

Original Article

Mental Health Status among Midwives during Covid-19 Pandemic Working in Rohingya Camp in Cox's Bazar

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ABSTRACT

Background: Health care providers who are directly involved in the screening, diagnosis, and treatment of COVID-19 patients are at risk of developing psychological difficulties such as depression, anxiety, insomnia, and other mental health problems. The rising number of positive cases, along with overwork, depletion of personal protective instruments, a lack of treatment, and a sense of being under-supported, may all add to the psychological burden of these health care personnel. **Objective:** The aim of the study was to find out the prevalence of mental health condition by analysis the prevalence of anxiety, depression, and stress. **Methodology:** It was a cross sectional study conducted among midwives working in Rohingya camp in Cox's bazar with the sample size of 446. **Result:** The prevalence of normal mild moderate and severe anxiety, depression and stress reported (24.9%, 27.6%, 26.5% and 21.1%), (23.8%, 20.4%, 32.5% and 23.3%) and (33.6%, 27.8, 20.0% and 18.6%). **Conclusion:** High anxiety, depression level found and Working environment was directly co related with anxiety, depression and stress among midwives working in Rohingya camp in Cox's bazar during covid-19.

Keywords: Mental Health, Anxiety, Depression and Stress

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INTRODUCTION

Since August 25, 2017, brutal violence in Rakhine State, Myanmar, has drove[1] an estimated 702,160 Rohingya people across the border into Bangladesh's Cox's Bazar

District. "Bangladesh is one of the world's most populous countries, with an estimated"[2] 165 million people living in a geographical area of around 144,415

square kilometers, making it one of the world's most populous country.

This migration pushes the overall number of Forcibly Displaced Myanmar Nationals (FDMN) in the area to around 914,6781, making it one of the world's fastest growing forced displacement crises. They outnumber the host population by nearly a factor of four in Ukhia and Teknaf, the two Upazilas where the majority have settled, with 87 percent living in unplanned camps and the remaining 13 % residing among host communities[3].

An outbreak of a deadly virus the World Health Organization declared COVID-19 a pandemic by March 2020 which was primarily found in Hubei, China. The sickness due to novel coronavirus (COVID 19) has been spreading throughout the world very fast and 206 countries have faced the event of the disease and the influx that occurred in Bangladesh Myanmar border has also faced.

Health service providers are directly related within the screening, diagnosis and COVID-19 treatment of patients are really in a danger with developing psychological issues depression, anxiety, disorder in sleep related symptoms and related mental health problems. The increasing trend of positive cases along with the overwhelming employment.

Frontline medical staff are in danger of not merely physical effects of the coronavirus sickness however mental ones too information from earlier epidemics, notably once quarantine, suggest that aid staff would possibly develop symptoms of post-traumatic stress disorders, depression, and substance abuse disorders.

Preliminary information from China and European nation throughout the covid-19 pandemic provide more evidence aid workers in China reportable depression (50.3%) anxiety (44.6%) and sleep disorders (34.0%) considerations concerning these information are combined by high rates of pre-existing mental health and substance use disorders during these population, with physicians having rates of suicide among the best of any profession though proof based effective interventions and coverings are on the market, barriers cherish stigma and lack of time limit their uptake, even in traditional times. Less is thought concerning interventions for the psychological state of staff throughout pandemics[4].

METHODOLOGY

Study design

This study had a Quantitative, Descriptive, Cross-sectional study design. The survey was conducted in January 2021 in Rohingya Camp in Cox's Bazar. To measure level of anxiety, depression, and stress among midwives we used DASS-21 scale.

Study population

Our estimated sample size was 495 by using the formula $n = \frac{z^2 pq}{d^2}$; z value was 1.96 at a 5% level, corresponding to a 95 % confidence interval, p was 29.4% the Prevalence of stress among trainee midwives during COVID 19 [5], d was Margin of error considered as 0.04 and q value was 1-p. The researchers invited the participation of all midwives working in working in Rohingya camp in cox's bazar during the covid-19 pandemic. Participants were only female aged between 20-

35years. We excluded those were not in charge of covid-19 unite and male staffs.

