

## Research Article

### The Prevalence of Depression among Undergraduates of a Selected Medical Faculty in Sri Lanka

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#### Abstract

**Introduction:** Depression is a common mental disorder which can lead to major problems such as suicidal attempts. It is well known that the demands and pressure on undergraduates in medical faculties create tremendous challenges which result in an extensive range of psychological ailments like depression. The objective of this study was to determine the prevalence of different levels of depression among undergraduates in a selected medical sciences faculty in Sri Lanka. **Methods:** A descriptive cross-sectional study was conducted using a convenient sampling technique among students in a selected medical faculty. The Depression Anxiety Stress Scale-21 (DASS-21) was used to assess depressive symptoms of the respondents. Descriptive analysis was done using SPSS version 23. **Results:** Mean age of the sample (n=397) was 24.1±2.5 years. The mean score obtained for depression was 10.5±8.3. Only 38.5% of the respondents had normal level of depressive symptoms while 7.1% and 4.0% of the respondents presented severe and extremely severe symptoms, respectively. Age (p=0.011) and academic year (p=0.001) showed a significant association with depression. **Conclusions:** The study demonstrates a considerable prevalence in different levels of depressive symptoms among undergraduates who are enrolled in medical and allied health sciences programmes. Therefore, it would be highly beneficial to reduce depressive symptoms by early identification. Studies to identify causes and interventional studies will contribute to implement measures to improve identification, and reduce the prevalence of depression among undergraduates.

**Keywords:** Depression, Undergraduates, Mental disorder

#### Introduction

Mental health is a basic component of the health of any person. Good mental health enables people to understand their full potential, cope with day-to-day life stresses, work productively and contribute to community. According to the World Health Organization [1], currently, mental health disorders are considered to be one of the leading causes of disability across the world. In general, people with depression experience several negative impacts such as loss of energy, change in appetite, sleeping more or less, anxiety, reduced concentration, indecisiveness, restlessness, feelings of worthlessness/guilt or hopelessness

and thoughts of self-harm or suicide [1].

A cross-sectional study conducted in Malaysia had identified moderate (27.5%) and severe or extremely severe (9.7%) depression among

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university students [2]. Also, another study conducted in Bangladesh with undergraduates had identified depression among one-third (33.7%) of their study population [3]. An anonymous online survey which was conducted at a metropolitan Australian university had reported a 13% severe or extremely severe depressive level among their undergraduates [4]. A study conducted in Saudi Arabia also indicated having mild to severe depression among about 45% of the university students in seven health colleges of the country [5]. The identified significant risk indicators for depression includes gender, recent loss of family members, type of study course, year of study, presence of psychological illnesses, social life, satisfaction with the area of specialization, teaching staff, and college facilities [5].

Undergraduates are a special group of people that are going through a transitional period of developing an autonomous personal life. In addition, they have to manage with academic and social challenges that they need to face in university studies and in preparation for professional careers. Evidence from United Kingdom shows that psychological well-being in undergraduate students decreases over the course of their study [6]. Therefore, there is a special need for undergraduates to cope with psychological changes. Several studies have revealed high rates of psychological distress in undergraduates, especially depression which is common among medical undergraduates all over the world [2, 7-9]. A cross-sectional study carried out with a network of collaborators including low, middle and high income countries to determine the prevalence and association between depressive symptoms among undergraduates had found prevalence of moderate (24.0%) and severe (12.8 %) depressive symptoms among the respondents. However, variations in severe depressive symptoms among countries such as a 10% reduction in Nigeria, Russia and four Southeast Asian countries (Indonesia, Laos,

Philippines and Thailand) and a 20% increase in Pakistan and Tunisia have also been identified [10].

In Sri Lanka, there is a dearth of mental health research on undergraduates. One of the reported studies conducted within a Sri Lankan university showed psychological distress among more than half (59.6%) of their study population [11]. In the same study, it was identified that medical students were more distressed (62.9%) than non-medical (56.4%) students and the suggested major source of stress for medical students was academic pressure. The competition for getting postgraduate training and job opportunities could be an additional trigger for psychological illnesses like depression [12]. The limited research which have been done in Sri Lanka were mainly focused on psychological health among undergraduates and not specifically for mental health conditions such as depression.

