Research article

Economic stressors and mental health symptoms among Bangladeshi rehabilitation professionals: A cross-sectional study amid COVID-19 pandemic

Mohammad Ali [a,b,*], Zakir Uddin [c], Ahmed Hossain [d]

[a] Department of Physiotherapy and Rehabilitation, Uttara Adhunik Medical College and Hospital, Dhaka 1230, Bangladesh
[b] Hasna Hena Pain, Physiotherapy and Public Health Research Center (HPRC), Dhaka 1230, Bangladesh
[c] Bangladesh University of Health Sciences, Mirpur, Dhaka 1216, Bangladesh
[d] Department of Public Health, North South University, Basundhara, Dhaka 1229, Bangladesh

A B S T R A C T

Background: Mental health symptoms are considered a public health concern by many professionals and are frequently impacted by factors related to occupation, employment opportunities, and economic stressors. This study investigated the relationship between economic stressors and mental health symptoms among Bangladeshi rehabilitation professionals.
Methods: We conducted a cross-sectional survey of 420 rehabilitation professionals between July 2020 and October 2020. Economic stressors were measured using Economic Hardship Questionnaire, Financial Threat Scale, and Financial Well-Being Scale. Mental health symptoms were measured using the Depression, Anxiety, and Stress Scale (DASS-21). Multivariable logistic regression analysis was performed to find associated factors on mental health problems after adjusting confounders.
Results: Among 420 rehabilitation professionals 62.1% were male, 38.6% were post-graduated and 75% were in practice. The overall prevalence of depression, anxiety, and stress was 51.0%, 58.6%, and 33.6%, respectively. The multivariable regression analysis indicated that without a high professional degree, lack of opportunity to practice, and loss of income were the associated factors for mental health symptoms. The modelling of the structural equation showed that financial threat is significantly associated with mental health symptoms.
Conclusion: During the era of COVID-19, a high prevalence of mental health symptoms was observed among rehabilitation professionals. To minimize the burden of mental health, we recommend that all rehabilitation organizations and the government come together to create equal opportunities to practice and enable individuals to obtain high professional degrees.

1. Introduction

Fifteen percent of the world population lives with chronic or residual disabilities around the globe [1]. World Health Organization and World Bank report estimated that the prevalence of disability in Bangladesh can be reached up to 31.9% [2]. A systematic analysis of the Global Burden of Diseases data suggested that 2.4 billion individuals, one in every three people in the world, need rehabilitation for disability at any point of their course of illness or injury [3]. The rehabilitation professionals (RP) include physical therapist (PT), occupational therapist (OT), speech and language therapists (SLT), prosthetic and orthotic practitioners, and PT/OT assistants are trained to service providers for a huge number of

people with disability [1]. Despite the worldwide scarcity of RP, they are facing heterogeneity and negligence in the healthcare system [4, 5, 6]. Especially, in low- and middle-income countries like Bangladesh, the rehabilitation sector receives less attention from the governments, and professionals are offered limited employment opportunities [5].

In Bangladesh, the regulatory body for RP is yet to start working, thus the government does not register the RP. Information from professional organizations for the RP and published literature suggested that there are about 2000 RP has been graduated so far in Bangladesh giving one of the world's lowest rate of RP (i. e., ≤0.1) per 10,000 people [5, 7, 8]. Nonetheless, unlike other medical graduates, for example, physicians, dentists, and homoeopaths, the government does not offer an

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employment position to RP for the mainstream government healthcare system [9]. Only a few government projects recruit a limited number of RP as temporary contractual low-paid employees [10]. These heterogeneities may produce some major negative consequences; for example: (1) the healthcare system fails to meet rehabilitation service needs, (2) disabled patients get narrowest possible access to RP and, (3) RP do not get desired employments and professional recognition. Consequently, a large number of graduate RP left the profession, migrated to a developed country, and remained unemployed or adopted underemployment in Bangladesh [11].

Involuntary underemployment and/or unemployment (UUE) is associated with poor mental health [12, 13]. Multiple factors derived from the UUE situation, for example, economic anguish and joblessness, employment insecurity, continuous underlie feelings of failure, which severely may lead to common mental health symptoms such as depression, anxiety, and stress [14, 15]. And these mental health problems significantly reduce productivity and quality of life and responsible for most suicide casualties [16, 17, 18, 19, 20, 21]. Besides, a systematic review and meta-analysis concluded that vulnerability of suicidal behaviour can also be exacerbated by UUE induced stressful life outcomes such as financial threats [22].

