Article

Factors associated with psychological distress among Myanmar residents during COVID-19 pandemic crises

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Abstract

Background: COVID-19 pandemic reached a public health emergency status of international concern. The impacts and events associated with this were associated with adverse psychological impacts among the general public globally. This cross sectional study aimed to determine the prevalence of psychological distress and to identify predictors associated with psychological distress due to the COVID-19 pandemic among the population in Myanmar.

Design and methods: A cross-sectional survey was conducted from March to April 2020 among adults, 18 years old and above, who reside in Myanmar through a structured questionnaire distributed in social media platforms. Univariate and bivariate analyses were used to estimate the prevalence of COVID-19 Peritraumatic Distress Index (CPDI) symptoms and to test the associations between CPDI and the exposure variables. Logistic Regression Analysis was done to identify significant predictors of distress. The statistical analysis used was Chi-square test and Multiple Logistic Regression Analysis.

Results: There were 530 participants in this study.37.4% of them did not have psychological distress, 55.6% experienced mild to moderate psychological distress, and 7% experienced severe psychological distress due to COVID-19 pandemic. Simple and Multiple Logistic Regression Analyses were performed to determine the factors associated with psychological distress due to COVID-19.

Conclusions: It was shown that the self-employed group and age group older than 45 years old had more psychological distress than others. However, Buddhists and people from the capital city had less distress than other religions and districts. This study recommends the government to develop better strategies for self-employed groups, elders, and the poor for a support, relief, and resettlement of their ruined status.

Introduction

The 2019 coronavirus disease (COVID-19) pandemic is a global health threat. On 30th January 2020, the World Health Organization (WHO) Director-General declared that the outbreak constitutes a Public Health Emergency of International Concern (PHEIC).[1] At that time, there were no cases of COVID 19 in Myanmar; pandemic was confirmed to have reached Myanmar on 23rd of March 2020.[2] According to 25th May 2020 update from Ministry of Health and Support (MOHS) in Myanmar, there were 203 confirmed cases and among them, 60.6% recovered and fatality rate was 3%.[3]

Since COVID-19 pandemic is the public health emergency of international concern, such pandemic situations were associated

Significance for public health

The impacts of COVID-19 associated with adverse psychological impacts among the general public become important global public health thread. Therefore, this study is very crucial for the country like Myanmar, which conveys the betterment in planning the preventive and control measures together with physical, social, and mental support to people who are directly and indirectly affected by COVID-19. The highlight and priority should be given to develop better strategies to self-employed groups and poor people for their support, relief, and resettlement of their ruined status.

with adverse psychological impacts among general public globally.[4,5] This pandemic has caused people to feel a variety of psychological distress which includes anxiousness, wariness, fear of contracting the virus by them or by their family members, isolation and quarantine measures-related anxiety and stress disorders, distress due to separation of family members, fear of longer term impacts of the global pandemics, and many other reasons.[6,7] Therefore, the International Committee of Red Cross (ICRC) implemented some psychological support activities such as specific COVID-19 support activities through community engagement, remote technical and psychological support to frontline workers and volunteers responding to COVID-19 pandemic, sharing of materials on enduring with anxiety, stress, and stigma, and adaptation to current COVID-19 pandemic situation in many different countries, etc.[8,9] WHO and public health authorities developed a series of conveying messages to different target groups including general population, healthcare workers, team leaders or managers in health facilities, children, and older adults with underlying health conditions, etc.;[1] These messages can be used in communications to support mental and psychological well-being to minimize psychological impact due to COVID-19 through multisectoral collaborations in many different countries.[1]

Furthermore, a review of related literature suggested that Myanmar will require close coordination among military, ethnic armed groups, and government to combat COVID-19 through prevention and control measures within community level. [7]

Studies have shown that there were many psychological consequences associated with COVID-19 pandemic such as Post-Traumatic Stress Disorders (PTSD), anxiety, depression, somatic complaints, and nightmares.[10] Other studies have mentioned that people in China suffered 16.5% of moderate to severe depressive symptoms, 28.8% of moderate to severe anxiety symptoms, and 8.1% of moderate to severe psychological stress due to COVID-19 crisis situation.[11] During January 2020 in Myanmar, the prevalence of mental distress occupied 18.0%, where female respondents occupy a higher cut with 21.2% compared to male respondents with 14.9%.[3] Nevertheless, there was no enough published information regarding the psychological impact and mental health problems among civilizations worldwide especially in Myanmar. There were only few articles that can be found which examine the psychological impacts of COVID-19 for the general population above 16 years of age.

