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*Corresponding author: Osama Razouk, Medical Student M.B.B.S at the University of Sharjah, UAE, Mobile no: +971 503602048;
Email: U21100384@sharjah.ac.ae

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Assessing the Factors Affecting Health-Related Quality of Life in Medical Students

Osama Razouk[1]*, Mohammed Al-Khalidi[2], Alaa Kalash[3], Rashid Abu Helwa[4]

[1]Medical Students M.B.B.S at the University of Sharjah, UAE.

[2]Medical Students M.B.B.S at the University of Sharjah, UAE.

[3]Medical Students M.B.B.S at the University of Sharjah, UAE.

[4]Medical Students M.B.B.S at the University of Sharjah, UAE.

Abstract

Background: Depression is a prevalent mental health concern among medical students, with significant implications for Health-related Quality of Life (HrQol). Understanding the factors contributing to depression and their impact on HrQol is crucial for developing targeted interventions to support students' well-being.

Aim: This literature review aims to assess the impact of depression and other related factors on HrQol in medical students, exploring the prevalence, associated risk factors, and implications for overall well-being.

Methodology: A comprehensive search was conducted on PubMed Central and Scopus databases, focusing on studies addressing depression, burnout, anxiety, and other factors influencing HrQol in medical students. Inclusion criteria were applied to select relevant articles, resulting in a final selection of 15 articles for detailed analysis. Data extraction included study design, sample characteristics, methodology, results, and conclusions.

Results: The review revealed a high prevalence of depression among medical students, particularly among female students and those facing socio-economic challenges. Factors associated with depression include gender, socioeconomic status, obesity, chronic diseases, addiction, and academic stress. Depression was found to significantly impact HrQol, leading to lower mental health-related QoL scores compared to physical health scores. Other factors such as stress levels, family support, sleep quality, and academic demands also influenced HrQol outcomes among medical students.

Conclusion: Addressing depression and its impact on HrQol is essential to promote the overall well-being of medical students. Tailored interventions targeting depression, stress management, family support, and sleep quality are crucial for improving HrQol and mitigating the adverse effects of mental health challenges in this population.

Keywords: Academic performance; medical student; HRQOL; Health-related quality of life.

Introduction

Depression has proved to be a major health problem amongst medical students worldwide due to its higher-than-average prevalence compared to the general populace and the less-than-desirable treatment rates [1]. Factors contributing to depression being more prevalent in medical students have been extensively investigated with studies pointing out high academic load, financial difficulties, lack of sleep, and prolonged exposure to patients' death as being the primary culprits [2]. This problem is further exacerbated when considering the negative consequences brought by disregarded cases, most prominently substance abuse, poor performance, and suicide as most of them do not seek treatment [3]. In past studies, it was shown that the age of medical

students and their awareness of depression is significantly related to how likely they are to seek treatment [4].

Most of the lifetime burden of depression is attributed to the early age of onset of the disease, a problem more prevalent in medical students due to their high risk of developing early-onset depression [5]. Stress is another health issue tied to health professions due to their highly demanding nature. Research has shown that due to constantly experiencing curriculum overload, relentless assessments, and the unpredictable hour shifts of clinical rotations, medical students are always being exposed to high academic-related stress. In addition to that, they encounter occupational stress due to the nature of hospital rotations and having to deal with the health of other people [6].

Health-related quality of life (HRQOL) is a popular tool physician often use to assess the health impacts of chronic illnesses and disorders over time and understand how a disease may alter their daily lives. Compared to Quality-adjusted life years and Quality-adjusted life expectancy, HRQOL specifically targets the burden of disease for non-fatal outcomes of those measures to assess how a person perceives their health, making it more suitable for the younger population of medical students. Depression has been well documented to be associated with poor HRQOL and an increased number of years lived with disability [7].

The purpose of this literature review is to more thoroughly explore the impact of depression and related factors like anxiety and stress on the HRQOL of medical students and how it can impact their lives in the long term.

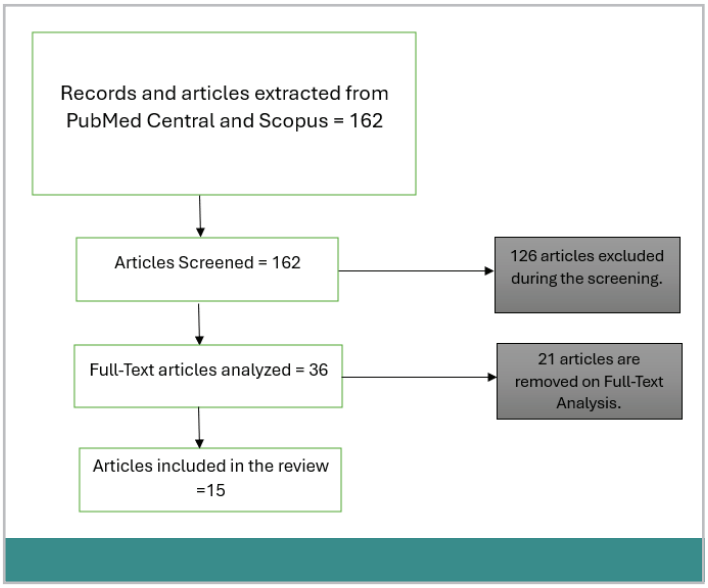
Methodology

A comprehensive search was conducted on the PubMed Central and Scopus databases, employing keywords such as Academic performance, medical student, HRQOL, and Health-related quality of life. The initial search aimed to identify articles related to the factors that impact HrQol in medical students without imposing restrictions on publication dates. Inclusion criteria were established to focus exclusively on studies addressing depression and other factors such as burnout, anxiety, etc... Following the initial search of 162 articles, 36 were chosen, and after the subsequent screening, the selection of 15 articles was finalized by excluding those not aligned with the study's agenda. Full-text reviews were performed to confirm the relevance of the articles, and the final selection underwent detailed data extraction, including study design, sample, methodology, results, and conclusion. A total of 13 PubMed Central and 2 Scopus articles were used in the final section of the review.

