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Frequency of Functional Depression and Coping Strategies in Medical Students and Doctors

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ABSTRACT

Functional depression, marked by intermittent depressive episodes while maintaining normal functionality, is common among medical professionals and students. Understanding the prevalence of functional depression in these populations and identifying effective coping mechanisms is crucial for supporting their mental health. **Objectives:** To determine the Frequency of functional depression and coping strategies in medical students and Doctors. **Methods:** This cross-sectional study was conducted at FRP-Medical College from June 2022 to May 2023, involving 260 participants (160 medical students and 100 recent medical graduates). Participants completed an online questionnaire distributed via WhatsApp and email, with informed consent obtained electronically.The study utilized the 21-item Beck Depression Inventory (BDI) to assess depression severity and the 28-item Brief-COPE questionnaire to evaluate coping mechanisms. Data were analyzed using SPSS version 23.0. **Results:** The questionnaire was distributed to a total of 260 individuals (160 were medical students and 100 were medical professionals). The mean age of undergraduates and doctors was 20.53 ± 1.12 years and 28.77 ± 3.63 respectively. A high frequency of functional depression was noted in which (57%) of undergraduates and (53%) of doctors had functional depression (p=0.017). Female students were more inclined to be affected by depression than their male competitors (p=0.041). The family structure and marital status, on the other hand, were not linked to depression. **Conclusions:** The findings demonstrated that medical scholars are a susceptible population with high rates of mental morbidity, including anxiety and sadness. Moreover, problem-focused coping methods were the most adopted by them.

INTRODUCTION

Mental well-being is about life going well. It combines a satisfying experience with effective performance. Being happy all the time is not necessary for sustained well-being; it is necessary to be able to control painful feelings such as grief, disappointment, and other negative emotions because they are a natural part of life. The phrase "functional depression" is frequently used to refer to a person who occasionally experiences depression but generally appears to be functioning normally. According to Rebecca Brendel, the American Psychiatric Association's incoming president, the phrase emphasizes "the important point that people can have mental illness and still appear to be capable of living their lives or not seem mentally ill to an external observer" [1]. Medical professionals might perform in ways that appear routine and habitual to everyone while secretly battling and going through difficult times. According to "The Diagnostic and Statistical Manual of Mental Disorders", in order to diagnose depression, the

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following parameters must be necessarily fulfilled: feeling down for the majority of the day, significantly decreased interest or enjoyment in practically all activities, significant weight reduction while not on a diet, weight gain, or practically daily changes in appetite, a decrease in physical activity and a slowing of mind (visible by others, not only internal emotions of agitation or being pushed down), daily exhaustion or energy loss, nearly daily feelings of worthlessness or excessive or unjustified guilt, decreased mental clarity, difficulty focusing, or indecision often daily and consistent notions of suicide, repeated suicidal ideas without a clear scheme, a self-harm attempt, or a clear suicide plot [2]. A minimum of five symptoms must be present for at least two weeks, and at least one of those symptoms must be either a sad mood or a lack of enthusiasm or delight [3]. Because they study and train in high-pressure settings, medical students are known to experience significant levels of stress, anxiety, and depression [4]. Large populations generally and healthcare personnel specifically are experiencing stress, and this anxiety has been augmented after the coronavirus epidemic [5]. They employ various coping mechanisms as a natural reaction to manage their stress and endure the demanding atmosphere present in medical institutions. Coping is defined as the cognitive and behavioral attempts to control circumstances that are seen to be taxing or surpassing a person's resources [6]. Problem-focused coping (PFC) and emotion-focused coping (EFC) are two general categories of coping strategies. There is a distinction between dispositional and situational coping, according to the literature. The group of coping mechanisms known as dispositional coping are those that have a comparatively long lifespan [7]. Comparatively, situational coping refers to coping strategies that adapt to various circumstances as a stressful transaction progress through its many stages. Using a vast array of cognitive, emotional, and behavioral factors, the framework was created to conceptualize generic coping strategies. Coping might be primarily an attitude-based process that includes several mental strategies. "Positive thinking" techniques, such as reframing, humor, or optimism, "social support" techniques, such as asking for emotional and practical help from others, and "turning to religion" techniques, such as placing one's faith in higher forces, are all common coping mechanisms. There are very fewer data in Pakistan on psychological issues and especially on functional depression. Moreover, prior research did not conclusively prove a connection between coping mechanisms and varying degrees of depressive symptoms. This study aimed to identify the prevalence of functional depression in medical students and medical practitioners. Another objective is to investigate the coping mechanisms that are commonly used to deal with it.

