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Prevalence of burnout syndrome and its relationship with GPA among medical students at Al Maarefa University, Saudi Arabia, 2022

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ABSTRACT

Introduction: Burnout syndrome (BS) results from chronic occupational stress and several interpersonal pressures that combine to cause psychological symptoms, including adverse impacts on academics and personal life carry over into their professional lives. Due to the demanding nature of medical education with limited time, medical students are more likely to have Burnout than the general population. *Objective:* This research aims to identify the prevalence of BS and its relationship with GPA among medical students at Almaafra college in Riyadh. *Methodology:* A cross-sectional study was conducted at Almaarefa University among medical students, Riyadh, Saudi Arabia. A survey (The Maslach burnout inventory-student survey (MBI-SS)) was administered and answered the study's objectives. The data was analyzed with SPSS 23 version, Microsoft Excel and presented in tables. A p-value of < 0.05 is considered significant. *Result:* The study included 197 medical students who completed the Maslach burnout inventory-student survey. 58 (29%) of the study participants were male and 139 (71%) were female. Of most participants, 60 (30.5%) were in the fifth academic year and 91 (46%) of the participant's GPAs were improving. *Conclusion:* The study concludes that there is a low level of Burnout among medical students 17 (8.63%) at Almaarefa university. However, It showed no relationship with the student's GPA.

Keywords: Burnout syndrome, medical students, GPA, Prevalence

1. INTRODUCTION

Burnout syndrome is a mental illness described as a sustained reaction to

work-related emotional and interpersonal pressures (Maslach et al., 2001). Burnout Syndrome is a significant mental health concern at medical schools. There is evidence that upcoming medical practitioners have worrying burnout rates (Dyrbye et al., 2006), this syndrome is associated with many factors such as sleep deprivation, emotional exhaustion, academic pressure, decreased professional satisfaction and exposure to patients suffering (Costa & Moss, 2018).

Problem Statement

Burnout is a significant risk factor for suicidal thoughts in students and can lead to medical school dropouts (Dyrbye et al., 2008). Burnout has a cognitive impact on students, including poor concentration, sleep and appetite disturbance, fatigue and hopelessness. In 2017 a study done at King Saud bin Abdulaziz University for Health Sciences among medical students showed that Burnout was 67.1% (Almalki et al., 2017). It is still unclear why some students may experience Burnout but not others. This study aimed to assess medical students frequently experience burnout and its determinants.

Objective

To identify how often burnout syndrome is and its relationship with GPA among medical students in Almaafra college in Riyadh.

2. METHODS

An institutional-based cross-sectional study in 5-month duration (from July 2022 to November 2022) in Almaafra college, located in Riyadh city, the capital of Saudi Arabia. The study population was medical students and medical students' males and females, were included, excluded non-medical and known cases of psychological diseases. The sample size is 197 and systemic random sampling.

Data collection instrument

Questionnaire contains sociodemographic, academic information and, The Maslach burnout inventory-student survey (MBI-SS) is a well-known and validated questionnaire. The MBI-SS is a 15-item questionnaire that assesses student burnout. It consists of 3 subscales, Emotional exhaustion (EX, five items), cynicism (CY, four items) and academic efficacy (AE, six items). Burnout syndrome severity was measured in percentile scores by Maslach and Jackson. Mean scores above the 66th percentile (P66) were determined to be indicators of high EX and high CY, whereas a mean score below the 33rd percentile (P33) indicated poor AE. Burnout syndrome was defined as those mean values with exhaustion and cynicism more significant than P66 and professional efficacy outcomes less than P33 (Hu & Schaufeli, 2009; Pérez-Fuentes et al., 2020).

Data collection methods

Interviewer administered.

Ethical consideration

Ethical approval has been obtained with number IRB08-03102022-87 and a consent was obtained from participants before data collection emphasizing confidentiality and the suitable participant to withdraw from the study at any time.