Therefore, the study aims to estimate the prevalence of psychological distress and to identify the predictors associated with psychological distress due to COVID-19 pandemic among Burmese. This study may assist government, non-government organizations, and healthcare agencies for implementing programs and taking care of psychological well-being of the community during and after COVID-19 pandemic in Myanmar and other parts of the world.

Design and Methods

An internet-based cross-sectional survey was conducted from March to April 2020 during the movement restriction took place. Snowball sampling, a type of convenience sampling method was used for the data collection using research networks of universities, hospitals, friends and their relatives. The criteria of selecting the participants was that only those adults who were 18 years old and above and resides in Myanmar for a minimum of one week during the COVID-19 pandemic announcement made by the WHO were considered. The structured online questionnaires were conveniently distributed through emails, WhatsApp, Telegram, and other social media throughout this network in Myanmar.

Data collection started 2 weeks after the announcement by the WHO that COVID-19 was pandemic. The online link was available for about 1 month. Our study was an online survey which was completely voluntary. The consented participants were able to respond only once using a single account by setting the feature to prevent more than one response from the same history. The participants were asked to give a response based on their previous one week experience. Spreadsheets responses were exported into IBM SPSS version 25 for further analysis. Overall response rate of the survey was 38%.

In this study, COVID-19 Peritraumatic Distress Index (CPDI) was used to measure the psychological distress due to COVID-19.

Table 1. Socioeconomic characteristics of the participants (n=530).

Variable	n (%)
Age (n=521)	
<30	158 (29.8)
30-45	253 (47.7)
>45	110 (20.8)
Mean (SD)	37.3 (13.3)
Gender	
Male	227(42.8)
Female	303 (57.2)
Race	
Burma	363 (68.5)
Other races	167 (31.5)
Religion (n=529)	
Buddhist	435 (82.2)
Christian	48 (9.1)
Islam	38 (7.2)
Hindu	7 (1.3)
Others	1 (0.2)
Residence	
Yangon region	314 (59.2)
Other regions and states	216 (40.8)
Education	
No education	1 (0.2)
Primary school	7 (1.3)
Middle school	40 (7.5)
High school	90 (17.0)
Vocational school	60 (11.3)
Graduate	204 (38.5)
Postgraduate	128 (24.2)
Occupation	
Student	59 (11.1)
Employee (government/private sector)	199 (37.5)
Agricultural & Animal husbandry	35 (6.6)
Self-employed	101 (19.1)
Dependent/Not employed	45 (8.5)
Others	91 (17.2)
Monthly income in Kyats	
>400,000 (267 USD)	198 (37.4)
250,000-400,000 (167-267 USD)	195 (36.8)
<250,000 (<167 USD)	137 (25.8)
Healthcare personnel	
Yes	115 (21.7)
No	415 (78.3)
Do you have COVID-19?	
Yes	1 (0.2)
No	179 (33.8)
Never been tested	350 (66.0)

The Cronbach's alpha coefficient of CPDI Myanmar version was 0.852.

The data were organized and processed through Microsoft Excel. Regarding COVID-19 Peritraumatic Distress Index (CPDI), the total score was computed and categorized into three categories such as normal (<28), mild to moderate distress (28-51), and severe distress (≥52). For data analysis, SPSS version 18 was used. Descriptive statistics such as frequency and percentage were calculated for categorical data while mean, standard deviation, and range were calculated for quantitative variables. Bar Chart was used to describe the prevalence of psychological distress. Chi-square test of goodness-of-fit was calculated to determine if the distribution of psychological distress due to COVID-19 was different. Chi-Square test of association was calculated to determine the association between demographic variables and psychological distress due to COVID-19. Multiple Logistic Regression was used to determine the predictors of psychological distress due to COVID-19 and logistic model was used to predict the probability of having distress. For Logistic Regression Analysis, we dichotomized the psychological distress into normal and distressed. Odds ratio and its 95% confidence interval were calculated. Level of significance was set at 0.05. The Receiver-Operating Characteristics (ROC) was constructed and sensitivity, specificity, Positive Predictive Value (PPV) and Negative Predictive Value (NPV) of prediction model were calculated. The area under curve (AUC) and 95% Confidence Interval (CI) were calculated. To determine the best cut-off probability, we calculated Youden Index $J=\max c\{Se(c)+Sp(c)-1\}$ in which Se is sensitivity and Sp is specificity.

