100) | †42.462 | *0.000 |
| | No | 8(47.1) | 3(17.6) | 6(35.3) | 17(100) | | |
| Satisfaction with camp support | Satisfied | 2(1.3) | 60(39.5) | 90(59.2) | 152(100) | †34.445 | *0.000 |
| | Moderately satisfied | 9(5.5) | 27(16.5) | 128(78.0) | 164(100) | | |
| | Dissatisfied | 0(0.0) | 8(11.8) | 60(88.2) | 68(100) | | |

*Statistically significant value. †Fisher's exact test value.

**Table III** Association of socio-demographic outlines to the levels of depression (n=384)

| *Levels of depression by HTQ* | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mild n(%) | Moderate n(%) | Severe n(%) | Total n(%) | $\chi^2$ value | p-value |
| Age groups (Years) | 18-34 | 6(2.4) | 4(1.6) | 245(96.1) | 255(100) | †1.451 | 0.870 |
| | 35-49 | 2(2.2) | 0(0.0) | 87(97.8) | 89(100) | | |
| | 50-65 | 0(0.0) | 0(0.0) | 40(100) | 40(100) | | |
| Gender | Male | 0(0.0) | 0(0.0) | 192(100) | 192(100) | †12.653 | *0.000 |
| | Female | 8(4.2) | 4(2.1) | 180(93.8) | 192(100) | | |
| Marital status | Single | 8(14.0) | 0(0.0) | 49(86.0) | 57(100) | †29.552 | *0.000 |
| | Married | 0(0.0) | 4(1.2) | 323(96.9) | 327(100) | | |
| Highest level of education | No formal education | 0(0.0) | 0(0.0) | 123(100) | 123(100) | †11.148 | *0.006 |
| | Primary | 8(4.4) | 4(2.2) | 169(93.6) | 181(100) | | |
| | Secondary & above | 0(0.0) | 0(0.0) | 80(100) | 80(100) | | |
| Occupation | Unemployed | 0(0.0) | 0(0.0) | 61(100) | 61(100) | †10.509 | 0.081 |
| | Homemakers | 8(5.0) | 4(2.5) | 147(92.5) | 159(100) | | |
| | Day labourers | 0(0.0) | 0(0.0) | 71(100) | 71(100) | | |
| | Business | 0(0.0) | 0(0.0) | 51(100) | 51(100) | | |
| | Others | 0(0.0) | 0(0.0) | 42(100) | 42(100) | | |
| Duration of living in the camp | ≤2years | 1(0.8) | 4(3.3) | 117(95.9) | 122(100) | †8.588 | *0.008 |
| | >2years | 7(2.7) | 0(0.0) | 255(97.3) | 262(100) | | |
| Substance uses | Yes | 0(0.0) | 4(1.1) | 363(98.9) | 367(100) | †53.067 | *0.000 |
| | No | 8(47.1) | 0(0.0) | 5(52.9) | 17(100) | | |
| Satisfaction with camp support | Satisfied | 0(0.0) | 1(0.7) | 151(99.3) | 152(100) | †10.934 | *0.008 |
| | Moderately satisfied | 8(4.9) | 3(1.8) | 153(93.3) | 164(100) | | |
| | Dissatisfied | 0(0.0) | 0(0.0) | 68(100) | 68(100) | | |

*Statistically significant value †Fisher's exact test value

## DISCUSSION

The mean age of the Rohingya refugees was 31.9±11.8 years and two-thirds of them (66.4%) were from the age group 18-34 years. The socio-demographic statistics showed that about three quarters (74.6 %) of respondents were in the age between 18-40 years with median age of 33 in refugee camps in Southeast Ethiopia, which was almost similar to our study.[10] The majorities of the refugees were married (85.2%). One-third of them (32.0%) had no formal education and a significant number of refugees were unemployed (15.9%) and day labourers (18.5%). These findings were nearly comparable to the studies in Somalia and in Southeast Ethiopia.[5,10]A study among Vietnamese refugees in the United States showed that unstable marital relationship and the loss of a partner increases the risk of having depression episodes.[13]

The current study revealed that the majorities of the refugees were substance users (95.6%) and they took different forms of substances like tobacco, ganja, yaba, alcohol etc. About two out of five refugees (17.7%) were not satisfied with the camp support provided by the authorities. A number of variables were found related to the severity of depression and traumatic exposure. Our results suggested that those factors were associated with depression such as satisfaction with camp support, confiscation or destruction of personal property, knifing or axing, torture, forced to hide, forced to hide bodies, enforced isolation from others, someone was forced to betray and place at risk of death or injury, forced to betray and place at risk of death or injury, forced to physically harm family member, or friend, forced to physically harm someone who is not family or friend and witness killing or murder. These reasons could include recurrent exposure to traumatic events, as well as encountering unpleasant settings and persistent pressures in multiple camps, all of which have a significant influence on their mental health.[14,15]

Regarding the levels of depression among Rohingya refugees, the levels of depression by SIGECAPQ scores, about three out of four refugees were suffering from severe depression and by HTQ scores, the majority of the refugees (96.9%) were suffering from severe depression. These findings were almost similar to the studies in United States[13], in Norway[14] and Netherlands.[16]

In this study by SIGECAPQ, the Rohingya refugee's gender, education, occupation, substance user, and satisfaction with camp supports were statistically significant with levels of depression ($p<0.05$). Prevalence of severe depression was higher among male (80.7%), education level secondary and above (85.0%), businessman (88.2%), substance user (74.1%) and person who was dissatisfied with supports (88.2%) in the camp. In this study by HTQ, the Rohingya refugee's gender, education, duration of living in the camp, substance user and satisfaction with camp support were statistically significant with levels of depression ($p<0.05$). Prevalence of severe depression was higher among male (100%) education level secondary and above (100%) a person who was living in the camp for >2 years (97.3%) substance user (99.3%) and person who was dissatisfied with supports (100%) in the camp. A number of significant associations of different variables were found with the levels of depression, which was similar to the studies.[15,17,18]

## CONCLUSION

The study revealed a high prevalence of severe depression among the refugees of Modhurchora camp, Cox's Bazar. Low social support, food insecurity, exposure to violence and the duration of time since a person has been displaced have all been determined to be risk factors for the development of psychological problems in this population. More specifically, among refugees, food insecurity was a common risk factor. This study suggests that programmes for refugees in this camp for mental health education and screening should be implemented as soon as possible. Strengthening the clinical setup and establishing good referral linkage with mental health institutions are also strongly recommended. Furthermore, a real conclusion to the crisis in Myanmar will facilitate the return of refugees to their homes, aid in the healing process and assist refugees in rebuilding their lives.

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## DISCLOSURE

All the authors declared no competing interest.

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