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Epidemiological Aspect of Burnout among Careful Staff of A Zone Hospital in Cotonou in 2019

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Abstract

Introduction: Burnout syndrome is one of the many forms of suffering at work that affects healthcare professionals. It is still little diagnosed in Benin. **Objectives:** the objective was to assess the prevalence of burnout among the nursing staff of a Zone Hospital (HZ) in Cotonou. **Study Methods:** This was a descriptive and analytical cross-sectional study, which took place from September to October 2019 and included all personnel assigned to care. This has been submitted to the Malasch Burnout Inventory (MBI). The data collected was analyzed using STATA software version 15. A logistic regression made it possible to identify those associated with burnout. The significance level was 5%. **Result:** A total of 173 caregivers were included, including 118 women, for a sex ratio of 0.47. The mean age was 39 ± 10.1 years. The study population consisted of 33.5% nursing assistants, 24.3% nurses, 24.2% physicians, 7.5% midwives, and 8.6% other health professionals. The prevalence of burnout was 30.6% of which 2.3% were severe cases. As a result of burnout, 33% of officers and 19.08% experienced depersonalization and 10.4% experienced a sense of low personal achievement. The associated factors identified were female sex ($p < 0.0001$), lack of time devoted to her family ($p = 0.04$), receiving negative remarks on this lack of availability towards her family ($p = 0.04$), and work in a poor professional climate ($p = 0.03$). **Conclusion:** the prevalence of burnout among caregivers is high. Improving the professional climate and family relations are avenues for prevention.

Keywords

Burnout, Nursing Staff, Epidemiology, Benin

1. Introduction

Burnout is a long and evolving phenomenon that occurs after years of prolonged exposure to professional stress [1]. It is mainly health-related professions that are prone to be very affected by this pathology [2]. Indeed, health workers are engaged in a daily helping relationship with others and are subject to chronic occupational stress; they are likely to suffer from burnout syndrome. The consequences can range from reduced work performance to, in more serious cases, a more or less prolonged work stoppage or even the resignation of the health worker [3]. In Europe, 12% of nurses and 17% of doctors were at risk of burnout and 6% of nurses versus 5% of doctors had severe burnout in a study in Belgium [4]. In Africa, the prevalence of burnout is 42.4% among general practitioners in the city of Douala in Cameroon [5]. Among Malagasy doctors, its prevalence has been estimated at 51.2% with 4.2% of severe forms [6]. In Benin, difficult working conditions such as insufficient technical facilities, late recourse to care for patients or referrals in precarious situations, and the low remuneration of health care personnel are multiple factors of emotional exhaustion and demotivation of health care professionals. They are therefore highly exposed to burnout, which, despite the abundant international literature, remains an under-diagnosed disease in our country. The objectives of this study are to determine the prevalence and factors associated with burnout in the caregivers of a Zone Hospital (HZ) in Cotonou.

2. Framework and Methods of Study

This is a descriptive and analytical cross-sectional study that took place from September 9 to October 8, 2019 in an HZ of the city of Cotonou. It is the referral hospital for health zone V. It concentrates about 40% of the health activities of the entire zone. The daily flow of patients is important. The nursing staff is sometimes overwhelmed by the workload. Also, some complaints have been recorded from hospital users. They were related to long waiting lines and sometimes to certain services considered of poor quality. This study was initiated to assess the working conditions of the caregivers.

The hospital employs a total of 236 workers, including 41 administrative staff. Non-probability convenience sampling was conducted by exhaustive recruitment of workers meeting the following criteria:

- have an employment contract
- be medical or paramedical personnel
- consent to participate in the study.

The data collection was carried out using a questionnaire. It is the validated Malash Burnout Inventory (MBI) questionnaire that explores the three dimensions of emotional exhaustion, depersonalization and personal accomplishment. This scale is composed of 22 items, each rated from 0 to 6 [7].

- Emotional exhaustion is assessed by nine items for a total of 0 to 54, a score of 30 or more being considered high;
- Depersonalization is assessed by five items for a total of 0 to 30, with a score

greater than or equal to 12 considered high;

- Professional achievement is rated by eight items (4, 7, 9, 12, 17, 18, 19, and 21) for a total of 0 to 48, with a score less than or equal to 33 considered low [7].

Data analysis was conducted using STATA version 15.0 software. The chi-2 test allowed a comparison of the variables. Univariate logistic regression was used to look for factors related to burnout syndrome. All tests were interpreted with a significance threshold of 5%.

