

Depression among first-year medical students in Universitas Udayana in 2016



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ABSTRACT

Background: Depression is categorized as a mood disorder which causes changes in a person's activity as well as life perception and could even cause suicides. Medical students are more distressed than the general population.

Aim: This research was conducted to determine the degree of depression among 1st year medical students of Universitas Udayana.

Method: This is research is using based on descriptive cross sectional study in order to obtain data about the amount of knowledge students about depression in Udayana University from November 2015 – January 2016. 100 sample sizes are needed for this study. The

Beck's Depression Inventory (BDI) questionnaire is also used in this study.

Results: Most of the students in the Medical Faculty of Udayana University have a relatively normal feeling of good and bad that happens in life. A smaller number of students have shown to have mild mood disturbances and but does not indicate the presence depression. The majority of students who suffered from depression are 17 years old based on the BDI scoring, which consisted of 4 students.

Conclusion: There female students, they who were living alone, and they who were unable to sleep normally, had the higher prevalence of suffering depression.

Keywords: stress, depression, mental health

Cite This Article: Jebakumar, S.A.G., Wahyuni, A.A.S. 2020. Depression among first-year medical students in Universitas Udayana in 2016. *Intisari Sains Medis* 11(3): 990-995. DOI: [10.15562/ism.v11i3.635](https://doi.org/10.15562/ism.v11i3.635)

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INTRODUCTION

The World Mental Health Survey conducted in 17 countries found that the episode of those having depression in 2015 was in an average of 1 out of 20 people. In the broadest sense depression also known as major depressive disorder, is a medical illness that negatively affects how people feel, think and act. Depression is categorized as a mood disorder which causes changes in a person's activity as well as life perception and could even cause suicides. Moreover, it is one of the leading causes of disability and is said to be a major contributor to the global burden of disease and affects people around the world.¹

A typically diagnosed person with major depressive disorder experiences at least four symptoms from a list that includes changes in appetite and weight, changes in sleep and activity, lack of energy, feelings of guilt, problems thinking and making decisions, and recurring thoughts of death or suicide. Subsequently, this depressive disorder occurs without any prior history of a manic, mixed, or hypo manic episode and usually last at least 2 weeks in which these psychological problems are clearly evident. In turn, psychological problems among students can vary from 2% to 50% and depression is said to be one of the common health concern among the student population where at any given time, 25% of students have been reported

with the symptoms of depression.² In addition to that, previous study showed that medical students are more distressed than the general population.³

The field of medical knowledge is immense and has different stages of training which a medical student must undergo in which studies show a high prevalence of psychological morbidity during these stages.² Additionally, a study done among the medical students of a university in Karachi, Pakistan has come out with the result where 70% of the students are suffering from depression based on a questionnaire distributed among 142 students.⁴ Therefore an in depth look into depression issues with first year medical students will be explored in this research paper to further understand this issue and understand the context of why it is happening.

METHOD

The research was carried on in the Medical Faculty, Universitas Udayana located in Jl.PB Sudirman, Denpasar, Bali from the months of December 2016 to January 2017. The assessment of depression among these students was done using Beck's Depression Inventory (BDI). A total of 100 samples of 1st year medical students were approached and were given the BDI questionnaire attached with an Informed Consent letter that states their willingness to participate in the study. The BDI is a

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21-item, self-report inventory that measures characteristics attitudes of depression (Beck, et.al, 1961) alongside the Basic Details form attached were used to retrieve necessary information from the participants of the study.

RESULTS

The details of all 100 respondents were carefully tabulated in this paper. From the above [Figure 5.2.1](#) above 68 respondents representing 68% of the total respondents have obtained a score within the range of 1-10 according to the BDI questionnaire. Thus it can be implied that these group of respondents

are in the normal range as these ups and downs are considered normal. A total of 26 respondents representing 26% from the total respondents obtained a BDI score within the range of 11-16. The respondents that fall in this range of score can be said to be having mild mood disturbances, according to BDI. Apart from that, 3 (3%) respondents scored within the range of 17-20. These people may suffer from borderline clinical depression. The BDI score range of 21-30 was occupied by 2 respondents with 2% from the total respondents. Those in this category are most likely to be suffering from moderate depression. And last but not least, only 1 respondent (1%) presented with a score that falls in the category of severe depression. This total of respondents represents both the male and female genders. The individual distribution of gender and BDI scores will be further discussed in this paper.

