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ORIGINAL RESEARCH

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Prevalence and associated factors for elevated fear and depressive symptoms among the private service holders in Bangladesh during the Covid-19 pandemic: A cross-sectional study

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Abstract

Background and Aims: The ongoing public health emergency has created incredible fear of getting the infection and a terrible psychological burden among all levels. The pandemic has severely affected private job holders' economic status and lifestyle factors in Bangladesh. Here we aimed to assess fear and depressive symptoms among private job holders in Bangladesh during the Covid-19 pandemic and associated risk factors.

Methods: We conducted this online cross-sectional survey between January 15, 2021, and March 15, 2021, among 510 private job holders aged above 18 years. We followed the convenience sampling method for data collection. We assessed sociodemographic factors and two psychometric parameters. We applied the Fear of Covid-19 Scale and Patient Health Questionnaire-9 to assess increased fear and depressive symptoms, respectively. Chi-square test, independent sample t-test, and binary logistic regression analysis were performed for data analysis.

Results: The prevalence of increased fear and depressive symptoms were 86.27% and 42.16%, respectively. Factors associated with increased fear among private job holders during COVID-19 were economic class, obesity, on-time salary, company's downsizing policy, salary reduction, home office, and transportation facilities. However, depressive symptoms were associated with marital status, education level, residence area, the organizational practice of health safety rules, company performance, on-time salary, health insurance, downsizing, salary reduction policy, organization type, transportation, and mental health support at work. The present study also noticed some interrelations among the above factors with mental health issues.

Md. Rabiul Islam and Zabun Nahar contributed equally to this study.

Conclusion: Based on the present findings, we recommend actionable items to improve the mental health of private job holders in Bangladesh due to the ongoing pandemic. Authorities can develop mental health support programs and efficient Covid-19 response systems. The policymakers and regulatory bodies might take some initiatives to promote mental health in the private sector in Bangladesh.

KEYWORDS

Covid-19, depressive symptoms, fear, mental health, private job, public health

1 | BACKGROUND

It is now more than one and half years since the world health organization (WHO) declared the Covid-19 as a global pandemic.[1] The healthcare systems around the globe are fighting critical challenges associated with this disease.[2–4] We have observed the tremendous impact on the mental health of people in Asian countries due to the effects of Covid-19 that are reflected in different studies.[5–12] A study measured anxiety and depressive symptoms among healthcare professionals from India, China, Malaysia, and other south Asian countries.[13] The results showed that 36.5% of participants reported anxiety symptoms, 29.5% showed depressive symptoms, and 23.5% had both anxiety and depressive symptoms.[13] According to a study in Iran, 18.5% of people have experienced severe anxiety.[14] Another study from Nepal reported that 38% of the healthcare professionals had at least one psychiatric illness. Among them, 37.3% had an anxiety disorder.[15] Bangladeshi population experiencing social discrimination, suicidal ideation, and social stigma amid the Covid-19 pandemic.[16] Psychological problems such as fear, anxiety, depressive symptoms, and suicidal ideation have become challenges connected with Covid-19.[17] We conducted a recent study among the general population of Bangladesh where we observed the prevalence of depressive symptoms, anxiety, loneliness, and sleep problems were 38%, 64%, 71%, and 73%, respectively.[18] People worry about their safety, vaccination, and other consequences such as fear of job security, layoff, and being stuck to the same designation.[19–21] However, Mamun et al. reported a wide range of risk factors for this increased level of depressive symptoms and associated symptoms like suicidal ideation. They mentioned demographic factors, lifestyle-related factors, and pre-existing stressors related to personal and job life.[22] Moreover, a recent review identified several economic, psychological, and demographic factors for poor mental health during the ongoing Covid-19 pandemic.[23] Also, another study revealed that inappropriate use of social media contributes to the poor mental health of the young population in Bangladesh amid the Covid-19 pandemic.[24]

However, the situation is worse in Bangladesh than in developed countries.[25–28] In a recent nationwide study, a group of researchers found that a large portion of their Bangladeshi respondents reported stress, anxiety, and depressive symptoms with a high prevalence, about 61%, 87%, and 64%, respectively.[29] Fear about careers amid the Covid-19 pandemic has become a common situation in Bangladesh. Tertiary-level students who are preparing themselves for jobs are more anxious about the shrinking of the job market. Extended exposure to fear leads to depressive symptoms and anxiety.[30] In addition to the scarcity of new jobs, many private job holders are fighting more with economic shrinking and job insecurity-related stress than actual Covid-19 fear. Several studies reported that the prevalence of suicides is more in Bangladesh than the actual deaths due to Covid-19. Surprisingly, 49% of suicide victims were 20–35 years old.[31,32] The new viral strains, subsequent pandemic waves, additional restrictions, and countermeasures might potentially be contributed to the worsening the mental health condition across the world.[33–39]

