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PREVALENCE OF ANTIDEPRESSANTS AMONG PAKISTANI MEDICAL STUDENTS

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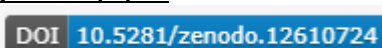
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Abstract

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The study design involved administering a closed-ended questionnaire to 200 medical students from both public and private medical colleges in Lahore. The researchers employed simple random sampling to select participants. To assess depression and anxiety levels, they used the Depression, Anxiety, and Stress Scale (DASS). The prevalence of antidepressant use among the surveyed students revealed that approximately 30% of students were considered normal without any depression or anxiety. A significant majority (70%) experienced mild, moderate, or severe depression and stress, highlighting the substantial mental health burden faced by medical students. Interestingly, perceptions regarding antidepressant drugs varied and 53% of students believed that antidepressant drugs effectively reduce depression and anxiety. Conversely, 47% of students thought that antidepressants did not adequately alleviate anxiety and depression. The study concluded that Pakistani medical students are using antidepressants without proper consultation, raising concerns about self-medication and potential adverse effects. To mitigate risks, promoting an active lifestyle and emphasizing professional advice before starting any medication are crucial steps. This becomes even more relevant during lockdowns, such as those related to the COVID-19 pandemic.

Keywords: Antidepressants, Medical, Students, Depression, Pakistan

Introduction

(Haleema, Perveen, 2023), Antidepressants are drugs that can help with the symptoms of mild chronic depression, dysthymia, social anxiety, seasonal affective disorder, and other illnesses. They seek to redress neurotransmitter chemical imbalances in the brain thought to be the cause of alterations in mood and behavior. In the 1950s, the first antidepressants were created. Over the past 20 years, their use has increased steadily (Puthran et al., 2016). These medications have the potential to lead to dependence and act rapidly. Typically, they are prescribed for short-term use. However, individuals with a history of substance abuse or addiction are not recommended to take these medicines (Mirza et al., 2021). The researchers used the criteria of efficacy determined by changes in depressive symptoms and response to therapy to rank the effectiveness of each medicine. The trials included in the analysis evaluated the effects of 14 antidepressant drugs. (Villarejo, Garcia, Alcaide, et. al. 2024), Tolerability—Whether the use of the medication was stopped due to negative side effects. The acceptability—whether the usage of the medication was halted for any reason. Serious adverse effects were brought on by the medicine, such as an increase in suicidal thoughts or behaviors. (Fitriana, Savitri, Ahmad, et. al. 2024), An antidepressant's effects may not become apparent for several weeks. Because they think the drugs are ineffective, many patients quit taking them. (Carmona, Ortega, Romera, et. al. 2023), People may not experience an improvement for a variety of reasons, such as the medication not being appropriate for the patient, inadequate monitoring by the healthcare provider, the requirement for additional therapies, such as Cognitive Behavioral Therapy (CBT), or forgetting to take the medication at the appropriate time (Hope & Henderson, 2019). To lessen the intensity, occurrence, and persistence of depression and anxiety

symptoms, antidepressant medications are utilized. The most popular and effective treatments for this condition are selective serotonin reuptake inhibitors (SSRIs). (Estevez, Canas, Estevez, 2023), All are equally effective, and the choice of agent depends on pharmacokinetic factors (action start and duration). Ideally, SSRI therapy shouldn't last longer than two months, while some individuals might need to get ongoing care (Ribeiro et al., 2021). Monoamine oxidase inhibitors (MAOIs) were the first type of antidepressant developed. These medications work by inhibiting an enzyme called monoamine oxidase, which is responsible for removing neurotransmitters like norepinephrine, serotonin, and dopamine from the brain. (Zeheer, Khan, Zubair, 2023), By blocking this enzyme, MAOIs increase the concentration of these neurotransmitters, making more of them available to affect changes in brain cells and circuits impacted by depression. However, MAOIs also affect other neurotransmitters in the brain and digestive system. SSRIs (selective serotonin reuptake inhibitors), on the other hand, primarily influence serotonin levels and are commonly used to treat depression and mood disorders. They are often referred to as "selective" drugs because of their specific action on serotonin transporters (Rotenstein et al., 2018). Depending on the medicine used, common side effects include nausea, anxiety, excessive mood elevation, and behavior activation. After quitting medication, certain SSRI and SNRI users, especially those under the age of 18, may have suicidal thoughts and withdrawal symptoms. This Black-box warning is present on every antidepressant, as required by the Food and Drug Administration (Fond et al., 2021).

