

Mental disorders among medical students

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Abstract

Introduction: Mental disorders are an increasingly common phenomenon in the Polish population. Medical students are at high risk of developing mental disorders.

Aim of the research: To investigate the prevalence of mental disorders among medical university students, the level of stress, the use of psychotherapy, and the use of psychiatric medications.

Material and methods: The study was conducted using an original survey, which was distributed among students from the first to the sixth year of the Medical University between February 20 and March 8, 2024. Students received a survey consisting of 22 questions in their university email inbox.

Results: 1132 students participated in the study. A mental disorder was diagnosed in 28.6% of the respondents. The most common disorder was depression, diagnosed in 16.52% of students, followed by anxiety disorders, which were diagnosed in 15.02% of respondents. 60.1% of students with diagnosed mental disorders took psychiatric medications, and 66% used psychotherapy. Among students, the most frequently indicated level of stress on a daily basis was medium, followed by high.

Conclusions: The prevalence of mental disorders among medical students is higher than in the general population. The most common mental disorder is depression. The most commonly taken psychiatric drug is sertraline. Medical students face high levels of stress on a daily basis.

Introduction

Mental disorders are becoming more and more common among the Polish population. According to the EZOPI study conducted in 2012, the prevalence of mental disorders in the Polish population was 23% [1]. For comparison, in the EZOPII study, completed in 2020, the prevalence of mental disorders in Poland was 26% [2].

Medical students are at high risk of developing mental disorders, which is reflected in studies from the United States [3] and Iran [4]. Studies conducted in Brazil [5] also showed an increased risk of suicidal thoughts among medical students. As emphasized by the authors from Lebanon [6], high levels of stress affect medical students, as early as in preclinical classes. Medical studies are demanding, and the sources of stress to which students are exposed, as indicated in the literature, include the following: the amount of material that must be learned, social pressure, loneliness, distance from home, financial difficulties, as well as working with corpses and contact with patients, especially those with serious illnesses, and contact with death [4, 7].

Aim of the research

The objective of the study is to assess the frequency of mental disorders among medical school

students, the psychiatric medications they most frequently take, the use of psychotherapy, and their reported levels of daily stress.

Material and methods

The study was conducted using an original survey, which was distributed among students from the first to the sixth year of the Medical University between February 20 and March 8, 2024. Students received a survey consisting of 22 questions in their university email inbox. Students were asked about their age, gender, field of study, year of study, diagnosis of a mental disorder, use of psychiatric medications, use of psychotherapy and the level of stress on a daily basis, assessed subjectively on a scale of 0–5. Participation in the study was voluntary and anonymous.

Statistical analysis

Data analysis was performed using Microsoft Excel. Nominal values were presented in both absolute and percentage form. Variables that did not have normal distributions (verified by the Shapiro-Wilk test) were presented as medians with interquartile ranges (IQR). To calculate the p -value, we used the χ^2 test ($p < 0.05$ was considered statistically significant).

Table 1. The frequency of mental disorders among students of the Medical University

Mental disorder	Students with diagnosed disorder (%)
Depression	16.52
ADHD	3.89
Anxiety disorder	15.02
Sleep disorders	6.27
OCD	4.15
Neurotic disorders	6.63
Bipolar disorder	0.009
Autism spectrum disorders	0.006
Asperger syndrome	0.004
Schizophrenia	0
Schizoaffective disorder	0.001
Dissociative disorders	0.006
Cyclothymia	0.004
Dysthymia	0.005
Anorexia	0.02
Bulimia	0.02

Table 3. Psychiatric medications most frequently taken by students with diagnosed mental disorders

Drug name	Number of students taking the drug (%)
Sertraline	30.57
Other drugs	25.39
Escitalopram	17.1
Venlafaxine	15.03
Trazodone	15.03
Pregabalin	13.99
Duloxetine	12.44
Lamotrigine	9.84
Alprazolam	6.74
Quetiapine	6.22
Methylphenidate	6.22
Bupropion	5.18
Fluoxetine	3.63

Results

Ultimately, 1132 students participated in the study. The median age of the study group was 22 years (IQR 18–23). The majority of the study participants were women (79%, $n = 893$).