Based on the [table 2](#), the highest number of respondents with the score range of 1-10 is obtained by the age of students 17 years of age. According to BDI, these ups and downs experienced by these total of 43 students is normal. This is followed by the age 18 with 19 respondents. At the age of 18, the data obtained were 16 respondents while there were 4, 11 and 7 respondents scoring 1-10 at the age of 19, 20, and 21 respectively. The age categories to score the least in this range are the ages 16, 19 and 21. The second score range (11-16) as scored the highest by the age group 17 with a total of 12 respondents, followed by the age of 18 with 5 respondents, 2 respondents at the age of 19 and 2 respondents at the age of 20. The least was scored by the age groups 19, 20, and 21 each with 2 respondent. The 3rd score range which is 17-20 implies that those with this score have borderline clinical depression. The age group to occupy the highest number for this category is also 17 with a total of 3 respondents. Moderate depression indication score of 21-30 is occupied the most by the age of 16 and 17 with 1 respondents respectively. From a total of 100 respondents, only 1 respondent (aged 16) was observed to have fall under the category of severe depression with a BDI score in the range of 31-40.

According to the [table 3](#), it is observed that the most of the respondents display fluctuation in moods as the highest number respondents' BDI score obtained is 1-10. In this category, there were 29% males and 39% females. In the second category of BDI score, there were 12% male and 14% respondents. BDI scoring of 17-20 were scored by 1% of males and 2% female respondents. The last 2 category had a total of no male and 3 female respondent. In the severe depression category there is 1 female student whereas in the 21-30 range of BDI score, no male and 2 female respondent occupy this category.

Table 1 Characteristic of the samples

Characteristics	Total (n=100)	Percentage (%)
Age (range)		
16-18	73	73
19-21	27	27
Gender		
Males	42	42
Females	58	58
Living place		
Family	61	61
Alone	32	32
Friends	7	7
Personality		
Introvert	34	34
Extrovert	66	66
Hobbies		
Hang out with friends	45	45
Play sports	29	29
Read	10	10
Being alone	16	16
Change in body weight		
Increase	8	8
Decrease	22	22
No change	70	70
Sleeping difficulty		
Early	50	50
Late	34	34
Unable to sleep	16	16
BDI scores		
1-10	68	68
11-16	26	26
17-20	3	3
21-30	2	2
31-40	1	1

The table 4 showed the total of BDI scores of the research respondents in relation to their living places. As discussed in Chapter 3 and 4 of this paper, there is a correlation between the living places of a person to depression. In general, there were 61 samples staying with family 32 of the respondents are staying alone and 7 of them staying with friends. In the research, the results obtained were 46(46%)

Table 2 Data of respondents according to Age and respective BDI scores

Age	BDI Scoring					Total (n=100)
	1-10	11-16	17-20	21-30	31-40	
16	8 (8%)	4 (4%)	0	1 (1%)	1 (1%)	14
17	28(28%)	12(12%)	3 (3%)	1 (1%)	0	43
18	10 (10%)	5 (5%)	0(0%)	0	0	16
19	4(4%)	2 (2%)	0 (0%)	0	0	6
20	11 (11%)	2 (2%)	0	0	0	12
21	7 (7%)	2(2%)	0	0	0	9
Total	68	26	3	2	1	100

Table 3 BDI scores in relation to gender

Gender	BDI Scoring					Total (n=100)
	1-10	11-16	17-20	21-30	31-40	
Males	29(29%)	12(12%)	1(1%)	0(0%)	0(0%)	42
Females	39(39%)	14(14%)	2(2%)	2(2%)	1(1%)	58
Total	68	26	3	2	1	100

Table 4 BDI scores in relation to their living place

Relationship Status (personal)	BDI Score					Total (n=100)
	1-10	11-16	17-20	21-30	31-40	
Family	46(46%)	15(15%)	0(0%)	0(0%)	0(0%)	61
Alone	18(18%)	9(9%)	2(2%)	2(2%)	1(1%)	32
Friends	4(4%)	2(2%)	1(1%)	0(0%)	0(1%)	7
Total	68	26	3	2	1	100

Table 5 BDI scores in relation to personality trait

Personality trait	BDI Scores					Total (n=100)
	1-10	11-16	17-20	21-30	31-40	
Introvert	21(21%)	8(4.8%)	2(2%)	2(2%)	1(1%)	34
Extrovert	47(47%)	18(16.67%)	1(1%)	0(0%)	0(0%)	66
Total	68	26	3	2	1	100

Table 6 BDI scores in relation to the hobbies

Hobbies	BDI Scores					Total (n=100)
	1-10	11-16	17-20	21-30	31-40	
Hang out with friends	35(35%)	10(10%)	0(0%)	0(0%)	0(0%)	45
Play sports	24(24%)	5(5%)	0(0%)	0(0%)	0(0%)	29
Read	5(5%)	3(3%)	1(1%)	1(1%)	0(0%)	10
Being alone	9(9%)	3(3%)	2(2%)	1(1%)	1(1%)	16
Total	68	26	3	2	1	100