An enormous financial threat to the world population has been imposed as an impact of the COVID-19 pandemic and predictably, the UUE groups are the worst victim. Very few researches examined the in-depth association between financial stress and mental health amid COVID-19. A study conducted during this pandemic found that financial constraint was the strongest and common risk factor for depression, anxiety, and insomnia in healthcare workers of Bangladesh [23]. Another study that determined the mental health impact of COVID-19 related lockdown among the Bangladeshi general population found that the unemployed, self-employed, and the private jobholders were in poor mental well-being, whereas, government jobholders showed much better mental adaptation with COVID-19 lockdown [24]. On the other hand, the studies that recently measured the mental health of healthcare workers amid the COVID-19 pandemic addressed only privileged working groups [25, 26]. However, less privileged healthcare workers such as RP are not yet addressed and there is a substantial gap in understanding the mental health status of underprivileged healthcare workers and/or the UUE population during the COVID-19 pandemic time. Therefore, this study examined the effect of economic stressors on mental health symptoms among Bangladeshi rehabilitation professionals during the COVID-19 pandemic.

2. Methodology

2.1. Subjects and procedure

A cross-sectional study was conducted among rehabilitation professionals in Bangladesh between 18 July and 18 October 2020. Seven hundred active members of Bangladesh Physiotherapy/Physical Therapy Association, Bangladesh Occupational Therapy Association, and Bangladesh Speech and Language Therapy Association were invited by email using digital directories strictly maintained by mentioned associations. 492 subjects filled and return the form giving a 70.3% response rate. However, we only included those RP who had completely filled the form, lived in Bangladesh permanently and did not leave the profession. Considering the inclusion and exclusion criteria, finally, we found 420 eligible data for analysis. Most of the participants were PT (n = 372) followed by OT (n = 34) and SLT (n = 14) that reflects the actual number of PT, OT, and SLT in Bangladesh.

2.2. Ethical approval

Ethical approval was taken from the Ethical Review Committee (ERC) of Uttara Adhunik Medical College and Hospital. Prospective observational trial registration has been obtained from the World Health

Organization (WHO) endorsed Clinical Trial Registry- India (CTRI/2020/07/026633 [Registered on 17/07/2020]). The study has been conducted strictly following the STROBE guideline [27]. Before participating in the questionnaire, we obtained each participant's informed consent for participation and data collection through a digital form. The study designs, data presentations, and citations of this study comply with the standard Committee on Publication Ethics (COPE) guidelines [28]. Besides, we have read and understood the journal's policies, and we believe that neither the manuscript nor the study violates any of these.

2.3. Independent variables

Self-reported questionnaire composing a wide range of socio-demographic, occupational, and employment-related information, Economic Hardship Questionnaire (EHQ), Financial Threat Scale (FTS), Financial Well-Being Scale (FWBS), were used to collect data.

The socio-demographic variables included age, gender, marital status, exercise habit (30 minutes daily exercise-yes/no), smoking habit (yes, no and quitted), average hours of sleep per night, and hours of daily social media use questionnaire.

Occupational factors were comprised of education level, work experience in year, employer (i.e., hospital/private), service type (i.e., government/non-government). Participants were also reported their current economic condition by a binary response.

The Economic Hardship Questionnaire [29] comprising 10 items (e.g. During the last few years, did you or your family cut back on social activities and entertainment expenses?) with a four-point response scale (1–Never; 4–Very often) was used to evaluate Economic hardship. The EHQ weighs the financial hardships that persons and families experienced in the context of economic adversity. On this scale, higher scores reflect higher financial hardship. Like previous studies [30, 31], high levels of internal consistency were obtained (Cronbach's alpha 0.85) in this study.

The financial threat was evaluated using the Financial Threat Scale [32, 33] consisting of five items (e.g., "What is the likelihood you will have to declare bankruptcy to manage your debt?") responded to on a five-point Likert scale from 1 (Not at all) to 5 (extremely uncertain). This scale assesses perceptions that persons feel towards their financial situation. In the previous study, a high level of internal constancy was found [30, 34]. Likewise, in this present study, we found a value of Cronbach's alpha as 0.92 which indicates excellent reliability.

For assessing Financial well-being, the Financial Well-Being Scale [35, 36], presenting eight statements (e.g. I am uncomfortable with the amount of debt I am in.) with a five-point Likert scale (1–Strongly disagree; 5–Strongly agree) was used. The FWBS measures wellbeing regarding financial status, where lower scores reflect higher levels of perceived financial wellbeing. High levels of internal consistency were found in previous studies [33, 34]. In the present study, Cronbach's alpha of 0.85 provides good reliability.

2.4. Measurement of depression, anxiety and stress

Depression Anxiety Stress scale 21- item version (DASS-21) [37] which is composed of 21 items (e.g. I felt that I had nothing to look forward to) was used to evaluate stress, anxiety, and depression. Seven items each compose the three dimensions of DASS-21 (i.e., depression, anxiety, and stress). Every item of the scale has a four-point response scale (0 = did not apply to me at all; 3 = applied to me very much, or most of the time-Almost always). Higher scores on each dimension reflect higher depression, anxiety, and stress respectively. The Cronbach's Alpha in this study for depression, anxiety, and stress was found as 0.90, 0.87, and 0.89, respectively that indicate excellent reliability.

