

Burnout among Caregivers in Four Maternities in Brazzaville

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Abstract

Introduction: The professional exhaustion syndrome, also referred to as burnout, combines deep fatigue, disinvestment in professional activity, a feeling of failure and incompetence at work resulting from the chronic constraints suffered by the worker. The purpose of this work is to assess its prevalence among caregivers of the maternity wards in the district hospitals of Brazzaville. **Methodology:** This is a descriptive cross-sectional study carried out in four maternities of respectively Bacongo, Makélékélé, Mfilou and Talangai hospitals in Brazzaville between February 1st and February 28th, 2021. Socio-demographic and professional characteristics were collected from a sample of midwives and nurses. The level of exhaustion was evaluated using the “Maslach Burnout Inventory” scale defined as “high” when the 3 dimensions are reached, “moderate” when only 2 are reached, and low for any other result. **Results:** Among the 143 caregivers investigated (62.9%) of respondents declared being in burnout. According to the dimensions of the Maslach Burnout Inventory scale, 53.1% are caregivers are in high emotional exhaustion; 53.1% have a high level of depersonalization and 75.5% have a low level of personal accomplishment. Workload (OR = 13.69; [4.28 - 61.27]; $p < 0.001$), non-civil servant status (OR = 19.80 [6.50 - 79.28]; $p < 0.001$), and inadequacy of the tasks according to the caregivers’ knowledge (OR = 42.98 [4.74 - 1344.39]; $p = 0.004$) are risk factors for burnout. On the other hand, satisfactory relationships between colleagues (OR = 0.01; [0.00 - 0.07]; $p < 0.001$) or with hierarchical superiors (OR = 0.05; [0.00 - 0.06]; $p = 0.001$) have a lesser risk to be in burnout. **Conclusion:** In our study, all dimensions of burnout were high. It is therefore a real phenomenon among caregivers in the four maternities of the district hospitals of Brazzaville. The associated factors can be avoided through prevention.

Keywords

Burnout, Caregivers, Maternities, Brazzaville

1. Introduction

The professional exhaustion syndrome, also known as burn-out, comes from physical, emotional and mental exhaustion resulting from a prolonged investment in emotionally demanding work situations. It is a degradation process of the subjective work relationship with warning signs that may foreshadow it [1]. It is the consequence of inadequate management of professional stress. This phenomenon particularly concerns relational professions such as doctors, nurses, because they are in direct contact with suffering, misery, misfortune, illness and death. It has an impact not only on the quality of life of the caregiver but also on the quality of care they can provide to patients [2] [3].

According to the American Nursing Research Association, the prevalence of burnout varied between 25% to 60% among nursing staff, where one in three nurses was affected. Research on nursing staff in Canada and England revealed that 32.9% to 54.2% had burnout [3] [4].

In African countries, particularly in Benin, Cameroon, and Malawi, research has also shown that burnout exists among caregivers. Some professional categories are more affected than others. And, nearly half of caregivers may be affected by this scourge [2] [5] [6].

In the Republic of Congo, the psychosocial risks sources of professional stress are identified in the hospital environment [7]. No study has been devoted to burnout among caregivers.

The objective of this work is to study professional burnout in order to set up targeted and adapted preventive measures for caregivers in the four maternities in the district hospitals of Brazzaville.

2. Methodology

Design of study: this is a multicenter descriptive and analytic cross-sectional study carried out from February 1st to February 28th, 2021 in the four maternities of the district hospitals of Brazzaville including Bacongo, Makélékélé, Mfilou and Talangai. Each maternity unit includes beds divided into the following three units: the unit for the management of high-risk pregnancies, the delivery unit and the postpartum unit. The caregivers' work schedule is pre-established, the caregivers alternate day and night work interspersed with rest days.

Population and sampling:

The study population consisted of the caregivers (midwives and nurses). The sample was a convenience sample by the presence and adherence, and was composed of caregivers (midwives and nurses) working in the maternities selected for the study.

