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RESEARCH ARTICLE

A COMPARATIVE STUDY OF MENTAL HEALTH CONDITIONS AMONG MEDICAL AND NON-MEDICAL UNDERGRADUATES DURING THE WANING PHASE OF COVID-19 PANDEMIC IN WEST TRIPURA

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Abstract

Background & objectives: During the COVID-19 pandemic, one may experience stress, anxiety, fear, sadness and loneliness and other mental health disorders. Fear, worry, and stress are normal responses to perceived or real threats, and at times when we are faced with uncertainty or the unknown. The study aims at to determine the depression, anxiety and stress among the medical students and non-medical students in Tripura during the waning phase of Covid 19 Pandemic.

Methods: A cross sectional study conducted among medical and non-medical students of Tripura during 2022 year who were selected randomly and data were collected in a pretested questionnaire. DASS - 21 was used to analysed the mental health issues and Fear of COVID-19 scale was used to measure the fear of Covid-19 among the participants. Descriptive statistics were used to express the data. A p value <0.05 was taken as statistically significant.

Results: A total of 420 (210 each in medical and non-medical) students participated in the study. As per DASS-21 score depression was 52.3% and 59.5%, anxiety was 59% and 61%, stressful life was 32% and 42.3% among medical and non-medical students respectively. Non-medical students had more significant fear of COVID-19 scale score than medical students (p value 0.000).

Conclusions: The study concluded that non-medical students suffered more from depression, anxiety and stress compare to medical students. Similarly, they had more fear to COVID-19 scale score.

Introduction:-

The World Health Organization (WHO) announced COVID-19 outbreak initially, as a public health emergency of international concern (PHEIC) on January 30, 2020 and later declared as a pandemic on March 11, 2020.[1] In India, the first COVID-19 case was reported in Kerala on January 30, 2020. Slowly, the pandemic spread to various states

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and union territories including the state of Tripura. The first case was recorded in this region on 6 April.[2] The Government of India declared a nationwide lockdown on 25th March 2020, as a measure to mitigate the spread of infection. The uncertain nature of the disease resulted into high degree of psychological distress in general population. In a recent study conducted during the COVID-19 outbreak in Chennai, one fifth of adults were found to suffer from depression and stress and one fourth from anxiety.[3] College students were considered to be a sensitive and special group, and their mental health seemed to be more troubled, as their vulnerability is exacerbated by their inability to adapt to the new environment of universities, higher education plans, and the insufficient identification and utilization of social resources.[4] Many studies had investigated the mental health problems of college students and explored the related influencing factors. They suggested that college students' mental health was affected by academic education, psychological elasticity, stress level, and other factors.[5] The mental health of medical students was found to be even poorer, when compared to general population.[6] Medical education is the most demanding of all the other professional programs in terms of both academics and emotional component of the students.[7] During the COVID-19 pandemic, there was an increased prevalence of anxiety, fear, depression, sleep disturbance, somatization, and OCD disorders among health care workers, which were especially prevalent among individuals working in high-risk units such as emergency unit and ICU.[8-10] To date, it has been reported that the COVID-19 pandemic has brought numerous adverse impact on the mental health of college students, such as internet addiction, acute stress disorder, anxiety, depression, and insomnia. Poor mental health conditions will bring a huge burden to the society and economy. As the coronavirus is susceptible to mutation, there is always risk for another outbreak or even long-term existence of the virus.[11] Sykes et al alerted us to the effects of this poorly known lethal virus, to the societal disruption it has caused, and to the importance it may have in the development of long-lasting physical and mental health symptoms.[12] Therefore, it is important to evaluate the mental health conditions among adult students while the COVID-19 pandemic is subsiding. The present study was conducted to estimate the level of mental stress in college going students and to see the impact of Covid 19 pandemic in the mental health conditions of medical and non-medical undergraduates in Tripura during the waning phase of Covid 19 Pandemic.