The private sector of Bangladesh has become quite large, and they are contributing a significant portion of Bangladesh's economy. According to the Bangladesh Bureau of Statistics (BBS), the major establishments in the Bangladesh economy are nongovernment, and a significant number of economic activities are conducted by public–private funded partnerships.[40,41] However, the outbreak of Covid-19 suddenly changed the whole situation.[42,43] Approximately, 68% of the people working in the private sector in two major cities (Dhaka and Chittagong) have lost their jobs. In Dhaka city, the rate was 76% whereas, it was 59% in Chittagong city. In both cities, around 80% of earners and 94% of business owners reported a dramatic fall in income due to Covid-19-related responses. In poor areas of these cities, about 8 out of 10 adults were suffering from stress and anxiety.[44,45] In Bangladesh, many sectors such as manufacturing, agriculture, transport, and construction have been impacted temporarily or permanently due to the ongoing pandemic.[46] The banking sector experienced a very negative impact due to the Covid-19 pandemic. In six Bangladeshi private banks, more than 3000 employees have resigned. Among them, a significant number of employees reported facing layoffs.[47] Also, the information and communications technology (ICT) sector of Bangladesh is facing significant economic and human resource shrinkage due to the pandemic crisis. Global software orders to Bangladeshi ICT farms has been declined about 70%–80% during the Covid-19 surge.[48] Companies cannot pay their monthly wages on due time. Therefore, employees had to rely on savings, government, and other external helps for livelihood. People who live on their daily income become one of the worst victims of this loss of income.

However, another group of victims is education employees and students. Many news media have reported a significant dropout of students around the country. At the same time, child labor and child marriage have increased.[49,50] However, some experts say it happened due to an elevation of poverty and economic shrinkage related to the job loss of their parents amid a pandemic.[51,52] We noticed many schools have permanently closed. And the people working there had lost their jobs. So, many people switched their professions in Bangladesh due to the Covid-19 pandemic.[53] The ready-made garment sector in Bangladesh entirely depends on the demand of global fashion companies. The global fashion companies canceled their orders due to the Covid-19 pandemic.[54] At the same time, the decreased circular of new jobs across the industries depressed the job applicant amid the Covid-19 pandemic.[55] There might have a set of interconnected factors that would impact the mental health of people working in private sectors in Bangladesh. Therefore, we attempted to assess fear and depressive symptoms levels among private job holders and contributing factors during the Covid-19 pandemic in Bangladesh.

2 | METHODS

2.1 | Study participants

We performed this online cross-sectional survey between January 15, 2021, and March 15, 2021. Our assumed confidence interval (CI), expected response rate, and expected precision were 95%, 25%, and 5%, respectively, to achieve 80% statistical power. Therefore, we required 384 responses from the private job holders. We circulated our study questionnaire to 1600 individuals, and initially, we collected 563 responses. The actual response rate was 35%. After careful evaluation, we left out 53 replies due to incomplete or partial information. Finally, we analyzed 510 complete responses in this study. We followed several exclusion and inclusion criteria to include participants in this study. We collected self-reporting responses from the invited individuals who have been working in the private sector of Bangladesh, aging above 18 years. The Committee for Advanced Studies at the Department of Pharmacy, University of Asia Pacific approved this study protocol (No. UAP/Pharm/2021/01003). We obtained informed consent from all participants for their participation in this study. We performed this web-based survey following the checklist for reporting results of internet e-surveys (CHERRIES) statements.

2.2 | Data collection procedure

Face-to-face interviews were not feasible during the Covid-19 pandemic. Therefore, we used Google Forms for data collection. The structured questionnaire link was circulated online through social networking sites such as Facebook, Linked In, Twitter, WhatsApp, Telegram, Messenger, and email. We also tried to obtain a snowball sampling technique to share the link among the potential respondents. There was an option to submit a single response by an account. We conducted a pilot study among a small group of population to confirm a better understanding of the questionnaire. We presented both the original English version and translated the Bengali version for better clarification of the entire questionnaire. Also, we arranged video conferences or phone calls on case to case basis for their clarification about the questionnaire.

2.3 | Demographic and job-related estimations

We collected necessary sociodemographic information from the study participants. This information includes age, sex, education level, economic impression, marital status, living status, and smoking habit. We collected job-related information such as organization type, availability of mental healthcare support, transportation, home office facility, salary change, job security, timely salary payment, health insurance, payment during leave (Covid-19 related), the performance of the organization, and organizational responses against Covid-19.

2.4 | Psychometric estimations

Fear of Covid-19 Scale (FCV-19S) was first introduced and validated by Ahorsu and collaborators. It has been widely used to determine fear related to Covid-19. FCV-19S consists of seven items. Each question rating from strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). The possible minimum total score is seven, and the maximum total score is 35. A validated version of the FCV-19S is also available in the Bengali language.[56] A higher total score resembles greater fear due to the Covid-19.[57]

The Patient Health Questionnaire-9 (PHQ-9) is a checklist consisting of nine questions. The scoring of each question ranges from zero to three based on the responses. Each question has four options ranging from not at all (0), several days (1), more than half the days (2), and nearly every day (3). The highest possible score on the PHQ-9 scale is 27, and the lowest possible score is 0. We can split the total score into four levels: below 10, no depressive symptoms; 10–15, mild depressive symptoms; 16–21, moderate depressive symptoms; and 22–27, severe depressive symptoms.[58]

2.5 | Statistical analysis

We applied two tools for data analysis. After data collection, we performed data processing using Microsoft Excel 2016. Then we used IBM SPSS version 25.0 for data analysis. Here, we performed a χ^2 test, independent sample t-test, and regression analysis. We performed a descriptive statistical analysis to characterize the demographic profiles. We selected independent variables for the adjusted model according to their variability and correlation with the dependent variables. We included confounders to keep the

statistical results valid. A p-value of less than or equal to 0.05 is considered significant.

