

The Prevalence of Burnout among Obstetrics and Gynecology Residents in Jeddah, Saudi Arabia

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Abstract

Objectives: Burnout is a psychological syndrome characterized by multidimensional components. These factors include emotional exhaustion, which is described as physical and emotional depletion from excessive work and prolonged stress and depersonalization, where workers develop negative attitude and feelings toward the people for whom they provide care or services. The last component is lack of personal accomplishment, which indicates the failure to achieve individual aims. This occurs when workers feel dissatisfied with their achievements at work.

Method: A cross sectional study was performed during the period of August 2019 through December 2109 in Jeddah, KSA. A total of 93 residents completed the Maslach Burnout Inventory (MBI) questionnaires. This instrument is considered to be the gold standard for the measurement of burnout and has been used extensively in the literature to evaluate burnout among medical professionals.

Results: The results showed that 4.3% of the doctors evaluated showed a high level of burnout syndrome. Furthermore, 36.5% showed signs of burnout, and of those, 13.97% presented with a moderate degree of burnout symptoms. Sleep deprivation and workload were found to be significant predisposing factors.

Conclusion: The study revealed a notable number of burnout syndrome among obstetrics and gynecology residents. The severity of burnout symptoms was linked to career satisfaction and coping personality factors. Developing an active awareness of burnout and considering interventions during the residency program will improve one's future health care plans.

Keywords: Burnout Syndrome; Burnout Physician; Burnout Doctor; Burnout Residents; Emotional Exhaustion; Fatigue

Abbreviation

BS; Burnout Syndrome

Introduction

Burnout is a psychological syndrome characterized by multidimensional components: emotional exhaustion which is described as physical and emotional depletion from excessive work and prolonged stress, feeling fatigued and emotionally exhausted, causing workers not to be able to give their best performance at psychological and physical levels [1]. Depersonalization where workers develop negative attitude and feelings toward the people, who are the recipients of one's service or care [2]. The last component is lack of personal accom-

plishment which indicates the failure to achieve the individual aims, decline in one's feelings of competence and the tendency to evaluate oneself negatively. workers may feel dissatisfied with their achievements at work [3].

Burnout is a phenomenon that develop over extended period of time. Many factors that contributed to burnout, including stress and inherent personality traits. Physicians are exposed to high levels of stress during their profession and are particularly susceptible experiencing high level of burnout in comparison with the general population. For resident physicians, burnout symptoms may appear early back in the internship or in the medical school, and continues to exist in residency [4,5]. Many studies were done to see the prevalence of burnout rates among resident physicians, and according to a review of literature that was done in 2009, burnout in residents ranges between 27% and 76% based on the specialty and the criteria used to define the syndrome [6,7]. It was found that surgeons, intensivists, and anesthesiologists have high burnout prevalence. Also, depending on the gender, men, residents, and surgeons were more prone to develop burnout [8,9]. Another previous study reported that 34% of physicians [10] and 28.7% of internal medicine residency program experienced burnout [11]. The rate of burnout is increasing by the years according to a study conducted in 2006, in the beginning of the residency of internal medicine, only 4.3% met the criteria of burnout. By the end of the residency, the rate significantly increased to 55.3% [12].

Some researchers claim that the rate of burnout may be increasing in certain countries, depending on the environmental stressors and the nature of the work. An American study "Burnout and satisfaction with work-life balance in US physicians worsened from 2011 to 2014" found out that more than half of US physicians experienced burnout. This study identified the following specialties with the highest prevalence of burnout in 2014: urology (63.6%); physical medicine and rehabilitation (63.3%); family medicine (63.0%); radiology (61.4%); orthopedic surgery (59.6%); dermatology (56.5%); general surgery subspecialties (52.7%); pathology (52.5%); and general pediatrics (46.3%) [12,13].

