

Impact of COVID-19 on Mental Health among the Armed Forces Personnel

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Abstract

Introduction: There is a wide consensus that the COVID-19 pandemic not only affects physical health, but also mental health and well-being. It can lead to heightened levels of distress and cause anxiety, fear, denial or depressive symptoms among the military personnel.

Objective: To assess the impact of COVID-19 on mental health among the confirmed cases of Armed Forces Personnel of Sylhet and Jalalabad Cantonment.

Methods: A total of 180 participants were selected using convenience sampling. The mental health was assessed by a 22 items Impact of Event Scale-Revised (IES-R) adopted from Horowitz 1979. The scale comprised of 3 subscales of intrusion, avoidance and hyper-arousal which represents major symptoms of post-traumatic stress. Stress for job, financial issue, home and feeling horrified or helpless due to the COVID-19 were also assessed.

Results: This study revealed that 47.7% were experiencing moderate distress whereas 30.1% were experiencing high to severe post-COVID stress. Mean stress was observed as 41.5 ± 19.0 . Mean Intrusion (34.9 ± 22.9) and Hyper-arousal (27.8 ± 23.5) depicted mild to moderate but Avoidance (58.5 ± 20.9) revealed a higher level of stress. A majority were not at all stressed for their job (56.7%) or financial issue (49.4%). But stress for family (28.4%), feeling horrified (35.6%) and helpless (36.6%) were quite high.

Conclusion: The study observed a moderate to high prevalence of mental health symptoms among the COVID affected personnel which was considered to be significant and demands appropriate intervention.

Key-words: Post Traumatic Stress Disorder (PTSD), Impact of Event Scale (IES), Intrusion, Avoidance, Hyper-arousal.

Introduction

The coronavirus disease 2019 has been identified as the cause of an outbreak of respiratory illness. It was first detected in Wuhan, China, but within a very short time span became a public health emergency in an epidemic form¹. On 11th February 2020, WHO declared the name of this disease as COVID-19; later the virus was renamed as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV 2) by the International Committee on

Taxonomy of Viruses (ICTV). The total number of confirmed cases rose up to 21,916,639 globally. More than 215 countries were affected with 774,720 reported deaths till 18 August 2020².

The corona virus pandemic was confirmed to have spread to Bangladesh on March and the first three known cases were reported on 07 March 2020³. Bangladesh, one of the world's most densely populated areas, started combating the spread of the disease by reinforcing its health sector⁴. Infections stayed low till the end of March but saw a steep rise in April. Till 18 August 2020 total confirmed cases were 282,344 with 3,740 reported deaths. Recovery state is so far 163,825 as an official statistic which implies around 53.83%³. There is a wide consensus that the COVID-19 pandemic not only affects physical health, but also mental health and well-being⁵. It might also lead to high level of stress, fear, anxiety or related symptoms⁶.

The spread of fear, anxiety or panic influences not only emotional responses to current circumstances, but also may lead to a worsening of pre-existing psychiatric disorders. Affective and anxiety disorders, as well as obsessive-compulsive disorder might be reinforced⁷. The psychological response of a population plays an important role in modelling both spread of the disease and the occurrence of emotional distress⁸. Immediate health impacts of the virus and the consequences of physical isolation may act as a stressor to many people. Consequences of infection, hospitalization, physical distance may increase the level of anxiety to many people⁹⁻¹¹.

The spread of the global pandemic has also affected the Sylhet and Jalalabad Cantonment as well. First case at Sylhet Area (Sylhet and Jalalabad Cantonment) was diagnosed on 17 May 2020. Afterwards there was an upsurge of COVID cases which lasted till the end of July. The situation came to a reasonable recession by the first week of August 2020 with definite epidemiological interventions like quarantine, contact tracing and maintaining health and hygiene guidelines by all members. Till 18 August 2020 a total of 346 positive cases were enlisted among them 290 were combatants.

The situation might cause mental health problems such as stress, anxiety, depressive symptoms, insomnia, denial, anger and fear to the military personnel and their families. Facing the upcoming

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public health crisis of the COVID-19 pandemic, it was felt important to evaluate its psychological impact on the affected population.