3 | RESULTS

3.1 | General description of study population

We presented the sociodemographic profile of the study population in Table 1. A total of 510 participants gave their feedback in this survey. Among the respondents, female and male were 36.47% and 63.53%, respectively. The prevalence of obesity was 38.04%, and only 4.51% were chronic energy deficiency (CED). The majority of the participants were from 18 to 30 years of age (62.75). Among them, 86.08% had a graduate or above education. Among the respondents, 53.33% were married. We observed more than three-quarters (78.43%) of the respondents living in urban areas. Also, two-thirds of respondents (61.96%) of the participants were nonsmokers. Moreover, participants with high, middle, and low economic status were 20.00%, 3.35%, and 47.65%, respectively.

3.2 | Description of the job-related factors

We presented the job-related factors in Table 2. Among the respondents, participants from healthcare and nonhealthcare were 29.02% and 70.98%, respectively. Only 25.29% of the respondents acknowledged that they worked from home during this Covid-19 pandemic. According to the present findings, 59.61% of organizations fully maintained health safety rules, 50.20% always used thermal scanning at their entry point, 75.88% always kept hand sanitizer or hand washing facilities, and 66.47% of employees always used facemask at the workplace. Moreover, 74.12% of respondents used public transportation during the COVID-19 pandemic. About three-fourths (72.16%) of the respondents reported that their office did not arrange Covid-19 testing facilities. However, 90.39% of participants acknowledged that quarantine or isolation was mandatory for all when suspected or infected by a coronavirus. In 81.76% of cases, the organizations have granted and paid for their Covid-19-related leave. According to the present findings, only 43.14% of private employers provide health insurance in Bangladesh. Among the respondents, 49.22% reported that their organizations reduced employees during the Covid-19 pandemic. However, 54.12% of respondents got mental healthcare support from the organization. Also, 68.43% of the respondents reported that they got an on-time salary, and 39.41% of respondents got a reduced payment during the ongoing pandemic.

3.3 | Psychometric evaluation of fear and depressive symptoms

The estimations of elevated fear and depressive symptoms were 86.27% (mild: 31.96%, moderate: 38.04%, severe: 16.27%) and 42.16% (mild: 24.71%, moderate: 12.75%, severe: 4.70%), respectively (Figure 1). Prevalence of elevated fear was associated with (1) sociodemographic factors: (a) economic impression low versus high (89.30% vs. 77.45%, $p = 0.013$), and less significantly, (b) sex: male versus female (88.27% vs. 82.80%, $p = 0.084$); at the same time, we found (2) job-related factors: (a) work from home is not available versus always available (90.86% vs. 76.74%, $p = 0.001$), (b) anybody has lost their jobs vs. not lost (91.24% vs. 81.47%, $p = 0.001$), (c) transportation public versus private (91.11% vs. 79.55%, $p = 0.014$), (d) salary reduction during pandemic versus salary not reduced (90.05% vs. 83.82%, $p = 0.046$), (e) not getting salary on time versus getting salary on time (90.68% vs. 84.24%, $p = 0.049$), and less significantly, (f) always having sanitizer or hand washing facility in workplace versus not having that facility (87.34% vs. 68.75%, $p = 0.098$).

Prevalence of depressive symptoms was associated with the demographic variables such as (i) marital status divorced versus married (57.14% vs. 34.19%, $p = 0.001$), (ii) education level primary versus graduate or above (100% vs. 38.04%, $p < 0.001$), and (iii) residence area rural versus urban (56.36% vs. 38.25%, $p = 0.001$). Moreover, depressive symptoms was observed against various job-related factors including (i) organization maintains health safety rules partially versus fully (60.22% vs. 29.93%, $p < 0.001$), (ii) no thermal scanning before entry versus always (50.43% vs. 36.33%, $p = 0.022$), (iii) no hand sanitizer or hand washing facilities at workplace versus always (75% vs. 34.88%, $p < 0.001$), (iv) nobody wears mask versus everybody always wears mask at workplace (87.50% vs. 30.68%, $p < 0.001$), (v) quarantine or isolation is not mandatory for positive cases versus mandatory (75.51% vs. 38.61%, $p < 0.001$), (vi) organization is not performing like previous versus yes (47.17% vs. 36.73%, $p = 0.017$), (vii) organization does not pay during Covid-19 relative leaves versus pays (59.14% vs. 38.37%, $p < 0.001$), (viii) the employer does not provide health insurance versus employer provides health insurance (49.66% vs. 32.27%, $p < 0.001$), (ix) not getting on-time salary versus getting on-time salary during Covid-19 pandemic (57.14% vs. 35.24%, $p < 0.001$), (x) anybody has lost their job amid pandemic versus not (51.79% vs. 32.82%, $p < 0.001$), (xi) salary reduction during pandemic versus no reduction of salary (55.72% vs. 33.33%, $p < 0.001$), (xii) organization type nonhealthcare versus healthcare (47.24% vs. 29.73%, $p < 0.001$), (xiii) use of public transportation versus private transports (51.11% vs. 40.15%, $p = 0.007$), (xiv) healthcare support at workplace unavailable versus available (57.69% vs. 28.99%, $p < 0.001$).