METHODS

A cross-sectional study was conducted at the FRP-Medical College. The Ethics and Research Committee of Fazaia Ruth Pfau Medical College provided the approval (Ref No: IRB/58) for conducting this research. The same size was calculated using the single population proportion formula as follows,

$$n = \frac{z^2.p.(1-p)}{E^2}$$

n = Required sample size

Z = Z-score corresponding to the desired confidence level (1.96 for 95%)

p = Estimated proportion of the population with the characteristic of interest (80%, based on prior studies [8]).

E = Margin of error (5%)

A total of 260 participants were selected among which 160 were medical students and 100 were medical professionals. The medical students and doctors who were exposed to medical studies for at least six months were included in this study but those who already suffer from mental health issues and those exposed to medical education studies for less than 6 months were excluded. Written and verbal consent was taken from participants prior data collection. The data were collected over the course of three months using a questionnaire created on Google Forms and distributed online link via WhatsApp groups or email. The Beck Depression inventory (BDI) was used to determine the intensity of the symptoms over the course of the preceding week, respondents were given the task to score each item using one of four possible responses that included lack of a symptom (1-10), Mild Mood Disturbance (11-20), Borderline Depression (21-30), Severe Depression (31-40), Extreme depression (>40). On the other hand, to determine the efficacy of coping mechanisms, the Brief-COPE, a 28-item feedback Likert scale response type questionnaire was used to and the score for each item ranged 0-3, with higher scores indicating more frequent use of a particular coping mechanism. For labeling depression using the Brief COPE, there isn't a direct cut-off value for depression as it primarily assesses coping strategies rather than diagnosing depression. However, certain coping strategies may be associated with depressive symptoms. Researchers or clinicians may use additional scales or diagnostic criteria to assess depression. The collected data were analyzed using IBM SPSS version 23.0. Descriptive statistics, such as mean and standard deviation, were computed for continuous variables. Categorical variables were summarized using frequencies

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and percentages. For the analysis of functional depression, the prevalence rates were calculated, and chi-square tests were used to compare the proportions of depressed individuals among medical students and practitioners. Regarding coping methods, average scores of different coping styles were calculated. Overall, the significance level was set at p≤0.05 for all statistical tests.

RESULTS

There were 160 (61%) medical students and 100 (39%) practicing physicians among the total of 260 participants. The average age of medical students was 20.53 + 1.12 years, whereas the average age of doctors was reported to be 28.77 + 3.63 years. There were 106 men (40% of the participants) in this research. Participants with nuclear families made up 103 (40%), while those with combined families made up 157(60%) of the participants in Table 1.

Table 1: Descriptive Statistics of Study Variables

Variables	Maximum		p-value
	Students (n= 160)	Medical Practitioners (n = 100)	
Gender			
Male	67 (41.88%)	39 (39.00%)	0.6463
Female	93 (58.13%)	61 (61.00%)	
Mean Age			
Male Mean Age	20.60 ± 1.30	30.62 ± 4.00	<0.001
Female Mean Age	20.48 ± 0.96	27.59 ± 2.82	<0.001
Combined Mean Age	20.53 ± 1.12	28.77 ± 3.63	<0.001
Birth Order*			
1st Child	59 (36.88%)	39 (39.00%)	>0.05
2nd Child	6 (3.75%)	0 (0.00%)	
Middle Child	61 (38.13%)	36 (36.00%)	
Youngest	32 (20.00%)	19 (19.00%)	
Only Child	2 (1.25%)	6 (6.00%)	
Family Structure			
Nuclear Family	115 (71.88%)	42 (42.00%)	<0.001
Joint Family	45 (28.13%)	58 (58.00%)	
Family Monthly Income*			
<= Rs.25,000/-	7 (4.38%)	0 (0.00%)	<0.001
>Rs.25,000/- to <=Rs. 50,000/-	34 (21.25%)	0 (0.00%)	
> Rs.50,000/- to <=Rs.100,000/-	38 (23.75%)	34 (34.00%)	
> Rs.100,000/-	81 (50.63%)	66 (66.00%)	
Marital Status*			
Single	160 (100.00%)	44 (44.00%)	<0.001
Married	0 (0.00%)	46 (46.00%)	
Divorced	0 (0.00%)	6 (6.00%)	
Separated	0 (0.00%)	4 (4.00%)	