Data collection and management

Data collection tools

Socio-demographic and other work-related information was obtained via a self-reported self-administrative survey. Depression, anxiety, and symptoms of stress were measured by DASS-21 scale. This version, the Depression Anxiety Stress Scale 21 (DASS21), has been validated as a reliable self-administered psychological instrument consisting of 21 items in three domains. Each domain comprises seven items assessing three dimensions of mental health symptoms: depression, anxiety, and stress. Respondents were required to indicate the presence of these symptom(s) over the past week on a 4-point Likert scale scoring from 0 to 3 (0: did not apply at all over the last week, 1: applied to some degree, or some of the time; 2: applied a considerable degree, or a good part of time; 3: applied very much or most of the time). The more severe the symptoms in each dimension, the higher the subscale scores. This instrument is frequently used in clinical and non-clinical samples. We measure the frequency of socioeconomical and work-related factors. We used chi-square test to find out the correlation between all independent factors with anxiety,

depression, and stress. P value <0.05 considered as significant value at 95% CI.

Data management

The study was initiated with the design of an anonymous survey for assessing depression, anxiety, and stress in the target population. Prospects who were working as midwives in Rohingya camp during pandemic and willing to participate in the survey were recruited, whereas those who returned incomplete surveys and had a history of psychiatric disorders were excluded from the research. All data was analyzed by IBM SPSS v23.

RESULT

Frequency distribution

Among 446 participants the mean age was 24.36 ± 1.48 years, monthly mean amount was 37369.56 ± 15752.20 Taka. 31.2% were married, 79.6% had more than 4 people in their family, 37.4% had children, 75.1% had senior people aged more than 60 years and 18.8% had chronic sick patients in their family, 11.4% worked in governmental hospital, 85.7% hospital contained enough precautions, 1.6% participants got additional salary allowance and 42.6% worked overtime as Covid-19 duty and 24.2% faced social adversity as they are working in covid-19 dedicated hospital.[Table-1]

Table1: Distribution of socio-economical and work related profile

		N	N %
Age	20-25	370	83.0%
	26-30	76	17.0%
Marital Status	Single	307	68.8%
	Married	139	31.2%
Family members	<4 people	91	20.4%
	> 4 people	355	79.6%

Children	Yes	167	37.4%
	No	279	62.6%
Senior people	Yes	335	75.1%
	No	111	24.9%
Chronic sick patient	Yes	84	18.8%
	No	362	81.2%
Hospital type	Government	51	11.4%
	Private	395	88.6%
Precautions in hospital	Enough	382	85.7%
	Insufficient	64	14.3%
Additional salary allowance	Yes	7	1.6%
	No	439	98.4%
Overtime because of Covid-19	Yes	190	42.6%
	No	256	57.4%
Social adversity	Yes	108	24.2%
	No	338	75.8%

Prevalence of Mental health

The prevalence of normal, mild, moderate, and severe levels of anxiety, depression and stress reported 24.9% normal anxiety, 27.6% mild anxiety, 26.5% moderate anxiety, 21.1% severe anxiety; 23.8%

normal depression, 20.4% mild depression, 32.5% moderate depression, 23.3% severe depression; 33.6% normal stress, 27.8% mild stress, 20% moderate stress and 18.6% were severe stress.

Table 2: Prevalence of Mental health

Mental health	Normal	Mild	Moderate	Severe
Anxiety	111	123	118	94
	24.9%	27.6%	26.5%	21.1%
Depression	106	91	145	104
	23.8%	20.4%	32.5%	23.3%
Stress	150	124	89	83
	33.6%	27.8%	20.0%	18.6%

Correlation analysis

Monthly income ($p < 0.001$, $\chi^2 = 106.9$), having children in family ($p = 0.001$, $\chi^2 = 16.9$), having chronic sick patient in family ($p = 0.013$, $\chi^2 = 10.8$) and faced social adversity ($p < 0.001$, $\chi^2 = 22.3$) reported significant association with anxiety. Participants age ($p = 0.035$, $\chi^2 = 8.5$), monthly income ($p < 0.001$,

116.3), having senior person in family ($p = 0.009$, $\chi^2 = 11.6$), having chronic sick patient in family ($p = 0.004$, $\chi^2 = 13.1$), hospital type where participants worked ($p < 0.001$, $\chi^2 = 19.9$), faced social adversity ($p = 0.010$, $\chi^2 = 11.4$), working overtime ($p = 0.006$, $\chi^2 = 12.2$) reported significant association with depression. Participants age ($p < 0.001$, $\chi^2 = 42.2$), monthly income

($p < 0.001$, $\chi^2 = 196.4$), marital status ($p = 0.001$, $\chi^2 = 15.7$), having children in family ($p < 0.001$, $\chi^2 = 52.9$), having senior person in family ($p < 0.001$, $\chi^2 = 25.9$), having chronic sick patient in family ($p < 0.001$, $\chi^2 = 31.1$), hospital type where

participants worked ($p < 0.001$, $\chi^2 = 21.9$), faced social adversity ($p < 0.001$, $\chi^2 = 115.5$), getting additional salary allowance ($p < 0.001$, $\chi^2 = 19.5$) and working overtime ($p < 0.001$, $\chi^2 = 121.4$) reported significant association with stress.