3.4 | Associated risk factors for elevated fear and depressive symptoms

We measured correlations of sociodemographic profile (Table 3) and job-related factors (Table 4) with psychometric parameters using binary logistic regression analysis. The probability of elevated fear in respondents with CED was 4.063 times more likely than in obese respondents (95% CI: 1.217–13.571, significance $p = 0.023$).

TABLE 1 Distribution of sociodemographic variables and their association with elevated fear and depressive symptoms among the private job holders during Covid-19 pandemic

	Total (*N* = 510)		Elevated fear (*N* = 440)					Depressive symptoms (*N* = 215)				
Sociodemographic parameters	***n***	**%**	***n***	**%**	χ^2	**df**	***p* Value**	***n***	**%**	χ^2	**df**	***p* Value**
Age in years												
25–35	320	62.75	269	84.06	4.105	3	0.250	141	44.06	1.910	3	0.591
36–45	159	31.18	142	89.31				60	37.74			
46–60	31	6.07	29	93.55				14	45.16			
Sex												
Female	186	36.47	154	82.80	2.992	1	0.084	85	45.70	1.506	1	0.220
Male	324	63.53	286	88.27				130	40.12			
BMI (kg/m^2)												
18.5–25 (normal)	293	57.45	261	89.08	6.170	2	**0.046**	128	43.69	0.781	2	0.677
Above 25 (obese)	194	38.04	162	83.51				77	39.69			
Below 18.5 (CED)	23	4.51	17	73.91				10	43.48			
Marital status												
Divorced	28	5.49	24	85.71	2.787	3	0.426	16	57.14	15.617	3	**0.001**
Married	272	53.33	241	88.60				93	34.19			
Unmarried	204	40.00	170	83.33				103	50.49			
Widow	6	1.18	5	83.33				3	50.00			
Education level												
Graduate and above	439	86.08	383	87.24	4.370	2	0.112	167	38.04	24.221	2	**<0.001**
Primary	5	0.98	3	60.00				5	100.00			
Secondary	66	12.94	54	81.82				43	65.15			
Economic impression												
High	102	20.00	79	77.45	8.724	2	**0.013**	45	44.12	2.102	2	0.350
Middle	165	32.35	144	87.27				62	37.58			
Low	243	47.65	217	89.30				108	44.44			
Residence area												
Rural	110	21.57	96	87.27	0.118	1	0.731	62	56.36	11.608	1	**0.001**
Urban	400	78.43	344	86.00				153	38.25			
Living status												
With family	372	72.94	323	86.83	0.356	1	0.551	158	42.47	0.056	1	0.812
Without family	138	27.06	117	84.78				57	41.30			
Smoking habit												
Nonsmoker	316	61.96	269	85.13	0.924	1	0.336	125	39.56	2.303	1	0.129
Smoker	194	38.04	171	88.14				90	46.39			

Note: *p*-values are significant at 95% confidence interval ($p < 0.05$). Significant *p*-values are shown in bold.

Abbreviations: BMI, body mass index; CED, chronic energy deficiency; Covid-19, coronavirus disease 2019; N, number.

Participants having a primary degree were more likely than participants with at least graduation or above (odds ratio [OR] = 2.651, 95% CI: 1.048–6.709, $p = 0.040$). Also, interconnections of job-related factors were contributing to the increased fear. Precaution-related variables have played a vital role in fear elevation. The unavailability of Covid-19 testing support from the office was associated with elevated fear among the respondents at 1.523 folds (95% CI: 0.780–2.975, $p = 0.218$). We noticed the employees whose organization pays them during Covid-19-related leave are less likely than others (OR = 0.602, 95% CI: 0.255–1.423, $p = 0.248$). An interesting fact we have found in employees is that if anybody lost their job from an organization during the pandemic and increased

TABLE 2 Distribution of profession-related variables and their association with elevated fear and depressive symptoms among the private job holders during Covid-19 pandemic