Results

Depression

In a comprehensive analysis of depression among medical students, a range of significant findings emerged from multiple studies. Firstly, Besham Kumar's study highlighted a substantially higher prevalence of depression among female students, comprising 84.6% of participants, with 57.6% of medical students experiencing moderate to extremely severe depression, including 13.6% severely depressed females and 31.8% exceptionally severely depressed females, contrasting with no severe or extreme depression reported among males [8].



This prevalence surpassed rates reported in Western countries like the University of Michigan Medical School (14.3%) and the United Kingdom (24%) (8). Similarly, Feriha Fatima Khidri's study during the COVID-19 pandemic revealed a high prevalence of depression among medical students, with 69% experiencing varying degrees of depression based on the PHQ-9 assessment. Factors associated with depression included gender (females at higher risk), socioeconomic status (middle and lower classes more vulnerable), obesity (higher BMI associated with increased depression risk), chronic disease/comorbidities, addiction, and non-medical prescription drug use [9].

Furthermore, Ruyue Shao's study in China identified a high prevalence of depression, affecting 57.5% of participants based on SDS index scores ≥50 [10]. Additionally, Shahid Sarwar's study emphasized the significant impact of depression on the quality of life (QoL) of medical students, with depression affecting approximately 28.6% of medical students, leading to lower mental health-related QoL scores compared to physical health scores. These findings underscore the considerable burden depression places on students' overall well-being and highlight the urgent need to address depression and provide comprehensive support to improve mental and physical well-being among medical students [11]. Similarly, Nafiseh Ghassab-Abdollahi's study emphasized the adverse effect of depression on various aspects of students' quality of life, with depression identified as the factor associated with the highest impairment of QOL among medical students. In addition to these studies, Tahani K. Alshammari's study among university students from Saudi Arabia during the COVID-19 pandemic found approximately half of the sampled university students to be at moderate risk of depression [12].

Moreover, Nishan Babu Pokhrel's study conducted among medical students and residents at the Maharajgunj Medical Campus in Nepal revealed a noteworthy prevalence of depression, standing at 31% [13]. Yang Zhang's study involving 1686 medical students in China highlighted the significant impact of depression on Health-related Quality of Life (HrQol) among Chinese medical students [14]. Finally, Pham Duong Uyen Binh's study focusing on final-year medical students in Ho Chi Minh City, Vietnam, revealed a prevalence of major depression at 24.6%, with the severity

of depression correlating with academic performance levels [15]. Awada's study in Lebanon during the COVID-19 pandemic investigated the health-related Quality of Life (HrQol) of medical students, highlighting the impact of depression on overall well-being. The study found that students with existing chronic diseases had significantly lower scores in all QoL domains except for mental health, indicating that depression, especially in the context of underlying health conditions, substantially impairs the overall quality of life among medical students [16]. These findings underscore the critical importance of addressing depression and providing comprehensive support, particularly for students with comorbidities, to improve their well-being and overall quality of life during challenging times such as the COVID-19 pandemic [17].

Other factors

Liliane Lins' study focused on medical students participating in a Brazilian student loan program, revealing consistently lower HrQol scores among program participants, especially females, with prevalent complaints of sleepiness and headaches linked to lower HrQol scores [17]. This highlights potential socio-economic impacts on HrQol and the need for targeted support interventions. Abdalla A. Saeed's study uncovered a mean stress score among medical students, with higher stress levels observed in females and junior students, influenced by factors such as unsuitable teaching methods and fear of failure [18]. Interventions like coping strategy courses and psychological support services are recommended to alleviate stress and enhance HrQol. Xiaobing Xian's study emphasized the protective role of family support in promoting better sleep quality and mitigating stress levels among college students, particularly during the COVID-19 pandemic and online learning period [19]. Mario Ivo Serinolli's study identified various sociodemographic factors impacting HrQol in medical students, including gender, academic year, religious beliefs, parental medical background, commute time, and obesity [20]. These findings underscore the complex interplay of socio-economic, educational, familial, and individual factors in shaping HrQol outcomes among medical students.

Moreover, Blake McKinley's study highlighted the significant impact of medical school on students' sleep habits and mental health indicators [21]. Insufficient sleep, influenced by academic demands, was associated with heightened levels of anxiety and depression, underscoring the importance of prioritising adequate sleep and mental health support within medical education [21]. These studies emphasize the multifaceted nature of factors influencing HrQol in medical students, ranging from socio-economic status, stress levels, family support, and sleep quality to academic demands and mental health indicators. Understanding these interrelated factors is crucial for developing targeted interventions to improve HrQol and mitigate the adverse effects of depression among medical students.

Conclusion

In conclusion, the examination of depression among medical students reveals its significant prevalence, particularly among female students and those encountering socio-economic difficulties. It is imperative to address depression and its effects on Health-related Quality of Life (HrQol), recognizing the diverse influences of factors such as stress, family support, and sleep quality. Implementing tailored interventions is essential to improve HrQol and promote the overall well-being of medical students.

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