

RESEARCH PAPER

Mental Stress of the Spouses of the Physicians Working in COVID-19 Dedicated Tertiary Public Hospitals

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Abstract

Background: In the COVID-19 pandemic spouses of the physicians were under a lot of stress.

Objective: The objective of the study was to assess the state of mental stress of the spouses of the physicians working in COVID-19 dedicated tertiary public hospitals.

Methods: A descriptive cross-sectional study was conducted among 265 spouses of the physicians working in COVID-19 dedicated tertiary public hospitals. The study period was from 1st January to 31st December 2021. Respondents were selected on the basis of inclusion and exclusion criteria and samples were taken by purposive sampling technique. Data were collected by face-to-face and telephone interview through pretested semi-structured questionnaires. To assess the state of mental stress, PSS (perceived stress scale) was used.

Results: Among 265 respondents 38.5% were male and 61.5% were female. Among them 72.8% had children and 49.8% had senior citizens in their families. About 12.8% were neglected by friends, 66.84% faced disturbances in ensuring parenteral care to child, about 91.7% respondents had fear of being infected with COVID-19, 66.4% had problem with sleeping disorders, 37.4% had problem with memory loss, and 54.7% had trouble in making right decision. Among 265 respondents, level of mental stress of respondents by perceived stress scale, around 77.7% respondents were at the level of moderate stress, 10.6% were in low mental stress and 11.7% were in high mental stress. Statistically significant associations were found among gender of the respondents ($p=0.039$), respondents with having children ($p=0.004$) and having senior citizens ($p=0.006$), being neglected by friends ($p=0.005$), facing disturbance in ensuring parenteral care to child ($p<0.0001$), having any disturbance in conjugal life ($p<0.0001$), fear of being infected ($p=0.007$), sleeping disorder ($p=0.001$), memory loss ($p<0.0001$), making in right decision ($p<0.0001$).

Conclusion: Majority of the spouses of the physicians were in moderate stress. So, counselling and support to physician, their family & community.

Keywords: Mental stress, COVID-19, spouses of the physicians, tertiary public hospitals.

Introduction

COVID-19 is a burning issue as it has become pandemic throughout the world. COVID-19 has originated from Wuhan in Hubei province in December 2019. From there COVID-19 had spread to almost all the countries of the world due to lack of clear and concise knowledge and perception about COVID-19 among the general

population. Physicians and their spouses face many stress caused by constant time pressure, heavy workload, patients' expectations, interruptions, emergencies and conflict between the demand of home and work. The primary work stress predictive of dissatisfaction and lack of mental well-being for physicians is of interference with family life.¹ The COVID-19 pandemic in Bangladesh is part of the worldwide pandemic of SARS-CoV2 infection. The virus was confirmed to have spread to Bangladesh in March 2020. The first three known cases were reported on 7th March 2020 by the country's epidemiology institute, IEDCR. Infections remained less until the end of March but seen a steep rise in April.²

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As this infectious disease does not have any 100% successful vaccine or medications, so everyone is afraid of this disease. So, the physicians working at COVID-19 Dedicated Hospital, their chances of becoming COVID-19 positive are many times higher than others. Bangladesh is facing high rate of death of doctors due to COVID infection. By 25 July 2021, more than 3058 physicians were infected with COVID-19 and 172 have passed away due to complications. There was also lack of PPE and proper guideline of management of COVID-19. All these factors caused a high rate of death of doctors compared to other professions of the country.³

By 23 February 2022, in Bangladesh total cases were 1,936,837 and total deaths were about 28,990 total recovered 1,771,615, active cases 136,232, serious critical 1,275. Whereas total cases in the world were 42,70,05,566 and deaths were about 59,00,961.⁴ Along with this, the COVID-19 pandemic potentially increases physicians' work demands and limits their recovery opportunity; these consequently expose them as well as their spouses at a high risk of mental stress. The spouses of the physicians are at high risk of mental stress due to continuously increasing number of COVID-19 cases and death, devastating workload, shortage of personal protective equipment, unavailability of specific and effective treatment or vaccine and absence of adequate support.

The widespread media coverage and the negative role of social media are also contributing to the risk of the mental stress of the spouses of the physicians. In COVID-19 outbreak situation when everything is uncertain, physicians and their spouses suffer both physically and mentally, so mental stress is obviously harmful to them in every aspect. During pandemics, the focus of public health authorities and the mass media is on biological and physical repercussions of the outbreak than on mental health issues. One such under recognized and unaddressed area is the mental stress of the spouses of the physicians developed during the pandemic.