Authorization from hospital officials was taken as well as informed consent from each participant.

3. Results

A total of 195 agents were regularly assigned to care. Of these, 176 consented to participate in the study, but three survey forms were not usable. Socio-demographic characteristics of the agents, 173 caregivers participated in this study, which is a participation rate of 88.71%.

- Socio-demographic characteristics of agents

Of the 173 caregivers making up the sample size, 118 (68%) were female, for a sex ratio (M/F) of 0.47. The sample size is based on a sample of 173 caregivers, of which 118 (68%) were female. The mean age was 39 ± 10.1 years with extremes of 21 and 60 years. Half of them were married with an average of two dependent children. Also, 63% of caregivers did not spend enough time with their family and 60.7% received negative comments from family and friends about their lack of availability. These data are summarized in **Table 1**.

- Caregiver Job Characteristics

Doctors and nurses represented 48.6% of the population; and health care aides, 33.5%. The average seniority was 6 ± 9.6 years. Almost all 3/4 (71.6%) worked more than 40 hours per week; and 33% felt that the work climate was poor. **Table 2** presents the occupational characteristics of caregivers.

- Caregiver Lifestyle

Outside of work hours, 24.9% practiced a regular sport activity. Alcohol and psychotropic drugs were consumed by 32.4% and 17.9% of the carers. **Table 3** describes the lifestyle habits of the carers surveyed.

- Prevalence of burnout

The prevalence of burnout is 30.6%, of which 22% is low burnout, 6.3% medium severity and 2.3% severe burnout. In addition, 19.08% of the caregivers had a high state of emotional exhaustion; 12.14% had a high degree of depersonalization and 10.4% a low sense of emotional fulfillment. These data are presented in **Table 4**.

- Factors associated with burnout among caregivers at a Zone Hospital in Cotonou

Female caregivers suffered more burnout than male caregivers ($P < 0.0001$); so did those who spent little time with their families and received negative criticism from them about this lack of availability ($p = 0.04$). In addition, a poor work climate favored burnout ($p = 0.03$). **Table 5** summarizes the factors associated

Table 1. Socio-demographic characteristics of caregivers at a zone hospital in Cotonou in 2019.

Characteristics	Effective (n)	Pourcentage (%)
Age (ans)		
<30	39	22.5
30 - 40	48	27.7
41 - 49	51	29.5
≥50	35	20.2
Gender		
Male	55	32.0
Female	118	68.0
Marital status		
married	93	53.8
Single	48	27.7
Cohabitation	29	16.8
Widow/er	2	01.2
Divorced	1	0.6
Number of dependent children		
No	39	22.5
[1 - 3]	104	60.1
[4 - 6]	27	15.6
≥7	3	01.7
Time spent with family		
Yes	64	37.0
No	109	63.0
Negative remarks on availability towards the family		
Yes	105	60.7
No	68	39.3

Table 2. Occupational characteristics of caregivers at HZ in Cotonou in 2019.

Variables	Effective (n)	Pourcentage (%)
Professional categories		
Caregivers	58	33.5
Nurses	42	24.3
Physicians	42	24.3
Midwives	13	07.5
Physiotherapists	3	01.7
Others*	15	08.6

Continued

Seniority (years)		
<1	12	06.9
1 - 10	79	45.7
10 - 20	42	24.3
>20	40	23.1
Number of shifts per month		
00	71	41.0
1 - 6	17	09.8
6 - 11	78	45.1
>11	7	04.0
Number of working hours		
<40	49	28.3
[40 - 72[107	61.8
≥72	17	09.8
Work climate		
Very good	23	13.0
Good	112	65.0
Bad	33	19.0
Very bad	5	03.0

Social worker (1); PMCT mediator (1); Pharmacist (1); Psychological counselor (1); Biotechnologists (1); Medical Imaging Engineers (1).

Table 3. Distribution of caregivers according to their lifestyles.

Variable	Effective (n)	Pourcentage (%)
Alcohol consumption		
Yes	56	32.4
No	117	67.6
Use of psychotropic drugs		
Yes	31	17.9
No	142	82.1
Sports and leisure activities		
Regular sport activity		
Yes	43	24.9
No	130	75.1
Regular Leisure		
Yes	52	30.1
No	121	69.9

Table 4. Prevalence of burnout and its dimensions among caregivers in a Zone Hospital in Cotonou in 2019.