Results

There were 530 participants in this study. 29.8% of the participants were less than 30 years of age, 47.7% were 30 to 45 years old, and 20.8% were above 45 years. 42.8% of them were male and 68.5% were Burma race. Majority (82.2%) of the participants are Buddhist. In Myanmar, there are seven regions, seven states, and one union territory. Among the participants, 59.2% were from Yangon region and 40.8% were from other regions and states. Only 0.2% had no proper education, 1.3% had primary level, 7.5% had middle school level, 17% had high school level, 11.3% had vocation school level, 38.5% had graduate level, and 24.2 had postgraduate level education. Regarding occupation, 11.1% of the participants were student, 37.5% were employee either in government sector or private sector, 6.6% were agricultural and animal husbandry workers, 19.1% were self-employed, and 8.5% were either dependent or not employed. 37.4% of them had monthly income of more than 400,000 kyats (267 USD), 36.8% had monthly income

Table 2. Prevalence of psychological distress due to COVID-19 according to demographic characteristics of the participants (n=514).

Variables	No distress n (%)	Mild to moderate distress n (%)	Severe distress n (%)
Age (n=506)			
<30	61 (40.4)	79 (52.3)	11 (7.3)
30-45	102 (41.3)	133 (53.8)	12 (4.9)
>45	25 (23.1)	70 (64.8)	13 (12.0)
Gender			
Male	76 (344.9)	129 (59.2)	13 (6.0)
Female	116 (39.2)	157 (53.0)	23 (7.8)
Race			
Burma	154 (43.8)	173 (49.1)	25 (7.1)
Other races	38 (23.5)	113 (69.8)	11 (6.8)
Religion (n=513)			
Buddhist	175 (41.6)	219 (52.0)	27 (6.4)
Other religions	17 (18.5)	66 (71.7)	9 (9.8)
Residence			
Other divisions and states	79 (25.7)	203 (66.1)	25 (8.1)
Yangon division	113 (54.6)	83 (40.1)	11 (5.3)
Education			
Middle school & lower	4 (8.7)	35 (76.1)	7 (15.2)
High school	18 (20.9)	58 (67.4)	10 (11.6)
Vocational school	23 (39.0)	30 (50.8)	6 (10.2)
Graduate/Postgraduate	147 (45.5)	163 (50.5)	13 (4.0)
Occupation			
Employee (government & company)	85 (43.8)	101 (52.1)	8 (4.1)
Student	34 (59.6)	21 (36.8)	2 (3.5)
Not employed	12 (27.9)	23 (53.5)	8 (18.6)
Agricultural & Animal husbandry	1 (2.9)	26 (76.5)	7 (20.6)
Self-employed	24 (24.0)	69 (69.0)	7 (7.0)
Others	36 (41.9)	46 (53.5)	4 (4.7)
Monthly income in Kyats			
<250,000 (<167 USD)	43 (33.3)	74 (57.4)	12 (9.3)
250,000-400,000 (167-267 USD)	55 (28.6)	122 (63.5)	15 (7.8)
>400,000 (267 USD)	94 (48.7)	90 (46.6)	9 (4.7)
Healthcare person			
No	131 (32.6)	241 (60.0)	30 (7.5)
Yes	61 (54.5)	45 (40.2)	6 (5.4)

between 250,000 to 400,000 kyats (167-267 USD), and 25.8% had monthly income lower than 250,000 kyats (167 USD). Among the participants, 21.7% were health care personnel (Table 1).

