

## Assessment of Stress among Medical Undergraduate Students of Nepal Medical College and Teaching Hospital (NMCTH)

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### ABSTRACT

Studies done across the world reveals that psychological morbidity like stress is commonly present in medical undergraduate students. In Nepal, studies to document stress among medical undergraduates is very few. Therefore, in present cross-sectional study the prevalence of stress was assessed using Kessler 10 (K10) psychological distress scale.

Medical undergraduates of Nepal Medical College and Teaching Hospital (NMCTH) participated in the study (n=150, both male and female). Kessler 10 (K10) psychological distress scale measures the levels of stress according to none, mild, moderate and severe categories.

The total prevalence of stress was 62.66% and the prevalence of severe stress was 21.33%.

Students should receive consultation on how to manage and cope up with stress. Preventive mental health services, supportive learning environment and student counseling services need to be made available and accessible to curb this morbidity.

**Key words:** Kessler 10 psychological distress scale, medical undergraduates, stress

### INTRODUCTION

Stress is deviation from homeostasis where a person feels that the existing circumstances are threatening to him/her and that situation leads to lack of well-being of the person. [1,2]

Illness related with stress is very common worldwide. Stress related disorders are responsible for about one-third of the years lost due to disability caused by stress related illnesses. [3] Awareness regarding mental health and stress related disorders

have increased worldwide. The medical schools are also realizing this fact and are concerned to take steps to avoid the bad effect that these stress related illnesses can have to their students and want to take preventive measures. [4] Previous studies have shown presence of high levels of stress leading to serious stress-related disorders like depression in undergraduate students of medical schools. [5,6]

Numerous studies have been done. In British medical school, the stress level was 31.2% [7] and it was 63.7% in Saudi Arabia, [8] and 61.4% in Thailand. [9]

Many of the studies show that cognitive functioning and learning of students is negatively affected by high levels of stress, in the medical school. [5]

Mental health of medical students is badly affected by educational process which has inevitably led to high occurrence of depression, anxiety and stress among them. [9-12]

In a highly competitive environment in order to maintain a good academic result, they have to make personal and social sacrifice which puts them under stress. [13]

In medical schools of Nepal very few studies have been done to assess the presence of stress in their students. Furthermore, the faculties and teachers should also know the gravity of the situation regarding the stress levels present and the potential risk of developing stress-related serious illnesses which can hamper medical student's studies and later their career. The stressful environment of the medical studies has even lead ended up by students committing suicide. [14,15]

This study was done to find out the prevalence of stress among medical undergraduate students at NMCTH using Kessler psychological distress scale K10. [16,17] According to Kessler psychological K10 distress scale, the stress was categorized as presence of stress or absence of stress. Mild, moderate and severe levels of stress were labeled as "presence of stress."

World Health Organization (WHO) used Kessler psychological distress scale K10 in "The World Mental Health Survey" as a clinical outcome measure. It is used widely in epidemiological studies in order to assess current (one month) distress. [18-21]

## MATERIALS AND METHODS

The study was conducted in the department of physiology, Nepal Medical College and Teaching Hospital (NMCTH), Attarkhel, Jorpati, Kathmandu, Nepal, among 150 medical undergraduate students aged between 17- 25 years. The study was conducted from January to March 2017. Medical undergraduate students of Nepal Medical College and Teaching Hospital (NMCTH) of MBBS I, II, BDS I,II and B.Sc. Nursing I participated. Students who were under long term medication for

chronic illness which affect cognitive behavior were excluded from this study.

The main aim of the present study was to assess the stress level of medical undergraduates of Nepal Medical College and Teaching Hospital (NMCTH).

Stress was assessed using Kessler psychological distress scale (K10). [13]

All participating students were informed about the objective of the study and verbal consent was taken.

Data were analyzed using Microsoft Excel.

## RESULT

Among 150 medical undergraduate students of Nepal Medical College and Teaching Hospital (NMCTH), the prevalence of stress (of all levels) was 62.66% and prevalence of severe stress was 21.33%

**Table 1: Characteristics of study subjects**

Study variable	Number (No.)	Percentage (%)
Gender (n=150)		
Male	59	39.33%
Female	91	60.66%

**Table 2: Prevalence and levels of stress**

Variable	Number (No.)	Percentage (%)
Levels of stress (n=150)		
No stress/Well	56	37.33%
Mild	41	27.33%
Moderate	21	14%
Severe	32	21.33%

**Table 3: Levels of stress among volunteers**

Volunteers	Mild distress	Moderate distress	Severe distress	Well	Grand total
Female	28	16	23	25	92
Male	13	5	9	31	58
Grand total	41	21	32	56	150

## DISCUSSION

The medical undergraduate students have to work hard and read regularly their vast courses so that they acquire proper clinical skills and also gain huge amount of knowledge, which inevitably puts them under great deal of stress.

The level of stress in the study was found to be 62.66%. This level of stress was very close to the level of stress found in the study conducted in medical schools of Saudi Arabia (63.8%) [8] and in Thailand (61.4%). [9] The stress level of this study was found to

be greater than the stress level revealed by study done in Egyptian medical school (43.7%) [22] and among British medical students (31.2%). [7] This result might have come because of use of different scales to measure stress at different medical schools.

This increased levels of stress leads to deterioration of mental health of medical students and this is reflected in poor academic performance and clinical skills which eventually ends up with poor patient care. [23]

Another study done in North America revealed that mental health deteriorates after a student joins a medical school and continues to get worse in their entire study duration. [24]

The adverse impacts of exhausting medical education on the mental and physical conditions of students have been emphasized in many researches done. The outcome of a research done in United Kingdom revealed that one-third of students who were stressed out successfully finish the course. [25]

By knowing the prevalence of stress and its various levels we can take measures to prevent stress related illnesses.

Health-promotion programs have been started in medical schools in the United States and Canada. These programs showed positive results in terms of helping to decrease the adverse effects caused by stress to our mental and physical health and thus improving the study performance in medical schools. [26-28]

Methods like provision of recreation and sports, use of small groups for teaching and support, more participation in social activities are suggested to lower the stress level. Leisure activities can decrease stress levels in medical schools. [29] These methods can also be implemented in NMCTH to ensure reduction in stress level of medical students which can help them acquire clinical skills properly and to perform better academically.

### Limitations:

Due to small sample size and time limitation, the finding could not be generalized in a large population.

### CONCLUSION

The result showed high levels of presence of stress among medical undergraduates at Nepal Medical College and Teaching Hospital (NMCTH). They are being supported by mentorship and student counseling units which should be further enhanced. Prevention of stress related disorders becomes easy by knowing the

various levels of stress. Those students who are already in "severe" category of stress level can be advised to take professional help to increase their efficiency and improve academic performance and clinical skills.

### ACKNOWLEDGEMENT

We thank the students of MBBS I, II, BDS I, II and B.Sc. Nursing I of Nepal Medical College and Teaching Hospital (NMCTH) for their participation in the study.

**Conflict of interest:** None

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How to cite this article: Singh S, Katwal B, Pant PP. Assessment of stress among medical undergraduate students of Nepal medical college and teaching hospital (NMCTH). *International Journal of Science & Healthcare Research*. 2017; 2(3): 15-18.

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