Table: Distribution of anxiety, depression and stress by socioeconomical and work related profile

Family members				Marital Status		Age			Factors	
> 4 people		<4 people		Married	Single	26-30	20-25		Normal	Anxiety
19.30%	86	5.60%	25	9.00%	40	5.20%	19.70%	88		
22.20%	99	5.40%	24	8.50%	38	4.00%	23.50%	105	Mild	
21.50%	96	4.90%	22	7.40%	33	5.20%	21.30%	95	Moderate	
16.60%	74	4.50%	20	6.30%	28	2.70%	18.40%	82	Severe	
0.888				0.598		0.350			p	
0.64				1.88		3.28			X ²	
18.40%	82	5.40%	24	9.40%	42	4.90%	18.80%	84	Normal	Depression
16.80%	75	3.60%	16	6.10%	27	2.20%	18.20%	81	Mild	
26.50%	118	6.10%	27	8.50%	38	4.30%	28.30%	126	Moderate	
17.90%	80	5.40%	24	7.20%	32	5.60%	17.70%	79	Severe	
0.679				0.151		0.035			p	
1.514				5.298		8.584			X ²	
25.30%	113	8.30%	37	14.30%	64	1.80%	31.80%	142	Normal	Stress
21.50%	96	6.30%	28	6.10%	27	8.30%	19.50%	87	Mild	
17.50%	78	2.50%	11	6.10%	27	5.60%	14.30%	64	Moderate	
15.20%	68	3.40%	15	4.70%	21	1.30%	17.30%	77	Severe	
0.118				0.001		<0.001			p	
5.864				15.706		42.249			X ²	

Hospital type		Chronic sick person			Senior person			Children		
Privat	Govt.	No	Yes	No	Yes	No	Yes	No	Yes	
99	2.70%	12	22.20%	99	2.70%	12	5.40%	24	19.50%	<0.001
114	2.00%	9	22.20%	99	5.40%	24	8.50%	38	19.10%	85
106	2.70%	12	21.70%	97	4.70%	21	6.70%	30	19.70%	88
76	4.00%	18	15.00%	67	6.10%	27	4.30%	19	16.80%	75
0.501			0.013				0.248			0.001
7.81			10.81				4.12			17.00
96	2.20%	10	16.80%	75	7.00%	31	5.60%	25	18.20%	81
69	4.90%	22	15.90%	71	4.50%	20	7.80%	35	12.60%	56
131	3.10%	14	28.30%	126	4.30%	19	6.70%	30	25.80%	115
99	1.10%	5	20.20%	90	3.10%	14	4.70%	21	18.60%	83
<0.001			0.004				0.009			0.718
19.969			13.183				11.659			1.348
122	6.30%	28	22.90%	102	10.80%	48	11.20%	50	22.40%	100
123	0.20%	1	26.00%	116	1.80%	8	4.00%	18	23.80%	106
78	2.50%	11	17.30%	77	2.70%	12	2.70%	12	17.30%	77
72	2.50%	11	15.00%	67	3.60%	16	7.00%	31	11.70%	52
<0.001			<0.001				<0.001			<0.001
21.923			31.124				25.946			52.941

Working overtime			Additional salary allowance				Social adversity					
No		Yes		No		Yes		No		Yes		
12.80%	57	12.10%	54	24.00%	107	0.90%	4	16.80%	75	8.10%	36	22.20%
15.90%	71	11.70%	52	27.40%	122	0.20%	1	20.60%	92	7.00%	31	25.60%
15.00%	67	11.40%	51	26.50%	118	0.00%	0	18.60%	83	7.80%	35	23.80%
13.70%	61	7.40%	33	20.60%	92	0.40%	2	19.70%	88	1.30%	6	17.00%
0.279			0.139				<0.001					
3.84			5.50				22.35					
15.70%	70	8.10%	36	23.50%	105	0.20%	1	17.70%	79	6.10%	27	21.50%
13.70%	61	6.70%	30	19.70%	88	0.70%	3	18.20%	81	2.20%	10	15.50%
16.80%	75	15.70%	70	32.10%	143	0.40%	2	23.50%	105	9.00%	40	29.40%
11.20%	50	12.10%	54	23.10%	103	0.20%	1	16.40%	73	7.00%	31	22.20%
0.006			0.511				0.01					
12.295			2.309				11.436					
29.80%	133	3.80%	17	33.60%	150	0.00%	0	33.60%	150	0.00%	0	27.40%
6.70%	30	21.10%	94	27.60%	123	0.20%	1	12.30%	55	15.50%	69	27.60%
9.20%	41	10.80%	48	18.60%	83	1.30%	6	15.90%	71	4.00%	18	17.50%
11.70%	52	7.00%	31	18.60%	83	0.00%	0	13.90%	62	4.70%	21	16.10%
<0.001			<0.001				<0.001					
121.497			19.593				115.502					

