THE PREVALENCE OF ANXIETY DISORDER IN MEDICAL UNDERGRADUATE DEPARTMENT AND MEDICAL DOCTOR PROFESSION'S STUDENT IN THE FIRST AND SECOND SEMESTER IN MEDICAL FACULTY OF UDAYANA UNIVERSITY

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Abstract: Anxiety is a mood changes that arises from the absence of external stimuli. Anxiety disorders can affect the learning process in students because of this disorder a person becomes distorted processing of information. Various studies show that the frequency of anxiety symptoms are quite high in medical students. In Bali, there are no valid data to describe the prevalence of anxiety disorders in medical students.This study aims to determine the prevalence of anxiety disorders instudents in the first & second semester medical education study program at the Faculty of Medicine, Udayana University. This study is a descriptive analytic study using a cross-sectionalapproach. Primary data derived from Hars and Coping Strategies questionnaires filled out by respondents who are active students class of 2018 at the Medical Faculty Udayana University. Data analysis using univariate analysis is to describe numerically and graphically the number of cases of anxiety disorders in students of Medical Education class of 2018. In addition, using bivariate analysis, the chi-square test to determine whether there is a relationship between the sexes with anxiety disorders.The results showed there were 72 respondents (54.5%) who experiencedanxiety disorders from a total of 132 respondents. Anxiety incidence is distributed at several levels, 30 respondents (41.67%) experience mild anxiety, 25 respondents (34.72%) experience moderate anxiety, 16 respondents (22.22%) experience severe anxiety, and 1 respondent (1, 38%) experience extreme anxiety. The percentage of female is higher than male who experience an anxiety disorder that is 56.95% for females and 43.05% in males. There is no significant relationship between gender and anxiety, because the p value is obtained at 0.08.

Keywords: Anxiety, Prevalence, Sex, Univariat, Bivariat.

I. INTRODUCTION

Anxiety is a comprehensive feeling of fear, unpleasant, vague, often accompanied by autonomic symptoms such as headache, palpitations, mild stomach disorders and sweating. Moreover anxiety is a response to certain situations that threaten, and is a normal thing that happens to accompany developments, changes, new experiences or the experiences that have never been done, and in determining self-identity and meaning of life.[1] Anxiety can be divided into three types of anxiety, namely rational, irrational, and fundamental anxiety.[2]

Psychosocial factors were the situation where the students do not respond appropriately and accurately to stressors such as to a new environmental situations that make students experience the anxiety disorders. Anxiety disorders can affect the students learning process because with disorder someone will experience distortion in processing the information. This can interfered the ability to focus attention, reduce memory, and others. So by that it can disrupt the learning process for students.[3]

Various studies show the frequency of anxiety symptom was quite high in medical students. According to Riskesdas (2007), 11.6% of the adult population in Indonesia experience anxiety disorders.[4] The research in the United States and Canada in 2006 showed 43% of medical students experienced anxiety. Moreover, Lithuania in 2008 showed (43%), Republic of Macedonia in 2008 (65.5%)[5], Saudi Arabia in 2009 (29%), Egypt in 2008 (33.6%) (6), Pakistan in 2008 (43.7%) (7), Indonesia in the year 2010 at the Faculty of Medicine, Airlangga University (45%) (8). The research in Pakistan of anxiety levels in first year students reached 45.86%.

The Faculty of Medicine students must follow a quiet tight lecture schedule, tutorial, practicum activities, skills labs, and demands for independent learning outside of these times so that the pressure and burden on students' physical and mental conditions is relatively heavier than other educational fields. Anxiety disorders clearly bring a great influence to the education process of early semester medical students to be able to survive and complete their education. Through the importance of this problem, and the unavailability of anxiety disorder prevalence data in the Faculty of Medicine, Udayana University, it is deemed necessary to conduct research on the prevalence of anxiety disorders, inter-sex relations to anxiety and coping strategies from first and second semester students of Bachelor of Medicine Study Program and Medical Profession of the Faculty of Medicine, Udayana University.

II. METHODOLOGY

This study was approved by the Ethics Commission of the Faculty of Medicine, Udayana University. This research was conducted from October to November 2018 at the Faculty of Medicine at Udayana University, Bali.

This type of research is descriptive analytic research using a cross sectional approach. This study aims to determine the prevalence of anxiety disorders, inter-sex relations to anxiety and coping strategies from first and second semesters students of the Bachelor of Medicine Study Program and the Medical Profession of the Medical Faculty of Udayana University by collecting respondents' data by filling out questionnaires, data processing, analysis and interpretation results that have been obtained.

