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Original Research Article

Professional Burnout among Doctors and Nurses Working in the Emergency and Anesthesia-Intensive Care Departments of Abidjan Hospitals

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Abstract: ***Introduction*:** "Burnout" or professional exhaustion syndrome is characterised by physical, emotional and mental exhaustion. The aim of this work was to determine the factors associated with the occurrence of this syndrome. ***Material and Methods*:** this was a prospective, cross-sectional and analytical study which took place over four months (September 2019 - December 2019) in the emergency departments, intensive care units and operating rooms of seven hospitals in Abidjan. All doctors and nurses working in these services were included. Data collection was carried out using a pre-established questionnaire based on the "Maslach Burnout Inventory" (MBI). The variables studied were: sociodemographic and professional characteristics, as well as MBI scores. All data were processed and analyzed using statistical software. Differences were considered statistically significant at $p < 0.05$. ***Results*:** we identified 188 participants. The average age was 41 years. The majority of respondents (78%) worked more than 40 hours per week. The prevalence of burnout was 60.1%. The factors associated with burnout were: male sex, age > 40 years, unmarried status, work experience < 20 years, nursing profession, more than 40 hours of work per week and professionals working in university hospitals and operating rooms. ***Conclusion*:** the factors associated to this syndrome are sociodemographic and professional.

Keywords: Burnout, Emergency, Anesthesia-Intensive Care.

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INTRODUCTION

Anesthesia, intensive care and emergency departments deal with acute, life-threatening and/or functional disorders. Healthcare workers in these departments are required to act rapidly, under pressure that generates high levels of stress. According to the WHO, burnout is a syndrome conceptualized as the result of chronic, poorly managed professional stress. It is characterized by three components: feelings of exhaustion or lack of energy; increased mental distance from one's work, or feelings of negativism or cynicism linked to one's work; and reduced professional effectiveness [1]. It is officially recognized as a work-related phenomenon in the WHO's International Classification of Diseases (ICD-11). Its prevalence has been documented in studies worldwide. Burnout has serious consequences for nursing staff (deterioration in quality of life, increased cardiovascular risk, heightened risk of suicidal ideation) and patients (increase in medical errors) [2]. The Maslach Burnout Inventory can be used to assess this syndrome. In fact, prevalence has been reported as 17% among intensive care anesthetists in France [3], 24% among intensive care nurses in the USA [4], 54% among emergency physicians in Tunisia [5], and 69.5% among all healthcare workers in Benin [6]. In Côte d'Ivoire, no study has yet been carried out on burnout in anesthesia, intensive care and emergency medicine. The aim of this study was to determine the prevalence of burnout and to identify its risk factors among nursing staff in the anesthesia, intensive care and emergency departments of Abidjan's university hospitals and general hospitals.

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PATIENTS AND METHODS

Our study took place in the emergency, intensive care and operating room departments of seven public health establishments in Abidjan (the 3 teaching hospitals of Cocody, Yopougon and Treichville; the general hospitals of Abobo North, Abobo South, Port Bouët and the Abidjan Military Hospital, considered a general hospital). This was a cross sectional analytical study with prospective data collection that took place over a four-month period (september 2019 - December 2019) and received approval from the institutional ethics committee. Physicians and nurses regularly assigned to and practicing in the above-mentioned departments in the aforementioned hospitals were included. Doctors and nurses who were absent at the time of the study or who had not given their consent were not included.

Work organization in these departments differs from that in France. Indeed, the work schedule adopted in the different departments was: 24 hours shift followed by 72 hours of rest for nurses, 8 hours shift of weekdays for physicians. Non-working days and nights were covered by on-call duty for senior doctors, and by on-call duty for doctors undergoing specialty training, without mandatory rest periods.