The categorization of the DASS-21 score was made following the Pharr approach [13]. We categorized depression as normal 0–9, mild 10–13, moderate 14–20, severe 21–27, and extremely severe +28; anxiety as normal 0–7, mild 8–9, moderate 10–14, severe 15–19, and

extremely severe +20, and stress as normal 0–14, mild 15–18, moderate 19–25, severe 26–33, and extremely severe +34.

2.5. Statistical analysis

SPSS version 22.0 and AMOS version 23.0 were used for data analysis. For univariate and multivariable analysis, moderate, severe, and very severe were combined to calculate scores of depression, anxiety, and stress on the DASS-21 [31,38]. In this study, sleeping time, social media using time, financial threat, financial well-being, and economic hardship were measured as continuous variables (note: continuous variables can take on an unlimited number of values between the lowest and highest points of measurement). For continuous variables, independent sample t-tests and Structural Equation Modeling (SEM) analysis were performed to examine the relationship between problematic and non-problematic scores of depression, anxiety, and stress. For categorical data, descriptive statistics (e.g., frequencies, percentages, and chi-squares/Fisher's Exact tests) were used. Multivariable logistic regression models were employed to identify the factors associated with mental health symptoms after adjusting the confounders. The results were interpreted with 95% confidence intervals and p-values. We consider a p-value less than or equal to 0.05 as significant. Furthermore, for SEM, root-mean-square residuals and standardized root-mean residuals lower than 0.08 and 0.05 indicate adequate and good fit respectively [39]. The comparative fit index and goodness of fit index higher than 0.90 and 0.95 indicate adequate and good fit respectively. The bootstrapping method with 95% bias-corrected confidence intervals and 5000 bootstrap samples was used to calculate the standardized beta coefficients between independent and outcome variables.

3. Results

3.1. Prevalence of depression, anxiety, and stress

The overall prevalence of depression was 51.0%, however, 25.7%, 9.0%, and 16.2% RP were suffering from moderate, severe, and

extremely severe types of depression, respectively. Regarding anxiety, the prevalence was 58.6%. The prevalence of moderate, severe, and extremely severe types of anxiety were 22.6%, 11.7%, and 24.3%, respectively. The prevalence of stress was 33.6% and the mild, moderate, severe and extremely severe types of stress were 12.6%, 12.9%, and 8.1%, respectively (Figure 1 presents details).

3.2. Socio-demographic variables on depression, anxiety, and stress

In this study, the percentage of male participants was higher than female (62.1% vs 37.9%). Most participants were from the 26–35 years age group (64%). The percentage of married-unmarried participants was almost equal. Only 36.9% of participants said that they performed regular 30 minutes exercises. A few RP were smokers (11.4%). However, we did not find a statistically significant association between any socio-demographic variables and depression, anxiety, and stress in this study (details in Table 1).

3.3. Occupational factors on depression, anxiety, and stress

About two-thirds of the participants (61.4%) were bachelor degree holders and compare to the postgraduates, a significantly higher number of bachelor degree holders reported depression ($X^2 = 12.375$, $p < 0.001$) and stress ($X^2 = 9.325$, $p = 0.002$). On the other hand, about half of the participants (46.7%) have 1–5 years of professional work experience, however, those who have work experience of less than 1 year most frequently complained of depression and stress. Nonetheless, there was no statistically significant association between work experience and depression, anxiety, and stress (details in Table 1).

3.4. Employment opportunity on depression, anxiety, and stress

Among the sub-groups of the 'employer' group, the most participants were practicing at small hospital/clinic (23.8%) followed by at private chamber (22.4%), rehabilitation institute (21.7%), and medical college (7%). The remaining 25% of rehabilitation professionals were not in
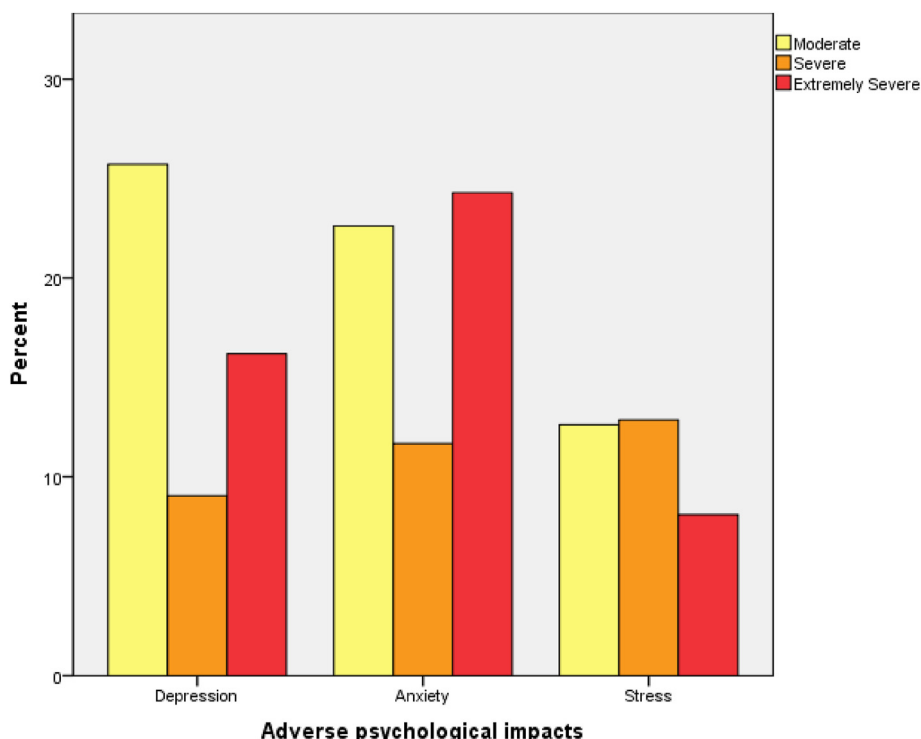