Table 2. Comparison of the frequency of mental disorders among students of the Medical University depending on gender

Variable	Women	Men	P-value
Depression	17.69%	12.24%	0.02
ADHD	4.03%	3.38%	0.45
Anxiety disorder	16.24%	10.55%	0.016
Sleep disorders	6.94%	3.80%	0.04
OCD	4.93%	1.27%	0.007
Neurotic disorders	7.61%	2.95%	0.006
Bipolar disorder	1.01%	0.42%	0.3
Autism spectrum disorders	0.56%	0.84%	0.73
Asperger syndrome	0.34%	0.42%	0.92
Anorexia	2.91%	0.42%	0.017
Bulimia	2.35%	0.42%	0.04

A mental disorder was diagnosed in 28.6% ($n = 326$) of the participants. The occurrence of particular mental disorders is presented in Table 1. The most common mental disorder was depression, followed by anxiety disorders, with the third being neurotic disorders. The least common mental disorder was schizoaffective disorder. No cases of schizophrenia were recorded.

The occurrence of one mental disorder was declared by 11.31% of students. More than one mental disorder was declared by 17.31% of the respondents. The most common comorbid mental disorders were depression and anxiety disorders, which occurred with a frequency of 8.48%. Second, anxiety disorders and neurotic disorders co-occurred most often, accounting for 4.51%. Finally was the coexistence of depression and sleep disorders, with a frequency of 3.98%.

Frequency of mental disorders and students' gender

In women, mental disorders occurred at a frequency of 30.8% ($n = 263$), and in men, this frequency was 26.88% ($n = 51$). Mental disorders occurred at a higher frequency in women than in men ($p = 0.006$). In both women and men, the most common mental disorder was depression, followed by anxiety disorders. In women, neurotic disorders were in third place, and in men, sleep disorders (Table 2).

The most common co-occurring mental disorders in both women and men were depression and anxiety disorders, with a frequency of 9.49% in women and 4.66% in men.

Most frequently taken psychiatric medications by respondents

60.1% ($n = 196$) of students with diagnosed mental disorders reported taking psychiatric medications.

Table 4. Frequency of taking single psychiatric medication by students diagnosed with a given mental disorder

Variable	Sertraline	Escitalopram	Fluoxetine	Venlafaxine	Duloxetine	Bupropion	Trazodone	Alprazolam	Lamotrigine	Quetiapine	Pregabalin
Isolated depression	21.15%	5.77%	5.77%	13.46%	9.62%	1.92%	5.77%	0%	0%	1.92%	1.92%
Isolated anxiety disorder	24.24%	12.12%	0%	0%	6.1%	0%	6.1%	0%	0%	3.03%	6.1%
Sleep disorder	19.72%	14.1%	1.41%	14.1%	7.04%	4.23%	18.31%	4.23%	8.45%	7.04%	9.86%
Obsessive compulsive disorder	21.28%	6.38%	2.13%	6.38%	2.13%	4.26%	12.77%	2.13%	6.38%	4.26%	8.51%
Anorexia	22.22%	0%	0%	11.11%	7.41%	7.41%	14.81%	3.7%	11.11%	3.7%	18.52%
Bulimia	31.82%	4.56%	0%	4.55%	0%	9.1%	4.55%	4.55%	4.55%	9.1%	0%
Depression + anxiety disorders	9.38%	4.17%	1.04%	6.25%	7.29%	2.1%	3.13%	4.17%	3.13%	2.1%	6.25%

Table 5. Frequency of using psychotherapy by students in specific disease entities

Mental disorder	% of students using psychotherapy
Depression	68.98
ADHD	70.45
Anxiety disorders	74.71
Sleep disorders	27.27
OCD	49.30
Neurotic disorders	72
Bipolar disorder	80
Autism spectrum disorders	71.43
Asperger Syndrome	75
Schizoaffective disorders	100
Dissociative disorders	100
Cyclothymia	100
Dysthymia	83.30
Anorexia	62.96
Bulimia	72.73

26.79% ($n = 87$) of students with diagnosed mental disorders took more than one psychiatric medication. The most frequently taken psychiatric medication was sertraline (Table 3).