* Fishers Exact Test

Out of 260 medical professionals, 145 (or 55%) had functional depression, according to the screening results. Then it was discovered that 92 (57%) of medical students and 53 (53%) of practitioners had depression (p=0.017). The percentage of students and physicians who were mildly depressed peaked at 40 (25%) and 25 (25%) respectively as mentioned in Figure 1. Functional depression was detected in substantially more female (63%) than male (p=0.041). Frequency of family structure and marital status, on the other hand, were not significantly different among those with and without depression.

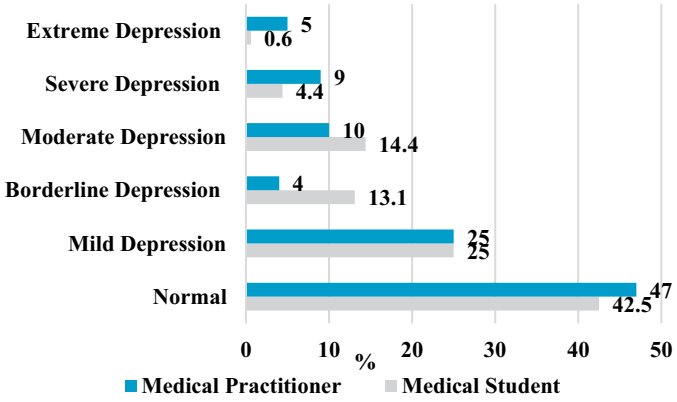

Figure 1: Functional Depression among study participants

The majority of individuals were found to utilize problem-focused coping methods (p=0.022) and (average 2.49 of 4). Emotion-focused coping was the second most used coping style by our medical professional's participant. Religion was the most common coping strategy (average 2.69 out of 4) along with active coping, planning, and acceptance. Participant adoption of avoidant was found to be the lowest. Substance use was the least adopted coping style (average 1.37 of 4) as reported in Table 2.

Table 2: Coping Methods among Study Participants

Coping Methods	Designation	N	Mean ± SD	p-value*
Problem Focused Coping	Medical Student	160	2.56 ± 0.80	<0.001
	Medical Practitioner	100	2.01 ± 0.81	
Emotion Focused Coping	Medical Student	160	2.30 ± 0.69	<0.001
	Medical Practitioner	100	1.95 ± 0.71	
Avoidant Coping	Medical Student	160	1.86 ± 0.65	0.317
	Medical Practitioner	100	1.77 ± 0.70	