They were equally asked about their involvement in the private health sector, in addition to their time spent working in the public sector. The data were collected using a questionnaire based on the Maslach Burnout Inventory (MBI), a psychometric tool assessing burnout symptoms developed by Christina Maslach and Susan Jackson (appendix). The MBI assesses three components of burnout through 22 items. The 3 dimensions are emotional exhaustion, depersonalization and personal accomplishment. Each item is rated from 0 to 6. The emotional exhaustion score (EES) is obtained by adding items 1; 2; 3; 6; 8; 13; 14; 16 and 20. An EES < 17 reflects a low degree of burnout, an EES between 18 and 29 a moderate degree, and an EES over 30 a high degree of burnout (red zone). The depersonalization score (DS) is obtained by adding items 5; 10; 11; 15 and 22. A DS < 5 reflects a low degree of depersonalization, a DS between 6 and 11 a moderate degree, and a DS above 12 a high degree of loss of empathy (red zone). The Personal Achievement Score (PAS) is obtained by adding items 4; 7; 9; 12; 17; 18; 19 and 21.

A PAS < 33 reflects a low degree of personal fulfillment (red zone), a PAS between 34 and 39 a moderate degree of personal fulfillment, and a PAS above 40 a high degree of personal fulfillment. If both the EES and DS are in the red zone, the risk of Burn-out is very high, especially if the degree of fulfillment is also in the red (Nawfal D *et al.,* 2012). The variables studied were: socio-demographic data (age, sex, marital status), professional data (MAR, emergency doctor, DES, IDE, IADE, place and department of practice, professional seniority, weekly hourly volume), difficulties encountered at work, work related conditions, MBI variables and factors influencing the development of burnout. Some continuous variables were categorized to facilitate analysis. Paper based questionaires were distributed directly to avoid duplication. Data were processed and analyzed using Epi-Info version 7 and Epi Data version 3.1.

Quantitative variables were expressed as means with standard deviations. Categorical variables were expressed as frequencies and percentages with their 95% confidence intervals. Proportions were compared using Pearson's or Fisher's Chi-2 test, as appropriate. Differences were considered statistically significant at $p < 0.05$.

RESULTS

- **Sociodemographic Data**

During the study period, 188 participants were included out of a total of 215 (87.4%). The mean age was 41 years, with a range of 25 to 63 years. The most represented age group was 30-39 (34%). Males predominated (63%), with a male to female ratio of 1.7. Various marital statuses were observed, with a predominance of married participants (52.2%) (Table I).

Table I: Sociodemographic and professional parameters

Parameters		Numbers	Percentage (%)
Sex	Male	118	63
	Female	70	37
Marital status	Married	98	52,2
	Single	81	43,1
	Divorced	4	2,1
	widowed (ves)	5	2,7
Professional category	Senior doctor	13	6,9
	Resident	57	30,3
	State registered nurse	62	33
	Anesthesist State registered nurse	56	29,8
Professional experience	≤ 9 years	111	59
	10-19 years	40	21,3
	≥ 20 years	37	19,7

Parameters		Numbers	Percentage (%)
Health facility	Teaching hospital	140	74,5
	General hospital	48	25,5
Services	Emergency	58	30,9
	Intensive care	52	27,6
	Operation room	78	41,5
Weekly working hours	> 40 hours	147	78
	≤ 40 hours	42	22

- **Socioprofessional Data**

The different professional categories were senior anesthetists and emergency physicians (6.9%), anesthetists and residents in anesthesiology (30.3%), state-registered nurses (33%) and state-registered nurse anesthetists (29.8%). The breakdown of staff by place of practice was 74.5% for university teaching hospitals and 25.5% for general hospitals. 30.9% of them worked in emergency departments, 27.7% in intensive care units and 41.5% in operating room. In terms of professional seniority, 59% of all professionals had less than 9 years' experience, 21.3% between 10 and 19 years, and 19.7% more than 20 years. The majority of respondents (78%) worked more than 40 hours a week (Table I). During the month, 16% worked one weekend, 69.1% worked 2 to 3 weekends and 11.7% every weekend.

Most caregivers (80%) worked both day and night shifts. Psychological difficulties encountered during work were related to lack of equipment (58%), patient poverty (29%) and communication difficulties with other healthcare professionals (13%). The majority of practitioners (93.6%) worked on a part-time basis in private facilities, in addition to their work in the public sector. Only 6% did not work any shifts in private facilities during their vacations. In the course of their work, 26.1% of caregivers developed an illness. These were: lumbar osteoarthritis (49%), arterial hypertension (44.9%) and diabetes (6.1%).

