



Original Research Article

Evaluation of Burnout Syndrome in Medical Students

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ABSTRACT

Burnout has negative effects on work performance and patient care. The current standard for burnout assessment is the Maslach Burnout Inventory. To study burnout syndrome among medical students at the VYDEHI INSTITUTE OF MEDICAL SCIENCES and to identify associated factors. An exploratory, analytical, cross-sectional descriptive study with medical students was performed in 2012. The Maslach Burnout Inventory (MBI) and a structured questionnaire on socio-demographic characteristics, the educational process, and individual aspects were used. The single questions with the highest factor loading on the emotional exhaustion (EE) ("I feel burned out from my work") and DePersonalization (DP) ("I have become more callous toward people since I took this job") domains were evaluated in three large samples of medical students. Professional accomplishments measures feelings of competence and successful achievement in one's work. Out of 579 students, 394 participated; almost 249 (63%) sample had high level of exhaustion, 76 (19%) had high level of depersonalization, 249 (63%) had low level of personal accomplishment. There was a significant risk of burnout among the medical students studied. Three variables in particular, were associated with burnout and were directly related to the medical education process. Preventive and intervention measures must be adopted, and longitudinal studies should be conducted.

Keyword: Burnout Syndrome; Medical Students; Mental Disorder; Medical Education; Occupational Disorder.

INTRODUCTION

Medical students are continuously exposed to psychosocial stressors throughout training that, if persistent, can lead to Burnout Syndrome [1]. Burnout is a syndrome of emotional exhaustion and low professional efficacy that occurs frequently among individuals who do 'people work' of some kind [2].

Burnout is defined as a response, which may be inappropriate, to chronic emotional and interpersonal stressors in the workplace. The term may be applied to individuals who engage in activities that are psychologically similar to work, such as students [3,4]. Burnout Syndrome among students has the following three dimensions: 1) Emotional exhaustion (due to educational demands), and 2) Low Professional Efficacy (perception of incompetence as a student) 3) Depersonalization (DP) ("I have become more callous toward people since I took this job") [5].

Researchers have described stressful moments in the academic life of medical students, and medical training is considered to have high psychological toxicity [6,7]. Factors that contribute to significant stress among students in medical colleges that follow a traditional model include adaptation difficulties at the beginning of coursework due to competitive entrance exams, homesickness and the frustration caused by MBBS that does not match the expectations of freshmen who want immediate contact with specific medical disciplines.

The transition from the preclinical to the paraclinicals presents another occasion for intense anxiety, uncertainty, expectations and fears caused by their feeling of limitations regarding the scientific knowledge their changes from one stage to another, and the direct contact with seriously ill people who have hopeless prognoses.

The excessive workload and educational content, combined with the high level of

educational demands, a lack of time for leisure, family and friends, studying for phase exams, the choice of a specialty and the delayed income also contribute to stress among medical students (1,6,8). In addition to these aspects, personality traits inherent to medical students include obsessiveness, perfectionism and setting up high standards for self [7-9].

These factors are potentially responsible for the high prevalence of suicide, depression, use of psychoactive substances, marital problems, stress, burnout, and professional dysfunction in medical students and doctors [10, 11].

Previous studies on Burnout Syndrome in medical students have reported prevalence from 10% to over 45% [10, 12-15]. This large variability reflects the use of various criteria by researchers for the diagnosis of the syndrome, such as bi-dimensionality and the use of nonspecific instruments with students [12]. Thus, additional research using diagnostic criteria and standardized instruments with scientific rigor is necessary for this population.

Mental disorders among medical students have been reported more frequently in recent years, although few studies have described Burnout Syndrome [6, 8, 15-17]. Burnout Syndrome has been well researched among physicians and residents and is believed to be influenced by adverse conditions in medical school training [5, 6, 12,13,18]. Burnout Syndrome affects work performance, self-esteem, and psychological health, and it may progress to other mental disorders. Thus, research that enables early detection of Burnout Syndrome is needed to encourage the adoption of preventive measures to be shared with the scientific community. This study aimed to estimate the risk of Burnout Syndrome and to identify associated factors among medical students at Vydehi institute of Medical Sciences and Research Centre

METHODS AND MATERIALS

An exploratory, analytical, cross-sectional descriptive study with medical students was performed in 2012. The Maslach Burnout Inventory Human Service Survey (MBI-HSS) evaluate burnout based on the sum of scores for each dimension. High scores for Emotional Exhaustion(EE), Depersonalisation(DP) and low scores for professional accomplishment lead to a high burnout index whereas high scores for professional accomplishment and low scores for emotional exhaustion and depersonalization are an indication of its absence. A structured questionnaire on socio-demographic characteristics, the educational process, and individual aspects were used. The questionnaire was applied with answers "yes" or "no" to identify stress factors that could relate to the level of burnout such as the single questions with the highest factor loading on the

emotional exhaustion (EE)("I feel burned out from my work") and DePersonalization (DP)("I have become more callous toward people since I took this job") domains were evaluated medical students.