*Independent t-test

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DISCUSSION

Functional depression among medical students commonly goes unrecognized and untreated. Additionally, because mental health is stigmatized and shamed, medical students are less likely than other students to seek professional help [9]. In this study, the prevalence of functional depression among medical professionals was evaluated and compared between medical students and doctors was (61%) and (39%) respectively. A high prevalence of depression was found in both groups, with medical students exhibiting a slightly higher rate than doctors. This aligns with previous research showing a significant burden of depression among medical students worldwide and study also shows that women were bound to encounter more depression than men. Moreover, majority of individuals tended to use religious, active planning, and accepting coping strategies. This study discovered that medical students had a high rate of depression (57.5%). An identical poll was carried out in Pakistan, where 70% of medical students acknowledged suffering from depression [10] 60% of students at Ziauddin Medical University in Karachi were depressed, according to different research. In the current research, depression prevalence was considerably greater compared to the worldwide incidence (28.0%) computed from 62,728 medical students and 1845 non-medical students who were gathered across 77 papers for the meta-analysis [11], as well as 10,147 medical learners in Asia were included in a meta-analysis that put the overall frequency at 11.0% [12]. On the other hand, previous research revealed a smaller prevalence of depression, ranging from 15 to 24% in the United States, 30.6% in Cameroon , 29.5% in Turkey , and 37.2% in Malaysia [13]. The cause of such high functional depression among medical professionals was because various stressors that they have to face in their normal daily life. Because in addition to the usual stressors of daily life, medical undergraduates need to oversee stressors well defined for clinical schools, such as knowledge and input overwork, financial debt, a lack of free time, and demands from jobs, work relationships, and career decisions. Accessing functional depression in doctors of current survey revealed that 53% of doctors have functional depression in real life. Interns and residents may suffer from functional depression in part as a result of their night shifts, extended workdays, hectic schedules, excessively demanding patients, few resources, and challenging or hard decisions [14]. They may be unable to take time out for exercise, sleep for fewer hours, and partake in fewer activities outside of the hospital due to their lengthy hospital hours and intense continual medical training, which has a detrimental effect on their health [15]. It has been documented that extremely long working hours, sleep deprivation and depression in doctors are all intertwined [16]. Another explanation is that young doctors who work in hospitals may experience functional depression more frequently because they are studying for their post-graduate exams at a younger age, which requires more time, money, and effort. Functional depression may also result from failing these exams. Additionally, it has been observed that doctors who are just starting in their careers are more self-conscious and concerned about the future, which might make them depressed [17]. Significant levels of depression in women were also discovered in this study. It was found that 59.2% of women had functional depression, compared to 40.7% of male. This is in agreement with a previous study that severe depression was more common among female doctors (14%) than in male doctors (3.1%). One of the contributing causes to the rise in depression among women is probably the frequent handling of several responsibilities as moms, wives, professionals, and homemakers. Furthermore, this investigation revealed that the majority of the study population utilized problem-focused coping (average score of 2.49 out of 4) the most frequently overall. In contrast, it was found that the majority of pupils employed active coping and planning when learning about problems. [18]. Religious coping (average score of 2.69 out of 4) was the most favored strategy utilized by medical professionals in this study. The average score for using substances as a coping method was (1.37 out of 4). The fact that all participants were Muslims and Islam forbids alcohol usage may account for the lowest scores on questions on substance misuse. Participants were inclined to choose active coping, acceptance, or positive reframing as their coping methods. All of this is explained by the possibility that undergraduates majoring in general well-being and prophylactic healthcare have a better grasp of and experience addressing medical problems. The most often mentioned activities were hanging out with friends, then sleeping, music, sports, and solitude. Hostilities utilized smoking as a coping method twice as often as day students, which was a startling contrast. Peer pressure and being away from one's family were blamed for the formation of such a bad habit. Additional research discloses other coping strategies for functional depression and numerous psychiatric conditions besides the ones addressed within our study. Daily exercise has a variety of health benefits, including improving the state of mind. Strong evidence exists to support physical inactivity increases the risk of depression and that exercise lessens the severity of depression [19]. The greatest method to treat functional depression is to stop it in its origins; therefore, stress management should be seen more as a preventative measure than a therapeutic one. The greatest method to solve issues is to identify them and approach

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them in a proactive, constructive manner. In this regard, a comprehensive strategy should be used for the efficient management of functional depression, including individual counseling, psycho-social assistance, medical and occupational counseling, support from society, activities to relax, and managing the effects of overwork. The greatest method to solve issues is to identify them and approach them in a proactive and constructive manner [20]. The study's limitations include a relatively small sample size despite meeting minimum requirements, potential sampling bias from a single institution, reliance on subjective self-reporting measures susceptible to social desirability bias, and a cross-sectional design limiting the ability to establish causality or track changes over time. These factors may impact the generalizability and reliability of the findings, suggesting the need for larger, more diverse samples, use of objective measures, and longitudinal study designs for future research. Exploring interventions and intervening variables is crucial, alongside considering cultural and contextual factors. By addressing these recommendations, future research can better inform strategies to improve mental health outcomes in the medical community.

CONCLUSIONS

Conclusively, the current study has the reported high prevalence rate of functional depression among medical students and doctors, hence underlining the high mental health risk of the medical professionals. The study also outlines the participants' most frequently used problem-focused coping strategies: religious coping, planning, and acceptance. These outcomes extend prior studies by indicating that healthcare workers use culturally and contextually applicable techniques in stress regulation. Subsequent cross-sectional investigations must investigate the long-term outcome of these coping strategies and introduce culturally relevant psychiatric care for medical learners and professionals in low-resource countries.

Authors Contribution

Conceptualization: AM, NB
Methodology: AM, FF, BN, S, SEF, MF, MIA, NM, AA
Formal analysis: BN, NB, MIA, MA
Writing review and editing: AM, FF, BN, NB, SEF, MF, NM, AA, MA
All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

All the authors declare no conflict of interest.

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