The most commonly used medication by students with isolated depression was sertraline, followed by venlafaxine and duloxetine. Isolated anxiety disorders were most commonly treated with sertraline, followed by escitalopram and trazodone (Table 4).

Psychotherapy

Psychotherapy was used by 27.39% of the respondents, of whom 8.83% were prescribed by a psychiatrist, 3.09% were self-referrals, and 15.28% were prescribed by a psychiatrist for a medical condition that did not require pharmacotherapy. The study found that 66% of students with diagnosed mental disorders used psychotherapy. Students who did not have diagnosed mental disorders but used psychotherapy constituted 8.39% of all respondents (Table 5).

Stress level and mental disorder

A very high and high level of stress on a daily basis was declared by a higher percentage of students with a diagnosed mental disorder than by students without such a diagnosis ($p \leq 0.00001$). On the other hand, no stress, very low, low, and medium stress levels were declared by a higher percentage of students without a diagnosed mental disorder ($p \leq 0.00001$) (Table 6).

Table 6. Comparison of stress levels declared by healthy students without diagnosed mental disorders and students with diagnosed mental disorders

Variable	Healthy	With a mental disorder	P-value
0 – No stress	0.99%	0.00%	0.239
1 – Very low stress	4.59%	0.02%	0.02
2 – Low stress	14.76%	0.07%	0.0001
3 – Medium stress	42.93%	38.65%	0.192
4 – High stress	26.92%	34.97%	0.0019
5 – Very high stress	9.80%	16.56%	0.003

Discussion

The aforementioned results prompt questions regarding possibilities of mental health help and preventative actions among medical students. The literature indicates how to prevent the described phenomenon [8].

The possible remedies include the following:

- implementing psychological support and counseling among students from the first year of studies,
- conducting screening programs,
- increasing awareness among students in the field of stress management techniques, group support, and relaxation methods,
- enhancing awareness of mental health among students and lecturers and other employees of medical universities.

Many Polish universities offer the possibility of using free psychological consultations. Students list the problem of a limited number of appointments with a psychologist per student, long waiting lines for the first appointment and too few specialists employed relative to the number of university students in need of such help [9]. It seems reasonable to increase the number of available mental health specialists employed at universities due to the increasing frequency of mental disorders in the general population of Poland [1, 2] and their higher incidence rate among medical university students. Due to the frequent use of psychotherapy by students, which consists of a series of visits, it may be beneficial to consider introducing this form of treatment as available to students at the university.

More than half of students diagnosed with a mental disorder use psychiatric medications; thus, the availability of a university psychiatrist seems reasonable.

Increasing the quality and availability of psychological help at the university and appropriate treatment and diagnosis of mental disorders may lead to reduced levels of high stress on a daily basis, which is mainly declared by students diagnosed with a mental disorder. It is worth considering increasing the availability of stress management workshops and relaxation classes, which will also reduce the level of stress among students.

The main limitation of our study is that it included students from one university. However, the study included a substantial sample of 1132 participants.

Moreover, it is one of the few studies conducted in Poland on medical school students, analyzing the frequency of single mental disorders, and not limited to the frequency of depression and anxiety disorders. Additionally, it analyzes the type of psychiatric drugs taken by students and their use of psychotherapy.

Conclusions

Based on the aforementioned studies, the following conclusions can be inferred:

1. Mental disorders are more prevalent among medical students than in the general population of Poland.
2. The most common mental disorder among medical students is depression.
3. The most common psychiatric drug taken by students is sertraline.
4. Medical students experience a high level of daily stress.
5. Students diagnosed with a mental disorder display a higher level of stress on a daily basis than students without such a diagnosis.
6. A high proportion of students diagnosed with a mental disorder use psychotherapy.
7. Further research on mental health of medical students and young doctors along with preparation and improvement of remedial strategies seems justified.

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Ethical approval

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Conflict of interest

The authors declare no conflict of interest.

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