Figure 1. Percent of participants experiencing adverse psychological impact, stratified by severity using DASS-21 (depression, anxiety and stress) (N = 420).

Table 1. Univariate analysis: socio-demographic, profession and job-related variables and depression, anxiety, and stress levels.

Variables	n (%)	Depression			Anxiety			Stress		
		Yes; n (%)	X^2 test value	p- value	Yes; n (%)	X^2 test value	p-value	Yes; n (%)	X^2 test value	p-value
Total	420 (100%)	214 (51.0)			246 (58.6)			198 (33.6)		
Socio-demographic variables										
Gender			0.361	0.548		0.032	0.859		0.312	0.577
Female	159 (37.9)	84 (52.8)			94 (59.1)			56 (35.2)		
Male	261 (62.1)	130 (49.8)			152 (58.2)			85 (32.6)		
Age group			2.160	0.340		0.666	0.717		1.996	0.369
≥25	92 (21.9)	53 (57.6)			57 (62.0)			30 (32.6)		
26–35	267 (63.6)	132 (49.4)			155 (58.1)			95 (35.6)		
≥36	61 (14.5)	29 (47.5)			34 (55.7)			16 (26.2)		
Marital status			1.317	0.251		0.309	0.578		0.027	0.868
Unmarried	196 (46.7)	94 (48.0)			112 (57.1)			65 (33.2)		
Married	224 (53.3)	120 (53.6)			134 (59.8)			76 (33.9)		
30 minutes Exercise			0.649	0.723		3.645	0.162		3.334	0.189
Yes	155 (36.9)	75 (48.4)			82 (52.9)			51 (32.9)		
No	229 (54.5)	120 (52.4)			140 (61.1)			73 (31.9)		
Stopped	36 (8.6)	19 (52.8)			24 (66.7)			17 (47.2)		
Smoking			1.318	0.517		0.081	0.960		0.100	0.951
Yes	48 (11.4)	28 (58.3)			28 (58.3)			17 (35.4)		
No	340 (81.0)	171 (50.3)			200 (58.8)			113 (33.2)		
Quitted	32 (7.6)	15 (46.9)			18 (56.3)			11 (34.4)		
Profession-related variables										
Education level			12.375	**<0.001**		3.270	0.071		9.325	**0.002**
Bachelor	258 (61.4)	149 (57.8)			160 (62.0)			101 (39.1)		
Masters and above	162 (38.6)	65 (40.1)			86 (53.1)			40 (24.7)		
Work experience			4.483	0.214		2.949	0.400		5.694	0.113
<1	98 (23.3)	53 (54.1)			64 (65.3)			36 (36.7)		
1–5	196 (46.7)	106 (54.1)			114 (58.2)			73 (37.2)		
6–10	67 (16.0)	27 (40.3)			36 (53.7)			19 (28.4)		
>10	59 (14.0)	28 (47.5)			32 (54.2)			13 (22.0)		
Employment-related variables										
Employer			11.935	**0.018**		7.311	**0.050**		6.885	0.142
Medical college	30 (7.1)	11 (36.7)			15 (50.0)			8 (26.7)		
Rehab institute	91 (21.7)	39 (42.9)			45 (49.5)			27 (29.7)		
Hospital/clinic	100 (23.8)	49 (49.0)			64 (64.0)			30 (30.0)		
Private chamber	94 (22.4)	48 (51.1)			54 (57.4)			30 (31.9)		
Unemployed	105 (25.0)	67 (63.8)			68 (64.8)			46 (43.8)		
Service type			7.101	0.069		3.980	0.264		2.450	0.484
Government	35 (8.3)	15 (42.9)			22 (62.9)			11 (31.4)		
Non-government	196 (46.7)	90 (45.9)			105 (53.6)			60 (30.6)		
Self-employed	85 (20.2)	46 (54.1)			55 (64.7)			29 (34.1)		
Others	104 (24.8)	63 (60.6)			64 (61.5)			41 (39.4)		
Lost income source/employment			20.485	**<0.001**		5.868	**0.015**		12.690	**<0.001**
Yes	196 (46.7)	123 (62.8)			127 (64.8)			83 (42.3)		
No	224 (53.3)	91 (40.6)			119 (53.1)			58 (25.9)		
Facing Economic constraints			35.818	**<0.001**		25.119	**<0.001**		13.250	**<0.001**
Yes	322 (76.7)	190 (59.0)			210 (65.2)			123 (38.2)		
No	98 (23.3)	24 (24.5)			36 (36.7)			18 (18.4)		
Adapt additional business			4.666	**0.031**		1.255	0.263		0.047	0.908
Yes	116 (27.6)	69 (59.5)			73 (62.9)			38 (32.8)		
No	304 (72.4)	145 (47.7)			173 (56.9)			103 (33.9)		