Methodology:-

A cross sectional study conducted in West District of Tripura where majority colleges or teaching educational institute are present. The Ethical approval was obtained from Institutional Ethical Committee of Agartala Government Medical College. The study was conducted from June to September, 2023 among the undergraduate students of medical and non-medical discipline. Those who consented history of mental or psychiatric health issues previously or taking any medical for those illness was excluded from the study. The students who were unwilling to participate also excluded. On the basis of previous investigations that assessed the stress levels in non-medical (P1= 29%) and medical students (P2= 17%).[11] The study used two-sample comparison of proportions to determine the target sample size that can be used for the estimation of significant differences between P1 and P2 with a margin of error of 0.05, confidence interval of 95%, and statistical power of 80%. For each subpopulation, the target sample size was determined to be 189. However, the target size as 10% over the calculated sample size to compensate for the incomplete and missing questionnaires and non-responses. Hence, for this study, the target sample size was set to be 416, which was further rounded off to 420. There are 7 general colleges, 3 technical colleges, 4 Professional colleges and 12 medical/nursing/veterinary colleges in West district of Tripura. These colleges were stratified into Medical & Non-medical Colleges. Medical colleges included medical, nursing and veterinary colleges while non-medical colleges included general degree colleges, technical colleges and other professional colleges. 12 colleges were included under medical and 14 colleges under non-medical category. In this study, multistage stratified sampling technique was used with proportional allocation for the distribution of the participants on the basis of academic year and gender in each respective college. One medical and general college was selected randomly. Equal numberparticipants were selected from three academic year. From each academic year, proportionately stratified into boys and girls and were enrolledrandomly among those who were willing to participate in the study.

The data were collected at the beginning of the semester, but prior to the exams, to ensure elimination of a potential stress confounder using a pretested self-administered questionnaire which include DASS-21 questionnaire [13] and Fear of COVID-19 Scale (FCV-19S).[14] With the help of the Class Representatives (CR) the target students were informed regarding the study objectives. All the students were assured of their anonymity and confidentiality.

Information related to socio-demography, medical status consisted of history of psychiatric condition, history of covid-19 infection, covid 19 vaccination status, history of chronic diseases in the family and use of any type of medication regularly were collected. Information regarding lifestyle factors consisted of current smoking status, consumption level of tea and coffee, frequency of physical exercise, eating habits (unhealthy to very healthy), sleep quantity (average hours of sleep) and quality of sleep (poor to good), involvement in leisure activities and hobbies (none to regularly), and frequency of devises used for entertainment. The DASS-21 is a well-developed instrument

evaluating an individual's level of depression, anxiety, and stress, with seven items in each subscale. Using a four-point Likert scale, it asked participants whether the described situation applies to them by choosing from 0 "did not apply to me at all" to 3 "applied to me very much." The total score of each subscale was multiplied by two and ranged from 0 to 42. A higher score means a more severe level of depression, anxiety, and stress. The total score 0–13, 0–9, 0–18 of the subscale means a normal to mild level of depression, anxiety, and stress, respectively. A total score equal to and higher than 14, 10, 19 means the moderate to severe level of depression, anxiety, and stress, respectively. For Fear of COVID-19 Scale score, the participants were asked to indicate their level of agreement with the statements using a five-item Likert type scale. Answers included "strongly disagree," "disagree," "neither agree nor disagree," "agree," and "strongly agree". The minimum score possible for each question is 1, and the maximum is 5. A total score was calculated by adding up each item score (ranging from 7 to 35). The higher the score, the greater is the fear of COVID-19. Data analysis was done in SPSS version 21.0 and expressed in mean, standard deviation, frequency and percentage. Chi square test was used to find out the association between two categorical variables and student's T test was used to see the association between two continuous variables. A p value of < 0.05 was considered as statistically significant.