Table 7 BDI scores in relation to their body weight

Relationship Status (personal)	BDI Score					Total (n=100)
	1-10	11-16	17-20	21-30	31-40	
Increase	4(4%)	4(4%)	0(0%)	0(0%)	0(0%)	8
Decrease	8(8%)	9(9%)	2(2%)	2(2%)	1(1%)	22
No change	56(56%)	13(13%)	1(1%)	0(0%)	0(1%)	70
Total	68	26	3	2	1	100

Table 8 BDI scores in relation to sleeping difficulty

Sleeping difficulty	BDI Score					Total (n=100)
	1-10	11-16	17-20	21-30	31-40	
Early	45(45%)	5(5%)	0(0%)	0(0%)	0(0%)	50
Late	19(19%)	13(13%)	1(1%)	1(1%)	0(0%)	34
Unable to sleep	4(4%)	8(8%)	2(1%)	1(1%)	1(1%)	16
Total	68	26	3	2	1	100

respondents from a total of 61 respondents who stays with family, 18 respondents from a total of 32 people who stays alone and 4 respondents from a total of 7 people fall in the scores 1-10 in the BDI scale. These people can be said to be having mood disturbances that are relatively normal. Apart from that, in the second category of BDI score, there are 15(15%) respondents from a total of 61 respondents who stays with family, 9(9%) respondents from a total of 32 people who stays alone and 4 respondents from a total of 7 people. There are 2 respondents from staying alone and 1 respondents from staying with friends are in the 3rd BDI score category whereas in the 21-30 score range, there are 2 staying alone respondents. Last but not least, the final category of severe depression, with the BDI score of 31-40 there is 1 staying alone.

There were 34 respondents reported introvert, 21 respondents scored within 1-10, 8 respondents scored within 11-16 and 2 respondents each in the score categories of 17-20 and 21-30 in the BDI. There were 1 respondent reported under the score categories of 31-40. The remaining 66 respondents reported as extroverts. Of these 66 respondents, there are 47 under the score category of 1-10, 18 respondents within a score range of 11-16, 1 students reported to have scored 17-20 in the BDI.

Hobbies play a big role in a student psychology and mental status. Thus, 35 students who hang out with friends, 24 students who play sports 5 students who read and 9 students who be alone scored within 1-10 answered. There were 10 students who hang out with friends, 5 students who play sports 3 students who read and 3 students who being alone scored within 11-16. While under the score range of 17-20, there were 1 student who read and 2 students who being alone. There were 1 student

who read and 1 student who being alone scored within 21-30 while only one student who being alone scored the range from 31-40.

The [table 7](#) showed the total of BDI scores of the research respondents in relation to their body weight. As discussed in Chapter 3 and 4 of this paper, there is a correlation between the depressions leading into weight loss. In general, there were 8 samples increased in body weight, 22 of the respondents decreased in body weights and 70 of them had no changes in body weight. In the research, the results obtained were 4(4%) respondents from a total of 8 respondents increased in body weights, 8 respondents from a total of 22 people decreased in body weight and 56 respondents from a total of 70 people who had no changes in body weight fall in the scores 1-10 in the BDI scale. Apart from that, in the second category of BDI score, there are 4(4%) respondents from a total of 8 respondents who increased in body weight, 9(9%) respondents from a total of 22 people who decreased in body weight and 56 respondents from a total of 70 people who had no changes in body weight. There are 2,2 and 1 respondents who decreased in body weight falls on the score range of 17-20, 21-30, 31-40 respectively.

The [table 8](#) showed the total of BDI scores of the research respondents in relation to their sleeping difficulty. In general, there were 50 samples who sleeps early, 34 of the respondents are sleeping late and 16 of them are unable to sleep. In the research, the results obtained were 45(45%) respondents from a total of 50 respondents who sleeps early, 19(19%) respondents from a total of 34 people who sleeps late and 4 respondents from a total of 16 people who unable to sleep fall in the scores 1-10 in the BDI scale. These people can be said to