3. RESULTS

This table (2) shows that 54 (91.53%) of our participants that did not meet the criteria of (MBI-SS) did not have the same grades throughout the years, while only 5 (8.47%) met the criteria. Of those who agreed their grades improved, 80 (87.91%) participants did not meet the criteria, while 11 (12.09%) met them. 46 (97.87%) of the participants whose grades were deteriorating did not meet the criteria of (MBI-SS); meanwhile, 1 (2.13%) met the criteria. The difference was statistically not significant (P=0.142).

Table 1 Descriptive socio demographic analysis (n=197)

Variables	n (%)
Age (years)	
18-20	27 (14)
21-23	101 (51)
24-26	65 (33)
More than 26	4 (2)
Gender	
Male	58 (29)
female	139 (71)
Academic year	
First year	3 (1.5)
Second year	23 (12)
Third year	27 (14)
Fourth year	34 (17)
Fifth year	60 (30.5)
Sixth year	50 (25)
GPA	
grades are improving	91 (46)
grades are deteriorating	47 (24)
grades are the same	59 (30)

Table 2 Relation between burnout and GPA (n=197)

	Burnout		
Variables	NO n (%)	YES n (%)	P value
GPA			
grades are improving	80 (87.91)	11 (12.09)	0.142
grades are deteriorating	46 (97.87)	1 (2.13)	
grades are the same	54 (91.53)	5 (8.47)	
Total	180 (91.37)	17 (8.63)	

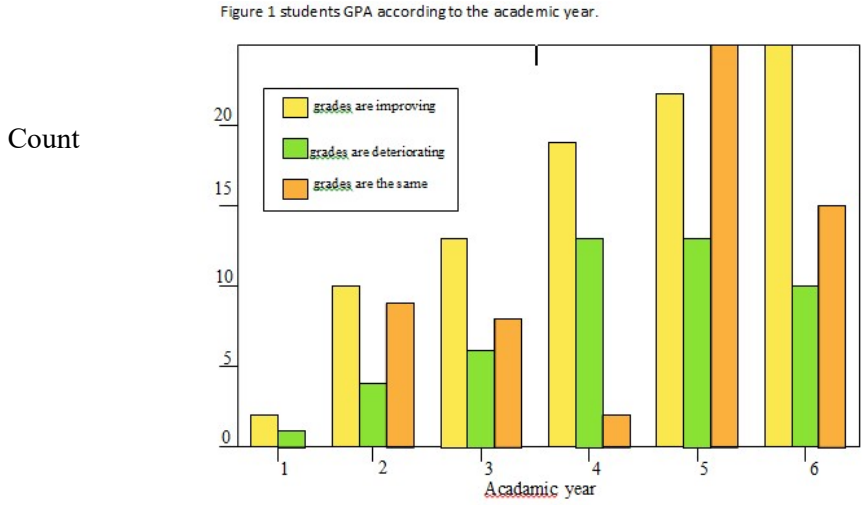

Figure 1 Students GPA according to the academic year

Table 3 Relations between burnout and socio-demographic factors (n=197)

	Burnout		
Variables	NO n (%)	YES n (%)	P value
Age (years)			
18-20	24 (88.89)	3 (11.11)	
21-23	95 (94.06)	6 (5.94)	
24-26	59 (90.77)	6 (9.23)	
More than 26	2 (50)	2 (50)	
Total	180 (91.37)	17 (8.63)	0.020
Gender			
Male	51 (87.93)	7 (12.07)	
female	129 (92.81)	10 (7.19)	
Total	180 (91.37)	17 (8.63)	0.267

This table shows that 24 (99.89%) of our participants in the age group of 18-20 do not have burnout syndrome. In comparison, 2 (50%) who are more than 26 years old do have burnout syndrome, and the female participants who do not have burnout syndrome 129 (92.81%); meanwhile, 7 (12.07%) of male participants do have burnout syndrome. According to age p-value is significant (P=0.020), but according to gender (P=0.267), are not statically significant.