In this study, 37.4% of the participants did not have psychological distress, 55.6% experienced mild to moderate psychological distress, and 7% experienced severe psychological distress due to COVID-19 pandemic. The chi-square goodness-of-fit test indicated that the three groups of psychological distress due to COVID-19 pandemic were significantly difference [$X^2(2) = 186.1$, $p<0.001$, Figure 1]. The prevalence of psychological distress due to COVID-19 according to demographic characteristics of the participants is shown in Table 2. Table 3 shows that there were significant association among age, race, religion, residence, educational level, occupation, monthly income, whether the participants is a healthcare personnel or distressed due to COVID-19. There was no significant association between gender and distress due to COVID-19.59.6% of participants whose age lies under 30 years were distressed, 58.7% of 30-45 years, and 76.8% of age above 45 years had a similar response (p=0.003). Regarding race, 76.5% of other races had distress while 56.3% of Burma were distressed (p<0.001). 81.5% of other religions were distressed while 58.4% of Buddhist were distressed (p<0.001). The prevalence of distress among those living in other divisions and states (74.3%) was higher than those living in Yangon division (45.4%, p<0.001). The prevalence of distress was highest among those with middle school and lower level of education (91.3%), which was followed by high school level (79.1%), vocational school (61%), and graduate/post-

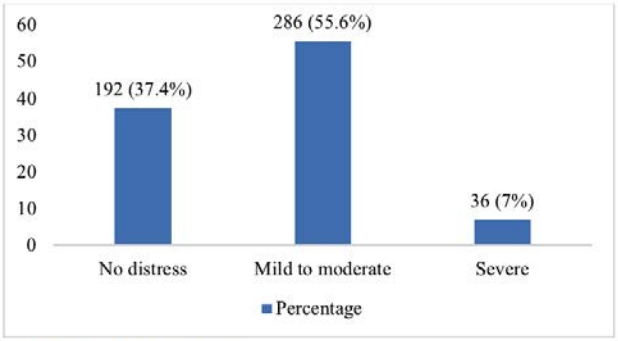

Figure 1. The prevalence of psychological distress due to COVID-19 (n=514)

Table 3. Association between demographic factors and psychological distress due to COVID-19 (n=514).

Variables	Distressed n (%)	No distressedn (%)	X^2	p
Age (n=506)				
<30	90 (59.6)	61 (40.4)	11.57	0.003*
30-45	145 (58.7)	102 (41.3)		
>45	83 (76.9)	25 (23.1)		
Gender				
Male	142 (65.1)	76 (34.9)	1.00	0.316
Female	180 (60.8)	116 (39.2)		
Race				
Burma	198 (56.3)	154 (43.8)	19.52	<0.001*
Other races	124 (76.5)	38 (23.5)		
Religion (n=513)				
Buddhist	246 (58.4)	175 (41.6)	17.19	<0.001*
Other religions	75 (81.5)	17 (18.5)		
Residence				
Other divisions and states	228 (74.3)	79 (25.7)	43.99	<0.001*
Yangon division	94 (45.4)	113 (54.6)		
Education				
Middle school & lower	42 (91.3)	4 (8.7)	35.31	<0.001*
High school	68 (79.1)	18 (20.9)		
Vocational school	36 (61.0)	23 (39.0)		
Graduate/Postgraduate	176 (54.5)	147 (45.5)		
Occupation				
Employee (government & company)	109 (56.2)	85 (43.8)	42.78	<0.001*
Student	23 (40.4)	34 (59.6)		
Not employed	31 (72.1)	12 (27.9)		
Agricultural & Animal husbandry	33 (97.1)	1 (2.9)		
Self-employed	76 (76.0)	24 (24.0)		
Others	50 (58.1)	36 (41.9)		
Monthly income in Kyats				
<250,000 (<167 USD)	86 (66.7)	43 (33.3)	17.74	<0.001*
250,000-400,000 (167-267 USD)	137 (71.4)	55 (28.6)		
>400,000 (267 USD)	99 (51.3)	94 (48.7)		
Healthcare personnel				
No	271 (67.4)	131 (32.6)	17.92	<0.001*
Yes	51 (45.5)	61 (54.5)		

*Significant

graduate level of education (56.2%, p<0.001). The prevalence of distress was highest among participants with income level between 250,000 and 400,000 kyats (71.4%) which was followed by those with <250,000 kyats (66.7%) and >400,000 kyats (51.3%, p<0.001). The prevalence of distress was higher among non-healthcare personnel (67.4%) than those who are healthcare personnel (45.5%, p<0.001, Table 3).