Materials and Methods

This cross sectional study was carried out from 11 March 2020 to 18 August 2020 with the aim to assess the impact of COVID-19 on mental health among the Armed Forces Personnel residing at Sylhet Area (Sylhet and Jalalabad Cantonment). A total of 180 participants were selected using convenience sampling. Ethical issue was addressed. The mental health was assessed by Impact of Event Scale-Revised (IES-R) adopted from Horowitz 1979. The 22 item scale ranging from 0 (not at all) to 4 (extremely) which comprised of 3 subscales representing the major symptoms of post-traumatic stress: intrusion, avoidance, and hyper-arousal. The intrusion subscale included 8 items related to intrusive feelings, nightmares and intrusive thoughts associated with the traumatic event. The avoidance subscale (8 items) related to avoidance of feelings, ideas and situations. The hyper-arousal subscale (6 items) related to difficulty in concentrating, hyper-vigilance, anger and irritability. Thus, the scores for each subscale range from 0 to 4.

IES-R scale had good internal consistency (Cronbach alpha coefficient of 0.94) as well as each subscale (intrusion = 0.92, avoidance = 0.82, hyper-arousal = 0.89) were acceptable. The total score ranging 0-88 for each respondent was converted and evaluated through a 100-point scale for uniformity and better understanding. Higher scores indicated higher levels of mental stress. The extent of Post-Traumatic Stress was categorized by using a five point Likert scale 'Not at all (0-0.09)', 'Mild (0.1-1.0)', 'Moderate (1.1-2.0)', 'High (2.1-3.0)' and 'Severe (3.1-4.0)¹²⁻¹⁵. The following domains were also assessed: stress for job, financial stress, stress for home, horrified feelings, apprehensive and feeling helpless due to the COVID-19¹². Data obtained was entered into SPSS-23 version and descriptive and inferential statistics were carried out. P-value < 0.05 was considered as significant.

Results

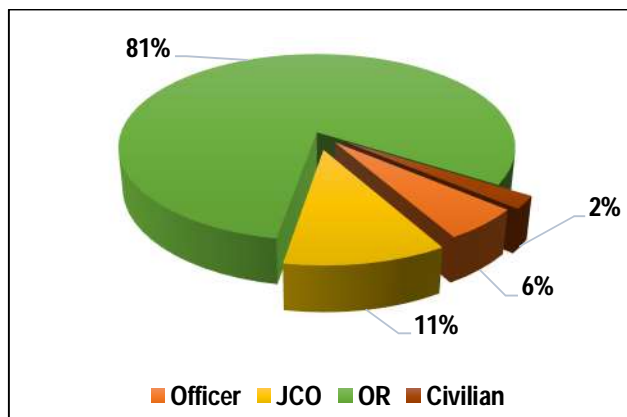


Figure-I: Distribution of respondents by category (n=180)

Among respondents' majority 81.1% (146) were ORs (NCO and Sainik), followed by JCO 11.1% (20), Officers 5.6% (10) and Civilian 2.2% (04) (Figure-I).

Table-I: Distribution of respondents by duration of stay at hospital (n=180)

Category	N	Mean	Std. Deviation	Minimum	Maximum	Statistics
Officer	10	13.0	7.3	5	26	F=1.867 df=176 p ≥ 0.05
JCO	20	14.4	3.9	8	23	
ORs	146	15.6	5.3	4	33	
Civilian	4	10.8	4.6	4	14	
Total	180	15.2	5.4	4	33	

Table-II delineates the duration of stay at hospital of the respondents. Mean stay was 15.2 ± 5.4 days without any statistical significance between the groups.

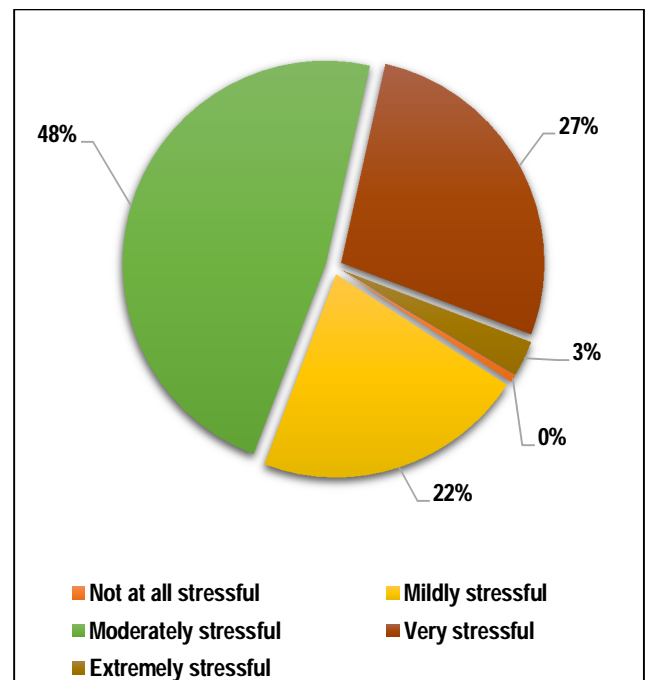


Figure-II: Distribution of respondents by level of stress (n=180)