Variable	Effective (n)	Pourcentage (%)
No burnout	120	69.4
Présence of burnout	low	22.0
	Moderate	6.3
	Severe	2.3
	Total	30.6
High emotional exhaustion	33	19.08
High depersonalization	21	12.14
Low personal achievement	18	10.4

Table 5. Factors associated with burnout among caregivers at a Zone Hospital in Cotonou in 2019.

Variables	Burnout				p
	Yes		No		
	n	%	n	%	
Gender					
Male	9	16.4	46	83.6	<0.0001
Female	44	37.3	74	62.7	
Age					
[21 - 30]	9	23.1	30	76.9	0.42
[30 - 40]	17	35.4	31	64.6	
[40 - 50]	19	37.3	32	62.7	
[50 - 60]	8	22.9	27	77.1	
Seniority					
<1 year	5	41.7	7	58.3	0.68
≥1 year	48	28.57	120	71.42	
Occupational Category					
Nurse	16	38.1	26	61.9	0.52
Midwife	6	46.2	7	53.8	
Physician	10	27.0	27	73.0	
Surgeon	1	20.0	4	80.0	0.58
Caregivers	15	25.9	43	74.1	
Other	5	27.8	13	72.2	
Alcohol consumption and psychotropic drugs					
Yes	10	32.26	21	67.74	0.82
No	43	30.28	94	69.72	

Continued

Practice of a sports/leisure activity					
Yes	9	20.93	34	79.07	0.11
No	44	33.84	86	66.16	
Hours of work/week					
<40 h	17	34.7	32	65.3	
[40 - 72]	31	29.0	76	71.0	0.76
≥72h	5	29.4	12	70.6	
Time spent with family					
Yes	14	21.88	50	78.12	0.04
No	39	35.78	70	64.22	
Criticisms on the lack of availability					
Yes	35	33.33	70	66.67	0.04
No	18	26.47	50	73.53	
Work climate					
Very good	3	13.6	19	86.4	
Good	35	31.3	77	68.8	0.03
Bad	11	32.4	23	67.6	
Very bad	4	80.0	1.0	20.0	

with burnout among caregivers.

- Factors associated with dimensions of burnout in caregivers

Women were 1.8 times more likely to experience low personal fulfillment ($p = 0.01$ OR = 1.8 [1.1; 2.9]). Caregivers who received negative criticism from family for not being available were more likely to have low self-actualization ($p = 0.03$; OR = 1.1 [0.7; 1.7]). Good work climate protected against low personal accomplishment ($p < 0.0001$; 0.5 [0.3; 0.9]). Women were 1.9 times more likely to experience emotional exhaustion than men ($p = 0.003$; OR = 1.9 [1.2; 2.9]). Caregivers with less than one year of work experience were three times more likely to experience emotional exhaustion ($p = 0.009$; OR = 2.8 [1.2; 6.2]). Working in a good work climate protects against the occurrence of emotional exhaustion by two times ($p < 0.0001$; OR = 0.5 [0.3; 0.7]). Working in a poor climate and consuming alcohol were sources of depersonalization among caregivers ($p = 0.021$ and OR = 0.5 and 0.6, respectively). The factors associated with the dimensions of burnout are summarized in **Table 6**.

4. Discussion

The objective of our study was to determine the prevalence of burnout and factors associated with it among caregivers in an area hospital. The high participation rate and the use of a validated questionnaire for data collection are a strength of the study. However, the subjectivity of the responses could introduce

Table 6. Factors associated with the dimensions of burnout among caregivers at a Zone Hospital in Cotonou in 2019.