Inclusion and non-inclusion

The inclusion criteria used were: being a midwife or nurse practicing in maternity units and having agreed to participate in the survey.

The exclusion criteria were: being absent during the data collection period or having refused to participate in the survey.

Data collection

The data was collected using a self-administered questionnaire from consenting caregivers of the four selected maternities. This questionnaire was pre-tested with caregivers (midwives and nurses) working in maternities not included in the study.

The principal investigator explained the objectives of the study, provided additional explanations of questions and concepts used to the interviewees and depending on the respondent's availability, the questionnaire was filled on site or completed later by the interviewee alone and given to the interviewer.

Variables: the dependent variable of the study is the perception of stress by the agents surveyed. The explicative variables considered are the socio-demographic and professional characteristics and the characteristics related to the perception of the working environment conditions.

The dependent variable was burnout and the independent variables considered were: socio-demographic characteristics (age, sex, family situation, number of dependents); The socio-professional characteristics linked to the conditions of the working environment (the number of practicing years, usefulness in the service, description of their tasks, workload, participation in the organization of work, availability of working materials, professional relationships with colleagues or supervisors, and manifestations of the consequences of burnout).

Measuring tool

The Maslach Burnout Inventory-Human Services Survey (MBI-HSS) scale was used to explore the three (03) dimensions of professional exhaustion of the respondents, which are: emotional exhaustion (explored by 9 items), depersonalization (explored by 5 items) and personal accomplishment (explored by 8 items). It made it possible to classify caregivers according to the level of burnout and dimension concerned.

The level of caregiver burnout was estimated from the scores obtained in each dimension by referring to the MBI-HSS scale below (**Table 1**).

Burnout is considered low if only one dimension is involved: either emotional exhaustion (EE) is high (score > 30) or depersonalization (DP) is high (score > 12) or personal accomplishment (PA) is low (>40).

Table 1. Burnout score and dimension.

Dimensions	Low	Moderate	High
Emotional exhaustion (EE)	<17	18 - 29	>30
Depersonalization (DP)	<5	6 - 11	>12
Personnal Accomplishment (P.A)	>40	34 - 39	<33

Burnout is moderate if 2 dimensions are involved: EE + DP; or EE + PA or DP + PA.

Burnout is severe if the three dimensions are reached: high EE + high DP + low PA.

Data analysis

Data were entered with Cspiro software version 7.4 and analyzed with R software version 3.6.1. The results were presented in the form average, of counts for the quantitative variables and of proportions for the qualitative variables. The relationship between burnout and certain participant characteristics was established using univariate and multivariate logistic regression the odds ratio with their 95% confidence interval were used. The difference was significant if $p < 0.05$.

Ethical considerations

Prior authorizations from the Departmental Director of Health of Brazzaville, heads of departments and supervisors of the departments involved in our study were obtained before starting the study. The questionnaires were distributed to the agents surveyed during their working hours. Free and informed consent was obtained from respondents after a clear explanation of the research objectives. The data collected was anonymous to ensure confidentiality.

3. Results

A total of 191 caregivers were eligible, of which 143 (74.86%) agreed to participate in this study.

The Socio-demographic characteristics are presented below (**Table 2**).

Almost all of the respondents were female (96.5%) the average age was 39 ± 11 years; minimum 20 years maximum 58 years; the most represented age group was that of 30 to 40 years (31.5%). The majority of respondents were single (60.10%) and have more than 3 dependent children (41.30%). More than half (51%) had less than 10 working years as a caregiver. For the most part, these were non-civil servant caregivers (53.10%) whose function in the department were 66.40%.

Perception of working condition by the caregivers is presented in **Table 3**.

The vast majority of carers (93.7%) are not satisfied with the working conditions; the proportion of those who consider that their job description is not adapted to their knowledge is 54.5%. Most often working tools are not available (91.6%); around 62.9% say working relationships with colleagues are unsatisfactory. The proportion of those with less than 10 years of experience is 64.3%.

Prevalence of burnout

Considering the evaluation of the data according to the MBI-HSS scale in our sample is shown in **Figure 1**.