Multiple Logistic Regression Analysis (MLRA) was observed to determine the predictors of psychological distress due to COVID-19. In MLRA, there was no multicollinearity. The logistic regression model was statistically significant, $\chi^2(17)=107.164$, p<0.001. The model explained 26.1% (NagelkerkeR^2) of the variance in psychological distress due to COVID-19. After adjusting the other covariates, the odds of having psychological distress were significantly lower among participants living in Yangon division than those who live in other divisions and states (Odds ratio 0.60 (95% CI 0.38, 0.94; p=0.027). Moreover, the odds of having psychological distress were significantly higher among the participants who had middle school & lower (odds ratio 5.67, 95% CI 1.42, 22.67; p=0.014) and those who had vocational school (odds ratio 2.85, 95% CI 1.21, 6.72; p=0.017) than those had graduate or postgraduate education after adjusting the other covariates. However, the odds of having psychological distress were significantly lower among those who had high school education (odds ratio 2.85, 95% CI 1.21, 6.72; p=0.017). When compared to employee, the odds of having distress were significantly lower among the students (odds ratio 0.25, 95% CI 0.10, 0.63; p=0.003), but significantly higher among those who were self-employed (odds ratio 1.89, 95% CI 1.01, 3.43; p=0.048) after adjusting the other covariates (Table 4).

The formula for predicting the distress is as follows:

Probability (distressed)= $e^z/(1 + e^z)$ where e is exponential function with z = 1.886 -0.36*Age(1) + 0.06*Age(2) +0.13*Gender(1) + 0.42*Race(1) + 0.64*Religion(1) – 0.52*Residence(1) + 1.74*Education(1) + 0.97*Education(2) +1.05*Education(3) – 1.39*Occupation(1) – 0.13*Occupation(2) + 1.74*Occupation(3) + 0.62*Occupation(4) – 0.14*Occupation(5) + 0.47*Income(1) + 0.18*Income(2) – 0.260*Healthcare personnel(1).

In the regression equation, age(1) was '30-45', age(2) was '>45'; Gender(1) was 'Female'; Race(1) was 'Other races'; Religion(1) was 'Other religions'; Residence(1) was 'Yangon divi-

Table 4. Multiple Logistic Regression Analysis of predictors for psychological distress due to COVID-19 (n=505).

Predictors	Coefficient (b)	Dependent variable Distressed (=1) Adjusted OR (95% CI)	p
Age			
<30		Reference	
30-45	-0.36	0.70 (0.40 – 1.21)	0.196
>45	0.06	1.06 (0.53 – 2.14)	0.867
Gender			
Male		Reference	
Female	0.13	1.14 (0.73 – 1.76)	0.565
Race			
Burma		Reference	
Other races	0.42	1.52 (0.91 – 2.52)	0.107
Religion			
Buddhist		Reference	
Other religions	0.64	1.89 (0.96 – 3.71)	0.064
Residence			
Other divisions and states		Reference	
Yangon division	-0.52	0.60 (0.38 – 0.94)	0.027*
Education			
Graduate/Postgraduate		Reference	
Middle school &lower	1.74	5.67 (1.42 – 22.67)	0.014*
High school	0.97	2.63 (1.19 – 5.81)	0.016*
Vocational school	1.05	2.85 (1.21 – 6.72)	0.017*
Occupation			
Employee (government & company)		Reference	
Student	-1.39	0.25 (0.10 – 0.63)	0.003*
Not employed	-0.13	0.88 (0.37 – 2.09)	0.767
Agricultural & Animal husbandry	1.74	5.71 (0.68 – 47.86)	0.108
Self-employed	0.62	1.89 (1.01 – 3.43)	0.048*
Others	-0.14	0.87 (0.48 – 1.55)	0.630
Monthly income in Kyats			
<250,000 (<167 USD)		Reference	
250,000-400,000 (167-267 USD)	0.47	1.59 (0.87 – 2.91)	0.129
>400,000 (267 USD)	0.18	1.19 (0.64 – 2.21)	0.578
Healthcare personnel			
No		Reference	
Yes	-0.26	0.77 (0.46 – 1.29)	0.321

OR=Odds ratio; 95%CI=95% confidence interval; *Significant

sion'; Education(1) was 'Middle school & lower', Education (2) was 'High school', Education(3) was 'Vocational school'; Occupation(1) was 'Student', Occupation(2) was 'Not employed', Occupation(3) was 'Agricultural & Animal husbandry', Occupation(4) was 'Self-employed', Occupation(5) was 'Others'; Income(1) was '250,000-400,000 kyats', Income(2) was >400,000 kyats'; and Healthcare personnel(1) was 'Yes'.