Significance of the Research

This research is significant as it highlights the mental health challenges faced by medical students and underscores the need for proper medical consultation and awareness to

prevent the potentially harmful consequences of self-medication with antidepressants.

Research Objectives

1. To determine the prevalence of depression and anxiety among medical students in Lahore.
2. To assess the perception and usage of antidepressant drugs among these students.
3. To evaluate the awareness of the adverse effects of antidepressants.
4. To recommend strategies to mitigate the risks associated with the self-medication of antidepressants.

Research Questions

1. What is the prevalence of depression and anxiety among medical students in Lahore?
2. How do medical students perceive the efficacy of antidepressant drugs?
3. What level of awareness do medical students have about the adverse effects of antidepressants?
4. What strategies can be implemented to reduce the risks of self-medication among medical students?

Literature Review

Antidepressants, first developed in the 1950s, have been a crucial treatment for various mental health conditions, including depression and anxiety (Puthran et al., 2016). The increasing use of these medications over the past decades has been well-documented (Mirza et al., 2021). Research indicates that medical students are particularly vulnerable to depression and anxiety due to their demanding academic environment (Reijnders et al., 2017). Previous studies also suggest a higher prevalence of these conditions among medical students compared to their non-medical peers (Usmani et al., 2023; Gulliver et al., 2018).

Research Methodology

A cross-sectional study including 200 medical students (M.B.B.S. students) from Lahore, Pakistan's public and private medical colleges was carried out between November

and December 2022 with approval from the IRB. The study covered every student who provided consent. A self-developed, closed-ended, pre-tested, semi-structured questionnaire created by the goals of the study was used to collect data. Depression, Anxiety, and Stress Scale (DASS) was administered to measure depression and anxiety in students. The IRB approval was granted while keeping ethical factors in mind. Semi-structured questionnaires with purposive sampling methods were used to gather the data. SPSS version 25 was used to analyze the data. Data was displayed using pie graphs and bar graphs. The significant test that we utilized was the Chi-square test. P-values below 0.05 were considered significant (Rotenstein et al., 2018). The researchers used the criteria of efficacy determined by changes in depressive symptoms and response to therapy to rank the effectiveness of each medicine.

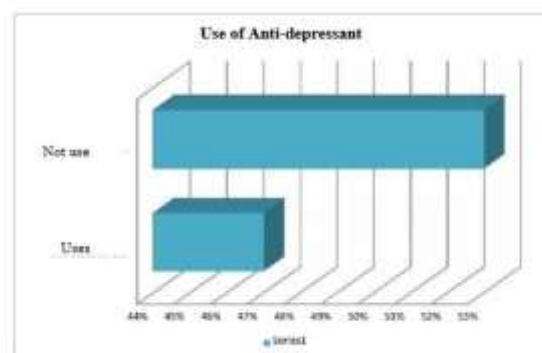
Results

Students doing MBBS participated in this study. For this research, we selected a group of 200 students. The gender selection for this research included 68% female and 32% male students. After data analysis, we came to know that 30% of students are normal and without any depression or anxiety. 35% suffered from mild depression. 25% of students have moderate depression and stress as well. 6% of students had moderately severe depressive states. And 4% of students suffered from severe depression, anxiety, and stress state (Puthran et al., 2016). 53% of students think that antidepressant drugs decrease depression and anxiety. 47% of students think that antidepressant drugs do not decrease anxiety and depression. 82% of students are well aware that antidepressant drugs cause psychotic illness. 18% of students are not aware that antidepressant drugs cause psychotic illness. (Hariharan & Meiers, 2024).