A career in obstetrics and gynecology is demanding, has long working hours, and high stakes decision making, that's why Ob/gyns often feel overwhelmed and are at high risk of burnout [14]. Two large studies were done in 2014 in USA, surveyed 369 members of the society of gynecologic oncologists, and in 2008 surveyed 7900 members of the American College of Surgeons [15,16]. The results showed high level of burnout prevalence in gynecologic oncologists and surgeons affecting 32% - 40% of the responders. Another study was done by Martini., *et al.* in 2006 showed that obstetrics-gynecology residents take the lead in the burnout rate as 75% reported that they experienced this condition [17].

All these studies and findings are important because high levels of burnout in resident physicians associated with greater risk of experiencing mental disorders, substance abuse, suicide and increase in medical error rate [16]. These all lead to negative consequences including depression and negative effects on patient safety and career satisfaction, which can lead to lower productivity and efficiency. Dissatisfied physicians are more likely to change jobs or leave medicine altogether [18].

Even though many studies have reported that obstetrics and gynecology residency has the highest prevalence of burnout of any other specialty, only few studies have focused on the prevalence of burnout during the residency in obstetrics and gynecology [19].

Aim of the Study

In this study, we aim to determine the prevalence of burnout among residents in obstetrics and gynecology in Jeddah Hospitals in order to understand the dynamic of risk factors associated with burnout and may help us develop strategies for preventing and treating burnout [20].

Materials and Methods

A total number of residents in eight hospitals in Jeddah, Saudi Arabia (King Abdulaziz University Hospital, King Fahd Armed Forces

Hospital, King Faisal Specialist Hospital and Research Centre, King Abdulaziz Hospital, Dr. Soliman Fakeeh hospital, Maternal and Child Health Hospital, King Abdulaziz Medical City (National Guard) and International Medical Center) is 155 obstetrics and gynecology residents. This Descriptive cross-sectional study included a total of 93 Ob/gyns residents completed the study questionnaires from the eight program centers in Jeddah with no regards to age, sex and year of residency.

The sample size was calculated using Raosoft website as required to be studied at a margin of error of 5%, a confidence level of 95%, a population size of 155 and response distribution of 50%. A non-probability convenience proportional sampling technique was used to gather subjects.

The ethical approval to conduct this study was obtained from King Abdullah International Medical Research Center, and it followed the principles of Helsinki Declaration. Informed consent was obtained from each resident and the purpose of the study was explained to the participants. Each resident participated voluntarily in the study. In accordance with the National Data Protection Acts, each participant was assigned a code, and data/samples were stored anonymously.

Burnout among Ob/gyns residents was measured using the Maslach Burnout Inventory (MBI) from the period of August 2019 until December 2109. The MBI was distributed as paper format and self-administered by the subjects. The self-report forms were advised to be filled alone after the information was described. MBI is a validated 22-items questionnaire in various occupational groups including medical professions (physicians and nurses). This instrument is considered to be the gold standard for calculating burnout and has been used extensively in the literature to evaluate burnout in medical professionals. The MBI has three subscales to evaluate each dimension of burnout, which include 1- emotional exhaustion, 2- depersonalization, 3- low personal achievement. The general term recipients are used in the items to refer to the particular people for whom the respondent provides service, care, or treatment. The listing in the questionnaire were written in the form of statements about personal feelings or attitudes (e.g. I feel drained from my work," "I don't really care what happens to some patients"). The items are answered in terms of the frequency with which the respondent experiences these feelings on a 7-points, fully anchored scale (ranging from 0,"never" to 6, "every day").

The nine items in the Emotional Exhaustion subscale assess feelings of being emotionally drained and exhausted by one's work. The five items in the depersonalization subscale measure the unfeeling and impersonal response toward patients. The eight items in the personal accomplishment subscale assess feelings of competence and successful achievement in one's work with people. A high degree of burnout is reflected in high scores on the emotional exhaustion and depersonalization subscales and low scores on the personal accomplishment subscale. An average degree of burnout is reflected in average scores on the 3 subscales. A low degree of burnout is reflected in low scores on emotional exhaustion and depersonalization subscales and high scores on the personal accomplishment subscale. Burnout scores are as follows: emotional exhaustion: ≤ 16 : low-level burnout; 17 to 26: moderate burnout; ≥ 27 : high level burnout. Depersonalization scores are as follows: ≤ 6 : low-level burnout; 7 to 12: moderate burnout; ≥ 13 : high-level burnout. Personal achievement scores are as follows: ≤ 31 : high-level burnout; 32 to 38: moderate burnout; ≥ 39 : low level burnout.