- **Frequency of Burnout and Its Components**

After analysis of the MBI questionnaire parameters, those classified in the red zone were: 32.5% for personal exhaustion; 57.9% for depersonalization and 45.2% for low personal accomplishment (figure 1). Analysis of the parameters of those in the red zone revealed 60.1% of healthcare workers at high risk of burnout.

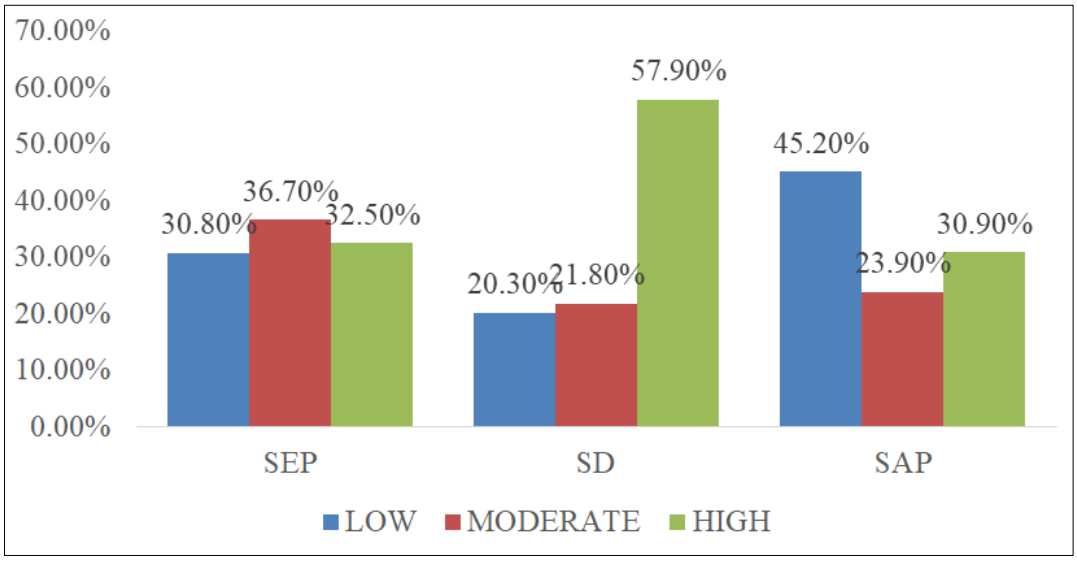

Figure 1: Distribution of healthcare workers according to burnout components.
***EES**: emotional exhaustion score; DP: depersonalization score; PA: personal achievement score*

- **Factors Associated with Burnout**

Factors strongly associated with burnout, with a risk of occurrence greater than 1, were: age over 40, less than 20 years of experience, unmarried status, being a nurse, working in a university hospital and in the operating room **(Table II).** Factors weakly associated with the risk of burnout were: male gender and working more than 40 hours a week **(Table II).** Difficulties encountered at work, notably lack of equipment, patient poverty and lack of communication between colleagues, were not linked to the occurrence of burnout (p = 0.42). However, these factors were significantly associated with one of the components of Burnout, namely depersonalization (p = 0.04).

Table II: Distribution of healthcare professionals according to Burnout frequency and socio-professional characteristics

Socio-professional characteristics			Burnout Present Absent	p	OR [CI]
Sex	Ma	60	58	0,000	0,3 [0,1 – 0,6]
	Female	53	17		
Age	≥ 40 ans	69	30	0,004	2,3 [1,2 – 4,2]
	< 40 ans	44	45		
Professional seniority	< 20 ans	100	49	0,000	4 [1,9 – 8,6]
	> 20 ans	13	26		
Marital status	single	62	28	0,010	2 [1,1 – 3,7]
	Married	51	47		
Professional categories	nurse	80	38	0,005	2,3 [1,2 – 4,3]
	doctor	33	37		
Health facility	Teaching hospital	95	45	0,000	3,5 [1,7 – 6,9]
	General hospital	18	30		
Services	Operating room	57	26	0,030	1,9 [1,0 – 3,5]
	Emergency and ICU	56	49		
Weekly working hours	> 40 hours	80	65	0,010	0,3 [0,1 – 0,8]
	< 40 hours	33	10		
Contraints	Yes	25	20	0,40	0,7 [0,3 – 1,5]
	No	88	55		