Table 4 Burnout and academic year relationship

	Burnout		P value
Academic year	NO n (%)	YES n (%)	
First year	2 (66.67)	1 (33.33)	
Second year	21 (91.30)	2 (8.70)	
Third year	26 (96.30)	1 (3.70)	
Fourth year	30 (88.24)	4 (11.76)	0.183
Fifth year	58 (96.67)	2 (3.33)	
Sixth year	43 (86)	7 (14)	
Total	180 (91.37)	17 (8.63)	

This table shows that 1 (33.33%) first-year students have burnout syndrome while 2 (66.67%) don't, and 21 (91.3%) of second-year students do not have burnout syndrome, 58 (96.67%) of fifth-year students do not have burnout syndrome. The difference was statistically not significant (P=0.183).

4. DISCUSSION

Our study aims to identify how frequent burnout syndrome is and its relationship with GPA among medical students. Interviews administered were distributed in June 2022. It was filled with (197) responses as the study is focused on medical students at Almaarefa College in Riyadh. This shows that (8.63%) of a participant meets the criteria for the diagnosis of burnout syndrome. In contrast, a study was done on Burnout and its relation to extracurricular activities among Saudi Arabian medical students in 2017 that showed a level of Burnout was (67.1%). (Dyrbye et al., 2008) Our study revealed that (8.63%) of participants have symptoms of BS, which contrasts with a study done in Saudi Arabia, 2017 (Almalki et al., 2017) and in Saudi Arabia, 2020 (Alkhamees et al., 2020) In our study, approximately (71%) of respondents were female, (51%) were between the ages of 21 and 23 and (30.5%) of respondents were fifth-year students. In addition, (46%) of respondents reported that their grades had improved.

The study's findings indicate that medical students at Almaarefa University in Riyadh have a low rate of Burnout (8.63%). However, studies on medical students from various countries show various burnout levels. In contrast, several studies reported higher burnout levels than our study; (25.6%) and (67%) (Almalki et al., 2017; Prata et al., 2021). Since there is no standardized tool

for measuring Burnout, these variable levels may be explained by the many instruments used to measure Burnout or by the several underlying causes of Burnout. In line with the findings of two other research (Almalki et al., 2017; Prata et al., 2021), the new study revealed that (92.81%) of females have lower levels of Burnout. At the same time, (12.07%) of male students were at higher levels of Burnout. Our results showed that 50% of students over 26 years old have burnout syndrome, as our findings demonstrate that students in the first academic year have higher burnout levels (33.33%). The first academic year adds to students' stress as they have to raise their GPA because it is essential to their future professions.

5. CONCLUSION

A cross-section study among medical students at Almaarefa University in Riyadh. In this study, the prevalence of burnout syndrome was found to be low. Those most likely to experience burn syndrome were first-year medical students. The correlation between Burnout and students' GPAs showed an improvement in the responder's GPAs.

Further research should focus on students' knowledge of burnout signs and psychological factors. When looking at our research findings, we believe that medical colleges need to apply for interventive programs and coping skills strategies should be educated about burnout syndrome.

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Ethical consideration

Ethical approval from the Institutional review board (IRB) of Almaarefa University College of Medicine (Ethical approval code: IRB08-03102022-87) was met before data collection began and the purpose of the study was clearly explained to the participants. They are assured that data from this study will be used for scientific purposes only, that ethical concerns and legal issues was considered and that participation is completely voluntary.

Authors' contribution

All authors had substantial contribution to the paper, YMA and YYA and SS and ABH designed the study and prepared the proposal. YMA and ABH analyzed and interpreted data. BSA and MMA and QMA wrote results and discussion. JOY checked and revised every step of this paper. All authors have collected data and critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

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Conflict of interest

The authors declare that there is no conflict of interests.

Data and materials availability

All data sets collected during this study are available upon reasonable request from the corresponding author.

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