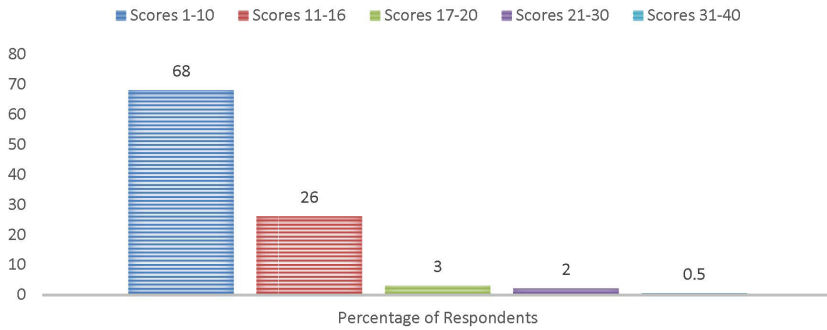


Figure 1 Distribution of respondents in each BDI score category

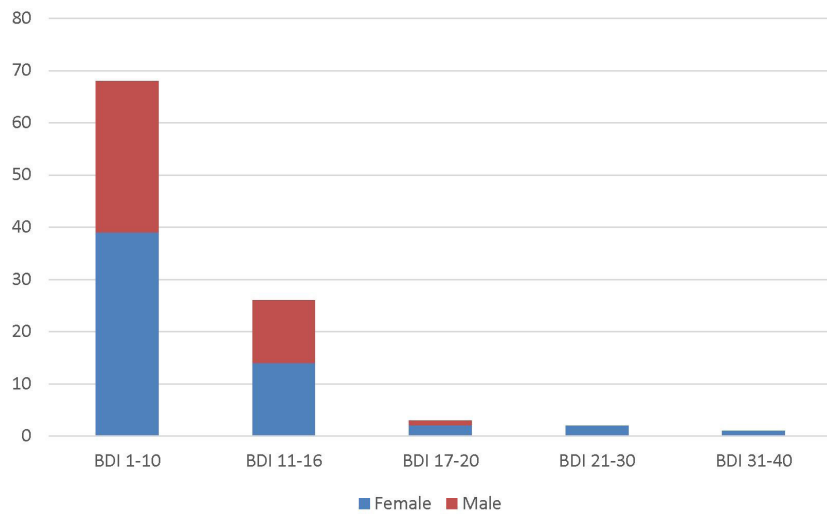


Figure 2 Bar chart representing the distribution of BDI scores per gender

be having mood disturbances that are relatively normal. Apart from that, in the second category of BDI score, there are 5(5%) respondents from a total of 50 respondents who sleeps early, 13(13%) respondents from a total of 34 people who sleeps late and 8 respondents from a total of 16 people who are unable to sleep. There are 1 respondent from sleeping late and 2 respondents who are unable to sleep are in the 3rd BDI score category whereas in the 21-30 score range, there are 1 sleeping late respondent and 1 unable to sleep respondent. Last but not least, the final category of severe depression, with the BDI score of 31-40 there is 1 unable to sleep respondent.

DISCUSSION

The majority of students who suffered from depression are 17 years old based on the BDI scoring, which consisted of 4 students. However the student suffering from the more severe depression is 16 years old, and there were 2 students in total. Subjects aged 18 to 21 did not suffer from clinical depression, however, they are included under the category of students with mild mood disturbances.

This result is different from the one gathered, as in those studies, the majority of people who suffered from clinical depression were between 20 and 50 years old. The results of my research are not however contradictory to the information from the journals, as anyone can suffer from depression, regardless of their age.

In terms of sex, there were more female students who suffered from depression than male students based on the BDI scoring, as there were 5 female students and 1 male student afflicted by depression. The data from this research matches the data from the journals reviewed, which stated that females were more likely to suffer from depression than males.

In terms of living place, students who were living alone had the higher prevalence of suffering from depression based on the BDI scoring, with 5 students being afflicted. The other depressed student came from a student who was staying with their friends. But all students who stayed with their family did not suffer from depression. The results have gathered, as students who are living with relatives and friends are less likely to suffer from depression than those who are living alone.⁵

In terms of body weight, those who have a decreased body weight as of late are the most likely to suffer from depression based on the BDI scoring, with 5 students having been afflicted. A student who had no changes in weight suffered from depression as well, but none of the students who had an increase in weight suffered from depression. There was no explanation for the body weight changes, therefore a correlation couldn't be made between the results of this research and the journals reviewed.

In terms of sleeping pattern, students who were unable to sleep were the most likely to have depression based on the BDI scoring, with 4 students being afflicted. Students who slept late had the second highest chance of getting depression, with 2 students being afflicted. Lastly, students who slept early were the least likely to suffer from depression, with none of the students having been afflicted. The data was similar to the data from the previous study, as a lack of sleep causes an increase in depression symptoms.⁶⁻⁸

The first of which is how a student's personality trait factors into his or hers BDI score. In this case, the personality types were divided into 2, introverts and extroverts.^{9,10} Introverts were the more likely of the two personality types who suffered from depression, with 5 out of 34 students being afflicted, based on the BDI scoring. Extroverts on the other hand seem to have an unlikely chance of suffering from depression, as only 1 out of 66 students were afflicted.