	Total ($N = 510$)		Elevated fear ($N = 440$)					Depressive symptoms ($N = 215$)				
Job-related factors	***n***	**%**	***n***	**%**	χ^2	**df**	***p* Value**	***n***	**%**	χ^2	**df**	***p* Value**
Organization maintains health safety rules												
Fully	304	59.61	266	87.50	2.631	2	0.268	91	29.93	46.110	2	**<0.001**
Not at all	20	3.92	15	75.00				12	60.00			
Partially	186	36.47	159	85.48				112	60.22			
Thermal scanning before entry												
Always	256	50.20	219	85.55	0.799	2	0.671	93	36.33	7.659	2	**0.022**
Not at all	115	22.55	98	85.22				58	50.43			
Sometimes	139	27.25	123	88.49				64	46.04			
Hand sanitizer or hand washing facilities at work												
Always	387	75.88	338	87.34	4.656	2	0.098	135	34.88	35.558	2	**<0.001**
Not at all	16	3.14	11	68.75				12	75.00			
Sometimes	107	20.98	91	85.05				68	63.55			
Everyone wears a mask at the workplace												
Always	339	66.47	295	87.02	0.663	2	0.718	104	30.68	58.321	2	**<0.001**
Not at all	16	3.14	13	81.25				14	87.50			
Sometimes	155	30.39	132	85.16				97	62.58			
Availability of Covid-19 testing support from the office												
No	368	72.16	322	87.50	1.676	1	0.195	163	44.29	2.474	1	0.116
Yes	142	27.84	118	83.10				52	36.62			
Quarantine or isolation is mandatory for Covid-19 positive cases												
No	49	9.61	40	81.63	0.986	1	0.321	37	75.51	24.730	1	**<0.001**
Yes	461	90.39	400	86.77				178	38.61			
Organization is performing like previous												
No	265	51.96	233	87.92	1.268	1	0.260	125	47.17	5.685	1	**0.017**
Yes	245	48.04	207	84.49				90	36.73			
Organization pays during Covid-19-related leave												
No	93	18.24	78	83.87	0.555	1	0.456	55	59.14	13.453	1	**<0.001**
Yes	417	81.76	362	86.81				160	38.37			
Employer provides health insurance												
No	290	56.86	250	86.21	0.003	1	0.959	144	49.66	15.501	1	**<0.001**
Yes	220	43.14	190	86.36				71	32.27			
Getting on-time salary during Covid-19 pandemic												
No	161	31.57	146	90.68	3.862	1	**0.049**	92	57.14	21.668	1	**<0.001**
Yes	349	68.43	294	84.24				123	35.24			
Anybody has lost their job from your organization												
No	259	50.78	211	81.47	10.271	1	**0.001**	85	32.82	18.820	1	**<0.001**
Yes	251	49.22	229	91.24				130	51.79			
Organization has reduced salary during the pandemic												
No	309	60.59	259	83.82	3.993	1	**0.046**	103	33.33	25.032	1	**<0.001**
Yes	201	39.41	181	90.05				112	55.72			

TABLE 2 (Continued)

Job-related factors	Total (*N* = 510)		Elevated fear (*N* = 440)					Depressive symptoms (*N* = 215)				
	n	%	*n*	%	χ^2	df	*p* Value	*n*	%	χ^2	df	*p* Value
Work from home is allowable												
Always	129	25.29	99	76.74	13.747	2	**0.001**	50	38.76	2.269	2	0.322
Not at all	175	34.31	159	90.86				70	40.00			
Sometimes	206	40.39	182	88.35				95	46.12			
Organization type												
Healthcare	148	29.02	124	83.78	1.092	1	0.296	44	29.73	13.205	1	**<0.001**
Nonhealthcare	362	70.98	316	87.29				171	47.24			
Transportation used during Covid-19 pandemic												
Private	132	25.88	105	79.55	8.605	2	**0.014**	53	40.15	9.894	2	**0.007**
Public	378	74.12	335	88.62				162	42.85			
Availability of mental healthcare support at work												
No	234	45.88	201	85.90	0.052	1	0.820	135	57.69	42.796	1	**<0.001**
Yes	276	54.12	239	86.59				80	28.99			

Note: *p*-values are significant at 95% confidence interval ($p < 0.05$). Significant *p*-values are shown in bold.
Abbreviations: Covid-19, coronavirus disease 2019; N, number.

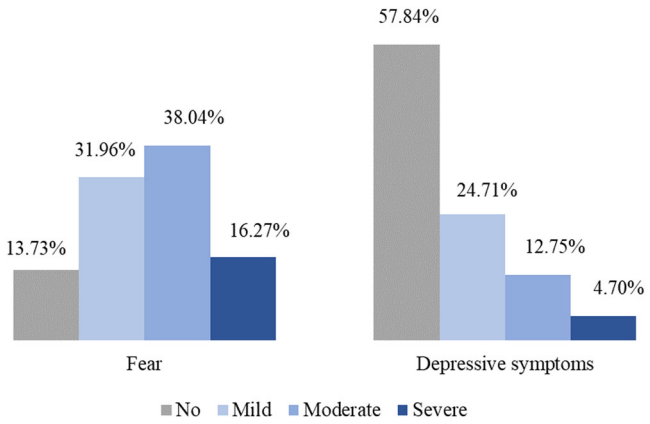

FIGURE 1 Prevalence and severity of elevated fear and depressive symptoms among private job holders in Bangladesh during the Covid-19 pandemic.

fear associated to Covid-19 of existing employees reduced to half (OR = 0.513, 95% CI: 0.240–1.556, $p = 0.085$). Respondents from healthcare organizations were less likely to have increased fear than nonhealthcare organizations (OR = 0.507, 95% CI: 0.227–1.132, $p = 0.097$). Employees who can work from home are less likely than those who cannot (OR = 0.254, 95% CI: 0.123–0.527, $p < 0.001$).

