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Association of Depression, Anxiety, Stress with Quality of Life among Students in a Private University

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Abstract
Healthcare students are the ones who will be working in healthcare after they graduate. Studies show that healthcare studenst are more prone to suffer from stress, anxiety, and depression, which will lower their quality of life, because of their rigorous coursework, demanding lifestyle, financial strain, and strong competition in the medical field. The purpose of the study is to find the association between depression, anxiety and stress with quality of life (QoL) among students in a Private Healthcare University.

Keywords: Depression; Anxiety; Stress; Quality of Life;

1.0 Introduction
Depression is characterised by a persistent, seemingly unrelated sense of emptiness, melancholy, or the inability to experience pleasure. But it's not the same as sadness or other feelings. (Goldman, 2023). Complex connections between social, psychological, and biological factors are among the causes of depressive disorder. There are medication-based and psychological therapies available for depression (World Health Organisation: WHO, 2019). According to UNICEF, stress is a universal emotion that everyone experiences when they feel overburdened or under pressure. Small degrees of stress are thought to be beneficial to people, motivating them to attain their goals. For example, the stress may inspire people to study for a test or deliver a speech. On the other hand, excessive stress can cause issues with both emotional and physical health. For example, they could harm themselves out of irritation, which affects their relationships and mood (UNICEF, 2023). Excessive fear and worry, along with corresponding behaviour issues are characteristics of anxiety, according to the World Health Organisation. The various types of anxiety disorders are separation anxiety disorder, panic disorder, social anxiety

disorder, and generalised anxiety disorder (World Health Organisation: WHO, 2022). Depression brought on by another health issue. Sadness, emptiness, and a negative mood are all signs of depression. These symptoms are followed by both physical and cognitive abnormalities that make it difficult for the person to function (Ormel, 2019). Severe depression is a condition that can be caused by both environmental and genetic factors.The idea of quality of life, according to the National Institutes of Health, attempts to represent an individual's or population's general well-being with respect to both positive and negative aspects of their existence at a given point in time (Teoli, 2022). The degree to which an individual finds satisfaction in life is described as their quality of life (APA, 2023). Depression, stress and anxiety has been associated with quality of life in adult, it does not mean only adult was effected, young adult is also effected. In this study, it focus on finding the association between depression, anxiety and stress with quality of life (QoL) among students in a Private Healthcare University in Nilai. This study will help students have a better work-life balance, knowledge and continue it in the future while working.

2.0 Literature Review

Around the world, the illness is thought to affect 5% of adults (WHO, 2022). One common mental health is depression. The Diagnostic and Statistical Manual of Mental illnesses, Fifth Edition (DSM-5, 2022), published by the American Psychiatric Association categorises depressive disorders into Disorder of disruptive mood dysregulation, Major depressive disorder, Dysthymia, or persistent depression disorder and Disorder of premenstrual dysphoria. Students studying medicine and pharmacy in Iraq have an elevated risk of anxiety and depression, according to a study that used the Hospital Anxiety and Depression Scale (HADS). Of the students, 42.9% showed symptoms of depression and 52.1% reported symptoms of anxiety. Students with depression showed a significant negative correlation between their sleeping hours and depressive condition, indicating that lower sleep hours contributed to their depression symptoms (Kathem et al., 2021). Researcher have identified too many assignments, competition with other students, failures and many were the stressors among the respondents (Bhargava ,2018). A study found that depression, insomnia and bad eating habit are the symptoms for stress among youth. The factors of stress are financial stress and career stress, relationship stress (Trivedi, 2018). According to Ramadianto study from 2022, 22.2% of Indonesian medical students reported symptoms of depression, while 48.1% reported anxiety, with 3.0% and 8.1% reporting extremely severe symptoms of anxiety and depression, respectively. The depression scores of students who did not live in a small family were higher.

Anxiety levels found greater among female students and those in the first year of preclinical and clinical studies. Because of this, mental health issues, such as sadness and anxiety, are common among medical students (Ramadianto et al., 2022). Depression (18.4%), stress (34.5%), and anxiety (23.6%) are also moderately prevalent. Of those surveyed, 23.6% reported having anxiety symptoms that were above average, 28.5% had mild to moderate stress symptoms, and 8.4% reported severe to extremely severe stress symptoms. In contrast, 6.4% of people experienced severe to extremely severe depressive symptoms, and 12% had mild to moderate symptoms. When comparing male and female students, Ramón-Arbués et al. (2020) found that the prevalence of stress and anxiety symptoms was higher in female students. This show that medical and pharmacy student are also effected with depression, anxiety and stress.