The second additional information that was gathered was how a student's hobbies factored into their BDI scores.¹¹ In this case, 4 types of hobbies were selected, hanging out with friends, playing sports, reading, and being alone. More students who spent most of their free time alone suffer from depressions, with 4 out of 16 students being afflicted. Students who read as a hobby also suffered from depression, with two out of 10 students being afflicted. Students who hung out with their friends and played sports during their free time did not suffer from depression.

CONCLUSION

Most of the students in Faculty of Medicine, Universitas Udayana have a relatively normal feeling of good and bad that happens in life. This is based on the highest percentage of students, when analyzed using the Beck's Depression Inventory (BDI) scored in that category. A smaller number of students have shown to have mild mood disturbances and but does not indicate the presence depression.

LIMITATIONS

This research has two limitations that are data was collected based on respondents answers to the questions asked and may be biased. Also, certain respondents might not know the exact meaning or terms that were used in the questionnaire and answering it based on their perception. Therefore, as a result the data that were collected may not be fully valid. It is important for respondents to understand the questions before answering them and researchers should take the time to explain if there is something the respondent was not sure about. Secondly, the time taken to carry out this research was short and therefore the data that was collected may not have been adequate to reach the more objective part of the research.

REFERENCES

1. WHO. Mental Health Publications [Online]. Link: https://www.who.int/mental_health/publications/en/ Accessed on September 24th 2019.
2. Kumaraswamy N. Academic Stress, Anxiety and Depression among College Students- A Brief Review. *International Review of Social Sciences and Humanities*. 2013; 5(1): pp.135-143.
3. Dahlin M, Joneborg N, Runeson B. Stress and depression among medical students: a cross-sectional study. *Med Educ*. 2005 Jun;39(6):594-604. doi: 10.1111/j.1365-2929.2005.02176.x. PMID: 15910436.
4. Rosal MC, Ockene IS, Ockene JK, Barrett SV, Ma Y, Hebert JR. A longitudinal study of students' depression at one medical school. *Acad Med*. 1997; 72(6):542-6.
5. Veronica F, Fitri LL, Rizal A, Gunawan H, Lesmana R, Supratman U, Purba A, Wirata G. 2020. Effects of DHA-Enriched Fish Oil Supplements on Dopamine Receptor Gene Expression in the Cerebral Cortex and Hippocampus Related to the Male Rat's Weight Gain. *Journal of Global Pharma Technology*, 12 (Issue 6): 62-9.
6. Wirata, G., Karmaya, I.N.M., Muliarta, I.M. 2019. Long-term visual deprivation inhibit the visual lobe neocortex cytoarchitecture increment in 42 days male rats (*Rattus norvegicus*): a stereological study. *Indonesian Journal of Biomedical Science*. 13(1): 48-52. DOI:10.15562/ijbs.v13i1.183
7. Prasetya, I., Aryastuti, N. 2019. Proporsi kejadian depresi pada lansia di wilayah kerja Puskesmas Karangasem I, Bali-Indonesia. *Intisari Sains Medis* 10(1). DOI: 10.15562/ism.v10i1.317
8. Yasoda Gera, L., Wahyuni, A., Ardani, I. 2019. Hubungan insomnia dengan depresi pada lanjut usia di Sesetan Kecamatan Denpasar Selatan Tahun 2017. *Intisari Sains Medis* 10(2). DOI: 10.15562/ism.v10i2.188
9. Krisnawan, G., Aryani, P., Sari, K. 2019. Proporsi depresi pada penderita diabetes melitus tipe 2 di RSUP Sanglah Denpasar. *Intisari Sains Medis* 10(2). DOI: 10.15562/ism.v10i2.246
10. Hakimi, R., Hakimi, E. 2018. Rumi's cognitive therapy approach to health and disease. *Bali Medical Journal* 7(1): 39-46. DOI: 10.15562/bmj.v7i1.426
11. Oraki, M., Zarrati, N., Zarrati, I. 2018. Comparison of life expectancy, quality of life, irrational health beliefs, health locus of control and hospital depression in patients undergoing hemodialysis and heart transplant in Shahid-Rajaee hospital. *Bali Medical Journal* 7(1): 177-181. DOI: 10.15562/bmj.v7i1.808



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