Although several studies have focused on job-related stress in physicians, none has looked at the stress experienced by their spouses. Hence, the study was conducted to evaluate the mental stress of the spouses of the physicians working in COVID-19 dedicated tertiary public hospitals in the research.

So, general objective of the study is to assess the state of mental stress of the spouses of the physicians working in COVID-19 dedicated tertiary public hospitals.

Materials and Methods

This was a descriptive type of cross sectional study. The study was conducted over a period of one year starting from 1st January, 2021 to 31st December, 2021. Study respondents were the spouses of the physicians whose husband or wife had been working in the following COVID-19 dedicated tertiary public hospitals at least 6 months: Dhaka Medical College Hospital, Kurmitola General Hospital and Bangabandhu Sheikh Mujib Medical University Hospital.

The samples were selected by purposive sampling method. At the beginning of data collection, permission from the concerned authority of the hospital was taken. Maintaining all formalities data was collected by face to face interview of the respondents who fulfilled the selection criteria. Each doctor's room was visited separately and face to face interviews were taken whose husband or wife was physician in COVID-19 dedicated tertiary public hospital with due permission.

Questionnaires were supplied to the physicians who were working in above mentioned COVID-19 dedicated tertiary public hospitals for at least 6 months and they were requested to fill up the questionnaires by their spouses and after filling the questionnaires, these were collected from the physicians and they were so much cooperative. Data was collected through telephone interview also. The data was collected by a pre-testing questionnaire. The purpose of the study was explained in details to the respondents. If the respondent agreed to participate, then written consent form was explained prior to interview. Assurance was given regarding confidentiality and secrecy of the information they provided.

Before going to the process of data collection from study place, pre-testing of the questionnaire was carried out on 25 respondents working in several COVID-19 dedicated public hospitals in Dhaka city after matching the selection criteria to finalize the procedure and to evaluate the effectiveness of the research instrument. During pretesting respondents

were asked if they failed to understand any specific words or sentences. Any unacceptable or offensive words or expressions were also identified. Respondents were also asked about language difficulties or any alternatives that fits better to their own language. Then necessary modifications were made and research instrument was finalized.

Mental stress level has been analyzed with perceived stress scale-Bengali Translation Document (PSS).⁵ The perceived stress scale (PSS) is developed by Sheldon Cohen in 1983. It is a standardized stress assessment tool. It is the most used psychological instrument for assessing the view on stress and for helping us to see how various circumstances influence our emotions and our perceived stress. It is an extent of how much conditions for an incredible situation are assessed as psychological stress. The items in this scale pose about your sentiments and thoughts during the most recent month. The scale comprises 10 items and respondents rate every item on a 5-point scale: 0-Never, 1-Almost never, 2-Sometimes, 3-Fairly often, 4-Very often.

Based on this scale the perceived stress scale-Validated Bengali Translation Document. Scoring: PSS scores are obtained by reversing responses (e.g., 0=4, 1=3, 2=2, 3=1 and 4=0) to the four positively stated items (items 4,5,7 & 8) and then summing across all scale items.

Interpretation of mental stress based on PSS Scale:

SL	Score	Mental stress level
1	0 - 13	Low stress
2	14 - 26	Moderate stress
3	27 - 40	High perceived stress

Data analysis was conducted using SPSS (Statistical Package for Social Science) software. Association between two categorical variables was done by Chi-square test & Fisher exact test. *p* value <0.05 is considered as level of significance at 95% level of confidence interval.

Results

The study revealed that among 265 respondents, 117 (44.2%) was within 30-35 years of age. The mean age of the respondents was found 31.94 ± 3.90 (Mean ± SD), 163 (61.5%) were female, 204 (77.0%) were MBBS, 175 (66.0%) were belonging to nuclear family, 193 (72.8%) having children and 132 (49.8%) having senior citizen in their family.

Table I: Distribution of the respondents according to socio-demographic characteristics of the respondents (n=265)

Category	Frequency	Percentage	Mean±SD
Age			
20-25	06	2.26	31.94±3.90
25-30	101	38.11	
30-35	117	44.15	
Above	35	41	15.47
Sex			
Male	102	38.5	
Female	163	61.5	
Educational qualification			
HSC	01	0.4	
BA,MA	60	22.6	
MBBS	204	77.0	
Occupation			
Doctor	204	77.0	
Housewife	39	14.7	
Teacher	14	5.3	
Banker	8	3.0	
Family Type			
Nuclear Family	175	66.0	
Joint Family	90	34.0	
Having Children			
Yes	193	72.8	
No	72	27.2	
Having senior citizen			
Yes	132	49.8	
No	133	50.2	

The most important pie chart of level of mental stress of respondents by perceived stress scale shows that among 265 respondents, 206 (77.7%) were at the level of moderate stress, 28 (10.6%) were in low mental stress and 31 (11.7%) were in high mental stress.