Factors associated with burnout dimensions		Emotional exhaustion					Depersonalization					Low personal achievement				
		Low	medium	High	p	OR [IC ₉₅]	Low	Medium	High	p	OR [IC ₉₅]	Low	Medium	High	p	OR [IC ₉₅]
Gender	Male	30	20	5	0.003	1.9 [1.2; 2.9]	33	13	5	ns*	1.1 [0.7; 1.7]	3	6	46	0.01	1.8 [1.1; 2.9]
	Female	40	50	28			67	36	16			15	29	74		
Age (Year)	<50	57	52	29	ns*	1.3 [0.7; 2.2]	76	44	21	ns*	1.4 [0.8; 2.4]	15	29	93	ns*	1.3 [0.7; 2.2]
	≥50	13	18	4			24	8	3			3	5	27		
Professional experience	<1	60	69	32	0.009	2.8 [1.2; 6.2]	92	51	19	ns*	1.4 [0.8; 2.4]	16	31	114	ns*	0.5 [0.2; 1.3]
	≥1	10	1	1			8	1	3			2	4	6		
Time spent with family	Yes	32	24	8	0.03	1.5 [1.0; 2.4]	44	15	5	0.03	1.5 [1.0; 2.5]	3	13	48	ns*	1.4 [0.9; 2.3]
	No	38	46	25			56	37	16			15	22	72		
Negative remarks	Yes	36	45	24	0.03	1.5 [1.0; 2.3]	53	37	15	0.03	1.5 [1.0; 2.5]	13	19	73	0.03	1.1 [0.7; 1.7]
	No	34	25	9			47	15	6			5	16	47		
Climat de travail	Good	64	48	22	<0.0001	0.5 [0.3; 0.7]	82	35	16	0.021	0.5 [0.4; 1.2]	11	25	98	<0.0001	0.5 [0.3; 0.9]
	Bad	6	22	11			18	16	5			7	10	22		
Alcohol consumption	Yes	19	25	12	ns*	0.8 [0.5; 1.2]	27	18	11	0.021	0.6 [0.3; 0.9]	7	12	37	ns*	0.8 [0.5; 1.3]
	No	51	45	21			73	34	10			11	23	83		

*Not significative.

bias with respect to the true prevalence of burnout among caregivers. Furthermore, the cross-sectional nature of the study does not allow us to formally establish causal links between the different variables.

The prevalence of burnout was 30.6% among caregivers in our study. It is comparable to the 39.9% obtained by Navarro-Gonzalez *et al.* among health professionals in Navarra, Spain [8], but higher than the 17.2% and 18.3% found among primary care nurses in Barcelona, Spain and Brazil [9] [10], and much lower than the 63%, 68.3% and 70% found respectively in the Yaoundé central hospital in Cameroon, in a university hospital in the north of Benin, and Tunisian units taking care of patients at the end of life [11] [12] [13]. Note that low prevalences are obtained in primary care units, perhaps because the workload is not comparable to that in specialized hospitals where complex cases are referred. On the other hand, low prevalences have also been found in countries such as Holland, Colombia, and the USA, with 18, 19.2%, and 20% of burnout respectively among caregivers, although these studies were carried out in intensive care units [14] [15] [16]. These differences can also be explained by the performance of the health care systems in these countries, which allow for optimal patient care, thus reducing the personal efforts of health care professionals and creating better working conditions.

Several factors have been identified in the literature as being associated with the occurrence of burnout among healthcare professionals. In our study, female caregivers appeared to be more affected ($p < 0.001$); they were more emotionally

exhausted ($p = 0.003$) and had a lower sense of personal achievement ($p = 0.001$) than male caregivers. This may be related to the overload of work related to the combination of professional activity and household tasks that are usually culturally assigned to women in our society. While our results agree with those of some authors in Saudi Arabia and Brazil, the literature on this subject is mixed. Indeed, in other countries such as Ethiopia, Tunisia, and Spain, it was men who seemed to be more affected by burnout [8] [13] [17] [18] [19]; on the other hand, in the study of Neugeu *et al.* in Cameroon, gender had no influence on the occurrence of burnout [11].

Young professional experience is correlated with emotional exhaustion ($p = 0.009$) but not with the other dimensions of burnout. Indeed, one could think that young caregivers, having only recently started their activity, do not yet have the necessary professional experience to cope with stressful situations. Our data are consistent with those of Bhagavathula *et al.* in Ethiopia [17] but differ from those of Mercedes *et al.* and Piava *et al.* in two different studies in Brazil [10] [19].

Working in a bad work environment is a source of burnout. Caregivers who work in a poor work climate have significantly higher emotional exhaustion and depersonalization scores than other caregivers ($p = 0.012$ and $p < 0.001$). The latter also has a significantly lower self-actualization score compared with other caregivers ($p = 0.007$). Several authors have emphasized the importance of quality of work life in the occurrence of burnout [20] [21]. Mion *et al.* made the same observation by finding a link between all dimensions of burnout and conflicts at work ($p < 0.00001$) in several Anesthesia-Resuscitation facilities in Metropolitan France [22].