As the student have depression, anxiety and stress it also impacts their Quality of life. Quality of life is a multifaceted idea that refers to a person's overall state of well-being in connection to the values, surroundings, cultural and social context in which they live. Recent study by Joo et al. (2021) revealed that the average score for physical QoL domain was 66.36, 66.96 (psychological), 64.52 (social) and 59.28 (environment) B40 urban community during COVID-19 lockdown. Another study about quality of life among medical and non-medical students in a developed country found that from 300 students, 150 medical students had lower mean scores for Quality of life (QoL) and non-medical students had higher QoL mean scores. Female students from these samples scored high on QoL compared to male students (Noreen et al., 2021). It indicates, the medical student QoL was impacted compare to student who do not study in medical field.

Dental students from Saudi Arabia had a mean score of 3.97 for overall quality of life and 3.78 average score for general health. On the other hand, the environment QoL domain had the highest mean score followed by physical health (19.77), psychological QoL domain (17.64) and social (7.50) (Al-Shibani & Al-Kattan, 2019). Similar to this study there was research done by Malibary et al. (2019) and they discovered medical students in Saudi Arabia reported a mean score of 3.99 for the overall QoL and 3.66 for general health. In this study it was stated that the environmental QoL domain had the highest mean score (67.81) followed by psychological, social relationship, and physical QoL domain with mean scores of 64.37, 55.67, 46.94 respectively. Previous studies have shown, medical students have problem in depression, stress, anxiety and their Quality of life (QoL), however no study find the association of this among healthcare students. Healthcare students are also part of medical line that will be working and handling with patient. It also important to find if the healthcare student also have problem in depression, anxiety and stress and their QoL. This research are determined if there is any association between depression, stress and anxiety with QoL among healthcare students in a private university in Nilai, Malaysia.

3.0 Methodology

This study was a cross-sectional quantitative design. A cross-sectional approach was selected to provide a single set of data reflecting the prevailing status for mental health and quality-of-life in university students. This design is especially well-adapted for prevalence studies and to study relationships between variables. This study will be conducted among students in KPJ Healthcare University Nilai. The total population at a Private Healthcare University is around 1648 students. Among the students covered are Nursing,

Physiotherapists, Medical Imaging, Occupational Therapy, Pharmacy, Pharmaceutical Science, Health Information Management, Healthcare Management and Psychologists.

Convenience sampling was used to choose the sample size. One type of non- probability sampling technique is convenience sampling, that relies on collecting data from people in the population who are willing to take part in the research. Slovin's formula was utilized in this sampling method.

The study population was defined using specific inclusion and exclusion criteria to ensure a representative sample of the target population. To be eligible for participation, individuals had to be active, full-time students enrolled in the Private Healthcare University in Nilai, aged between 18 and 30 years old, able to read and understand the language of the questionnaires, and willing to provide informed consent. Students were excluded if they were part-time or distance learning students, under 18 or over 30 years of age, on leave of absence or suspended from studies, unable to complete the questionnaires independently due to physical or cognitive limitations, or if they did not consent to participate in the study. These criteria were established to focus on the typical undergraduate and graduate student population while ensuring ethical research practices.

The outcome measure that used in this study to assess the depression, anxiety and stress and the Quality of Life are suing both Depression Anxiety Stress Scales (DASS-21) and the World Health Organization Quality of Life-BREF (WHOQOL- BREF) questionnaire.

3.0 Findings

Depression with quality of life had a strong negative correlation (ρ = -0.513, p < 0.001) between depression and QoL indicates that as depression levels increase, there is a substantial decrease in overall quality of life. This robust relationship underscores the profound impact that depressive symptoms can have on a student's overall well-being and life satisfaction. Anxiety with quality of life had moderate negative correlation (ρ = -0.442, p < 0.001) between anxiety and QoL suggests that higher levels of anxiety are associated with lower quality of life. While slightly weaker than the depression-QOL relationship, this correlation still highlights the significant role that anxiety plays in diminishing students' overall life quality. Stress with quality of life had moderate negative correlation (ρ = -0.443, p < 0.001) between stress and QoL is nearly identical to the anxiety-QoL relationship.

Table 1: Correlation between depression, anxiety, stress and overall quality of life

DASS-21 Subscale	Overall QoL (ρ)	p-value
Depression	-0.513	<0.001
Anxiety	-0.442	<0.001
Stress	-0.443	<0.001

This indicates that increased stress levels are associated with decreased quality of life to a similar degree as anxiety. All correlations are statistically significant (p < 0.001), indicating a high level of confidence in these relationships. The negative directionality of all correlations confirms that as mental health symptoms (depression, anxiety, and stress) increase, quality of life decreases. This suggests that as the overall quality of life increases, levels of depression, anxiety, and stress tend to decrease significantly.