Participants from primary education levels were more likely to have depressive symptoms than the graduate or above-level education group (OR = 0.510, 95% CI: 0.258–1.009, $p = 0.050$). However, healthcare-related factors are significantly associated with the possibility of depressive symptoms among private job holders. The probability of having depressive symptoms in the employees of organizations that fully maintained health safety rules was less than which did not (OR = 0.497, 95% CI: 0.291–0.849, $p = 0.010$). Participants from the workplaces, where everyone wears a mask have 0.567 folds less chance to get depressive symptoms than those where everyone does not wear a mask (OR = 0.567, 95% CI: 0.321–1.001, $p = 0.051$), and availability of thermal scanning was less likely than others (OR = 1.786, 95% CI: 0.987–3.23, $p = 0.055$). However, the availability of mental healthcare support at the workplace increased the likelihood of having depressive symptoms (OR = 2.068, 95% CI: 1.267–3.376, $p = 0.004$). In organizations where quarantine or isolation is mandatory in confirmed or suspected cases, their employees are 3.263 times more prone to depressive symptoms than others (OR = 3.263, 95% CI: 1.372–7.759, $p = 0.007$). However, we observed in the case of salary reduction, the chances of depressive symptoms were dropped to half when in reduced salary (OR = 0.513, 95% CI: 0.287–0.915, $p = 0.024$).

3.5 | Reliability

We measured the internal consistency of FCV-19 and PHQ-9 scales used in the present study by Cronbach's α. Values of the reliability coefficient Cronbach's α for FCV-19 and PHQ-9 scales were 0.87 and 0.84, respectively. The reliability values of both scares are higher than the recommended value of 0.80.

4 | DISCUSSION

This is the first-ever study addressing the mental health of private job holders in Bangladesh due to the Covid-19 pandemic. The private sector contributes a significant share to the economy of any country,

TABLE 3 Regression analysis of sociodemographic variables by elevated fear and depressive symptoms among the private job holders

Sociodemographic parameters	Elevated fear (*N* = 440)				Depressive symptoms (*N* = 215)			
	OR	df	95% CI	*p* Value	OR	df	95% CI	*p* Value
Age in years								
25–35	0.725	1	0.073–1.273	0.999	1.115	1	0.125–9.951	0.922
36–45	0.982	1	0.063–11.052	0.999	0.876	1	0.100–7.698	0.905
46–60	1				1			
Sex								
Male	0.871	1	0.457–1.659	0.674	1.287	1	0.774–2.139	0.331
Female	1							
BMI (kg/m^2)								
Below 18.5 (CED)	4.063	1	1.217– 13.571	**0.023**	1.556	1	0.526–4.603	0.425
18.5–25 (normal)	2.255	1	0.680–7.476	0.184	1.007	1	0.333–3.041	0.991
Above 25 (obese)	1				1			
Marital status								
Married	0.871	1	0.046–16.451	0.926	0.347	1	0.045–2.689	0.311
Unmarried	0.746	1	0.052–10.700	0.830	0.586	1	0.091–3.766	0.573
Divorced	0.577	1	0.040–8.271	0.685	0.919	1	0.140–6.021	0.929
Widow	1				1			
Education level								
Primary	2.651	1	1.048–6.709	**0.040**	0.510	1	0.258–1.009	**0.050**
Secondary	0.881	1	0.093–8.330	0.912	0.530	1	0.372–1.526	0.999
Graduate and above	1				1			
Economic impression								
Low	0.757	1	0.348–1.648	0.483	1.622	1	0.864–3.046	0.132
Medium	0.977	1	0.470–2.029	0.950	1.091	1	0.651–1.829	0.741
High	1	1			1	1		
Residence area								
Urban	0.854	1	0.380–1.921	0.703	1.414	1	0.822–2.431	0.211
Rural	1	1			1	1		
Living status								
With family	1.252	1	0.629–2.492	0.522	1.472	1	0.877–2.471	0.143
Without family	1	1			1	1		
Smoking habit								
Smoker	0.848	1	0.422–1.707	0.645	0.668	1	0.409–1.093	0.108
Nonsmoker	1	1			1	1		

Note: *p*-values are significant at 95% confidence interval ($p < 0.05$). Significant *p*-values are shown in bold.

Abbreviations: BMI, body mass index; CED, chronic energy deficiency; Covid-19, coronavirus disease 2019; CI, confidence interval; df, degree of freedom; N, number; OR, odds ratio.

and Bangladesh is not an exception. The private sector of Bangladesh has grown significantly over the last few decades. According to CEIC data, among the 169.3 million population, 60.80 million people are employed privately in Bangladesh.[59,60] Individual proprietorship engages the greatest proportion of the workforce, followed by households and private sectors. Government/autonomous/local government organizations employed a small percentage of the population in Bangladesh.[61] Therefore, the present study was necessary to explore the fear and depressive symptoms among private service holders due to the Covid-19 pandemic in Bangladesh.