Result:-

A total of 420 (210 each in medical and non-medical) students participated in the study. The mean age was 20.34 ± 1.15 years and 20.34 ± 1.73 years in medical students and non-medical students respectively. In present study, age, sex, ethnic category, parent's living status and occupation of their parents were comparable. All details sociodemographic profile were shown in table I. As per the study objective DASS score were compared among the study group. The prevalence or depression rate was higher in the non-medical students (125 out of 210participants, 59.50%) than medical students (110 out of 210 participants, 52.30%) (figure I). The covid effects were better coped up by medical students than non-medical students. While comparing the different types of depression, severely depressed are non-medical people (62.7% vs 37.3%) but extremely depressed students are the from medical background (52.9% vs 47.1%). It could be that the medical people must be aware of bad consequences from COVID infection than non-medical students. However, this difference is not found to be statistically significant (p value 0.14) (Table II). The study findings also reveals that extremely anxiety level was among non-medical students (63.6%) than medical students (36.4%) however, it is not found to be statistically significant (p value 0.06). Overall, anxiety is more prevalent among non-medical students (61%) than medical students (59%) (figure I). Table 2 finding also depicted that severe stress were more among non-medical people (76.9%) but extremely stress students were from medical background (63.6%). These findings are found to be statistically significant (p value 0.006) (table II). This hypothesis could be due to higher knowledge about COVID 19 disease and its bad outcomes. Overall, non-medical students are having more stressful life (42.2%) than medical students (32.0%) (figure I). The study also analyzed and compared the COVID-19 vaccination status where medical students are comparatively vaccinated than non-medical students (60.5% vs 39.5%) (figure 2). Similarly, partially vaccinated and without vaccination against COVID-19 were more among non-medical students (figure II). Table III shown the score comparison fear to COVID-19 disease scale. There are 7 (seven) statements in this regard. Higher the score depicts more fear on COVID-19 disease. The study findings shown that non-medical students were having higher score than medical students comparatively in each statement and the mean difference between the study groups against all statements were found to be significant (Table III).

Discussion:-

The COVID-19 pandemic had a significant impact on the mental well-being of students worldwide. It is worst when someone suffered form Covid-19 infection due to Post traumatic stress disorder. The situation of mental health status is more in dilemma when Covid-19 vaccine was introduced specially waning phase of pandemic. In present study, the participant's age was 20 years averagely which is similar to the previous literatures. [15-18] The present study shows, the depression was comparatively among non-medical students than medical undergraduates which a bit contrary to the study conducted by Qian Yang et al [11] where moderate to severe depression symptoms (29.1% vs. 17.9%, $P < 0.001$) were seen in medical undergraduates and non-medical undergraduates respectively. The prevalent of depression was observed less in rate (12.26% among medical students) in the study conducted by Peng Xiong et al.[15] Scott J Halperin et al concluded that medical student studies, had 61% anxiety and 70% depression during the Covid-19 era comparatively non-medical students[18] but the present study showed opposite way.

The present study revealed that non-medical students are having more stressful life (42.2%) than medical students (32.0%). This finding is incorporated with the study conducted by Qian Yang et al[11] where non-medicos perceived more stress (34.7% vs. 22.2%, $P < 0.001$). however, during phase 1 of COVID -19 pandemic, the mental health

status in terms of depression, anxiety, stress was quite similar to the present study finding with the prevalence being 35.5% [29.1–42.2%], 33.2% [27–39.9%] and 24.9% [19.3–31.2%] for depression, anxiety, and stress respectively. There was a significant increase in both the prevalence and levels of anxiety and stress ($p < 0.001$).[19]

Coclusion: The present study concluded that severe depression, anxiety and severe stressful condition were observed more among non-medical background students than medical students. Further qualitative research can be conducted to stress 'why non-medical students were had a mental health issue'.

Table I:- Sociodemographic profile of the study participants (N=420).

Socio demographic profile	Study group		P value
	Medical students n (%)	Non-Medical students, n (%)	
Age (year) (mean ± SD)	20.34 ± 1.15	20.34 ± 1.73	0.90
Gender:			
Male	135 (47.0)	152 (53.0)	0.07
Female	75 (56.4)	58 (43.6)	
Category:			
General	63 (52.0)	58 (48.0)	0.68
ST	13 (59.0)	9 (41.0)	
SC	16 (44.5)	20 (55.5)	
OBC	118 (49.0)	123 (51.0)	
Parents living status:			
Alive	198 (49.1)	205 (50.9)	0.08
Separated or Death one of them	12 (70.6)	5 (29.4)	
Parents occupation:			
Employed both parents	71 (54.2)	60 (45.8)	0.21
Employed either one parent	99 (50.7)	96 (49.3)	
Un-employed	44 (42.5)	54 (57.5)	

Table II:- Comparison of DASS -21 score between medical and non-medical undergraduate students.