DISCUSSION

In our study, we found a high percentage (60.1%) of healthcare workers at high risk of burnout. The risk factors for the occurrence of this syndrome were: male sex, age over 40, professional seniority of less than 20 years, unmarried status, working in a university hospital, nursing role, working in the operating room and working more than 40 hours a week. A review of the literature revealed similarities and differences.

- **Socio-Demographic Data**

87.4% of staff took part in the survey according to our inclusion criteria. Our participation rate is similar to those obtained by teams in Tunisia [7], and Benin [8]. This high participation rate may reflect the importance of the issue of burnout in anesthesiology, intensive care and emergency departments. Anesthesia staff aged over 40 were more likely to experience burnout ($p < 0.004$). In our study, male practitioners were more exposed to burnout, contrary to the findings of Tchaou [8]. In order to support themselves and their families, male caregivers were obliged to combine several activities in both the public and private sectors, thus increasing their workload and their vulnerability to burnout. Unmarried people (bachelors, widowers and divorcees) were at greater risk of burnout ($P < 0.01$). These results are corroborated by those of Tchaou [8]. Indeed, solitary management of the daily life stressors increases the risk of burnout. This assertion is corroborated by many: Dyrbye in America in 2011 [9]. Alacacioglu in Turkey in 2009 [10] and Soler JK in 2008 in European countries [11]. Indeed, they suggest that the couple is a protective factor against the risk of burnout.

- **Socio-Professional Data**

Nurses were more prone to burnout than doctors. These results were identical to those observed by Tchaou [8]. Nurses often work in insufficient numbers in our healthcare facilities. In fact, this situation increases the workload of existing staff, contributing to the onset of burnout. Several studies have shown that burnout scores increase with workload [12, 13]. According to our research, caregivers working in university hospitals were more likely to suffer from burnout. There are several possible explanations for these findings. Poor adherence to the healthcare referral system is responsible for a massive influx of patients into university hospitals, often with insufficient reception capacity, exposing nursing staff to violence from relatives of patients. The rigor and high number of serious and complex pathologies in university hospitals could also explain the high burnout prevalence in these centers.

However, many studies disagree on this point. There appears to be no unambiguous link between place of practice and the onset of burnout [11-15]. Years of professional experience of less than 20 years was identified as a risk factor for the onset of burnout in our study ($P < 0.001$). This result could be explained by the lack of experience in managing professional stress and, above all, by the absence of psychological support for healthcare workers in our structures. This finding is in line with numerous studies, even if the methods used to measure professional experience were often different [16-18]. Burnout was mainly observed among staff working more than 40 hours a week. The majority of those surveyed (78%) worked more than 40 hours a week, both during the day and at night. Over 80% of caregivers worked more than two weekends a month,

depriving them of a healthy work life balance. In order to avoid this situation, the Ivorian government has stipulated in its labor code that weekly working hours may not exceed 40 hours for non-agricultural businesses and 48 hours for agricultural businesses [19].

Despite this provision, a significant proportion of caregivers exceed the regulatory weekly hours, exposing them to burnout. This situation could be explained on the one hand by staff shortages, and on the other by the impoverishment of nursing staff, who are obliged to use their rest hours to work privately in order to increase their monthly income to cope with the high cost of living.

On-the-job problems were mainly related to lack of equipment (58%), impoverishment of patients (29%) and communication difficulties with other healthcare professionals (13%). These problems were not linked to the development of burnout. Tchaou and Bertrand, on the other hand, identified low staffing levels, lack of emergency kits and medical consumables, disagreements between colleagues, misunderstandings with patients and their families, inability of relatives to pay for medicines, difficulties in organizing emergency management, pressure from supervisors and patient deaths as sources of emotional distress [8-20]. In Côte d'Ivoire, it is not uncommon to be faced with with disinformation campaigns on social networks accusing healthcare workers in large facilities of unprofessional behaviour. This phenomenon has helped to increase staff disinterest in working in these health establishments.