Professional accomplishments measures feelings of competence and successful achievement in one's work.

Sample size

A quantitative cross-sectional descriptive study was conducted with a simple random sample n= 394 corresponding to 68% of 579 eligible people. The sample size was calculated using the formula for finite populations with a significance level of 5% and sample error of 2.6% .Participants were contacted during daily routine activities. The statistical analysis was performed using SPSS 20.0.

Two groups the burnout/risk and non-burnout were compared using chi-square tests, $p < 0.05$

RESULTS

Table 1: Distribution of burnout syndrome in medical students

Emotional exhaustion	Depersonalization	Professional accomplishment	MBI SCALE
<18	<5	<33	Low
19-26	6-9	34-39	Moderate
>27	>10	>40	High

The emotional exhaustion appeared in low intensity in had moderate emotional exhaustion and had high emotional exhaustion.

In the depersonalization category, it was observed that 76 had high burnout syndrome

risk, 139 had moderate burnout syndrome risk, 209 had low burnout risk .

In professional accomplishment category, only 69 were extremely happy.46 were ok with profession and 209 had low professional satisfaction.

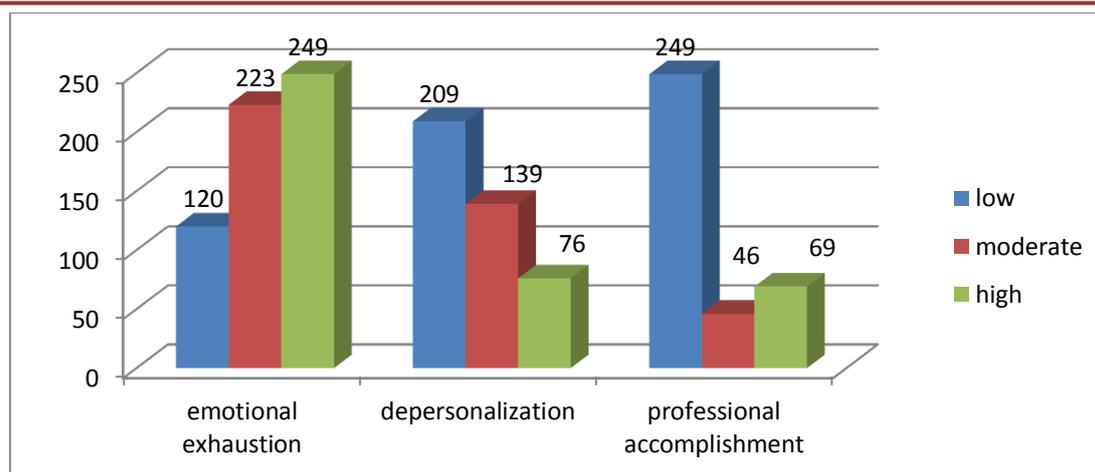


Fig 1: MBI-HSS range

Table 2: Correlation between variables and level of burnout syndrome component

Sl.no	Variable	Subjects	Risk			χ^2	P value
			high	Medium	low		
1	Age(year)					81.5079	<.0001
	<21	103	37	37	29		
	21-25	185	49	81	55		
2	Gender					11.8053	<.0001
	Male	202	116	43	43		
3	Has considered abandoning the course					46.3557	<.0001
	Yes	114	80	24	10		
	No	280	100	70	110		
4	Extracurricular activities					39.0519	<.0001
	Yes	153	40	40	73		
	No	241	138	47	56		

The burnout syndrome risk is higher in males, increases with age and number of semesters. Extracurricular activities reduce burnout syndrome risk.

DISCUSSION

Burnout syndrome is considered a major occupational hazard by WHO. Earlier studies of the burnout syndrome framed it as a condition that only affected physicians and residents. However recent research reports an upward

trend of burnout among medical students and undergraduate interns.

When subscales were analyzed separately, medical students were more exhausted although they considered themselves efficacious. The findings of this research did not match previous studies of Brazilian university students in other health [8] and psychology [1]

fields, which reported low levels of emotional exhaustion and cynicism and high professional efficacy. Medical school has unique stressors beyond those of university education [1,25].

