

Original Research Article

Prevalence of burnout among nurses practicing in the surgical departments of a Moroccan university hospital

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ABSTRACT

Background: The aim of our study is to evaluate the prevalence of burnout among nurses practicing in the surgical units of a Moroccan university hospital.

Methods: This is a qualitative cross-sectional observational study Conducted from July 2017 to December 2017 among nurses working in the 12 surgical units of the hospital. Nurses provided a self-administered questionnaire with socio-demographic and burnout data using the Maslach burnout inventory.

Results: Among 183 nursing nurses, 130 (82 women/48 men) completed the questionnaires (71%). The prevalence of burnout across all grades was 86.2% (low level: 33.8 %, moderate level: 46.2%, high level: 6.2%). High emotional exhaustion was noted among 95 nurses (73.1%), a high level of depersonalization among 75 nurses (57.7%) and a low level of personal accomplishment among 12 nurses (9.2%). High emotional exhaustion and major depersonalization were observed together in 61 nurses (46.9%). Women appeared more likely to burnout ($p=0.03$). Nurses working in visceral surgical emergency unit, neurosurgery unit and traumatology orthopedics unit seemed to be more affected by emotional exhaustion ($p=0.002$).

Conclusions: The prevalence of burnout among surgical nurses is worrying. Surgical nurses whose activity is much more related to emergencies are the most exposed. A preventive and therapeutic strategy is needed to reduce the extent of burnout.

Keywords: Burnout, Nurse, Surgery

INTRODUCTION

The “burnout” expression appeared in American medical literature during the 1970s and has since been the subject of a fairly comprehensive evaluation in the practice of various specialties in the health field.¹ Burnout or professional exhaustion is a state of distress defined by Maslach, as “a syndrome of physical and emotional exhaustion, which leads to the development of an inadequate self-image, negative attitudes at work with loss of interests and feelings for patients”.² In addition, the world health organization has defined burnout as “a

syndrome conceptualized as resulting from chronic stress at work that has not been properly managed”.³ It appears in individuals who work with others, in response to the accumulation of emotional and interpersonal stressors at work.⁴ Ultimately, burnout is a persistent negative work-related state of mind in “normal” individuals that is characterized by burnout, feelings of ineffectiveness, demotivation and dysfunctional behaviors at work. Three types of factors influence the onset of burnout, individual factors, work-related factors and societal factors.⁵

The burnout syndrome is characterized by three dimensions: emotional exhaustion (EE: feeling of being emptied of emotional resources), depersonalization (DP: insensitivity to the surrounding world and dehumanization of the relationship with others, patients becoming objects) and feeling at work of personal accomplishment (PA: feeling of not being able to respond correctly to the expectations of those around them, and depreciation of their results).²

On the other hand, researchers in the field emphasize the importance of characteristics related to the nature of the activity itself. Burnout is a syndrome that preferentially affects professions with a strong emotional interpersonal involvement.⁶ Likewise, it is no coincidence that the personal care sectors were the first to be studied in terms of burnout. The emotional load linked to these activities, requiring to express or repress these emotions, to show empathy, would play a significant role in the occurrence of burnout.⁷

Most of the studies that were interested at the evaluation of burnout have been carried out in intensive care, oncology or psychiatric departments; few studies have focused on surgical departments.

Objectives

Objectives of current study was to assess the prevalence of burnout of nurses working in the surgical departments of our bigger university hospital in the country and to evaluate dimensions of burnout between surgical units.

METHODS

Study population

Current study is a descriptive, qualitative and cross-sectional study carried out from July to December 2017 with nurses working in 12 surgical departments at the Ibn Sina university hospital in Rabat, Morocco. It is a reference tertiary hospital which brings together 26 medico-surgical services and several medical and nursing skills at the national level. Its bedding capacity is 778 with an annual influx to the emergency room of 12,664 patients and 34,742 hospitalizations per year. The annual number of surgeries is 8849. The study population consists of 183 nurses practicing in 12 surgical departments of the hospital. The population sample consisted of 183 volunteer nurses working in the surgical departments. By estimating the response rate at 70%, the margin of error at 5%, the confidence level at 95% and a power of 80%, the calculated sample size was 179.

Inclusion criteria

The inclusion criteria for current study were nurses working in a surgical department at the time of the survey and who have given their consent to participate in the study.

Exclusion criteria

The exclusion criteria for current study were nurses who refused to participate in the study or who did not complete the questionnaire despite the reminders.