The research subjects were taken directly from the active students of the Bachelor of Medicine and Doctor Professional Study Program batch 2018. The student selected randomly used random sampling. Students with an L-MMPI score of >10 and do not approve the approval sheet will be excluded from the study. The research variables are divided into two, namely the independent variable and the dependent variable. (9) The independent variables in this study were male and female sex. On the other hand, the dependent variable in this study is the level of anxiety. The research data was taken using the L-MMPI questionnaire, the HARS questionnaire and the coping strategies questionnaire filled in by the respondents.

The coping strategies questionnaire contains 10 statements about the choice of respondents to deal with their anxiety.The L-MMPI questionnaire is a validity scale that serves to identify results that may be invalid due to errors or dishonesty of the research subjects. The L-MMPI scale contains 15 statements. If the answer is "no" of the respondent $\geq$ 10, then the research data of the respondent is declared invalid and the respondent will be excluded from the study.(10)

The HARS questionnaire is used to measure anxiety in a person. In this test there are 14 symptoms observed. Each item was given a score between 0 and 4 based on the severity of the symptoms.

Anxiety assessment with HARS consists of 14 items, including:[11]

a. Anxiety: Anxious, bad feeling, fear of your own mind, irritability.

b. Tension: feeling tense, lethargic, unable to rest calmly, easily surprised, easy to cry

c. Fear: fear of the dark, against strangers, fear of being left alone, fear of large animals, fear of crowds or traffic, fear of crowds

d. Sleep disorders: difficulty sleeping, waking up at night, not sleeping soundly, waking up sluggish, nightmares, scary dreams

e. Intelligence disorders: memory loss, forgetfulness and difficult concentration.

f. Feelings of depression: loss of interest, reduced pleasure in hobbies, sadness, unpleasant feelings throughout the day.

g. Somatic symptoms: pain in the muscles and stiffness, snapping teeth, unstable sounds and muscle twitching.

h. Sensory symptoms: feelings of prickling, ringing in ears, blurred vision, red and pale face and feeling weak.

i. Cardiovascular symptoms: feeling weak such as wanting to faint, tachycardia, chest pain, hardened pulse, pounding palpitations and heartbeat disappearing for an instant.

j. Respiratory symptoms: feeling depressed in the chest, feeling suffocated, often taking deep breaths and feeling shortness of breath.

k. Gastrointestinal symptoms: difficulty swallowing, constipation, decreased body weight, nausea and vomiting, stomach pain before and after eating, feeling of heat in the stomach.

l. Urogenital symptoms: frequent urination, cannot hold urine, aminorrhea, weak erection or impotence.

m. Autonomic Symptoms: dry mouth, easy sweating, red face, standing hair, dizziness or headache

n. Behavioral symptoms: restlessness, trembling fingers, frowning or forehead, tense face, increased muscle tone and short and fast breathing.

The way to assess anxiety is to give a value by category:

0 = There are no symptoms or complaints

1 = mild symptoms

2 = Moderate symptoms

3 = Severe symptoms

4 = Very severe symptoms

Determination of the degree of anxiety by adding the score and items 1-14 with the results:(12)

a. Score of less than 14 = no anxiety.

b. Score of 14-20 = mild anxiety.

c. Score 21-27 = moderate anxiety.

d. Score 28 - 41 = severe anxiety.

e. Score 42 - 56 = very severe anxiety

The procedures of this study began with the respondents filling in the biodata and inform consent, followed by filling out the questionnaire factors that might cause anxiety to themselves, filling out the L-MMPI questionnaire to find out the dishonesty of the subject. If the score is ≥10, the respondent is issued. Then the respondents filled out the Hamilton Anxiety Rating Scale (HARS) questionnaire to find out the anxiety disorder score. And the respondents filled out the coping strategies questionnaire to find out how respondents to deal with their anxiety.

The data obtained is analyzed as follows:

1. Calculation of prevalence of anxiety levels from the sample where the sample is said to have an anxiety disorder if the HARS score is ≥ 14.

2. Calculation of the prevalence of anxiety levels based on gender and age.

3. Bivariate analysis of the relationship between anxiety disorders and gender.

4. Calculation of the distribution of coping strategies chosen to overcome anxiety disorders.

III.   RESULT AND DISCUSSION

In this study, out of 220 prospective respondents, the number of subject obtained was 150 respondents randomly selected. Of the 150 respondents there were 10 respondents who did not meet the inclusion criteria and 8 respondents who had to be dropped out of the study, because they were considered dishonest in filling out the questionnaire as evidenced by the results of the L-MMPI Questionnaire with answers "no" exceeding 10 so the answer considered invalid.[13]So the number of research subject that suitable to all criteria was 132 respondents.Of the 132 respondents, 61 people (50%) were male and 61 (50%) were female. Age of respondents ranged from 16-20 years.