About 48% (84) of the participants were suffering from moderate level of stress. Very stressful and extremely stressful situation was observed among 28% (43) and 03% (05) cases. Mild stress was observed among 22% (38) participants (Fig-II).

Table-II: Distribution of respondents by mental stress measured with IES-R (n=180)

Category	Mental Stress (Range 0 - 100)							Statistics
	Not at all	Mild	Moderate	High	Severe	Total	Mean \pm SD	
Officer	0 0.0%	6 60.0%	3 30.0%	1 10.0%	0 0.0%	10 100.0%	29.5 \pm 20.4	F=2.213 df=3 p = 0.088
JCO	0 0.0%	2 10.0%	9 45.0%	9 45.0%	0 0.0%	20 100.0%	47.1 \pm 17.6	
ORs	1 0.7%	30 21.1%	70 49.3%	36 25.4%	5 3.5%	142 100.0%	41.3 \pm 18.9	
Civilian	0 0.0%	0 0.0%	2 50.0%	2 50.0%	0 0.0%	4 100.0%	50 \pm 17.5	
Total	1 0.6%	38 21.6%	84 47.7%	48 27.3%	5 2.8%	176 100.0%	41.5 \pm 19.0	

Table-II provided information about the distribution of mental stress measured by IES-R among the respondents. High stress was observed mostly among the civilians (50%) followed by JCOs (45%) and ORs (25.4%) respectively. Severe stress was represented only among some ORs (3.5%). In general, 47.7% were suffering from moderate stress whereas 30.1% were experiencing high to severe stressful situation. Mean stress was highest among the civilians (50 ± 17.5), followed by JCOs (47.1 ± 17.6) and ORs (41.3 ± 18.9). Mean stress was observed as 41.5 ± 19.0 .

Table-III: Distribution of Intrusion, Avoidance and Hyper-arousal (IES-R Subscales) among the respondents (n=180)

IES-R Sub Scale (Range 0 -100)	Not at all	Mild	Moderate	High	Severe	Mean \pm SD	Min-Max	Statistics
Intrusion	55 33.1%	48 28.9%	37 22.3%	20 12.0%	6 3.6%	34.9 \pm 22.9	0.00 – 96.9	F=3.08 df=3 p = 0.029
Avoidance	12 7.1%	18 10.7%	54 32.0%	53 31.4%	32 18.9%	58.5 \pm 20.9	0.00 – 103.1	F=1.73 df=3 p = 0.161
Hyper arousal	70 41.2%	46 27.1%	39 22.9%	10 5.9%	5 2.9%	27.8 \pm 23.5	0.0 – 95.8	F=3.08 df=3 p = 0.161

Table-III revealed that Intrusion and Hyper-arousal was mild (28.9%) (27.1%) to moderate (22.3%) (22.9%); whereas Avoidance was much higher (31.4%) to severe (18.9%) among the respondents. Though Mean Intrusion (34.9 ± 22.9) and Hyper-arousal (27.8 ± 23.5) depicted mild to moderate but Avoidance (58.5 ± 20.9) revealed as a higher level of stress factor.

Table-IV: Distribution of Respondents by Negative Mental Health Impacts (n=180)

Negative Mental Health Impacts	Not at all	A little bit	Moderate	High	Extreme	Total
Increased stress for job	102 56.7%	26 14.4%	32 17.8%	12 6.7%	8 4.4%	180 100.0%
Increased financial stress	89 49.4%	30 16.7%	28 15.6%	23 12.8%	10 5.6%	180 100.0%
Increased stress for home	58 32.2%	31 17.2%	40 22.2%	23 12.8%	28 15.6%	180 100.0%
Feel horrified due to COVID-19	33 18.3%	30 16.7%	53 29.4%	32 17.8%	32 17.8%	180 100.0%
Feel helpless due to COVID-19	37 20.6%	40 22.2%	37 20.6%	35 19.4%	31 17.2%	180 100.0%