It appears that caregivers are suffering from moderate (9.8%) to high emotional exhaustion, including 53.1% at a high level. High depersonalization affects 53.1% of caregivers and low personal accomplishment affects 74.1% of participants.

Table 2. Distribution of respondents according to socio-demographic characteristics.

Socio-démographic variables		N = 143	(%)
Sex	Male	5	3.5
	Female	138	96.5
Age range	Less than 30 years	37	25.9
	30 - 40 years	45	31.5
	40 - 50 years	38	26.6
	More than 50 years	23	16.1
Marital status	Married	57	39.9
	Single	86	60.1
Number of dependent children	None	29	20.3
	1 to 3 children	55	38.5
	More than 3	59	41.3
Number of working years	Less than 10 years	73	51.0
	10 years and more	70	49.0
Practicing status	Civil servant	67	46.9
	Non civil servant	76	53.1
Exercice of a fonction in the department	Yes	48	33.6
	No	95	66.4

Table 3. Perceptions of working conditions.

Socio-professional characteristics		N = 143	Percentage (%)
Satisfaction with working conditions	No	134	93.7
	Yes	9	6.3
Feeling useful or valued	No	71	49.7
	Yes	72	50.3
Workload rate	High/very high	20	14.0
	Regular	123	86.0
Description of tasks	Adapted	65	45.5
	Not adapted	78	54.5
Participation in departmental activities	Sometimes	115	80.4
	Always	28	19.6
Availability of working materials	Sometimes	131	91.6
	Always	12	8.4
Professional relationship with colleagues	Less satisfactory	90	62.9
	Satisfactory	53	37.1
Relationship with seniors	Less satisfactory	72	50.3
	Satisfactory	71	49.7
Seniority in nursing	More than 10 years	51	35.7
	Less than 10 years	92	64.3

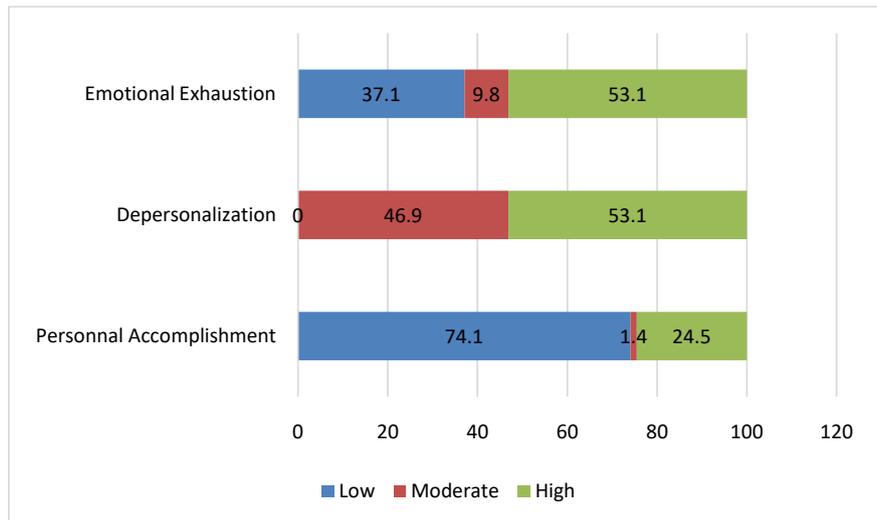


Figure 1. Distribution of dimensions of caregiver burnout.

Manifestations of burnout

The manifestations of burnout declared are presented in **Figure 2**.

Several manifestations or symptoms were declared by caregivers: general fatigue, affecting 90% of caregivers, ranks first, followed by dissatisfaction/sadness (86%) and irritability (76%).

Socio-demographics factors and working conditions associated with the burnout in caregivers in maternity wards

The influence of socio-demographic characteristics on burnt-out caregivers is presented in **Table 4**.

Among the socio-demographic characteristics studied, it appears that salary status influences burnedout caregivers. Non-civil servants are 7 times more likely to be burnout than civil servants. This trend is confirmed in multivariate analysis (OR 19.80 [6.50 - 79.28], $p < 0.001$).