5.0 Discussion

5.1 Impact of depression with Quality of Life
The results of this study demonstrate a strong negative correlation between depression and overall quality of life (QOL) among participants, with anxiety and stress also showing moderate negative correlations. These findings align closely with previous research, despite the current study's smaller sample size. The strong link between depression and lower QoL (ρ = -0.513, p < 0.001) may be attributed to the pervasive nature of depressive symptoms, which can affect multiple aspects of an individual's life, including physical health, social relationships, psychological domain and daily functioning. Depression's impact on cognitive processes, motivation, and energy levels likely contributes to this significant reduction in perceived QoL. Depressive symptoms often include negative thought patterns and cognitive distortions that may lead individuals to perceive their overall life quality as lower than it objectively might be.

Depression significantly impairs cognitive functions such as concentration, memory, and decision-making, directly affecting the psychological health domain. Individuals with depression often struggle with difficulty concentrating, making it hard to focus on tasks, follow lectures, or engage in clinical work, which hinders academic performance and practical applications in clinical settings. Memory issues are also common, as depression can cause forgetfulness and difficulty retaining new information, complicating the learning process. Additionally, cognitive processes can become sluggish, leading to slower comprehension and response times, further affecting academic and clinical efficacy. It also severely impacts motivation, often leading to a lack of interest in activities that were once enjoyed, affecting both psychological health and social relationships. This manifests as a reduced drive, where students feel unmotivated to pursue academic goals, attend classes, or engage in clinical practice. Apathy becomes prevalent, causing students to lose interest in hobbies, social interactions, and professional aspirations. The pervasive sense of hopelessness and worthlessness

that accompanies depression can make it difficult for students to find the energy or willpower to invest in their studies and future careers.

Students may struggle to find the physical energy required for attending classes, participating in clinical rotations, or engaging in daily activities as depression frequently results in diminished energy levels, contributing to chronic fatigue and lethargy, which falls under the physical health domain. This persistent exhaustion can lead to a vicious cycle where the lack of energy exacerbates feelings of inadequacy and depression, further diminishing their overall QoL. Individuals with depression may experience pervasive negative thoughts about themselves, their abilities, and their future. Cognitive distortions, such as all-or-nothing thinking, overgeneralization, and catastrophizing, lead individuals to view situations more negatively than they objectively might be. This negative bias in perception can cause students to feel hopeless and trapped, viewing their overall life quality as much lower than it is. Once this condition effecting someone, based on the result of this study it shows that it will impact on the student's QoL.

The consistency of our findings with previous studies, such as Gan & Ling (2019), despite the reduced sample size, indicates the resilience of this association. Furthermore, it was noted that medical students experiencing symptoms of depression exhibited a correlation with decreased psychological well-being, followed by a decline in physical health, and finally a decrease in environmental well-being. The consistency observed across various sample sizes and populations enhances the credibility of the results and suggests a possibly universal pattern in the association between mental health symptoms and quality of life.

5.2 Impact of anxiety with Quality of Life

The results suggest that there is a moderate inverse relationship between anxiety symptoms and quality of life among healthcare students. Anxiety frequently presents with physical manifestations, including heightened heart rate, muscle tension, headaches, gastrointestinal problems, and sleep disruptions. These symptoms can pose challenges for students, making it arduous to meet the demanding requirements of their academic and clinical schedules. Persistent worry can result in enduring health issues, further impairing their capacity to perform optimally in their academic pursuits and practical training.

Students with anxiety experience persistent worry, fear, and apprehension, leading to difficulty concentrating, indecisiveness, and cognitive overload. This constant state of worry and heightened alertness impairs academic performance and overall mental well-being. For instance, a student who is constantly anxious about exams may struggle to focus on studying, leading to poorer academic outcomes, further deteriorating their psychological health.

Moreover, the fear of judgment or failure can lead to social isolation, reducing opportunities to form supportive relationships with peers and mentors. This state of being alone can worsen emotions of solitude and anxiety, leading to a harmful cycle that further reduces their social welfare Interestingly we also found that students with anxiety had lower psychological, social and environmental scores where it lead to lower quality of life (Gan & LIng,2019).

However, there was no association of anxiety and depression with QoL overall physical health in Gan & Ling (2019) study but unfortunately there was a negative correlation between depression, anxiety and physical health. This could be due to differences in sample characteristics, methodological approaches, temporal context, cultural and environmental factors, and coping mechanisms. These factors highlight the complexity of studying the impact of mental health on physical health and underscore the need for a nuanced understanding of the various influences.