Stress can bring students a sense of competence and an increased capacity to learn if students appraise their education as a challenge. However, when education is seen as a threat, this can be a significant issue [13]. Also, poor cumulative Grade Point Averages (cGPA) of students lead to development of depression [14]. Undergraduates who are exposed to a higher number of life events also have a higher likelihood of depression. Family deaths, romantic break-ups, problems with close associates, educational difficulties, unemployment, harassment by other students, and domestic violence can also be associated with a higher likelihood of depression [15]. However, students who identified themselves as religious and who lived with someone or belonged to a social organization were less depressed [16]. Furthermore, studies have indicated that low body appreciation, less physical activity, regular binge drinking [17], pressure to succeed, postgraduation plans, financial concerns, quality of sleep, overall health, body image, and self-esteem [10,18] have

significant positive correlation with the levels of depression. The aim of the current study was to determine the prevalence of different levels of depression among medical and allied health sciences undergraduates in a selected university in Sri Lanka.

## **Methods**

### ***Study design and setting***

The study was conducted as a descriptive cross-sectional study design. All undergraduates, who followed medical and allied health sciences degree programmes in the selected medical faculty in Sri Lanka, during October to November 2017 were considered as the study population. Calculated sample size was 422 students. A convenient sampling technique was used to select participants.

### ***Data collection***

A validated self-administered questionnaire was used including socio-demographic data and questions pertaining to evaluate the level of depression. The Depression Anxiety Stress Scale-21 (DASS-21), which is a self-report scale, designed to assess dysphoria, hopelessness, self-deprecation and lack of interest was used to assess depressive levels of the respondents. The items in the questionnaire were based on a four point rating Likert scale (0-3), and to calculate comparable scores, each item was multiplied by two. Score interpretation was done as, normal (0–9), mild (10–13), moderate (14–20), Severe (21–27) and extremely severe (above 28).

### ***Statistical analysis***

Collected data was analyzed using the SPSS version 23 and descriptive statistical analysis and Chi-square test were performed.

### ***Ethical approval***

Ethical approval (Ref No: Nur/07/17) was obtained from the Ethics Review Committee of the Faculty of Medical Sciences, University of Sri

Jayewardeneperu, Sri Lanka. All subjects were fully informed about the study and verbal informed consent was obtained.

## **Results**

There were 397 respondents who participated in this study and the response rate was 94.1%. The mean age of the respondents is  $24.1 \pm 2.5$  years. Table 1 describes the socio-demographic characteristics of the study population.

### ***Depression level of undergraduates***

The mean score for depression was  $10.5 \pm 8.3$ . Most of the respondents (61.4%) presented with mild to extremely severe depressive levels (Table 2). According to the results given in Table 3, the most common symptom among depressive students was difficulty to work up the initiative to do things.

### ***Factors associated with depression***

According to Chi-square test, the significant factors associated with depressive symptoms were age ( $p=0.011$ ) and academic year ( $p=0.001$ ). There was no significant association between depression and gender ( $p=0.432$ ), degree programme ( $p=0.300$ ), religion ( $p=0.439$ ), ethnicity ( $p=0.334$ ), accommodation ( $p=0.168$ ), marital status ( $p=0.601$ ), and family monthly income ( $p=0.607$ ).