The statistical analysis was calculated using the Statistical Package for Social Sciences (SPSS) software version 20.0. The data was presented as mean and standard deviation for continuous variables and frequencies and percentages for categorical variables. Comparing different variables was done by using Chi-square test. Checking for the Reliability of the study was done by Cronbach's alpha.

Results

A total of 93 residents, with a response rate of 83.78% were enrolled in the study. The study included only ob/gyne residents from the major eight hospitals in Jeddah, each with a large daily volume of patients. The participants were the residents from different levels of residency and have relatively similar working hours and on calls (6 per month). There were not any negative effects while participants were answering the questions. All the eight hospital are considered to be modern, updated and managed with fair support to the physicians.

There were not any public events or campaigns which may have affected the overall workload of the hospitals during the study. All participants were consented for recruitment, the 93 residents that were questioned returned their questionnaires within a 3-month period.

The mean MBI scores for each criterion in our population are shown in table 1. According to standard values, 4 (4.30%) residents fulfilled the three burnout syndrome criteria. And when analyzing each criterion alone, 60 (64.5%) residents showed high levels of emotional exhaustion, 39 (41.9%) showed high levels of depersonalization and 28 (30.1%) showed low levels of personal achievements. Noticing that the most prevalent criterion is high levels of emotional exhaustion, followed by high levels of depersonalization. When combining the common two criteria, a large number of residents 34 (36.5%) have both high levels of emotional exhaustion and high levels of depersonalization.

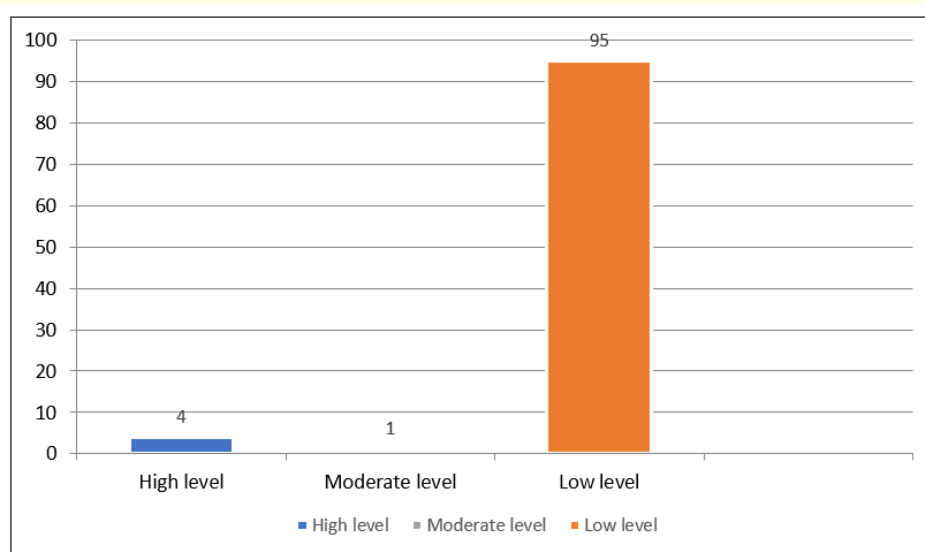
Dimension	Burnout	Number	Mean	Median	St.dev	Percentage
Emotional exhaustion	High	60	39.6	39.0	7.1	64.5%
	Moderate	23	21.6	22.0	2.7	24.7%
	Low	10	12.9	13.0	2.8	10.8%
Depersonalization	High	39	18.1	17.0	4.6	41.9%
	Moderate	36	10.0	10.0	1.5	38.7%
	Low	18	4.2	5.0	1.9	19.4%
Personal accomplishment	High	44	24.3	24.5	5.7	47.3%
	Moderate	21	34.9	35	1.8	22.6%
	Low	28	43.2	43	2.5	30.1%

Table 1: The Maslach burnout inventory scores for each criterion emotional exhaustion, depersonalization and personal accomplishment.