In the course of their duties, 49 caregivers (26.06%) developed an illness. These were: peptic ulcer (52.12%), lumbar osteoarthritis (48.97%), arterial hypertension (44.89%) and diabetes (6.12%). Our results were similar to those of Tchaou. In his series, 37 caregivers (30.1%) developed a disease. These were: gastric ulcer (17.1%), arterial hypertension (8.1%), asthma (2.4%), heart disease (0.8%), dermatosis (0.8%), haemorrhoids (0.8%) [8].

- **Frequency of Burnout and Its Components**

Studies conducted in France, Australia, Tunisia or Benin, the various studies carried out have shown a prevalence of burnout among intensive care anesthetists ranging from 46% to 68.3% [7-21]. Our results did not differ from previous studies. In our series, 113 practitioners (60.1%) had burnout. Intensive care anesthesia is a medical discipline that ensures the support of vital functions.

It is the interface between several medical and surgical disciplines and implies de facto teamwork. It is undoubtedly one of the most stressful medical specialties, confronting caregivers on a daily basis with urgency, permanent stress and the death of patients, both in their relationships with patients and their families, and with other caregivers. Practitioners in anesthesia-intensive care are therefore not immune to mental health problems. In an increasingly demanding environment, workload and lack of recognition are factors that contribute to mental suffering in the workplace [22]. The various components of burnout were expressed as follows in our study: emotional exhaustion (32.5%), depersonalization (57.9%) and lack of personal fulfillment (45.2%). The rate of emotional exhaustion among our staff was lower than that reported in the literature, as evidenced by the rates reported by Lloyd (46%) [23], Bertrand (60%) [20]. Arora (60%) [21], and Tchaou (92.7%) [8]. We noted a high rate of depersonalization in our study compared to developed countries [20-24].

This may be due to patients' financial constraints and their precarious situation in our developing country. The rate of reduced personal accomplishment found among our caregivers was lower than that obtained by Tchaou [8], but higher than those obtained by Bell (34%) [24]. The frantic search for social well-being in an increasingly onerous social environment may be pushing caregivers to multiply their presence in the workplace, thereby increasing their workloads to the detriment of their psychological and physical health.

CONCLUSION

In conclusion, we found that physicians and nurses working in both anaesthesia-intensive care and emergency departments in Abidjan hospitals suffer from burnout. Certain enviromental and individual characteristics appear to increase the risk of burnout. However, the cross-sectional nature of our study does not allow us establish a causal relationship. Burnout prevention strategies should include both improved working conditions and the estblishment of psychological support services.

The Authors Declare no Conflict of Interest

There is no conflit on the source of funding or on the affiliation of author

Distribution of Tasks

The authors confirm that all authors have made substantial contributions to all of the following:

- ✓ The conception and design of the study, critical reading.
- ✓ Drafting the article or revising it critically for important intellectual content.
- ✓ Data collection and analysis, bibliographic research and writing.
- ✓ Final approval of the version to be submitted.

- **Appendix:** The Maslach Burnout Inventory [2]

How do you perceive your work? Are you exhausted?
How capable are you of shaping your relationships to others?
To what degree are you personally fulfilled?

– Indicate how often you feel the descriptions in the following statements apply to you by circling the corresponding number with:

0 = Never
1 = At least a few times a year
2 = At least once a month
3 = Several times a month
4 = Once a week
5 = Several times a week
6 = Every day

– Add up the scores obtained in each of the three dimensions at the bottom of the questionnaire. See if these scores are "low," "moderate," or "high."