The influence of perceived working condition on burntout caregivers is presented in **Table 5**.

It appears that respondents who reported having a job description that was not adapted to their knowledge had about a 20-fold higher probability (OR = 19.69 [8.37 - 51.55], $p < 0.001$) of being burnt out than their colleagues who reported a job description that was adapted to their knowledge. This probability is 43 times higher in multivariate analysis.

On the other hand, caregivers who reported having satisfactory relationship with their colleagues (OR = [0.00 - 0.07], $p < 0.001$) or their superiors (OR = 0.00 [0.00 - 0.06], $p = 0.001$) were less likely to be in burnout.

4. Discussion

The data from our study were analyzed using the standardized MBI-HSS scale to describe the relationship between the individual, his professional environment and the place of his personal accomplishment in the burn-out process [8] [9].

The choice of this scale is justified by its ability to assess burnout according to an individual approach.

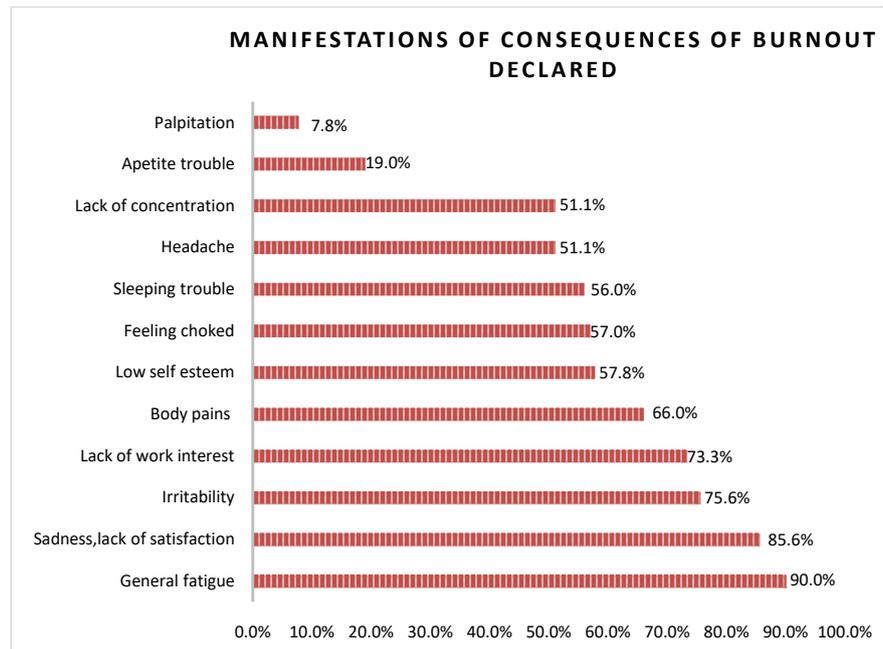


Figure 2. Manifestations of burnout.

Table 4. Socio-demographic factors associated with burnout.