Collection of data

Data was collected using a self-administered survey comprising socio-demographic (age, sex, family situation, number of children), professional (rank, length of service in the career, length of service) data. Current, number of working hours per week is related to burnout. The burnout assessment was carried out by the MBI scale (Maslach burnout inventory), the items of which are in the form of confirmation of the feelings and impressions of the nurse concerning his emotional and affective state related to work and his relations with patients. The MBI makes it possible to explore three dimensions, which are EE explored by nine items, DP explored by five items, PA explored by eight items. Responses are scored on a Likert scale from 0 (never) to 7 (every day).⁸ The score for each dimension makes it possible to determine the degree of impairment in the dimension as reported in (Table 1).

Table 1: Dimensions of the Maslach burnout Inventory levels.

Dimensions	High	Moderate	Low
Emotional exhaustion	≤27	17-26	≥16
Depersonalization	≤13	7-12	≥6
Personal achievement	≥30	31-36	≤37

The level of burnout is estimated according to the degree of achievement of the three dimensions as follows: low burnout if only one dimension is reached: high EE or high DP or low PA, moderate burnout if two dimensions are reached: EE and D high, EE high and PA low or PD high and PA low and high burnout if all three dimensions are reached: high EE and PD and low PA.⁹ Informed consent of all the voluntary participants in the study was requested after being informed of the objectives pursued the conduct of the survey, the questionnaires to be completed, and respect for anonymity and confidentiality.

Data analysis

The quantitative variables were expressed as mean±standard deviation and the qualitative variables as number and percentage. The reliability of the dimensions of the MBI required Cronbach's α -coefficient. The statistical analysis was done using Student t test, the Chi Square and simple linear regression tests. Data were analyzed using SPSS® (statistical package for the social sciences, version 18.0). The results were considered significant for $p < 0.05$.

RESULTS

Among the 180 questionnaires distributed, 130 were collected, i.e. a participation rate of 71%. The sample consisted of 63.1% women (n=82) and 36.9% men (n=48). Almost 55% (n=71) of nurses were aged over 45 and 6.2% under 25. Concerning civil status, 76.9% (n=100) of nurses were married, 19.2% (n=25) single and 5% (n=5) divorced. The average number of children per nurse was 2±1 children. state-certified nurses were widely represented with 76.9% (n=100) of those questioned, followed by auxiliary nurses with 13.1% (n=17) then nursing assistant with 10% (n=13). The length of service in the post exceeded 20 years in 59.2% (n=77) of nurses and 13.8% (n=18) had worked for less than 5 years. The survey had been going on for over 20 years in 40.8% (n=53) of nurses and less than 5 years in 31.5% (n=41). The number of working hours per week was 38.8±5.6 hours (extreme: 30-60 hours). The characteristics of the participants were reported in (Table 2).

The Cronbach α index which reflects the degree of homogeneity of the three dimensions of the MBI was 0.79 for the EE, 0.6 for the PD and 0.65 for the PA. The prevalence of burnout for all degrees was 86.2% (n=104; 95% CI: 80.5-91.9%). Burnout was low in 33.8% of cases (n=44; 95% CI: 26-41.6%), moderate in 46.2% (n=60; 95% CI: 39.2-54.2%) of cases and high requiring management in 6.2% (n=8; 95% CI: 2.4-10%) of cases.

Eighteen nurses (13.8% of nurses) were free from burnout. The average scores of the three MBI dimensions were 37.9±11.7 (extremes: 13-63) for EE, 14±6.4 (extremes: 5-33) for PD and 44.3±8.7 (extremes: 20-89) for PA (Figure 1). Among the 130 nurses surveyed, 95 (73.1%) had a high degree of EE, 75 (57.7%) a high degree of PD and 12 (9.2%) a low level of PA (Figure 2). The levels of the three dimensions of the MBI are shown in (Figure 3).

Analysis of the predictors of severe burnout revealed only one statistically significant variable: female sex. In fact, severe forms of burnout have been found exclusively in nurses, while no cases have been identified in nurses (100% vs. 0%; p=0.03). In addition, no association was noted between the occurrence of burnout whatever its degree and age, marital status, length of service in the career, length of service in the service, the service of origin or with the number of weekly working hours.

The same analysis performed distinctly with the three dimensions of MBI revealed that the only predictor of high EE was particularly associated with three units (43±11.1 vs. 35.7±11.1; p=0.002) (Figure 4). Indeed, nurses from the visceral surgical emergencies unit, neurosurgery unit and traumatology orthopedics unit departments seemed to be the most affected by burnout in its emotional dimension ($\beta=0.29$; p=0.002).

Table 2: Characteristics of nurses.