Bold faces are significant at 5% significance level.

practice during the study period. The participants who were not in practice complained of depression (63.8%) and anxiety (64.8%) at higher rates. Statistically highly significant association were found between employer groups and depression ($X^2 = 11.935$, p = 0.018), and anxiety ($X^2 = 7.311$, p = 0.050). In this study, 46.7% of RP said that they have lost either their income source or employment due to the COVID-19 pandemic impact. In this case, those who lost their income source and/

or employment reported significantly higher rate of depression ($X^2 = 20.485$, p < 0.001) anxiety ($X^2 = 5.868$, p = 0.015) and stress ($X^2 = 12.690$, p < 0.001). Additionally, 76.7% RP said that they are facing economic constraints at this pandemic time and the sufferers complained in significantly higher rate of depression ($X^2 = 35.818$, p= <0.001), anxiety ($X^2 = 25.11$, p= <0.001) and stress ($X^2 = 13.250$, p= <0.001). On the other hand, 27.6% of participants adopted additional business to

compensate for the economic loss and a significantly higher number of them complained of depression (X^2 = 4.666, p = 0.031) (details in Table 1).

3.5. Descriptive statistics: scores of depression, anxiety, and stress

Depressed participants had significantly higher score of financial threat (20.13 ± 4.37 vs. 15.82 ± 5.50, p= <0.001) and economic hardship (19.31 ± 4.25 vs. 16.18 ± 4.87, p < 0.001), however, a significantly lower score of economic wellbeing (09.41 ± 3.60 vs. 12.20 ± 4.37, p < 0.001). For anxious participants, there was a significantly higher score in financial threat (19.53 ± 4.69 vs. 15.85 ± 5.60, p < 0.001) and economic hardship (18.68 ± 4.47 vs. 16.51 ± 5.02, p < 0.001); significantly lower score in economic wellbeing (9.79 ± 3.74 vs. 12.16 ± 4.50, p < 0.001). Likewise, stressed participants had significantly higher score of financial threat (20.69 ± 4.31 vs. 16.65 ± 5.39, p < 0.001) and economic hardship (19.45 ± 4.49 vs. 16.93 ± 4.76, p < 0.001), however, significantly lower scores in economic wellbeing (8.88 ± 3.49 vs. 11.74 ± 4.25, p < 0.001) (details in Table 2).

3.6. Relationships using the structural equation model

To examine the relationships of financial threat, economic wellbeing, and economic hardship with depression, anxiety, and stress after adjusting for daily sleep, and social media use durations; structural equation modelling was performed. Goodness of fit values indicated mostly good fit to the data in total sample (($\chi2$ = 1.539, df = 4, p = 0.820, $\chi2$/df = 0.385, RMSEA = 0.00 [CI 90% (0.00, 0.05)], SRMR = 0.09, CFI = 1.00, GFI = 0.99).

The financial threat was positively associated with depression (β = 0.27, p < 0.001), anxiety (β = 0.29, p < 0.001), and stress (β = 0.33, p < 0.001). However, economic wellbeing was negatively associated with depression (β = -0.27, p < 0.001), anxiety (β = -0.24, p < 0.001) and stress (β = -0.24, p < 0.001). In this model, we did not find any association between economic hardship and depression, anxiety, and stress (details in Table 6 and Figure 2).

3.7. Multivariable analysis

Multivariable logistic regression suggested that factors related to education, employer, loss of income source/employment, and economic constraints were significantly associated with depression, anxiety, and stress. On the other hand, the structural equation model indicated that after adjusting for daily night sleeping time and social media using time, the financial threat is strongly positive, whereas, financial wellbeing is strongly negatively associated with depression, anxiety, and stress. Tables 3, 4, 5, and 6 show full results.

4. Discussion

In this study, we found a high prevalence of depression, anxiety, and stress among RP in Bangladesh. A significant association between

professional and employment-related factors was found with mental health symptoms. This study also revealed that a high number of RP in Bangladesh remain unemployed, additionally, to make the situation worst, about fifty per cent of total RP lost either their professional income source or employment during the COVID-19 pandemic. Factors related to employment and economic stress were the main predictors of the given mental health symptoms for RP in Bangladesh.