Logistic Regression

Based on the results of multilevel linear regression the mental health status from marital status ($\beta = -0.127$, $p = 0.026$), monthly income ($\beta = -0.125$, $p = 0.016$), family member ($\beta = 0.123$, $p = 0.022$), social adversity ($\beta = 0.239$, $p < 0.001$) and salary allowance ($\beta = 0.094$, $p = 0.089$) were the significant predictive factors of anxiety. Such that from marital status and monthly income each independently had a significant negative correlation with anxiety. The mental health status from having children in family ($\beta = -0.136$, $p = 0.016$), having chronic sick patient in family ($\beta = 0.127$, $p = 0.011$), type of hospital where participants worked ($\beta = 0.171$, $p = 0.011$), precautions of hospital ($\beta = 0.145$, $p = 0.028$) and working overtime

($\beta = -0.242$, $p = 0.001$) were the significant predictive factors of depression. Such that from having children in family and working overtime each independently had a significant negative correlation with depression. The mental health status from marital status ($\beta = -0.127$, $p = 0.026$), monthly income ($\beta = -0.118$, $p = 0.024$), having senior person in family ($\beta = 0.112$, $p = 0.035$), salary allowance ($\beta = -0.111$, $p = 0.047$) and working overtime ($\beta = -0.181$, $p = 0.014$) were the significant predictive factors of stress. Such that from marital status, monthly income, salary allowance, and working overtime each independently had a significant negative correlation with stress.

Table: Multiple regression

Multiple regression	Anxiety				Depression				Stress			
	SE	β	p	95% CI	SE	β	p	95% CI	SE	β	p	95% CI
Age	0.042	-0.018	0.758	(-.096-.070)	0.043	0.004	0.945	(-.082-.088)	0.044	-0.034	0.558	(-.112-.060)
Marital Status	0.132	-0.127	0.026	(-.555-.036)	0.134	-0.085	0.137	(-.463-.064)	0.136	-0.127	0.026	(-.571-.037)
Monthly income	0	-0.125	0.016	(.000-.000)	0	-0.061	0.241	(.000-.000)	0	-0.118	0.024	(.000-.000)
Family member	0.143	0.123	0.022	(.049-.611)	0.145	0.031	0.565	(-.202-.370)	0.147	0.088	0.103	(-.049-.530)

Work overtime	Salary allowance	Social adversity	Precautions	Type of Hospital	Chronic sick patient	Senior person	Children
0.16	0.48	0.171	0.201	0.225	0.137	0.131	0.125
-0.117	0.094	0.239	0.096	0.024	-0.096	-0.051	-0.079
0.111	0.089	<0.001	0.141	0.715	0.053	0.331	0.159
(-.570-.059)	(-.126-1.760)	(.267-.939)	(-.099-.692)	(-.360-.525)	(-.534-.004)	(-.386-.130)	(-.421-.069)
0.163	0.488	0.174	0.204	0.229	0.139	0.134	0.127
-0.242	0.026	0.096	0.145	0.171	0.127	-0.018	-0.136
0.001	0.64	0.161	0.028	0.011	0.011	0.738	0.016
(-.854-.214)	(-.73-1.186)	(-.097-.586)	(.049-.853)	(.136-1.036)	(.080-.627)	(-.307-.218)	(-.555-.057)
0.165	0.494	0.176	0.207	0.232	0.141	0.135	0.128
-0.181	-0.111	-0.059	0.016	0.091	0.082	0.112	-0.076
0.014	0.047	0.387	0.811	0.172	0.102	0.035	0.177
(-.729-.081)	(-1.955-.013)	(-.499-.194)	(-.358-.457)	(-.139-.774)	(-.046-.508)	(.021-.553)	(-.426-.079)

DISCUSSION

The current study designed to explore the mental health status of midwives worked in Rohingya camp during covid-19. By using DASS-21 scale we have found the prevalence rate of anxiety, depression, and stress those are represent the level of mental health status.