Moreover, the presence of a particular dimension may have precipitated the development of the other two dimensions. For example, high emotional exhaustion, a form of inadequate adaptation to difficulties, may progress to attitudes of indifference and impersonality, which are attempts to minimize this exhaustion. This progression may culminate in a sense of failure and become causes of dissatisfaction. Exhaustion and cynicism suggest that the progression of symptoms may occur and precipitate low professional efficacy (the last dimension), consequently completing the triad characteristic of Burnout Syndrome. High levels of professional efficacy may be protective against burnout, as observed in the majority of students in our research.

The literature has described predictive factors for high levels of the three dimensions that characterize Burnout Syndrome [25,26]. Emotional exhaustion and cynicism appear to be associated with the following factors: male sex, intention of dropping out of the course, younger age, enrollment in a higher number of disciplines, lack of leisure time, dissatisfaction with the course, advanced semesters, attending complementary courses, and lack of professional experience. High levels of professional efficacy appear to be associated with intention to stay in the course, good academic performance, expectations of success, adequate leisure time, professional experience, and satisfaction with the course.

We believe that this burnout occurs when students begin direct contact with patients because the students experience a time of transition, uncertainty, and greater responsibility.

In our study we found that three variables directly related to the education process were strongly associated with Burnout Syndrome.

This finding supports the occupational nature of this disorder, which has previously been recognized by health and welfare social institutions [28,29].

Among the variables related to the educational process, students who reported a lack of confidence in their acquisition of the skills necessary to become a doctor may have experienced intense discomfort regarding course activities because they did not feel efficacious. This discomfort may have culminated in feelings of intense displeasure, anxiety, and hopelessness. Thus, students may begin to view academic activities as stressful, often without seeing meaning or gratification in their efforts. Consequently, these students feel less efficacious. In a previous study, lack of skill development and discomfort in relation to course activities were reported to be associated with mental disorders [19].

Regarding socio-demographic variables, Burnout Syndrome was associated primarily with the male sex, a finding that differs from other studies that have associated the female sex with burnout and other psychiatric disorders [26]. We found association with age, unlike some studies that have reported a higher prevalence in younger students [8,25] where as in our study with increasing age the burnout syndrome risk increases with age.

As far as personal aspects were concerned, Burnout Syndrome was associated with low expectations of the future. These low expectations may continue among these individuals after graduation, which may worsen stress during their residency and professional life [30].

In this study, students were disappointed by the high volume of activities and school evaluations, which, when combined with the high responsibility inherent in medical education, may have contributed to their feelings of unpreparedness for their future profession and their discomfort in relation to course activities.

Dissatisfaction with coursework and teaching strategies may be related to the traditional medical education model, including a high workload, delayed patient contact, and excessive emphasis on test performance, leading some students to consider dropping out of the program [1, 25]. We emphasize that a lack of support from the college itself has been strongly related to burnout [29].

There are limitations to our study. The cross-sectional design is a limitation because we could not establish a causal relationship among the associations we identified.

Additionally, although dropout rates and withdrawal from the course at the studied institution were low, the loss of those students who refused to participate in the study or who provided incomplete data requires us to consider the possibility that the most serious cases of burnout may have been among these students. Thus, we may have underestimated of the prevalence of individuals with burnout in this research.

Despite these limitations, we have presented new data suggesting that the mental health of medical professionals may begin deteriorating early in their medical training. Empathy, altruism, and professionalism with patients may also decrease after this time [13].

These results indicate the need for psychological support for students and for longitudinal studies on this topic in our institution and in other institutions with similar profiles.

We demonstrated that the majority of participants showed high levels of emotional exhaustion, cynicism and professional efficacy (rather than low professional efficacy). This finding suggests that if preventive measures are not adopted, a progression of symptoms may occur and precipitate low professional efficacy (the last dimension), consequently completing the triad characteristic of burnout syndrome and increasing its prevalence in the studied population.

Because our study had a cross-sectional design, we could not establish causal relationships between the associations we observed. Therefore, longitudinal studies are necessary to establish which variables show true causal relationships with Burnout Syndrome in this population. In addition, there has been no standardization of the MBI-SS questionnaire diagnostic criteria in other studies. This lack of standardization, combined with the differences inherent in the infrastructure and medical course models in different countries, make it difficult to translate these results into other contexts.

CONCLUSION

The burnout syndrome is a health problem that affects a lot of medical students of all levels. At the beginning of university degree almost all subjects that suffer it have it in low intensity however as they progress in the degree there is a greater risk of them suffering from burnout syndrome. Extracurricular activities to an extent protect you from burnout syndrome

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no conflict of interests.

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