Table 1: Descriptive Demographics

Variables	f(%)
Age	
Below 22 years of age	74.6%
Above 22 years of age	25.9
Gender	
Female	68.0
Male	32.0
Marital Status	
Single	98.2
Married	1.8
Residential Status	
Day Scholar	48.8
Hostelites	51.2
Socioeconomic Status (SES)	
Lower SES	6.4
Middle SES	91.8
Upper SES	1.8
Depression & Anxiety	
Students suffered from depression & anxiety	30.0
Students do not suffer from depression & anxiety	70.0
Believe that antidepressant drugs decrease depression and anxiety	53.0
Do not believe that antidepressant drugs decrease depression and anxiety	47.0
Aware that antidepressant drugs cause psychotic illness	82.0
Do not aware that antidepressant drugs cause psychotic illness	18.0

Figure 1: The usage of anti-depressants among medical students



Discussion

The study aimed to investigate the relationship between the usage of antidepressant drugs among medical students of, Lahore. Findings from the study suggest that 30% of students are normal without any depression and anxiety. 35% suffered from mild depression as suggested by previous research (Reijnders et al., 2017). According to previous studies depression and anxiety are more prevalent in medical students as compared to non-medical students as can also be seen in the current study where 25% of students have moderate depression and stress as well. 6% of students had moderately severe depressive states (Usmani et al., 20203). Moreover, 4% of students suffered from severe depression, anxiety, and stress state (Gulliver et al., 2018). According to previous studies medical students who faced challenges in studying consumed more antidepressants as can be seen in the current study where 53% of students think that antidepressant drugs decreased depression and anxiety. Antidepressant drugs cause psychotic illness. 18% of students are not aware that antidepressant drugs cause psychotic illness (Mokros et al., 2020).

Limitations

This study has limitations due to its cross-sectional design, emphasizing the need for future longitudinal or experimental research. Potential recall bias might also be a factor. The small sample size and low percentage of male

participants are notable limitations. Additionally, the study's focus on undergraduate medical students from specific universities in Lahore restricts the applicability of conclusions to all Pakistani medical students. (Feroz, Aslam, Farah, 2023), The absence of inquiries about family background or eating habits is another limitation. Furthermore, the higher education levels of the sample compared to the general population may impact the relevance of findings in other regions of Pakistan, particularly those with fewer resources and lower average education levels. Considering the well-established link between education and stress, caution is necessary when generalizing the results.

Conclusion

The results of this study show that Pakistani medical students are somehow taking antidepressants without proper consultation. To prevent the potential harmful consequences of anti-depressants on people's health, an active lifestyle must be encouraged. However, encouraging physical activity may also be beneficial in the event of a lockdown.

Innovation/Research Gap

This study addresses a significant gap in the current literature by focusing on the self-medication practices of medical students in Lahore, Pakistan, a topic that has received limited attention. By providing detailed insights into the prevalence of depression and anxiety, the perception of antidepressant efficacy, and the awareness of adverse effects, this research aims to empower humanity with knowledge through research. The innovative aspect lies in its comprehensive approach, combining quantitative analysis with practical recommendations for improving mental health practices among medical students.

Recommendations

Medical colleges should raise awareness among students about the adverse effects of

frequent antidepressant drug use by organizing seminars and workshops during their education. Encouraging students to participate in well-being activities can help reduce depressive and stressful states of mind, thereby minimizing reliance on antidepressants. College authorities should monitor student activities to prevent addiction to these drugs. Additionally, addressing the hectic college schedule through trips, music concerts, and social gatherings can contribute to reducing student depression rates.

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