For example, probability of having psychological distress due to COVID-19 of a 40 year-old male, Burma race, Buddhist, residing in Yangon division, had graduate or postgraduate education, employee, income of 250,000-400,000 kyats and not a healthcare personnel was calculated as follow. z = 1.886 -0.36*1 + 0.06*0 +0.13*0 + 0.42*0 + 0.64*0 – 0.52*1 + 1.74*0 + 0.97*0 + 1.05*0 – 1.39*0 – 0.13*0 + 1.74*0 + 0.62*0 – 0.14*0 + 0.47*1 + 0.18*0 – 0.260*0 = 1.476; Probability (distressed)= $e^z/(1 + e^z) = e^{1.476}/(1+ e^{1.476}) = 0.814$, which shows the person was very likely to have psychological distress due to COVID-19. To determine the best cut-off probability, we calculated Youden index J=maxc{Se(c)+Sp(c)-1} in which Se is sensitivity and Sp is specificity and selected the cut-off probability where this value was maximized. In our study, the best cut-off probability of the prediction model was 0.663, where the sensitivity, specificity, PPV and NPV were 57.7%, 82.4%, 85.0% and 53.4%, respectively. Using the cut-off probability of 0.663, 57.7% of those with psychological distress and 82.4% of those without psychological distress would be correctly predicted. According to ROC curve as shown in Figure 2, the area under the curve was 0.753 (95% CI 0.711, 0.794) which indicated our prediction model had acceptable discrimination of psychological distress due to COVID-19 (Figure 2).

Discussion

In the Myanmar COVID-19 study, 37.4% of the participants did not have psychological distress while 62.6% experienced mild to moderate (55.6%) and severe (7%) psychological distress. (Figure 1). This is in contrast to the findings among Chinese people by Qiu *et al.*[12] where they showed that 35% of the respondents experienced psychological distress (29.29% of the respondents' scores were between 28 and 51, and 5.14% of the respondents' scores were ≥52). Similar to a study in Myanmar, a study in Spain[13] showed that 72.0% had psychological distress. This study[14] found that COVID-19-related psychological distress includes not only anxiety and fear, but also suspicion. Suspicion is believed to be a psychological defence mechanism that is subconsciously developed by the general public in the face of infectious diseases.

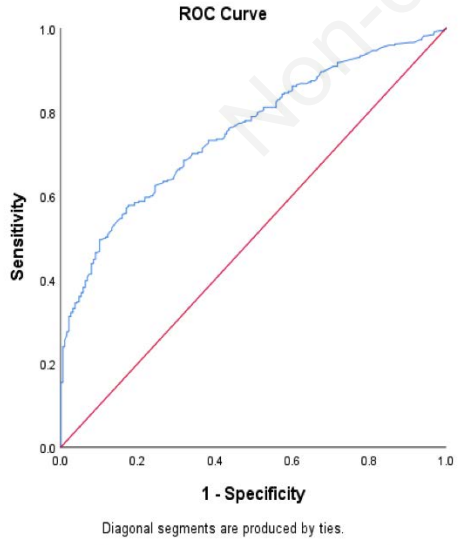

Figure 2. Receiver operating curve of predictors for psychological distress due to COVID-19.

In Myanmar, 59.6% of participants who were under 30 years old had distress while 76.8% of those who are above 45 years of age had the same response (p=0.003). This is similar to the findings in a study of Qiu *et al.*[12] However, their study showed that people under 18 years had the lowest CPDI scores. Respondents under 18 years of age is not included in the criteria of this study. Individuals between 18 and 30 years of age or above 60 presented the highest CPDI which is similar in both studies.[15] Two major protective factors may explain the low distress level in juveniles: a relatively low morbidity rate among this age group, and limited exposure to the epidemic due to home quarantine. Higher scores among the young adult group (18–30 years) seem to confirm findings from previous studies that young people tend to obtain a large amount of information from social media that can easily trigger stress.[16] Since the highest mortality rate is seen among the elderly during the epidemic, it is not surprising that elderly people are more likely to be psychologically impacted.