This is the first study evaluating mental health symptoms among rehabilitation professionals in Bangladesh. The solitary previous study measured the mental health of graduate health professionals in Bangladesh found that the prevalence rate of Depression, Anxiety, and Stress among medical doctors were 11.5% 11.0%, and 10.5%, respectively [40]. Unlike this low prevalence rate, we found the prevalence rate of Depression, Anxiety, and Stress 51.0 %, 58.6% and, 33.6%, respectively among Bangladeshi PR. The significantly higher prevalence rate of mental health symptoms among RP compared to the medical doctors clearly indicates the existence of underlying causes. A comparative study among RP and other medical graduates in Bangladesh using the same variables comprising profession, employment, and economic stress-related factors may help to understand the existing heterogeneity. Nonetheless, the prevalence rate of depression, anxiety, and stress among Bangladeshi unemployed graduates were 49.3%, 53.6%, and 28.3%, respectively [38], which was very similar to our findings. On the other hand, when we explored the prevalence rate of the graduate healthcare workers in Asia, available data suggested that the prevalence rate of depression, anxiety, and stress among Vietnamese nurses and Malaysian emergency medical officers were 13.2%/10.7%, 39.8%/28.6%, and 18.5%/7.9%, respectively [41, 42], which is much lower than the rates we found. Besides, a rapid systematic review of 59 studies conducted on the frontline and non-front line healthcare workers amid COVID-19 suggested that the median prevalence rate of depression, anxiety, and distress was 21%, 24%, and 37%, respectively. Another systematic review and meta-analysis of 55 studies (N = 189,159) unveiled that the mean prevalence of depression and anxiety among the population affected by COVID-19 was 15.9% and 15.15%, respectively. Evidence from these findings also suggested that the prevalence of mental health symptoms among Bangladeshi RP was remarkably higher. On the contrary, a study that measured mental health problems among undergraduate physiotherapy students in Pakistan found a similar prevalence rate (48.0% depression, 68.5% anxiety, and 53.2% stress) to Bangladeshi RP indicating poor mental health of RP in Asian countries. Further studies measuring mental health problems among rehabilitation professionals and students in other Asian countries and/or low- and middle-income countries are warranted.

When compared the prevalence rate we found with the UUE population over the world, available data suggested that the prevalence rate among Americans unemployed was- 29% depression, 31% anxiety, 28% stress [43]. In the Greek unemployed followed by the economic crisis in Greece, the rate was- 32.2% depression, 39.7% anxiety, 33% stress [44]. Prevalence rate of 51% depression, 35.5% anxiety in Spanish unemployed [45] and 39.5% depression in Korean graduate unemployed [46] along with 10.4% stress in Danish unemployed [47] and 69.4% stress

Table 2. Mean differences of the continuous variables with total sample according to depression, anxiety, and stress levels.

Variables	Total (mean ± SD)	Depression (mean ± SD)			Anxiety (mean ± SD)			Stress (mean ± SD)		
		No	Yes	p-value	No	Yes	p-value	No	Yes	p-value
Night sleeping time (h)	7.00 ± 1.20	6.98 ± 1.10	7.01 ± 1.29	0.776	6.91 ± 1.13	7.06 ± 1.25	0.230	7.02 ± 1.13	6.95 ± 1.33	0.568
Social media use (h)	3.39 ± 2.37	3.18 ± 2.22	3.59 ± 2.49	0.080	3.26 ± 2.30	3.30 ± 2.37	0.506	3.37 ± 2.46	3.43 ± 2.20	0.830
Financial threat	18.01 ± 5.39	15.82 ± 5.50	20.13 ± 4.37	**<0.001**	15.85 ± 5.60	19.53 ± 4.69	**<0.001**	16.65 ± 5.39	20.69 ± 4.31	**<0.001**
Economic wellbeing	10.78 ± 4.23	12.20 ± 4.37	09.41 ± 3.60	**<0.001**	12.16 ± 4.50	9.79 ± 3.74	**<0.001**	11.74 ± 4.25	8.88 ± 3.49	**<0.001**
Economic hardship	17.78 ± 4.82	16.18 ± 4.87	19.31 ± 4.25	**<0.001**	16.51 ± 5.02	18.68 ± 4.47	**<0.001**	16.93 ± 4.76	19.45 ± 4.49	**<0.001**