Variables		No	Yes	OR (univariate)	OR (multivariate)
Sex	Male		5 (100.0)	1.	1.
	Female	53	85 (61.6)	0.79 (0.06 - 1.03, p = 0.988)	0.9 (0.17 - 1.21, p = 0.988)
Age range	30 to 40 years	15 (33.3)	30 (66.7)	1	1
	40 to 50 years	15 (45.5)	18 (54.5)	0.60 (0.24 - 1.51, p = 0.279)	0.89 (0.28 - 2.84, p = 0.840)
	More than 50 years	5 (17.9)	23 (82.1)	2.30 (0.77 - 7.91, p = 0.155)	3.81 (0.96 - 17.39, p = 0.067)
	Less than 30 years	18 (48.6)	19 (51.4)	0.53 (0.21 - 1.28, p = 0.161)	0.69 (0.20 - 2.25, p = 0.542)
Marital status	Union	19 (33.3)	38 (66.7)	1	1
	Single	34 (39.5)	52 (60.5)	0.76 (0.38 - 1.53, p = 0.453)	0.76 (0.30 - 1.88, p = 0.554)
Number of dependent children	1 to 3 children	22 (40.0)	33 (60.0)	1	1.
	More than 3 children	19 (32.2)	40 (67.8)	1.40 (0.65 - 3.05, p = 0.387)	0.97 (0.29 - 3.28, p = 0.954)
	None	12 (41.4)	17 (58.6)	0.94 (0.38 - 2.39, p = 0.903)	1.00 (0.31 - 3.39, p = 0.998)
Salary	Civil servant	38 (62.3)	23 (37.7)	1	1.
	Non civil servant	15 (18.3)	67 (81.7)	7.38 (3.51 - 16.24, p < 0.001)	19.80 (6.50 - 79.28, p < 0.001) *
Exercise a function in the department	No	33 (34.7)	62 (65.3)	1.	1.
	Yes	20 (41.7)	28 (58.3)	0.75 (0.37 - 1.53, p = 0.418)	0.67 (0.27 - 1.70, p = 0.400)
Seniority	More than 10 years	9 (42.9)	12 (57.1)	1	1
	Less than 10 years	44 (36.1)	78 (63.9)	1.33 (0.51 - 3.39, p = 0.553)	0.80 (0.24 - 2.60, p = 0.716)

Table 5. Working condition associated with burnout.

Variables		No	Yes	OR (univariate)	OR (multivariate)
Satisfaction with working condition	No	52 (38.8)	82 (61.2)	1	1
	Yes	1 (11.1)	8 (88.9)	5.07 (0.89 - 95.50, p = 0.131)	4.39 (0.07 - 947.97, p = 0.541)
Feeling useful or valued	No	28 (39.4)	43 (60.6)	1	1.
	Yes	25 (34.7)	47 (65.3)	1.22 (0.62 - 2.43, p = 0.560)	3.63 (0.54 - 29.76, p = 0.192)
Perception of workload	High /very high	17 (85.0)	3 (15.0)	1.	1.
	Regular	36 (29.3)	87 (70.7)	13.69 (4.28 - 61.27, p < 0.001)	2.50 (0.20 - 56.72, p = 0.499)
Description of tasks	adapted to your knowledge	45 (69.2)	20 (30.8)	1	1
	Not adapted	8 (10.3)	70 (89.7)	19.69 (8.37 - 51.55, p < 0.001)	42.98 (4.74 - 1344.39, p = 0.004)*
Participation to departmental activities	Sometimes	39 (33.9)	76 (66.1)	1	1
	Always	14 (50.0)	14 (50.0)	0.51 (0.22 - 1.19, p = 0.117)	0.53 (0.01 - 24.28, p = 0.758)
Availability of working materials	Sometimes	48 (36.6)	83 (63.4)	1.	1.
	Always	5 (41.7)	7 (58.3)	0.81 (0.24 - 2.87, p = 0.730)	0.12 (0.00 - 5.49, p = 0.355)
Perception of working relationship with colleagues	Less satisfactory	5 (5.6)	85 (94.4)	1	1
	Satisfactory	48 (90.6)	5 (9.4)	0.01 (0.00 - 0.02, p < 0.001)	0.01 (0.00 - 0.07), p < 0.001)*
Perception of working relationship with hiérarchical superiors	Less satisfactory	6 (8.3)	66 (91.7)	1	1
	Satisfactory	47 (66.2)	24 (33.8)	0.05 (0.02 - 0.11, p < 0.001)	0.00 (0.00 - 0.06, p = 0.001)*

In our series, the participation rate in the study is 74.86%. It is probably due to the organization of work during the COVID-19 pandemic, which advocated the rationing of daily staff in order to minimize the risk of contamination. This rate is lower than the 86% noted by Adelin *et al.* in Benin [2]. On the other hand, it is higher than those observed by other authors [3] [10] [11] who observed participation rates of 26.6% in the USA, 47.1% in Madagascar and 64.1% in Tunisia respectively. The participation rate shown in our study could reflect the willingness of caregivers to express themselves on a topic that is still little known in our context.