In this study, we observed the prevalence of increased fear and depressive symptoms was high among Bangladeshi private service

TABLE 4 Regression analysis of variables by elevated fear and depressive symptoms among the private job holders

	Elevated fear (*N* = 440)				Depressive symptoms (*N* = 215)			
Job-related factors	**OR**	**df**	**95% CI**	***p* Value**	**OR**	**df**	**95% CI**	***p* Value**
Organization maintains health safety rules								
Fully	1.176	1	0.545–2.535	0.680	0.497	1	0.291–0.849	**0.010**
Partially	0.572	1	0.138–2.367	0.440	0.521	1	0.154–1.762	0.294
Not at all	1				1			
Thermal scanning before entry								
Always	1.096	1	0.475–2.53	0.830	1.786	1	0.987–3.23	0.055
Sometimes	0.687	1	0.268–1.76	0.434	1.027	1	0.529–1.991	0.938
Not at all	1							
Hand sanitizer or hand washing facilities at work								
Always	1.415	1	0.582–3.437	0.444	0.954	1	0.506–1.8	0.885
Sometimes	0.288	1	0.063–1.313	0.108	1.54	1	0.372–6.379	0.551
Not at all	1				1			
Everyone wears a mask at the workplace								
Always	0.796	1	0.357–1.779	0.579	0.567	1	0.321–1.001	0.051
Sometimes	0.751	1	0.141–4.011	0.738	2.814	1	0.522–15.171	0.229
Not at all	1				1			
Availability of mental healthcare support at work								
Yes	0.822	1	0.404–1.67	0.587	2.068	1	1.267–3.376	**0.004**
No	1				1			
Availability of Covid-19 testing support from office								
Yes	1.523	1	0.78–2.975	0.218	1.062	1	0.626–1.803	0.822
No	1				1			
Quarantine or isolation is mandatory for Covid-19 positive cases								
Yes	0.933	1	0.321–2.711	0.898	3.263	1	1.372–7.759	**0.007**
No	1				1			
Organization pays during Covid-19-related leave								
Yes	0.602	1	0.255–1.423	0.248	0.83	1	0.447–1.544	0.557
No	1				1			
Organization is performing like previous								
Yes	0.827	1	0.44–1.556	0.557	0.989	1	0.618–1.581	0.962
No	1				1			
Employer provides health insurance								
Yes	0.762	1	0.385–1.505	0.433	1.016	1	0.612–1.687	0.95
No	1				1			
Getting on-time salary during Covid-19 pandemic								
Yes	1.999	1	0.812–4.92	0.132	1.114	1	0.642–1.935	0.701
No	1				1			
Anybody has lost their job from your organization								
Yes	0.513	1	0.24–1.097	0.085	0.671	1	0.394–1.144	0.143
No	1				1			

(Continues)

TABLE 4 (Continued)

Job-related factors	Elevated fear (*N* = 440) OR	df	95% CI	*p* Value	Depressive symptoms (*N* = 215) OR	df	95% CI	*p* Value
Organization has reduced salary during the pandemic								
Yes	0.792	1	0.346–1.811	0.580	0.513	1	0.287–0.915	**0.024**
No	1				1			
Work from home is allowable								
Always	0.254	1	0.123–0.527	**<0.001**	0.724	1	0.414–1.268	0.258
Sometimes	1.667	1	0.754–3.681	0.207	0.873	1	0.517–1.474	0.611
Not at all	1				1			
Organization type								
Healthcare	0.507	1	0.227–1.132	0.097	0.806	1	0.443–1.466	0.480
Nonhealthcare	1				1			

Note: *p*-values are significant at 95% confidence interval ($p < 0.05$). Significant *p*-values are shown in bold.

Abbreviations: BMI, body mass index; CED, chronic energy deficiency; COVID-19, coronavirus disease 2019; CI, confidence interval; df, degree of freedom; N, number; OR, odds ratio.

holders working in either healthcare or nonhealthcare organizations. In another study, we noticed that the ongoing Covid-19 pandemic, its responses, and other global health emergencies have created psychological problems among the general population across the world.[62–65] Moreover, we have seen the prevalence of depressive symptoms, anxiety, loneliness, and sleep problems were 44%, 78%, 89%, and 87% among the healthcare professionals in Bangladesh.[18] A study among the Saudi population also observed that the mental health of one-fourth of the study population was affected during the Covid-19 outbreak.[66] However, according to the current study, the prevalence of Covid-19-related fear and depressive symptoms among private service holders from nonhealthcare organizations was higher than healthcare organizations. But another similar study conducted among nurses in Qatar reported that nurses working in non-Covid and Covid facilities had mental stress, depressive symptoms, and anxiety at normal to mild levels, which made no significant differences.[67] A group of German scientists suggested a high prevalence of depressive symptoms, generalized anxiety, and fear symptoms associated with Covid-19 factors among German people amid the pandemic.[68] So, findings and discussion of the above studies support the present study results.