## **Discussion**

The majority of the respondents (61.4%) presented with mild to extremely severe depressive symptoms. This finding is distressing when considering the continuing increase in psychiatric morbidity. Findings of another Sri Lankan study stated that more than 20% of the undergraduates screened positive for depression, with more than 9% diagnosed with Major Depressive Disorder (MDD) [15]. Similar to these findings, studies conducted in other countries such as in Egypt, India, Australia, Bangladesh, and Malaysia have reported that

**Table 1:** Socio-demographic characteristics of the sample (n=397)

Variable		Frequency	Percentage (%)
Gender	Male	220	55.4
	Female	177	44.6
Ethnicity	Sinhalese	372	93.7
	Muslim	5	1.3
	Tamil	18	4.5
	Other	2	0.5
Religion	Buddhist	356	89.7
	Islam	9	2.3
	Christian	18	4.5
	Hindu	14	3.5
Degree Programme	MBBS	204	51.4
	B.Sc. Nursing	94	23.7
	Bachelor of Pharmacy	33	8.3
	B.Sc. Medical Laboratory Sciences	66	16.6
Academic Year	1 <sup>st</sup>	68	17.1
	2 <sup>nd</sup>	72	18.1
	3 <sup>rd</sup>	158	39.8
	4 <sup>th</sup>	82	20.7
	5 <sup>th</sup>	17	4.3
Residence/ Accommodation	With family	109	27.5
	In university accommodation	158	39.8
	Rented places	119	30.0
	Relative place	11	2.8
Marital Status	Married	24	6.0
	Unmarried	370	93.2
	Other	3	0.8
Monthly income of the family	Sufficient for expenditure	186	46.9
	Intermediate	181	45.6
	Insufficient for expenditure	30	7.6

MBBS- Bachelor of Medicine, Bachelor of Surgery, B.Sc.- Bachelor of Science

**Table 2:** Depression levels of undergraduates

Depression level	Frequency	Percentage (%)
Normal	153	38.5
Mild	140	35.3
Moderate	60	15.1
Severe	28	7.1
Extremely Severe	16	4.0

**Table 3:** Mean score of depressive symptoms

Depressive symptoms	Mean score ( $\pm$ SD)
Couldn't seem to experience any positive feeling at all	0.76 $\pm$ 0.79
Finding difficult to work up the initiative to do things	1.07 $\pm$ 0.87
Feeling that I had nothing to look forward to	0.61 $\pm$ 0.78
Feeling down-hearted and blue	0.88 $\pm$ 0.79
Unable to become enthusiastic about anything	0.68 $\pm$ 0.80
Feeling that wasn't worth much as a person	0.70 $\pm$ 0.87
Feeling that life was meaningless	0.57 $\pm$ 0.85

depression is highly prevalent among medical undergraduates [3,7,8,17,19]. This indicates that increased risk of psychiatric morbidity among undergraduates learning medical sciences, and related negative emotions may lead to increased psychological distress that interferes with academic performance as well as the daily lifestyle of students [6,8,10]. Therefore, early recognition and support for students who are at risk of developing these negative emotions is a vital component in enhancing undergraduate mental health.

It is expected that, in general, the prevalence of depression in females is higher than males [10,12]. However, in this study, there was no significant difference in the rates of depression among men and women which is parallel with other studies on psychological distress and elevated depressive symptoms among undergraduates [7,15,20]. The current study suggests academic year and age as associated factors for depression which is in line with previous findings; early years of learning and older age groups are more likely to have depressive symptoms [2,12]. However, a comparison between depression levels of first year undergraduates (78%) and final year undergraduates (71%) in the present study did not indicate a significant difference. It could be due to the selection of all the respondents from one medical faculty, which is also a limitation of the

study. These students encounter a great deal of academic, personal, and social stress during academic activities every year. Therefore, these students need much attention in counseling and stress management strategies. These undergraduates play a key role and make a significant impact on the future health-care system of the country. Therefore, proper interventions to improve mental health of students studying in medical sciences related disciplines should be prioritized.

### Conclusions

The findings of this study conclude that the symptoms of depression are highly prevalent among medical and allied health sciences students and age and academic year were identified as the significant associated factors. It indicates that there is a need for greater attention to the psychological wellbeing of undergraduate students in medical and allied health sciences faculties to improve their academic performance and quality of life. Early recognition of stress and related problems, and conducting workshops on stress release mechanisms and effective coping strategies throughout the academic years are required.

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