DASS Score	Study group		P value
	Medical n (%)	Non-medical n (%)	
Depression:			
No depression	100 (54.1)	85 (45.9)	0.14
Mild	30 (56.6)	23 (43.4)	
Moderate	43 (44.3)	54 (55.7)	
Severe	19 (37.3)	32 (62.7)	
Extreme	18 (52.9)	16 (47.1)	
Anxiety:			
No anxiety	86 (51.2)	82 (48.8)	0.06
Mild	29 (64.4)	16 (35.6)	
Moderate	46 (50.0)	46 (50.0)	
Severe	25 (51.0)	24 (49.0)	
Extreme	24 (36.4)	42 (63.6)	
Stress:			
Not in stress	143 (55.0)	117 (45.0)	**0.006**
Mild	26 (51.0)	25 (49.0)	
Moderate	28 (38.9)	44 (61.1)	
Severe	6 (23.1)	20 (76.9)	
Too stressful	7 (63.6)	4 (36.4)	

Table III:- Comparison of Fear of COVID-19 scale score among the study group.

Fear of COVID 19 scale statements	Study group		P value
	Medical n (%)	Non-Medical n (%)	
I am most afraid of Corona	2.52 ± 1.09	3.04 ± 1.12	0.000
It makes me uncomfortable to think about Corona	2.40 ± 1.06	3.00 ± 1.11	0.000
My hands become clammy when I think about Corona	1.84 ± 0.88	2.83 ± 1.05	0.000
I am afraid of losing my life because of Corona	2.63 ± 1.30	3.04 ± 1.27	0.001
When I watch news and stories about Corona on social media, I become nervous or anxious	2.69 ± 1.13	3.06 ± 1.12	0.001
I cannot sleep because I'm worrying about getting Corona	1.73 ± 0.89	2.79 ± 1.10	0.000
My heart races or palpitates when I think about getting Corona	2.02 ± 1.09	2.92 ± 1.08	0.000