Table 1: Distribution of Overall Anxiety Disorder Level

No.	Keterangan	Total	Percentage (%)
1.	No Anxiety	60	45.5
2	Mild Anxiety	30	22.7
3	Moderate Anxiety	25	18.9
4	Severe Anxiety	16	12.1
5	Very Severe Anxiety	1	0.8
	Total	132	100

From Table 1, it can be found that the prevalence of anxiety disorders in medical students at the Faculty of Medicine, Udayana University, from 132 respondents, there were 72 respondents (54.5%) experienced anxiety disorders ranging from mild anxiety to very severe anxiety.

From the results of this study, it can be found that the level of anxiety among new students in facing the initial semesters in the Faculty of Medicine at Udayana University turned out to be diverse. This is caused by several factors that can cause anxiety disorders, including the environment, repressed emotions, physical causes.(14)

The environment or around the residence affects the way individuals think about themselves and others. This was due to unpleasant experiences in individuals with family, friends, or colleagues. So by that the individual feels insecure about his environment.

Emotions that are suppressed are caused because if an individual is unable to find a way out for his own feelings in this personal relationship, especially if he suppresses anger or frustration for a very long time, anxiety can occur to them.

Physical causes, can be exemplified conditions such as pregnancy, during adolescence and when recovering from an illness. As long as these conditions are overwritten, changes in feelings commonly occur, and this can cause anxiety.

Based to the theory above, it can be concluded that physical and psychological stress can be end with anxiety disorders. In accordance to this study, that stressors (new environment, aspects, tests) faced by first semester students are very influential resulting in respondents experiencing anxiety disorders.

Table 2: Distribution of Sex Level Anxiety Disorders Level

Gender	No Anxiety	Mild Anxiety	Moderate Anxiety	Severe Anxiety	Very Severe Anxiety	Total
Male	35	12	12	7	0	66
Female	25	18	13	9	1	66
Total	60	30	25	16	1	132

Table 3: Distribution of Anxiety Disorder Level Based on Ages

Age	No Anxiety	Mild Anxiety	Moderate Anxiety	Severe Anxiety	Very Severe Anxiety	Total
16	1	0	0	0	0	1
17	5	8	3	0	0	16
18	46	22	21	14	0	103
19	8	0	0	2	1	11
20	0	0	1	0	0	1
Total	60	30	25	16	1	132

Based to the table 2 it can be seen that there are more women who experience anxiety disorders than men who experience anxiety disorders. Through the data above, there were 41 (62.12%) female respondents who experienced anxiety disorders, while there were 31 (46.97%) male respondents who experienced anxiety disorders.

Based to the table 3 it can be found a number of varies between several age groups. This can happen because of the uneven distribution of the age of the respondents, so by that the number of occurrences of anxiety disorders in each age category varies.

Based on the data from the Indonesian Ministry of Health (2009), age groups 16-25 years are included in the same age classification, namely the age of late adolescents. Judging from the range of age that is not too significant difference, it cannot be concluded that the older age or the younger age could more often experiencedthe anxiety disorders. Symptoms of anxiety can arise at any time and in various age ranges, depending to the factors that influence the onset of symptoms of anxiety itself.

Table 4: Bivariate analysis of the relationship between anxiety disorder and gender

Gender	No Anxiety N	Anxiety Disorders N	P
Male	35	31	.008*
Female	25	41	
Total	60	72	

Through the analysis that we can seen from the table4, Pearson Chi Square Test, between anxiety and gender disorders (table 4) the results of significance (p value) are 0.08 (> 0.05). Because the value of p value> 0.05, it can be concluded that there is no significant relationship between the sex with the level of anxiety disorders that exist in the Faculty of Medicine, Udayana University.

In this study it can be found that there was no significant relationship between anxiety disorder and sex indicated by p value of 0.08. This is similar to the research conducted by LeilyBadria (2014) and Dyah (2013), that there was no significant relationship between anxiety disorder and gender. This incident is thought to be influenced by the factors of the respondents themselves, namely the mental readiness of the respondents in dealing with their stressors.(15)

Another factor that is thought to influence is coping strategies conducted by respondents to overcome their anxiety, so when given a questionnaire HARS the symptoms of anxiety do not appear. These factors can be used as confounding factors that cannot be controlled by researchers.