Negative impacts on mental health was explored among the participants (Table-IV). A majority were not at all stressed for their job (56.7%) or financial issue (49.4%). Around 28.4% were high to extreme stressed for home and family. Feeling horrified and helpless due to COVID-19 was quite high to extreme among 35.6% and 36.6% respectively

Discussion

High stress was observed mostly among the civilians (50%) followed by JCOs (45%) and ORs (25.4%) respectively in the present study. Severe stress was represented only among some ORs (3.5%). In general, majority (47.7%) were suffering from moderate stress whereas 30.1% were experiencing high to severe stressful situation. Mean stress (0-100) was highest among the civilians (50 ± 17.5), followed by JCOs (47.1 ± 17.6) and ORs (41.3 ± 18.9). Mean stress was observed as 41.5 ± 19.0 .

The findings of Arnout and Kresimir^{16,17} indicated that the increased prevalence of COVID-19 around the globe presents a serious threat on the mental health of individuals, as the level of psychological problems were increased. Hossain and few other studies suggested that people affected by COVID-19 may have a high burden of mental health problems, including depression, anxiety disorders, stress, emotional disturbance and post-traumatic stress symptoms¹⁸⁻²¹.

Patients with mental health conditions, such as depression and anxiety have been reporting relapses in their mental state, such as fear-triggered panic attacks or resurface of psychosomatic symptoms¹¹. The spread of fear, anxiety and even panic influences not only emotional responses to current circumstances, but also leads to a worsening of pre-existing psychiatric disorders. Affective and anxiety disorders, as well as obsessive-compulsive disorders might be reinforced⁷.

A study conducted in Liaoning Province reflected a mild stressful impact (IES 13.6 ± 7.7). only 7.6% participants depicted high stress (IES ≥ 26). The overall mean scores for the intrusion and avoidance scales in participants were 12.7 ± 2.6 and 13.4 ± 2.9 , respectively¹². A study was conducted among 194 cities of China with 1210 respondents (January and February 2020). The study revealed moderate to severe psychological impact (54%), anxiety symptoms (29%) and depressive symptoms (17%)⁸. Intrusion and Hyper-arousal was mild (28.9%) (27.1%) to moderate (22.3%) (22.9%); whereas Avoidance was much higher (31.4%) to severe (18.9%) among the respondents. Though mean Intrusion (34.9 ± 22.9) and Hyper-arousal (27.8 ± 23.5) depicted mild to moderate but Avoidance (58.5 ± 20.9) revealed as a higher level of stress factor.

Banna et al²² in a study conducted in Bangladesh revealed that 59.7% suffered from stress symptoms, however, mild (28.0%) and moderate (22.0%) symptoms were more common. One third (33.7%) of participants reported symptoms of anxiety; among them, 11.6% had moderate anxiety, and 11.6% had extreme anxiety. More than half (57.9%) of the respondents experienced

depressive symptoms, including mild (14.5%), moderate (21.2%), and severe (13.2%). In a community based study with 1577 participants; about one-fifth of respondents reported probable anxiety (23.8%) and probable depression (19.2%)²³.

Negative impacts on mental health in the current study was also explored among the participants. A majority were not at all stressed for their job (56.7%) or financial issue (49.4%). Around 28.4% were high to extreme stressed for home and family. On the other hand feeling horrified and helpless due to COVID-19 was quite high to extreme among 35.6% and 36.6% respectively. Zhang and Ma¹² depicted that following the onset of the pandemic in China, more than half of the participants (69.2%) reported no increased stress from work. Additionally, 76.8% mentioned that they did not experience increased financial stress arising from the pandemic. A total of 74.5% of participants reported that they did not experience increased stress from home. On the other hand, 52.1% of participants reported that they felt horrified and apprehensive due to the COVID-19 pandemic. However, the majority of participants (53.3%) did not feel helpless due to the pandemic¹². But according to Banna et al, a majority (77.2%) in Bangladesh believed that the pandemic would negatively impact their job, income, or education. Over half (55%) also worried that the pandemic would negatively affect their mental health due to an existing physical health condition. Negative perceptions regarding the COVID-19 pandemic were significantly associated with worse mental health scores²⁴.

Conclusion

The study observed a moderate to high prevalence of mental health symptoms among the COVID affected personnel. Nearly one third was found to be experienced high level of stress which demands appropriate intervention. The mental health system needs to be addressed with response and recovery to face the inevitable challenge of COVID-19 pandemic.

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