In a study in Myanmar, the prevalence of distress was highest among those who have a middle-school- and lower level-education (91.3%), followed by high school level (79.1%), vocational school (61%), and graduate/postgraduate level of education (56.2%, p<0.001).The latter finding contrasts another study which states that people with higher education tended to have more distress, probably because of high self-awareness of their health.[17] In Myanmar, when compared to employee, the chances of having distress were significantly lower among students (but significantly higher among those who were self-employed, Table 3). During a lockdown period, the wellbeing of the self-employed, low earning employees, daily wagers, and farm workers might be affected due to the loss of income.

In a study in China, it is noteworthy that migrant workers experienced the highest level of distress among all occupations. The concern about virus exposure in public transportation when returning to work, their worries about delays in work time and subsequent deprivation of their anticipated income may explain the high stress level.[18] The COVID-19 pandemic is undoubtedly a stressful event for the general public which can cause mental health problems among the public. There are many studies which support that COVID-19 crisis can lead to a dysfunctional anxiety among the general public. In order to measure the public's fear of COVID 19 in Iran, Ahorsu *et al.* compiled and developed "the Fear of COVID-19 Scale (FCV-19S)."[19] This scale is proven to have a good reliability and validity in the evaluation of the Turkish general public.

Due to the uncertainty and unpredictability in the transmission, complications and course of the disease, public fear of COVID 19 is likely to prevail. It can lead to psychological distress with maladaptive behaviours, and negative reaction among common people.[20] During a pandemic, news of a few deaths, increase in number of new cases, and spread of fake news in social media can heighten people's fears, frustrations, doubts, and anxiety over the crisis. The uncertain policy and public health seeking behaviours may lead to conflicts between clinicians and patients which can hamper the

pandemic control programs and may render social instability.[21,22] Viral fake news on social media can also have some deleterious effects on control and outcomes of the coronavirus disease (COVID-19)pandemic.[23-25] In Myanmar, this unwarranted menace was dispelled to a great extent by an online live speech of the Myanmar's leader, the State Counsellor herself, on Facebook, clarifying the policy, quarantine procedures and treatment strategies, and discussions with the front line healthcare service providers. Definitely this had helped to allay the anxiety of the public and this is reflected in the findings of the study, *i.e.* the majority of the participants have none or minimal psychological distress especially among the educated citizens residing in Yangon region (Table 3).

Furthermore, there are a lot of festivals and people who live happily in contentment and generosity in Myanmar. Burmese enjoy charity work and help the needy people especially during crisis and disaster. This tremendous community support can be considered as a protective factor against the fear of coronavirus (COVID-19) pandemic. Moreover, the majority of the responders in this survey are Buddhists (82.2%, Table 1). 41.6% of the Buddhists did not have distress as compared to 81.4% of other religions (Table 3). The Buddhists are accustomed to Vipassana Meditation, a variant of mindful meditation that is found to relieve physical and psychological impact of stress.[26] A study in Myanmar revealed that the prevalence of distress was higher among non-healthcare personnel (67.4%) than healthcare personnel (45.5%) ($p<0.001$, Table 3). This is in contrast to study by Alwani *et al*.[27] He had analysed data of 78 nurses in Karachi, Pakistan who were directly involved with COVID-19 patients and found that the 92.3% of the nurses performing their duties with COVID-19 positive patients have high anxiety levels. Zhang *et al.*[14] has reported that there are differential levels of psychological distress in patients who experienced COVID-19 infection, individuals under quarantine, and the general public. The vulnerability to psychological distress across populations in the COVID-19 pandemic could be attributed to a number of factors. In a study in Myanmar, significant associations were found with place of residence, higher educational level, and occupation like self-employment, healthcare professional status, and student status.

Conclusions

We found higher experiences of mild to moderate psychological distress, assuming that the survey had done in the very early state of the pandemic. Grownups have more stress that might relate to COVID-19 and its sequalae, provoking in psychological distress. The researchers would like to highlight the high psychological distress among self-employed groups who were in great disaster during lockdown and who have had limitations due to pandemic.

Recommendations

This study is very crucial for the country like Myanmar because conveys the betterment in planning the preventive and control measures together with physical, social, and mental support to people who are directly and indirectly affected by COVID-19. The highlight and priority should be given to develop better strategies to self-employed groups and poor people for their support, relief, and resettlement of their ruined status.

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