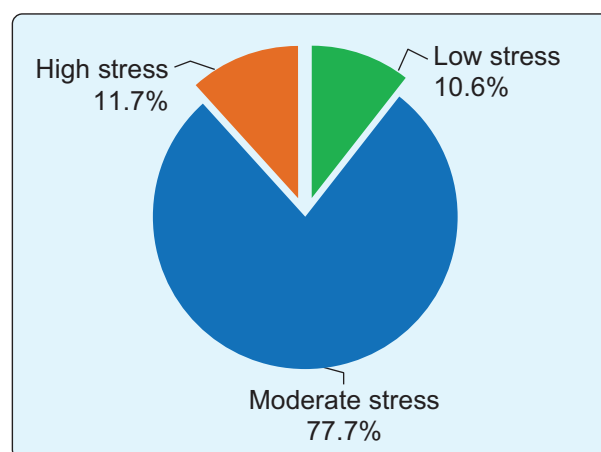


Figure 1: Distribution of respondents according to perceived stress scale (n=265).

Among 265 respondents 34 (12.8%) were neglected by friends, 11 (4.2%) were insulted by friends. Among 193 respondents 129 (66.84%) faced disturbance in ensuring parenteral care to child, 81 (30.6%) had disturbance in conjugal life, 243 (91.7%) had fear of being infected with COVID-19, 176 (66.4%) had problem with sleep disorders, 99 (37.4%) had problem with memory loss, 145 (54.7%) had trouble in making right decision during COVID-19 .

Among 265 respondents 152 (57.4%) were influenced by media and 113 (42.6%) were not influenced by media during COVID-19.

Statistically significant associations were found among gender of the respondents ($p=0.039$), respondents with children ($p=0.004$) and with senior citizens ($p=0.006$), being neglected by friends ($p=0.005$), facing disturbance in ensuring parenteral care to child ($p<0.0001$), having any disturbance in conjugal life

($p<0.0001$), fear of being infected ($p=0.007$), sleeping disorder ($p=0.001$), memory loss ($p<0.0001$), making in right decision ($p<0.0001$).

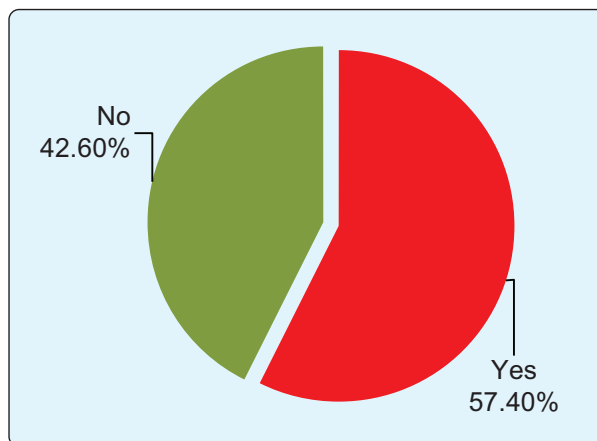


Figure 2: Distribution of respondents according to having media influence during COVID-19 (n=265).

Table II: Distribution of the respondents according to spouses’ personal and family related factors during COVID-19 pandemic

Category	Frequency	Percent
Being neglected by friends for physicians’ COVID-19 duty		
Yes	34	12.8
No	231	87.2
Being insulted by friends duty		
Yes	11	4.2
No	254	95.8
Facing disturbance in ensuring parenteral care to child during COVID-19		
Yes	129	66.84
No	64	33.16
Having disturbance in conjugal life		
Yes	81	30.60
No	184	69.40
Fear of being infected by COVID-19		
Yes	243	91.7
No	22	8.3
Having any problem with sleeping disorder		
Yes	176	66.4
No	89	33.6
Having any problem with memory loss		
Yes	99	37.4
No	166	62.6
Having any trouble in making the right decision during COVID-19		
Yes	145	54.7
No	120	45.3

Table III: Association between level of mental stress and different factors:

Gender of the respondents	Perceived Stress Scale			Statistics
	Low Stress n (%)	Moderate Stress n (%)	High Stress n (%)	
Male	14 (13.7%)	82 (80.4%)	6 (5.9%)	=6.512
Female	14 (8.6%)	124 (76.1%)	25 (15.3%)	<i>p</i> =0.039
Having children				
Yes	13(6.7%)	156(80.8%)	24(12.4%)	=11.068
No	15(20.8%)	50(69.4%)	7(9.7%)	<i>p</i> =0.004
Having senior citizen				
Yes	6(4.5%)	110(83.3%)	16(12.1%)	=10.123
No	22(16.5%)	96(72.2%)	15(11.3%)	<i>p</i> =0.006
Physicians' colleagues get infected by COVID-19				
Yes	27(11.7%)	173(75.2%)	30(13.0%)	*6.108
No	1(2.9%)	33(94.3%)	1(2.9%)	<i>p</i> =0.046
Being neglected by friends for physicians' COVID-19 duty				
Yes	2(5.9%)	22(64.7%)	10(29.4%)	*9.782
No	26(11.3%)	184(79.7%)	21(9.1%)	<i>p</i> =0.005
Being insulted by friends for spouse's (physician's) COVID-19 duty				
Yes	4(36.4%)	3(27.3%)	4(36.4%)	*14.665
No	24(9.4%)	203(79.9%)	27(10.6%)	<i>p</i> <0.0001
Facing disturbance in ensuring parenteral care to child during COVID-19				
Yes	5(3.9%)	100(77.5%)	24(18.6%)	=17.157
No	8(12.5%)	56(87.5%)	0(0.0%)	<i>p</i> <0.0001
Having any disturbance in conjugal life during COVID-19				
Yes	3(3.7%)	60(74.1%)	18(22.2%)	=16.446
No	25(13.6%)	146(79.3%)	13(7.1%)	<i>p</i> <0.0001
Having any fear of being infected with COVID-19				
Yes	21(8.6%)	192(79.0%)	30(12.3%)	*9.002
No	7(31.8%)	14(63.6%)	1(4.5%)	<i>p</i> =0.007
Having any problem with sleeping disorders during COVID-19				
Yes	11(6.3%)	139(79.0%)	26(14.8%)	=13.578
No	17(19.1%)	67(75.3%)	5(5.6%)	<i>p</i> =0.001
Having any problem with memory loss during COVID-19				
Yes	2(2.0%)	79(79.8%)	18(18.2%)	=16.690
No	26(15.7%)	127(76.5%)	13(7.8%)	<i>p</i> <0.0001
Having any trouble in making the right decision during COVID-19				
Yes	6(4.1%)	110(75.9%)	29(20.0%)	=31.533
No	22(18.3%)	96(80.0%)	2(1.7%)	<i>p</i> <0.0001

*Fisher's Exact Test

Discussion

This cross-sectional study was conducted among the spouses of the physicians working in COVID-19 dedicated tertiary public hospitals.

The socio-demographic characteristics of respondents included age, sex, educational status, occupation, family type, having children, having senior citizen. The age of the respondents ranged from 21-50 years with a median age of 31 years. The majority of the respondents 117 (44.2%) were belong to the age group 30-35 years. Mean age is 32 years. This is similar to the study carried out in psychological response of family members of patients hospitalized for influenza A/H1N1 in Oaxaca, Mexico.⁶

Among the 265 respondents, 102 (38.5%) were male and 163 (61.5%) were female. This study was consistent with the findings of a study carried in North India where 107 (42.8%) were male and 143 (57.2%) were female.⁷

Majority of the respondents 204 (77.0%) were MBBS, majority of the respondents belong to nuclear family 175 (66.0%). Among 265 respondents 193 (72.8%) had children and 72 (27.2%) had no child, 132 (49.8%) had senior citizen and 133 (50.2%) had no senior citizen in their family. In the study, level of mental stress of respondents by perceived stress scale shows that among 265 respondents, 206 (77.7%) were at the level of moderate stress. 28 (10.6%) were in low mental stress and 31 (11.7%) were in high mental stress.