Suffering at work can not only have a negative impact on the provision of care but also on family relationships. Indeed, according to our results, those who devoted little time to their family and received negative remarks about their lack of availability were more exposed to burnout ($p = 0.04$), presented emotional exhaustion ($p = 0.012$) and feelings of depersonalization ($p = 0.039$). Our results corroborate those of Neugeu *et al.* in Cameroon, Adelin *et al.* in Parakou, and Jalili *et al.* in Iran [11] [12] [23]. This could be explained by the fact that the family provides a refuge for the caregiver to draw on the resources needed to cope with the various stressful demands of his/her work. And the difficulties in reconciling family and professional life could only contribute to the stress felt. These results show the need for the caregiver to be supported by his family circle in order to be more fulfilled professionally.

As far as lifestyle habits are concerned, while regular sports and leisure activities had no impact on the occurrence of burnout, alcohol consumption is a source of depersonalisation ($p = 0.021$). Our data contradict those of other authors with regard to the practice of a sporting activity [10] [24]. Indeed, sport could be an important source of relaxation and be beneficial to the caregiver; he would learn to better manage the stress he feels. As for alcohol consumption, it could seem to be a temporary solution for the stressed carer to relax; this is only

an illusion because the phenomenon of dependency can quickly take hold, which would only contribute to deterioration in the carer's state of health.

5. Conclusion

This study shows a high prevalence of burnout among caregivers at the Zone Hospital in Cotonou. It shows that the factors of burnout are not only professional; the private life of the caregiver also has an impact on the occurrence of this pathology. It is, therefore, necessary for the caregiver to reconcile his or her family and professional life to maintain a stable psychological state and a better performance at work.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Survey Sheet

BURNOUT OR PROFESSIONAL EXHAUSTION SYNDROME AMONG HEALTH CARE PERSONNEL IN COTONOU HOSPITAL

Hello Mr/Mrs. This work has been authorized by the hospital authorities and will be carried out in strict confidentiality and with respect for the anonymity of the participants.

Signature of participant..... Date.....

Identity: Telephone:

1. Socio-professional data

Q1) Sex: 1. male /___/ 2. Female /___/

Q2) Age:

Q3) Profession: /___/ Nurse/___/ Midwife/___/ Doctor/___/ Surgeon
Caregiver Other (Please specify.....)

Q4) Marital status:

Single /___/ Married/___/ Cohabiting /___/ Divorced/___/ Widowed /___/

Q5) Number of dependent children:

/___/ None [1 - 3] /___/ [4 - 6] /___/ ≥ 7 /___/

Q6) What department are you in?:.....

Q7) How long have you been in the profession: <1 year /___/ [1 - 5 years] /___/
[6 - 10 years] /___/ [11 - 20 years] /___/ > 20 years /___/

Q8) Work schedule:

Fixed schedule (8 am to 4 pm) /___/,

Alternating schedule (duty {8 am to 4 pm} /___/

and on-call {4 pm to 8 am}) /___/

Q9) Average number of hours worked per week:

<40 hours /___/ [40 and 72 hours] /___/ > 72 hours /___/

Q10) How many night shifts do you work per month?:

None [1 to 5] /___/ [6 to 10] /___/ ≥ 11 /___/

Q11) Average number of weeks of vacation per year?:

[1 to 2 weeks] /___/ [3 to 4 weeks] /___/ > 5 weeks/___/

Q12) Do you feel that you spend enough time with your family?

Yes /___/ No /___/

Q13) Do you receive negative comments from family or friends about your availability? Yes /___/ No /___/

Q14) Do you participate in any regular sports activities? Yes/___/ No /___/

Q15) Do you have a regular leisure activity? Yes /___/ No /___/

Q16) How do you rate the work climate in your department? Very good Good
Bad Very bad

2. History

Q17) Do you have high blood pressure: Yes/___/ No /___/

Q18) Do you drink alcohol (beer, wine, soda, whiskey, vodka)?

Yes / ___ / No / ___ /

If yes: glasses per week or glasses per day?

Q19) Do you smoke? Yes / ___ / No / ___ /

- If yes:cigarettes per day foryears

Q20) Have you used psychotropic drugs (antidepressants, anti-anxiety drugs or sleeping pills) in the last three months? Yes / ___ / No / ___ /

3. The Maslach Burnout Inventory

How do you perceive your work? Are you exhausted? How capable are you of shaping your relationship to others? To what degree are you personally fulfilled? Indicate how frequently the following statements apply to you and add the points indicated on top of the respective box:

- 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

	0	1	2	3	4	5	6
01) I feel emotionally exhausted because of my work							
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							