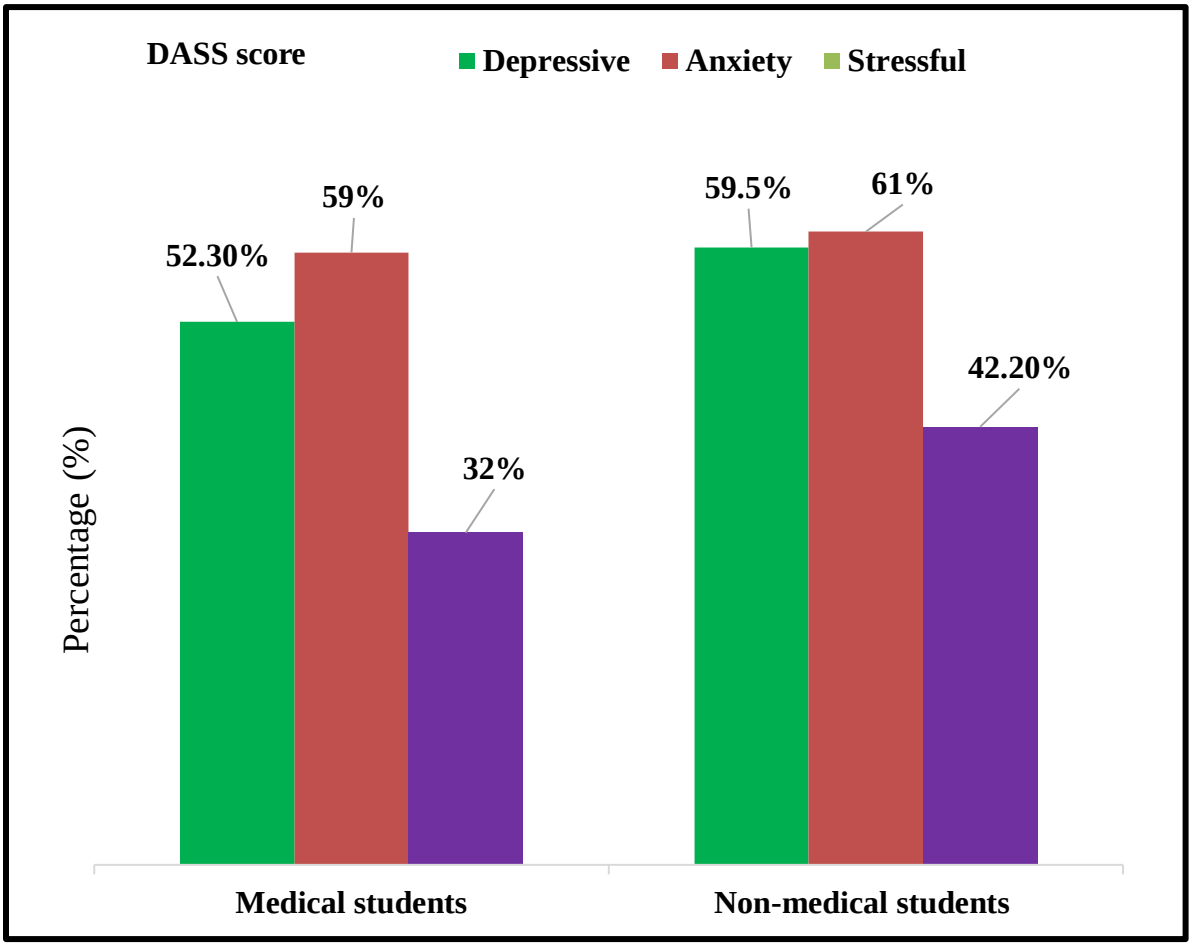

Fig 1:- Comparison of Prevalence rate of Depression, Anxiety and Stress among the study group.

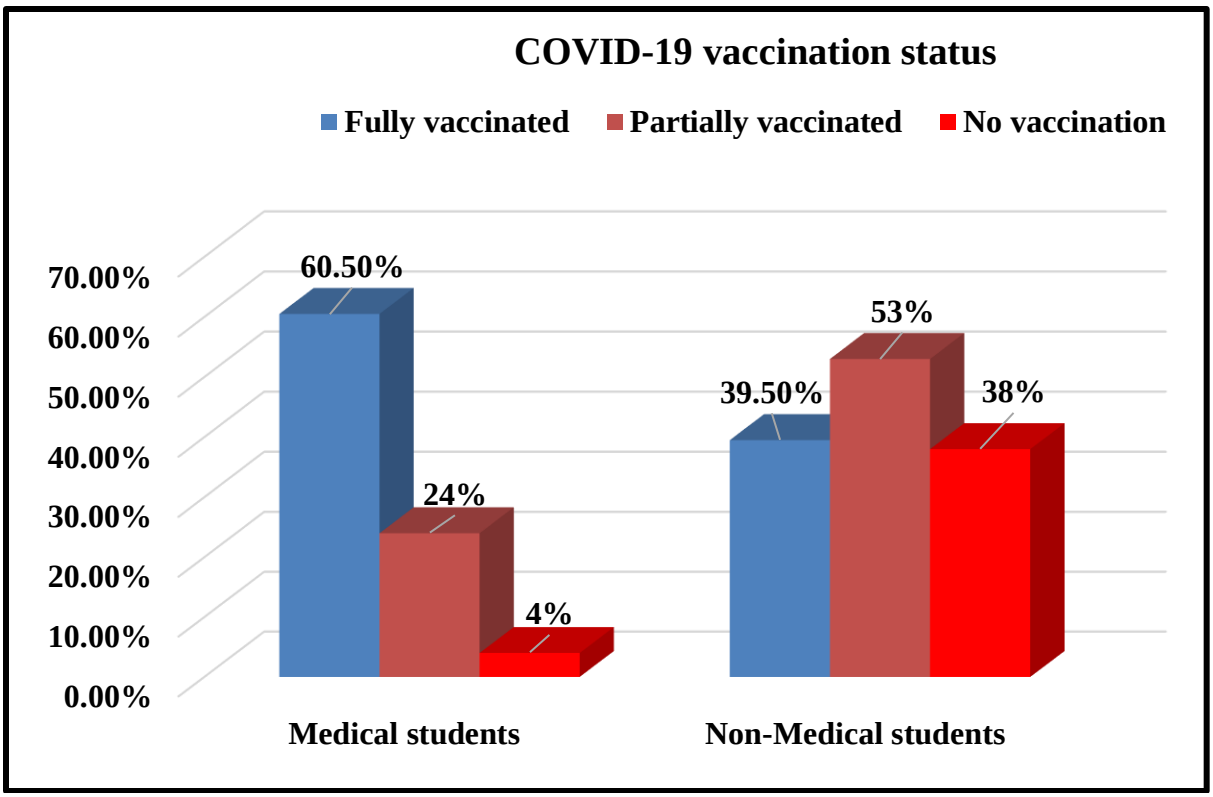

Fig 2:- Comparison of COVID-19 vaccination status among the study group.

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Conflicts of Interest:
Authors declared that there is no conflict-of-interest involvement.

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