This confounding factor also affects the results of bivariate analysis so that the p value is 0.08 which means there is no meaningful correlation

Table 5: Distribution Coping strategies to overcome the anxiety disorder

No.	Coping Strategies	ScoreTotal
1.	Listeningto Music	121
2.	Do prayer	116
3.	Compose a plan to overcome the problem	107
4.	Consumingfavorite foods	106
5.	Share the problem to the closest friends	96
6.	Going out with friends	89
7.	Take a rest to relief the problem	89
8.	Meditation	83
9.	Playing Games	81
10.	Going to the Cinema	74

Coping Strategies are cognitive efforts and attitude changes carried out by an individual to overcome and control the stressors they faced. In this study, researchers gave 10 statements relating to coping strategies. Coping Strategies Questionnaire is given to find out the forms of activities that are mostly carried out by respondents to overcome anxiety. From the 10 statements given, the most widely stated statement is listening to music performed by 121 respondents.

Coping Strategies carried out by respondents can be a reference why students in the first semester of 2018 at the Faculty of Medicine of Udayana University still have no anxiety disorder. Coping strategies data owned by researchers indicate that more than 50% of respondents have an activity that can be done by respondents to overcome their anxiety. Therefore, coping strategies can be regarded as confounding factors in this study.

IV.   CONCLUSION

Prevalence of Anxiety Disorders in Medical Students Undergraduate Medical Study Program and Doctor Professionals in the 2018 semester of the Faculty of Medicine, Udayana University were 72 (54.5%) out of 132 students. Anxiety disorders in female students (41 out of 66 students) were more than male students (31 of 66 students). And based on bivariate test between anxiety disorders and gender results obtained $p > 0.05$, it can be concluded that there is no significant relationship between them.For further research, it is recommended to find more coping strategies, more samples to better illustrate the picture to the population and analyze confounding factors in the study

REFERENCES

[1] Sadock BJ KH and SV. Kaplan & Sadock's synopsis of psychiatry: behavioral sciences/clinical psychiatry. Lippincott Williams & Wilkins; 2007.

[2] Pedak, Mustamir. Metode Supernol Menaklukkan Stres. Hikmah Populer. 2009

[3] Videbeck, Sheila L. Buku Ajar Keperawatan Jiwa. Jakarta: EGC. 2008

[4] Departemen Kesehatan RI. Riset Kesehatan Dasar (Riskesdas) 2013. Badan Penelitian dan Pengembangan Kesehatan Kementerian Kesehatan, Depkes RI. Jakarta. 2013

[5] Mancevska S, Bozinovska L, Tecce J, Pluncevik-Gligoroska J and Sivevska Smilevska E. Depression, anxiety and substance use in medical studentsin the Republic of Macedonia. Bratislavské lekárske listy. 109: 568-72. 2007

[6] El-Gilany A, Amr M., Awadalla N. and El-Khawaga A. Stress amongmedical and law students in Mansoura, Egypt. Middle East Journal of Family Medicine. 6: 31-6. 2008

[7] Rab F, Mamdou R and Nasir S. Rates of depression and anxiety amongfemale medical students in Pakistan. Eastern Mediterranean health journal. 14:126-33. 2008

[8] Ismiyati G. Derajat Kecemasan Mahasiswa Semester V Pendidikan DokterFakultas Kedokteran UNAIR Dalam Melaksanakan Tugas Modul Penelitian.Surabaya: Airlangga. 2010

[9] Dahlan, M. Sopiyudin. Statistik Untuk Kedokteran Dan Kesehatan,Deskriptif, Bivariat dan Multivariat. Jakarta: Salemba Medika. 2009

[10] Azwar A. Konsep Pengukuran Validitas. Jakarta: Gunadharma Press; 2007.

[11] Kaplan HI, Sadock BJ, Grebb JA. Sinopsis Psikiatri: Ilmu Pengetahuan Perilaku Psikiatri Klinis (Jilid 1). Tangerang: Binarupa Aksara Publisher; 2010.

[12] Chandratika, Dyah dan Purnawati, S. 2014."Gangguan Cemas Pada MahasiswaSemester VII Program Studi Pendidikan Dokter Fakultas Kedokteran Universitas Udayana". e-Jurnal Medika Udayana , 403414.

[13] Butcher, James N. 2005. A Beginner's Guide To The MMPI-2 2nd ed. Washington D.C: American Psychological Association

[14] Ramaiah S. Kecemasan Bagaimana Mengatasi Penyebabnya. Jakarta: Pustaka Populer Obor; 2003.

[15] Badria L, Habibi AA, Fadhilah M. Perbedaan Tingkat Kecemasan Antara Mahasiswa Kedokteran Laki-Laki dan Perempuan Angkatan 2011 FKIK UIN Syarif Hidayatullah Jakarta Dalam Menghadapi Ujian OSCE. 2014. UIN Syarif Hidayatullah.