About 34 (12.8%) were neglected by friends for respondents' spouses' (physicians') COVID-19 duty. Among them 11 (4.2%) respondents were insulted by friends for respondents' spouses' COVID-19 duty, 152 (57.4%) respondents were influenced by media during COVID-19. Among 193 respondents 129 (66.84%) respondents faced disturbance in ensuring parenteral care to child during COVID-19. Among 265 respondents 81 (30.6%) had disturbance in conjugal life during COVID-19. Among them 243 (91.7%) respondents had fear of being infected with COVID-19. Among 265 respondents, 176 (66.4%) respondents had problem with sleep disorders, 99 (37.4%) respondents had problem with memory loss, 145 (54.7%) respondents had trouble in making right decision during COVID-19.

In this study a statistically significant association is found between sex of the respondents and their level

of their mental stress.

In relation to sex, females were more stressful. In this study, a statistically significant association is found between respondents with children and their level of mental stress. The spouses those had child or children, they had more stressful condition.

This study shows statistically significant association between respondents having senior citizens in the family and their level of mental stress. The respondents those had senior citizen in the family, passed more stressful condition.

In this study, a statistically significant association is found between physicians' colleagues get infected by COVID-19 and level of mental stress of the spouses of the physicians.

The study reveals that, when a physician's spouse being neglected by friends, stress became very common phenomena and it was a statistically significant association. In this study, a statistically significant association is found between being insulted by friends for spouse's (physician's) COVID-19 duty and their level of mental stress.

This study shows association between facing disturbance in ensuring parenteral care to child during COVID-19 and level of mental stress. Out of 265 respondents 193 (72.83%) were with one or more children. Out of this 193, 129 facing disturbance in ensuring parenteral care to child during COVID-19. Among them 100 (77.5%) were moderately stressed and 24 (18.6%) were highly stressed. In this study there was association between having any disturbance in conjugal life during COVID-19 and their level of mental stress. In this study 81 respondents had disturbance in conjugal life. Among them 60 (74.1%) were moderately stressed and 18 (22.2%) were highly stressed. A significant association was found $p < 0.0001$.

In this study, among 265 respondents, 243 respondents had fear of being infected with COVID-19. Among 243 respondents 192 (79.0%) were moderately stressed and 30 (12.3%) were highly stressed. This study shows association between having any problem with sleeping disorders during COVID-19 and their level of mental stress.

Among 265 respondents 99 respondents had problem with memory loss. Among them 79 (79.8%) were moderately stressed and 18 (18.2%) were highly stressed. A significant association was found $p < 0.0001$.

In this study, a statistically significant association is found between having any trouble in making the right decision during COVID-19 and their level of mental stress. In this study, 145 had trouble in making the right decision during COVID-19. Among them 110 (75.9%) were moderately stressed and 29 (20.0%) were highly stressed.

Findings of the study indicates that the level of mental stress of spouses of the physicians associated with sex, having children and senior citizen, physicians colleagues get infected by COVID-19, being neglected and insulted by friends, facing disturbance in ensuring parenteral care to child, fear of being infected, sleeping disorder, trouble in making right decision.

In this study the sample was taken by purposive sampling, so there was a chance of selection bias.

This study was conducted in three COVID-19 dedicated tertiary public hospitals, so could not be generalized and might not present the whole country scenario.

Conclusion

This study reveals a good interrelationship among different variables and social life. Because of COVID-19 pandemic our social structure was disrupted which has reflected from the study result a little bit. In this study most of the spouses of the physicians 206 (77.7%) were in moderate stress. Female spouses were 1.5 times more stressful than that of male spouses. The spouses with children and senior citizen in their family pass more stressful condition. When the colleague of physicians' became infected, stress becomes very common in physicians spouses. When a spouses of the physicians being neglected by friends, being insulted by friends, stress become very common phenomena. Stress also associated with facing disturbance in ensuring parenteral care to child, having fear of being infected with COVID-19, having any problem with sleep disorders and having any trouble in making the right decision during COVID-19. Definitely we have to face more epidemic condition in future like COVID-19. This sort of study will enrich us to face the shock of epidemic to our social life successfully. Though the results of the study are not proven by all means but it gives an idea to decide what sorts of activities should take by the government to overcome the threats of pandemic. However, this sort of study will instruct to our society to find out the

way out to overcome this pandemic affect. Young researcher will get some idea and scopes to conduct more research regarding this aspect in future.

Regular counselling sessions should be arranged by the hospital authority to combat the mental stresses of the spouses of the physicians. The safety for the physicians' and their family members should be ensured by proper safety control measures and regular health check-up facilities of them. Appropriate mass media awareness programs should be telecast by the government for sensitizing general population. Healthy lifestyle modifications should be done by the physicians' and their spouses.

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