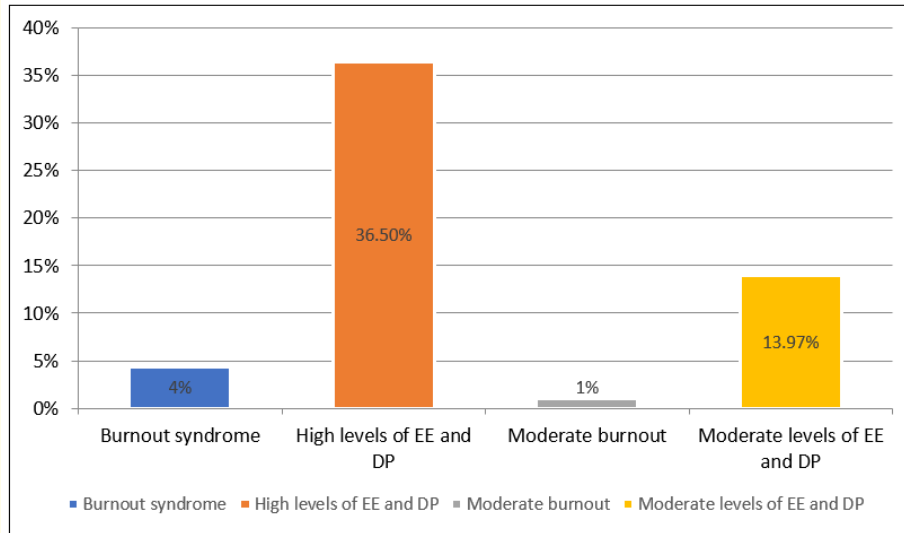
The prevalence for the moderate levels of burnout is 1 (1%) resident fit the three burnout syndrome criteria. However, for each criterion 23 (24.7%) residents showed moderate levels of emotional exhaustion, 36 (38.7%) showed moderate levels of depersonalization, 21 (22.6%) showed moderate levels of personal achievements. And again, when combining the common criterion 13 (13.97%) residents with both moderate levels of emotional exhaustion and moderate levels of depersonalization.

The purpose of the moderate levels group is to estimate the prevalence of the warning signs of burnout before the breaking point that will only cause further emotional and physical damage.

Moreover, the overall prevalence of burnout syndrome in all these group shown in graph 1 and when relating the prevalence only to the high-level group it is shown in graph 2.

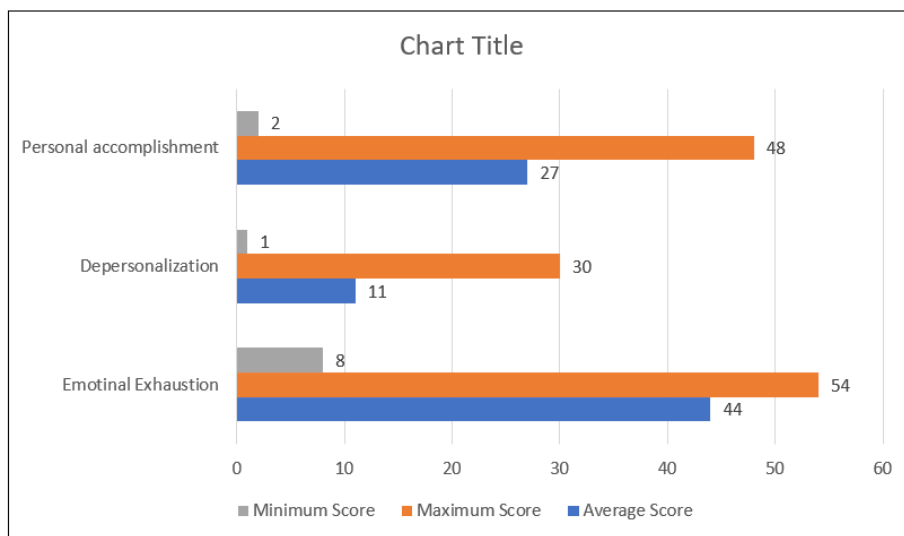


Graph 1: The overall prevalence of burnout syndrome.