DASS-21 is one of the most common scaling methods for analyzing psychological pattern. A systematic review

was done to analysis the meta-analytic factor of the depression anxiety stress scales by using DASS-21 [6]. DASS-21 scale was used in a pilot study conducted as a screener for depression in substance use disorder inpatients [7]. A cross sectional study conducted to assess the psychometric characteristics of the 21-item version of the Depression, Anxiety, and Stress Scales (DASS-21) among different racial groups. The DASS-21 was chosen because it appears to be a reliable and easy

to administer measure, ideal for both clinical and research purposes [8].

We have conducted our study in midwives and all our respondents were female. The prevalence of normal, mild, moderate, and severe levels of anxiety, depression and stress reported 24.9% normal anxiety, 27.6% mild anxiety, 26.5% moderate anxiety, 21.1% severe anxiety; 23.8% normal depression, 20.4% mild depression, 32.5% moderate depression, 23.3% severe depression; 33.6% normal stress, 27.8% mild stress, 20% moderate stress and 18.6% were severe stress.

A similar a cross-sectional study was conducted in Australia to find out the prevalence of burnout, depression, anxiety, and stress in midwives among them 98% were female. They found around 20% of midwives experienced moderate/severe/extreme levels of depression (17.3%), anxiety (20.4%), and stress (22.1%) symptoms [9]. Another cross-sectional study in UK conducted to assess levels of burnout, depression, anxiety, and stress experienced by UK midwives, according to their findings over one third of participants scored in the moderate/severe/extreme range for stress (36.7%), anxiety (38%) and depression (33%) [10]. A descriptive, cross-sectional survey was conducted among Lithuanian midwifery workforce to investigate the prevalence of burnout, depression, anxiety, and stress and found the midwives reported moderate to extreme levels of depression (16.3%), anxiety (28.4%) and stress (13.9%) symptoms [11].

Participants monthly income and having chronic sick patient in family found significantly associated with anxiety,

depression, and stress. Having children in family found significantly associated with both anxiety and stress. Anxiety and depression reported significantly associated with facing social adversity. Depression and stress were significantly associated with Participants age, having senior person in family, hospital type where participants worked and working overtime. Participants marital status and getting additional salary allowance was significantly associated with stress.

A cross-sectional study of emergency medical officers in Malaysian hospitals found that depression, anxiety, and stress were not associated with age, job experience, ethnicity, marital Status, number of shifts, or the kind of system used in various hospitals ($P>0.05$) [12]. A study in Hong Kong found that chronic past-year sickness was a strong predictor of past-week depression, anxiety, and stress among nurses. Dissatisfaction with one's job has been linked to depression. Anxiety was associated to marital Status, and stress was strongly correlated to younger age [13]. A cross-sectional study conducted in Brazil to investigate the level and factors associated of anxiety, depression, and stress among nursing professionals discovered that age, length of service in the profession, job satisfaction, and work shift showed a statistically significant association with depression, while employment contract, length of service in the UH, length of service in the unit prior to the opening of the COVID-19 unit, and job satisfaction showed a statistically significant association with stress [14].

We have found marital status and monthly income was negatively correlated with

anxiety and stress. Getting additional salary allowance reported positively correlated with anxiety and negative correlated with stress. Social adversity was positively correlated with the anxiety. Working overtime was negatively correlated with depression and stress. Having senior person was positively correlated with stress. Having children in family and working overtime reported negatively correlated and having chronic sick patient in family, type of hospital where participants worked, and precautions of hospital positively correlated with depression.

In Peru, a logistic regression analysis among nursing apprentices found only depression and age ($p = 0.040$) had a significant relationship, with an OR of 2.0 (95% CI 1.3–3.1), and anxiety and married status ($p = 0.043$) had an OR of 1.7 (95% CI 1.0–2.6). and students' lifestyles and sex ($p = 0.003$) and OR= 1.1 (95% CI 1.1–2.3) [15]. Multiple regression analyses revealed that several stressful life events connected to social activities were correlated with medical students' psychological test scores in research conducted in Turkey among medical students [16]. According to the results of a logistic regression study in Yazd, Iran that having a history of chronic conditions and having a low income were both predictor factors for depression. Gender, poor educational level, history of chronic illnesses, and low income were also found to be anxiety predictors. Stress was associated by work type, smoking, and a history of chronic illnesses [17].

CONCLUSION

High anxiety, depression level found and Working environment was directly co

related with anxiety, depression and stress among midwives working in Rohingya camp in Cox's bazar during covid-19. More investigation should be carried out on causality of anxiety depression and stress and require revealing the actual midwives' perception regarding mental health status.

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