

Introduction

COVID-19 pandemic is going to impact various aspects of life including significant mental health challenges among the adolescents. A little research has been reported on the mental health status of Bangladeshi people during the COVID-19 pandemic, where there is a lack of data on adolescents.

Aim

This study aimed to investigate the prevalence and associated factors of depression, anxiety and stress among the adolescents of Bangladesh during COVID-19.

Methods and Materials

- A multistage random sampling method was applied in this cross-sectional study.
- A total of **2,030 adolescents** (14-19 years) were enrolled from four urban and four rural areas of **eight administrative divisions** of Bangladesh.
- Face-to-face interviews were conducted using Research Electronic Data Capture software through Computer Assisted Personal Interviewing.
- The Depression, Anxiety, and Stress-21 scale was used.
- The outcome variables were depression, anxiety and stress scores.
- Ethical clearance was taken from the local Institutional Review Board (Memo no: BSMMU/2021/4408).



Figure 1: Study places

Results



Figure 2: Characteristics of the study participants

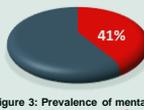
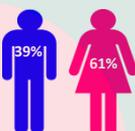


Figure 3: Prevalence of mental health disorders

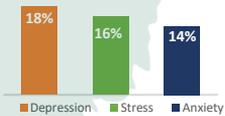


Figure 4: Prevalence of depression, anxiety, and stress

Table: Multiple linear regression analysis of factors associated with depression, anxiety, and stress among the participants (n = 2,030)

Variables*	Depression [†]		Anxiety [‡]		Stress [§]	
	B (SE B)	p-value	B (SE B)	p-value	B (SE B)	p-value
Constant	-5.95 (1.56)	<0.001	-5.07 (1.30)	<0.001	-2.33 (1.89)	0.218
Age in years	0.58 (0.09)	<0.001	0.48 (0.07)	<0.001	0.64 (0.10)	<0.001
Sex: Female (Ref. male)	1.41 (0.24)	<0.001	1.89 (0.2)	<0.001	1.89 (0.28)	<0.001
Parental marital status: Separated, widowed, divorced (ref. married)	1.67 (0.38)	<0.001	0.35 (0.32)	0.276	1.33 (0.46)	0.004
Number of siblings	0.01 (0.1)	0.934	0.01 (0.08)	0.918	-0.02 (0.12)	0.886
Residence: Urban (ref. rural)	1.71 (0.23)	<0.001	0.80 (0.19)	<0.001	2.62 (0.28)	<0.001
Food insecurity (ref. security)	2.44 (0.28)	<0.001	1.36 (0.24)	<0.001	2.30 (0.34)	<0.001
Positive parenting	-0.25 (0.05)	<0.001	-0.21 (0.04)	<0.001	-0.17 (0.06)	0.008
Inconsistent parenting discipline	-0.05 (0.04)	0.221	0.04 (0.03)	0.190	-0.14 (0.05)	0.002
Poor parental supervision	0.22 (0.04)	<0.001	0.09 (0.04)	0.008	0.04 (0.05)	0.516

[†]Depression, R²=.152, F (9, 2020) = 40.079, p < .001; [‡]Anxiety, R²=.117, F (9, 2020) = 29.605, p < .001; [§]Stress, R²=.137, F (9, 2020) = 35.68, p < .001
 Abbreviations: B, unstandardized regression coefficient; SE-B, standard error for the unstandardized regression coefficient; CI: Confidence interval

Discussions

- This is the first population-based study to identify the prevalence and risk factors associated with depression, anxiety, and stress among adolescents in Bangladesh.
- This prevalence is higher than the prevalence found in the National Mental Health Survey in Bangladesh in 2018-19, suggesting that the social isolation and worries about contracting COVID-19 have exacerbated these mental health issues
- Its findings are certainly beneficial but should be interpreted considering some **limitations**.
 - ✓ Specifically, owing to the cross-sectional nature of the study, it was not possible to determine causal relationships
 - ✓ There are risk of recall bias and response bias.
 - ✓ Finally, type-1 error inflation could have been caused using multiple statistical tests without performing statistical correction of *p-values*.

Conclusion

Given that mental health problems during adolescence increase the risk of adult mental distress, responsible authorities must take immediate action if we are to avert a mental health epidemic in the post-COVID era.

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