01 - I feel emotionally exhausted because of my work	0	1	2	3	4	5	6
02 - I feel worn out at the end of a working day							
03 - I feel tired as soon as I get up in the morning and see a new working day stretched out in front of me							
04 - I can easily understand the actions of my colleagues/supervisors							
05 - I get the feeling that I treat some clients/colleagues impersonally, as if they were objects							
06 - Working with people the whole day is stressful for me							
07 - I deal with other people's problems successfully							
08 - I feel burned out because of my work							
09 - I feel that I influence other people positively through my work							
10 -I have become more callous to people since I have started doing this job							
11 - I'm afraid that my work makes me emotionally harder							
12 - I feel full of energy							
13 - I feel frustrated by my work							
14 - I get the feeling that I work too hard							
15 - I'm not really interested in what is going on with many of my colleagues							
16 - Being in direct contact with people at work is too stressful							
17 - I find it easy to build a relaxed atmosphere in my working environment							
18 - I feel stimulated when I been working closely with my colleagues							
19 - I have achieved many rewarding objectives in my work							
20 - I feel as if I'm at my wits' end							
21 - In my work I am very relaxed when dealing with emotional problems							
22 - I have the feeling that my colleagues blame me for some of their problems							

- **The Emotional eschaustion score (EES)** is obtained by adding items 1, 2, 3, 6, 8, 13, 14, 16, and 20.
  - EES < 17 = low level of burnout,
  - EES between 18 and 29 = moderate level
  - EES > 30 = high level of burnout (red zone).

- **The Depersonalization Score (DS)** is obtained by adding items 5, 10, 11, 15, and 22.
  - An DS < 5 = low degree of depersonalization,
  - An DS between 6 and 11 = moderate degree
  - An DS > 12 = high degree of loss of empathy (red zone).

- **The Personal Achievement Score (PAS)** is obtained by adding items 4, 7, 9, 12, 17, 18, 19, and 21.
  - A PAS < 33 = low level of personal fulfillment (red zone),
  - A PAS between 34 and 39 = moderate level of personal fulfillment
  - A PAS > 40 = high level of personal fulfillment.
- The risk of burnout is very high if both SEP and SD scores are in the red zone, especially if the degree of accomplishment is also in the red.

REFERENCES

1. World Health Organization (WHO). (2019). Eventy-second world heaith assembly. Eleventh revision of the International Classification of Diseases.10p.
2. Nawfal, D., Salaheddine, M., Hicham, B., Cherqui, H., Nordine, D. K. (2012). Le *burn out*, conséquences et solutions : enquête chez les personnels d'anesthésie–réanimation de quatre