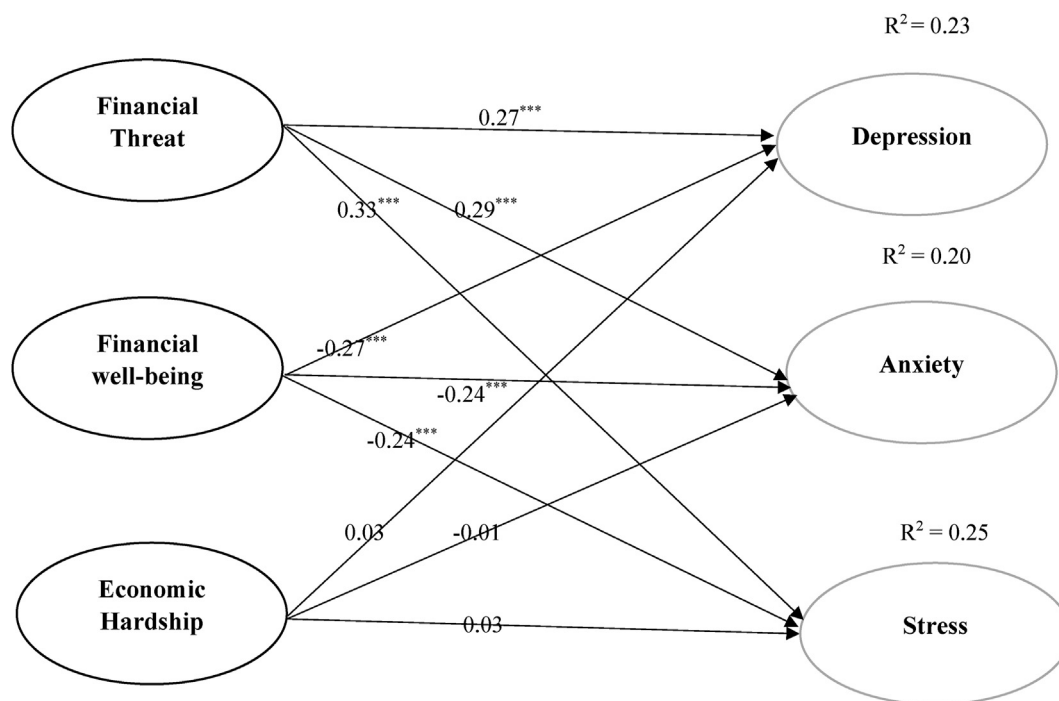Bold faces are significant at 5% significance level.

Figure 2. Final model of the relationships among financial scales and DASS-21 subscales.

Table 3. Logistic regression analysis of the variables with depression.

Variables	Unadjusted Model			Adjusted Model		
	Odds Ratio (OR)	95% confidence Interval (CI)	p-value	Adjusted Odds Ratio (AOR)	95% confidence Interval (CI)	p-value
Education						
Masters or above	0.541	0.345–.847	0.007	0.434	0.256–0.736	0.002
Bachelor	Reference			Reference		
Employer						
Medical college	0.497	0.199–1.243	0.135	0.438	0.144–1.329	0.145
Rehab institute	0.798	0.416–1.531	0.497	0.623	0.240–1.619	0.332
Hospital/Clinic	0.709	0.381–1.319	0.277	0.632	0.258–1.550	0.317
Private chamber	0.622	0.335–1.155	0.133	0.513	0.236–1.112	0.091
Unemployed	Reference			Reference		
Lost income source/employment						
Yes	1.546	0.976–2.448	0.063	1.588	0.988–2.552	0.050
No	Reference			Reference		
Economic constrain						
Yes	3.428	1.920–6.119	<0.001	3.415	1.869–6.240	<0.001
No	Reference			Reference		
Additional business						
Yes	1.235	0.768–1.985	0.384	1.221	0.774–2.005	0.390
	Reference			Reference		

among British graduate unemployed [48] were found. However, most of the prevalence rates were lower than the range we found among RP in Bangladesh.

On the other hand, analysis of professional factors and mental health symptoms revealed that RP with a higher professional degree in Bangladesh were in significantly better mental health states than the fresh graduate. It is well established that post-graduation helps in finding better employment and/or career path. Unsurprisingly, in Bangladesh, post-graduated candidates get privileges when recruited for the very limited number of secured full-time employments for RP [49]. Socio-economic conditions, scarcity of appropriate employment or income sources after completing graduation, and unavailability of

post-graduate courses in cost-effective institutions may also put extra pressure on the mental health of fresh graduate RP in Bangladesh. In line with our findings, a study among Bangladeshi graduates has also suggested that the prevalence of depression, anxiety, and stress among appropriate employment seekers was very high [31].

Traditionally, in Bangladesh, the private and public medical college offers updated clinical and academic settings with well-paid stable employments for healthcare workers. In our study, we found only 7.1% of participants work in medical college settings, and predictably, the mental health of medical college employees was significantly better than unemployed and RP who work in small hospitals and clinics (which offer low-paid temporary jobs). Likewise, rehabilitation institute employees

Table 4. Logistic regression analysis of the variables with anxiety.

Variables	Unadjusted Model			Adjusted Model		
	Odds Ratio (OR)	95% confidence Interval (CI)	p-value	Adjusted Odds Ratio (AOR)	95% confidence Interval (CI)	p-value
Employer						
Medical college	0.543	0.270–1.500	0.213	0.500	0.202–1.722	0.134
Rehab institute	0.691	0.377–1.267	0.232	0.617	0.244–1.557	0.617
Hospital/Clinic	0.992	0.551–1.786	0.980	0.948	0.392–2.293	0.905
Private chamber	0.694	0.386–1.248	0.223	0.683	0.320–1.455	0.323
Unemployed	Reference			Reference		
Lost income source/employment						
Yes	1.044	0.658–1.655	0.856	1.009	0.627–1.624	0.970
No	Reference			Reference		
Economic constrain						
Yes	3.015	1.776–5.119	<0.001	3.111	1.774–5.455	<0.001
No	Reference			Reference		

Table 5. Logistic regression analysis of the variables with stress.