We observed the prevalence of depressive symptoms among private service holders in rural areas was higher than in urban areas. Job security and health precaution-related variables have a vital role in maintaining the mental health of private service holders.[69–71] The current study identified several precaution-related factors for Covid-19 in the alteration of mental health among private job holders. The employees were less likely to have mental health problems whose organization adequately maintained health safety rules at the workplace. According to current findings, isolation or quarantine were mandatory for confirmed or suspected cases in most organizations. But, employees of these organizations are more vulnerable to depressive symptoms than where it is not applicable. Therefore, we can assume that those Covid-19 responses created psychological consequences among their employees. Also, a bunch of evidence reported the risks of getting depressive symptoms and anxiety increased as an outcome of isolation or quarantine.[72–74] The current study observed a high prevalence of depressive symptoms among the employees where a health insurance scheme does not exist, the organization does not perform like previous, does not pay during Covid-19-associated leave, and employees do not get an on-time salary. However, this circumstance is quite common in private sectors in healthcare and several categories of nonhealthcare organizations across the globe.[75–78] Also, in organizations where anybody has lost their job or experienced a salary reduction, depressive symptoms, and fear among existing employees decreased significantly. It might be occurred due to any form of schadenfreude in workplaces.[79,80] Previous studies also reported similar crises in interpersonal relationships and behavior among co-workers.[81–85]

Before the Covid-19 pandemic, the prevalence of mental health problems among the adult population ranged from 6.5% to 31.0% in Bangladesh.[86] The significant increase in fear and depressive symptoms among private service holders during the Covid-19 pandemic (86.27% and 42.16%, respectively) is a concern for Bangladesh. Therefore, the healthcare authorities should take necessary initiatives to promote good mental health during this global health emergency. The National Institute of Mental Health (NIMH) of Bangladesh has declared some actionable items to deal with these additional psychological burdens. This government authority recommended using psychotropics, avoiding repeated scrolling of Covid-19 news, accepting Covid-19-related information after verification, and reducing the frequent use of social media. Also, they advised to adopt some simple relaxation techniques and breathing exercises to be mentally strong during this global health crisis.[87] Inconsistent with them, some earlier research suggested social support, online responses, counseling, and some techniques for

promoting good mental health.[88–95,97,98] Authorities of private establishments may enhance their plans and policy for employees using the findings of this study. Academics and researchers may get access to secondary data for further studies. Moreover, the authorities can apply terror management theory (TMT) to cope up with the elevated fear among private service holders with respect to the COVID-19 pandemic. According to the TMT theory, awareness of death plays an important role to manage potential anxiety by maintaining faith in self-esteem, close relationships, and cultural worldviews. The anxiety-buffering systems might mitigate elevated fear and anxiety due to Covid-19 imposing a sense that the life of every person is meaningful in this nice world.[99]

4.1 | Study strengths and limitations

The present study has several strengths. We used web-based platforms to reach a bulk of individuals, and rapid data collection was possible during public health emergencies. We translated our data collection tools from English into Bengali and provided both versions for better understanding and clarity. This is the first study to evaluate the mental health of private job holders in Bangladesh. Also, this study has a few limitations. A web-based survey may not reach the day-labor class. The self-responding online study might have some respondent-associated biases. A cross-sectional study itself is a limitation to assess the impact of these mental health issues over time. Follow-up studies are appreciated to assess the gravity of the highlighted mental health problems among the private job holders in Bangladesh. Future research can discover their actual mental condition after the pandemic crisis. Findings from the present and follow-up studies would help to develop context-specific mental health interventions in private organizations.

5 | CONCLUSIONS

The present study findings suggest that high proportions of private job holders in Bangladesh have experienced increased fear and depressive symptoms during the early stage of the Covid-19 pandemic. Several Covid-19-related and sociodemographic factors are responsible for the poor mental health of private service holders in Bangladesh. Therefore, we recommend actionable measures for private establishments to improve the affected mental health of their employees due to the Covid-19 pandemic. Authorities can develop efficient mental health and Covid-19 support systems. The findings of our present study have diverse implications. The policymakers and regulatory bodies might take some initiatives to promote mental health in the private sector in Bangladesh.

AUTHOR CONTRIBUTIONS

Md. Rabiul Islam: Conceptualization; supervision; writing—review & editing. **Zabun Nahar**: Data curation; writing—original draft. **Md. Sakhawat Hossain**: Data curation; writing—original draft. **Md. Jamal Hossain**: Data curation; formal analysis; writing—review & editing. **Mohammad Shahriar**: Data curation; formal analysis; writing—review & editing. **Sardar Mohammad Ashraful Islam**: Data curation; formal analysis; writing—review & editing. **Mohiuddin Ahmed Bhuiyan**: Supervision; writing—review & editing.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The authors confirm that the data supporting the findings of this study are available within the article or its supplementary materials.

TRANSPARENCY STATEMENT

Md. Rabiul Islam affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained.

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