Graph 2: The prevalence of burnout in all the categories.

Finally, when analyzing the average score in each criterion (Graph 3). The average score in emotional exhaustion subscale was 44 points, and when interrupt this result it is found that the average score above 27 points which is the cut point for high level of burnout in the MBI questionnaire. Furthermore, the average score for depersonalization subscale was 11 points, and it is in the 7 to 12 range which is considered to be the range of moderate burnout level. Lastly the average score for personal achievement subscale was 24 points, when going back to the reference values, the score is less than 31 points which is the level of high burnout.



Graph 3: The scores of each subscale of burnout criteria.

Discussion

In this study, the prevalence of burnout syndrome was investigated in obstetrics and gynecology residents in eight hospitals in Jeddah city. The results suggest a moderate prevalence of burnout syndrome among obstetrics and gynecology residents. Many studies suggest that the large number of working hours per week plays an important role in burnout [21]. Most cases of burnout showed high levels of emotional exhaustion 64.5%, but only 30.1% were exclusively due to depersonalization. These data disagree with other studies, in which both criteria were similar in the contribution to the burnout syndrome.

Moreover, when assessing the factors that contribute to the high levels of emotional exhaustion, the data we obtained in our study prove that the role of work stressors and high work demands are the main triggering elements in high levels of emotional exhaustion, as it showed that two-third of the residents felt overburdened by workload often or most of the time.

On the other hand, depersonalization criterion associated with sleep pattern, unlike other medical specialties, obstetrics and gynecology requires an immediate response to patients' needs, the surgical interventions are more difficult to control, compared with other surgical specialties. The residents in obstetrics and gynecology field can be called to duty at any hour of the day or night when a patient is going into labor, long shifts, and long surgical interventions contribute to the lack of sleep among residents, which is an important factor associated with burnout. The sleep deprivation influences scores in depersonalization dimension. A study by Grantcharov, *et al.* [22] found that surgical residents were more prone to have double the rate of technical errors after overnight work than after a night of sleep, so there is a strong correlation between insomnia and burnout among obstetrics and gynecology residents. However, the short duration of sleep is an unavoidable factor in the obstetrics and gynecology residency training programs.

Also, the data revealed some findings about the susceptibility of developing burnout, the residents who have high to moderate levels of emotional exhaustion and depersonalization are more prone to develop burnout symptoms even if the personal achievements level is not affected.

Finally, the study showed a favorable outcome which is high levels of personal achievements, and the explanation was that many of the residents are juggling between clinical practice and teaching sessions or research activities. These tasks give a sense of professional achievement, meaning that these activities provide professional satisfaction, even though they require extra number of working hours.

The findings of this study are important, because no study about burnout among obstetrics and gynecology residents in Jeddah city has been conducted before. Our study fills an information gap about burnout syndrome related to work stressors and individual personality traits factors among residents.

Conclusion

In Conclusion, this study suggests a moderate prevalence of burnout syndrome among obstetrics and gynecology residents, and that the demanding workload is a major risk factor.

Effective interventions to address burnout should be developed at both the individual and hospital levels. Reverse the damage by seeking support and managing stress and build resilience to it is the gold approach.

Furthermore, Easy, affordable access to adequate counseling services is an additional instrument in developing programs that promote resident performance and provide excellent, safe, high-quality patient care. Moreover, work hour limitations will improve residents' quality of life from all aspects and it is part of the solution to improve patient safety.

We recommend that further research be carried out to establish a comparison between the different years of residency (seniors and juniors), we also recommend a larger sample size including different hospitals located in different cities in Saudi Arabia with equal numbers of females and males in order to clarify the prevalence and risk of burnout syndrome nationally.

Therefore, this study was conducted to provide evidence of the increasing prevalence and risk factors of burnout syndrome in obstetrics and gynecology residents in Jeddah hospitals to raise awareness and improve the future health care plan.

Conflict of Interest

Authors declare no conflict of interest.

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