5.3 Impact of stress with Quality of Life

These results suggest a correlation between stress and QoL stress, and QoL is moderate and nearly identical as anxiety symptoms with QoL. (ρ = -0.443, p < 0.001) may be due to the physiological and psychological effects of these conditions. Even though the correlation is slightly weaker than that between depression and QOL, the moderate negative correlation still underscores the substantial impact stress had on students' lives. These mental health issues contribute significantly to reducing the overall quality of life, affecting various aspects of students' daily functioning and well- being.

Physically, stress can manifest as sleep disturbances, headaches, and gastrointestinal issues. These physiological effects interfere with students' ability to perform optimally in both their studies and practical training. The cumulative impact of poor health further exacerbates stress, creating a vicious cycle that impairs their overall quality of life. On the other hand, the stress experienced can also lead to burnout, characterized by emotional fatigue and a reduced sense of accomplishment, such as psychological strain which can limit their problem solving that further detracts from their academic satisfaction.

Furthermore, the student's social and personal aspects also have affected due to high levels of stress and the lead to withdrawal from social relationships. The resultant isolation can deprive students of necessary social support, exacerbate feelings of loneliness and further diminish their quality of life. Moreover, stress can lead to harmful coping strategies, such as substance abuse or improper eating habits, which can have a negative impact on physical health and overall wellness.

Similarly, prior research, such as the study conducted by Kupcewicz et al. (2020) on nursing students in Poland, has also found a notable inverse correlation between stress levels and quality of life. This similarity across diverse populations suggests that the impact of stress on QOL may be relatively consistent across various contexts. Depression, anxiety, and stress often co-occur and can exacerbate each other. This interplay may explain why all three factors showed significant negative correlations with QoL, as they may have compounding effects on an individual's well-being.

Previous studies have been done in finding the association of depression, anxiety and stress with QoL among healthcare (nursing) and medical students. This study, it focuses on healthcare students in the private sector from Occupational Therapy, Physiotherapy, Medical Imaging, Psychology and nursing. It shows that not only medical and nursing students who are affected by this, other healthcare students also affected, thus leading to a reduction in QoL. This is important because in the future they will be working in the hospital with

patients. This will affect their potential, the relevant authorities, such as the university itself, to prepare their students before graduation and start working as healthcare workers.

6.0 Conclusion & Recommendations

This study investigated the correlation between depression, stress, and anxiety and the quality of life among students enrolled at a private healthcare institution in Nilai. Data were obtained from students using the Depression Anxiety Stress Scales (DASS-21) and the World Health Organization Quality of Life-BREF (WHOQOL- BREF) questionnaire, employing a cross-sectional quantitative design. More precisely, students who had higher degrees of depression reported lower physical health, psychological well-being, social relationships, and environmental factors. Meanwhile, higher stress and anxiety reported a negative correlation with physical health and psychological domain in quality of life. In conclusion, elevated levels of depression and higher severity of anxiety, followed by stress levels, were linked to a decrease in the overall quality of life.

Based on the findings and acknowledged limitations of this study, several recommendations emerge for addressing the mental health and quality of life challenges faced by healthcare students. The implementation of comprehensive and regular mental health screening is crucial for early identification and intervention of issues such as anxiety and depression. This should be complemented by the development of integrated support programs that holistically address both mental health concerns and quality of life enhancement, recognizing their interconnected nature.

Given the variability observed across quality-of-life domains, interventions should be tailored to address specific areas of concern, with particular focus on improving social relationships and psychological well-being. The integration of stress management and coping skills training into the healthcare education curriculum could proactively equip students with tools to navigate the challenges of their academic and future professional lives.

To address the limitations of the current cross-sectional design, longitudinal research should be conducted to track changes in mental health and quality of life over the course of healthcare education programs. This would help identify critical periods for intervention and provide a more comprehensive understanding of students' experiences over time. Furthermore, the development of peer support initiatives and enhanced faculty training could create a more supportive educational environment. Educators should be equipped to recognize signs of mental health issues and their impact on students' quality of life, enabling them to offer appropriate support or referrals.

Finally, future research should explore cultural and contextual factors influencing the relationship between mental health and quality of life among healthcare students. This could inform the development of culturally sensitive and context-specific interventions. Interdisciplinary collaboration between mental health professionals, education specialists, and healthcare providers will be essential in developing comprehensive strategies to support student well-being throughout their educational journey and beyond.

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Paper Contribution to Related Field of Study

This article can help the university to see the relevance between quality of life and depression, stress, and anxiety. A private university can help monitor and thus improve the quality of life of its students. For a healthcare student who will need to treat patients with their condition, they must be in the best condition themselves before helping the patient.

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