hôpitaux universitaires marocains. Doi : 10.1016/j.amp.2012.08.029.
3. Chiron, B., Michinov, E., Olivier-Chiron, E., Laffon, M., Rusch, E. (2010). Job satisfaction, life satisfaction and burnout in French anaesthetists. J Health Psychol, 15 , 948-58
4. Mealer, M.L., Shelton, A., Berg, B., Rothbaum, B., Moss, M. (2007). Increased prevalence of posttraumatic stress disorder symptoms in critical care nurses. Am J Respir Crit Care Med, 175, 693-7
5. Gharbi, R., Bouchada, N., Touil, Y., Atig, R., Fekih Hassen, M., Elatrous, S. (2012). Le burnout en milieu de réanimation et urgences : prévalence et facteurs de risque. Réanimation, 22, 187-90.
6. Hounkpè, S.B. (2007). Etude du stress chez les agents de santé de deux centres hospitaliers au Bénin. Mémoire de certificat d'études de spécialités FSS: Université d'Abomey Calavi.
7. Salah, M., Mohamed, S. N., Mohamed, K., Nadja, L., Mohamed, B. R., Majdi, K., et al. (2018). Prévalence du Burn out en milieu d'anesthésie réanimation dans le centre tunisien. Pan Afr Med J, 31, 111
8. Tchaou, B. A., Djidonou, A., Tchegnonsi, N. C. F., Gbogblenou, G. T. A., Gandaho, P. (2018). Burn-Out chez le personnel soignant des unités de soins intensifs de l'hôpital universitaire de Parakou au Bénin. ESJ, 14(24), 408-21.
9. Dyrbye, L. N., Shanafelt, T. D., Balch, C. M., Satele, D., Sloan, J., Freischlag, J. (2011). Relationship between work-home conflicts and burnout among American surgeons: a comparison by sex. Arch Surg, 146(2), 211-7. doi: 10.1001/archsurg.2010.310. PMID: 21339435.
10. Alacacioglu, A., Yavuzsen, T., Dirioz, M., Oztop, I., Yilmaz, U. (2009). Burn out in nurses and physicians working at an oncology department. Psychooncology, 18(5), 543-8. doi: 10.1002/pon.1432. PMID: 18942658.
11. Soler, J .K., Yaman, H., Esteva, M., Dobbs, F., Asenova, R. S., Katic, M. *et al.,* (2008). European General Practice Research Network Burnout Study Group. Burnout in European family doctors: the EGPRN study. Fam Pract, 25(4), 245-65.
12. Maslach, C., Leiter, M. P. (1997). The truth about Burnout: How Organizations Cause Personal Stress and What to Do About It. San Francisco: Jossey-Bass Publishers.
13. Le Gales-Camus. (2005). Conférence de montreal - Troisième session: la santé en milieu de travail: L'impact sur la qualité de vie et la productivite.
14. Mion, G. A., Libert, N. B., Journois, D. C. (2013). Facteurs associe´ s au burnout en anesthésie–réanimation. Enquête 2009 de la Société française d'anesthésie et de réanimation. Annales Françaises d'Anesthésie et de Réanimation, 32.
15. Saijo, Y., Chiba, S., Yoshioka, E., Kawanishi, Y., Nakagi, Y., Ito, T., *et al.,* (2013). Job stress and burnout among urban and rural hospital physicians in Japan. Aust J Rural Health, 21(4), 225-31. doi: 10.1111/ajr.12040. PMID: 24033524.
16. Al-Dubai, S. A., Rampal, K. G. (2010). Prevalence and associated factors of burnout among doctors in Yemen. J Occup Health, 52(1):58-65. doi: 10.1539/joh.o8030. Epub 2009 Nov 10. PMID: 19907108.
17. Ciammella, P., De Bari, B., Fiorentino, A., Franco, P., Cavuto, S., Alongi, F., et al. (2013). (Italian Association of Radiation Oncology-Young Members Working Group). The "BUONGIORNO" project: burnout syndrome among young Italian radiation oncologists. Cancer Invest, 31(8), 522-8. doi: 10.3109/07357907.2013.830735. Epub 2013 Sep 6. PMID: 24010828.
18. Aldrees, T. M., Aleissa, S., Zamakhshary, M., Badri, M., Sadat-Ali, M. (2013). Physician well-being: prevalence of burnout and associated risk factors in a tertiary hospital, Riyadh, Saudi Arabia. Ann Saudi Med, 33(5):451-6. doi: 10.5144/0256-4947.2013.451. PMID: 24188938; PMCID: PMC6074879.
19. Code du travail (1995). Loi n°95-15 du 12 janvier 1995 portant code du travail.
20. Bertrand, F., Martinez, P., Thiercelinl, D., Fournier, J. P., Van Elslande, L., Romankiewiczl, A., *et al.,* (2000). Charge de travail des médecins des urgences: problème quantitatif ou qualitatif? De la sérénité du médecin des urgences. Reanim Urgences scientifiques et medicales ,19(9), 492-7
21. Arora, M., Asha, S., Chinnappa, J., Ashish, D. (2013). Burnout in emergency medicine physicians. Emergency Medicine Australasia, 98(125): 491–5.
22. Kayal-Becq, M. C. (2018): Difficultés et souffrance du médecin anesthésiste réanimateur. Soins, 63(830) ; 45-8
23. Lloyd, S., Streiner, D., Shannon, S. (1994). Burnout, depression, life and job satisfaction among Canadian emergency physicians. J Emerg Med, 12, 559-65.
24. Bell, R. B., Davison, M., Sefcik, D. (2002). A first survey: Measuring burnout in emergency medicine physician assistants. JAAPA, 15, 40-2, 45-8, 51-2.

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