Variables	Unadjusted Model			Adjusted Model		
	Odds Ratio (OR)	95% confidence Interval (CI)	p-value	Adjusted Odds Ratio (AOR)	95% confidence Interval (CI)	p-value
Education						
Masters or above	0.525	0.337–0.819	0.005	0.532	0.311–0.910	0.021
Bachelor	Reference			Reference		
Lost income source/employment						
Yes	1.613	1.022–2.545	0.040	1.635	1.010–2.646	0.045
No	Reference			Reference		
Economic constrain						
Yes	2.101	1.37–3.881	0.018	2.074	1.092–3.434	0.026
No	Reference			Reference		

Table 6. Standardized estimates of effects on depression, anxiety, and stress.

Variables	Adjusted Effect	Standard Error
Financial Threat →Depression	0.272***	0.10
Financial Threat →Anxiety	0.294***	0.09
Financial Threat →Stress	0.326***	0.09
Financial Well-being →Depression	-0.273***	0.13
Financial Well-being →Anxiety	-0.238***	0.12
Financial Well-being →Stress	-0.238***	0.12
Economic Hardship → Depression	0.033	0.12
Economic Hardship → Anxiety	-0.007	0.11
Economic Hardship → Stress	0.032	0.11

*$p < 05$, **$p < 01$, ***$p < 001$.

were in a better mental health state. It might be possible that in a specialized rehabilitation institute, RP gets a favourable working environment and desired wedges. However, in support of our findings, a systematic review and meta-analysis of 485 studies suggested that stable and well-paid employees suffer from fewer mental health problems [50].

A recent report from the International Labor Organization suggested that 55 million domestic workers were significantly affected by the COVID-19 pandemic till June 2020 [51]. Likewise, we found 62.8% RP either lost their employment or income source, and 59% currently facing economic constraints due to the impact of COVID-19. Unsurprisingly, a high number of them were suffering from mental health symptoms. In addition to this, we found, financial threats were strongly positive, and economic wellbeing was strongly negatively predicted mental health symptoms. Like previous studies, these economic factors help further explain the higher prevalence rates of mental health symptoms found in

the present study as well as the fragile economic condition of Bangladeshi RP [30, 31].

This study suggested that a high number of RP remained out of practice and financially interrupted by the COVID-19 pandemic in Bangladesh. Furthermore, when we compared the mean scores of FTS and EHQ of the present study with a previous similar study conducted among graduate unemployed Bangladeshis [31], we found significantly higher FTS (18.01 vs. 15.90), and EHQ (17.78 vs. 16.58) mean scores indicating greater economic problems among rehabilitation professionals. As a result, this research indicates that these professionals require a holistic approach to reduce mental health symptoms. The burden of mental health could be minimized if equal opportunities for practice were provided in this occupational category. Stimulus programs may be provided to recovery practitioners to enable them to start their own practice, enabling them to become financially self-sufficient.

Limitations of cross-sectional study and methods bias of self-reported data collection must be admitted for this study. Furthermore, in this study, we did not take data regarding participant's health condition, substance abuse, the economic condition of participants' families that might confound mental health disorders. Despite these limitations, this study sets baseline evidence of employment situation, subjective economic condition, and their relation with mental health status among RP in Bangladesh.

Previous studies suggested that the prevalence of suicidality was higher among the UUE population and the high rates of mental sufferings are associated with up to 90% of the suicidality [21, 22, 52, 53]. Thus, further study is warranted concerning the suicidal behaviours among the RP in Bangladesh. The study that would measure mental health status and suicidality among RP students in Bangladesh are also required for early measurement and prevention. In addition, a further study among multiple professional groups is warranted to find a more generalized representation. Finally, when considering global implication, our study findings suggest that further similar studies among RP in other low- and middle-income countries are warranted.

5. Conclusion

COVID-19 pandemic offers unprecedented economic turmoil globally that resulted in a significant rise of unemployment and underemployment rate, consequently, economic threat. Along with the identification of other risk factors, our study explained the relation between economic stressors and mental health symptoms among a neglected professional group in Bangladesh. The findings could assist in recognizing people who are at risk of mental illness and encouraging the creation of an intervention program to minimize mental illness's burden.

Declarations

Author contribution statement

Mohammad Ali: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Zakir Uddin, Ahmed Hossain: Performed the experiments; Contributed reagents, materials, analysis tools or data; Wrote the paper.

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Data availability statement

Data will be made available on request.

Declaration of interests statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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