Variables	N	%	
Age (years)	<25	8	6.2
	25-35	31	23.8
	35-45	20	15.4
	<45	18	13.8
	> 55	53	40.8
Sex	Female	82	63.1
	Male	48	36.9
Civil status	Married	100	76.9
	Single	25	19.2
	Divorced	5	3.8
Grade	State-certified nurse	100	76.9
	Auxiliary nurse	17	13.1
	Nursing assistant	13	10
Seniority in the career (years)	<5	18	13.8
	5-10	21	16.2
	10-20	14	10.8
	>20	77	59.2
Seniority in current position (years)	<5	41	31.5
	5-10	23	17.7
	10-20	12	9.2
	>20	53	40.8
Number of hours/week (mean±SD)	130	38.8±5.6	

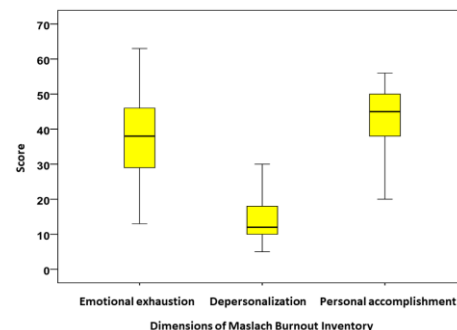


Figure 1: Scores of Maslach burnout inventory.

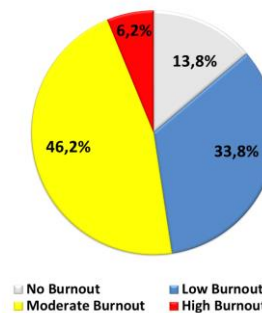


Figure 2: Prevalence of burnout according to its severity.

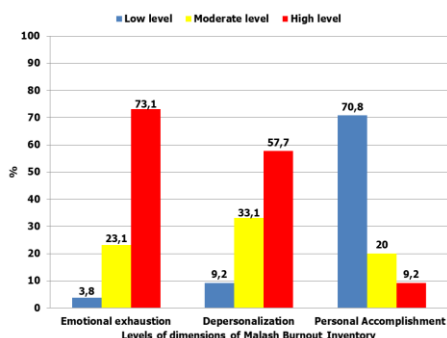


Figure 3: Levels of dimensions of Maslach burnout inventory.

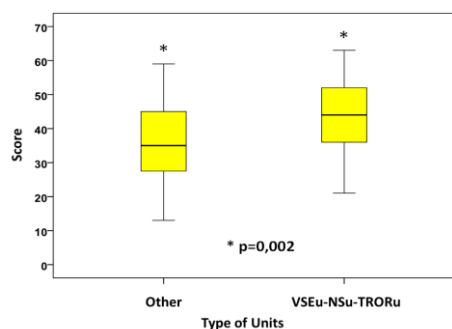


Figure 4: Scores of emotional exhaustion by unit, VSEu: visceral surgical emergencies unit, NSu: neurosurgery unit, TRORu: traumatology orthopedics unit.

DISCUSSION

Burnout is strongly present among nurses in surgical departments where they were exposed to a significant work and emotional load. In our study, the prevalence of all levels of burnout was 86.2% with 33.8% of low level, 46.2% of moderate level and 6.2% of severe level requiring intervention. 73.1% of nurses had high EE, 57.7% had a high level of DP and 9.2% had a low level of PA.

A comparative study has shown that nurses have higher stress prevalence than doctors and pharmacists.¹⁰ Several studies show that 38% to 48% of nurses say they are dissatisfied at work and that 33 to 54% suffer from burnout.¹¹ In developing Arab countries, the concept of caregiver burnout is not yet well explored. Its prevalence is thought to exceed 50 to 75% in developing countries.^{8,11,12}

The variability of the results between the different studies is explained by the methodological differences and those of the populations studied (culture, lifestyle, working hours, marital situation, sector of activity, etc.).¹² A Moroccan survey carried out in intensive care revealed that 70% of nurse anesthetists were in burnout with a level of EE and PD respectively 48% and 21% of cases with a low level of PA in 43% of cases more marked than

in our study.¹³ Another Tunisian study carried out among emergency room nurses showed that 56% of them were affected by burnout and that 47% had a high EE, 36.6% a high level of PD and 33% a level of a low AP.¹² In our study, surgical nurses seem surprisingly more affected by this syndrome, particularly in its EE and PD dimensions.

The predominance of women among nurses surveyed is common in most studies.^{5,8,12} Similar to our study, several studies noted that female nurses were more affected by this syndrome than their male colleagues.^{5,14-16} The explanations put forward were that women had a greater capacity for introspection compared to men.¹¹ The female sex is classically more at risk of mental suffering at work than males.¹⁷ Indeed, women are more empathetic and react more emotionally to stressful work situations than men, who tend to have more instrumental attitudes.^{18,19} Other studies have instead noted a correlation between male sex and a high level of PD and explain these results by the importance of the workload to which they would usually be subjected.^{11,18-20}

Concerning the influence of age on the occurrence of burnout, the data in the literature are divergent. Several studies, including our own, have noted that there was no association between age and burnout.^{8,16} Conversely, other studies have noted that the young seem to be more susceptible to burnout indicating that age was the most linked to this variable symptomatology.^{12,21,22}

In our study, no significant association was found between burnout and seniority in career, seniority in the assignment service, marital status or the number of weekly working hours. The impact of these parameters on the occurrence of burnout is variously assessed in the literature. Two Tunisian studies have found similar results to ours.^{5,11,13} Another study of 3600 nurses showed high burnout grades in 21.1% of subjects after 5 years of experience and 26.8% after 10 years of experience.²² Also, studies have described an association between high EE and seniority of less than 10 years.^{12,21} More specifically, nurses at the beginning of their careers are subject to certain stressors, in particular those related to the transition from the role of student to that of nurse.²³ Therefore, the inexperience of the young caregiver can favor the occurrence of burnout.²¹ On the contrary, other authors have reported that burnout was more prevalent among nurses who have more professional experience, especially among nurses who have been practicing for more than 16 years.²⁴

Single people, especially men, are more prone to burnout.⁵ On the other hand, single nurses consider that married women with children are happier and protected against burnout because of social and partner support.²⁵ The results of the literature on this subject are also controversial. The family support and friendly environment are elements of resistance and protection but also of risks if they prove to be harmful to the person. Also, even if the environment in which the individual

operates is not the primary factor of professional burnout, it is admitted that it can, on the contrary, increase the possibility of experiencing burnout.²⁶ Regarding workload, many surveys have shown that excessive working hours do not necessarily lead to increased productivity. Rather, they tend to reduce the effectiveness and efficiency of individuals.²⁷ Moreover, if an overload of work can be harmful for the mental health of workers; the same is true for an underload capable of causing boredom and a decrease in motivation and job satisfaction.²⁸ As a result, boredom at work would be responsible for dissatisfaction and professional tensions, reduced performance, unproductive and even counterproductive behavior with increased accidents and absences, promoting a desire to quit one's job.²⁹ In addition, some authors describe the engagement of "workaholics" at work, as being in the same register as that which appears in the burnout process, the question then being asked whether "work holism" by this dimension of engagement does not is not a step in the burnout process.³⁰ The cause and effect relationship between burnout and excessive workload is reciprocal.¹² Indeed, it could be that caregivers suffering from burnout increase their workload to overcome the feeling of failure.³¹

In current study, nurses from three surgical units (visceral surgical emergencies unit, neurosurgery unit and traumatology orthopedics unit) were the most exposed to this syndrome in its emotional dimension. Indeed, they constantly receive patients in difficult situations from emergencies and resuscitation. Some authors felt that strained patient relationships, complex cases, non-compliant complaints, and patient suffering or even death were associated with greater burnout.³² Several studies carried out in intensive care, emergency, oncology and hematology departments have revealed that the management of a dying patient increases the risk of suffering from a burnout.^{12,11,33,34} So, the difficulties of caregivers constantly confronted with the disappearance of patients, lead them to experience painful moments. The closer they are to the weakness of the patients and the pain of the family, the more they will feel the anxieties of separation. This fear of death was contagious.²²

Current study has the merit of shedding light on a category of surgical nurses in which very few studies have focused in the literature. However, it has certain limitations. The first is linked to the non-response rate estimated at 29%. Although similar rates are reported in the literature, this abstention rate may lead us to underestimate the prevalence of burnout. The reasons for non-response to the questionnaire were not collected and would have made it possible to better interpret the results. The second limit is linked to the reliability of the self-administered questionnaire and more precisely to the dimensions of the MBI. In practice, it is generally considered that the homogeneity of the instrument is satisfactory when the value of the coefficient is at least

equal to 0.70. This property of the MBI is rarely studied in studies. In our case, internal consistency was good for EE since the Cronbach's α value exceeded the recommended threshold of 0.7 but only reached 0.6 for PD and PA. This result is slightly below the threshold but still remains acceptable. The third limitation is the female predominance of sample score which could explain the results obtained.

CONCLUSION

A moderate to high level of burnout has been observed in more than half of surgical nurses with a significant presence of EE and PD. These results reflect an alarming level of suffering, especially among nurses in three surgical departments open to emergencies who seem to be the most exposed. Effective prevention and management strategies are essential. More studies on the impact of this syndrome on the quality of patient care are needed to better appreciate the extent of its severity.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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