Prevalence of burnout

The prevalence of burnout was 62.90% among midwives and nurses in the maternities of district hospitals of Brazzaville. This high prevalence would be linked to the fact that the caregivers of the services selected are exposed to situations involving both the lives of the mother and the child and consequently to more important factors of burnout.

This prevalence is lower than that observed in Tunisia (70%) among caregivers caring for end-of-life patients [4] and in Benin (68.3%) among nursing staff in intensive care units [2]. However, it is higher than that observed in Madagascar with doctors from the two University Hospitals of Antananarivo (51.2%) [10]. These differences could be explained both by the intensity of the care delivered in

the various care wards and also by the differences in the socio-professional categories involved.

In more detail, the frequencies of the dimensions of professional exhaustion obtained in our study show that 53.1% declare a high score of emotional exhaustion, 63.1% a high score of depersonalization and 74.1% and a low score of personal achievement. Among Moroccan nurses according to the work of Berrichi *et al.*, these frequencies are less of a concern than ours, with respectively 47.2% of nurses suffering from high emotional exhaustion, 24.5% from high depersonalization and 36.8% having low personal accomplishment [12]. Whereas, our results are lower than those found in Tunisia among nurses working in palliative care services where, in addition to a higher prevalence of burn-out estimated at 70%, we note nearly 81.7% of nurses with high emotional exhaustion and 70% high level of depersonalization. Although only 16.7% had a low level of personal achievement [4].

In our context, this situation could be explained by a limited perception of the studied aspects of the MBI-HSS scale, and suggests a better understanding of the concepts related to burnout in order to underestimate this phenomenon [13].

Manifestations of burnout

The various manifestations of burnout such as general fatigue, sadness, dissatisfaction and irritability found in our work align with those described in other studies [2] [11] [14]. These events have negative consequences on the health of caregivers, and are likely to compromise the quality of care given to patients. Early recognition of these signs could allow the deployment of prevention and stress management measures.

Socio-demographics factors and working conditions associated with the burnout

The 30 to 40 age group is the most represented (31.46%). This reflects the relatively young demographic structure of the Republic of Congo. This result is close to those found in Tunisia [12] and Benin [2].

In our study, socio-demographic characteristics such as age, gender, parity, seniority at work and family situation were not associated with burnout. This finding is consistent with that made in Cameroon and Malawi [5] [6]. While some studies point out that young nurses seem to be more affected by this phenomenon [15]. And that, there is an association between burn-out and being a woman aged between 26 and 35, married, childless and working for more than five years [16].

Seniority or working years in the profession, unrelated to burnout in our research, remains a subject of controversy. Because several studies have found that burn-out was higher among nurses who have more work experience [14].

Among the socio-demographic characteristics, only non-civil servant status is significantly associated with burnout (OR 19.80 [6.50 - 79.28], $p < 0.001$). Indeed, non-civil servants are generally considered as volunteers or interns who do not have job security. Faced with the intensity of the work, the management of pregnant women and childbirth in the absence of financial recognition because

of this status, could explain the occurrence of burnout. This hypothesis supports the observation underlined by certain authors who have shown that nurses who found themselves in an incompatibility between their salaries and their workloads had a higher risk of burnout than those who were satisfied with their salaries [14].

In our study, only the inappropriate description of tasks is highlighted as a risk factor for burnout (OR = 42.98 [4.74 - 1344.39], $p = 0.004$). This observation was also made by Affo in Benin [16] and could be explained by a feeling of permanent inability to cope with daily work for which one does not have sufficient skills. This shows the interest of training and permanent support for nursing staff adapted to their functions, including on the problem of professional stress.

On the contrary, caregivers having satisfactory relationship with their colleagues (OR = [0.00 - 0.07], $p < 0.001$) or with their hierarchical superiors (OR = 0.00 [0.00 - 0.06], $p = 0.001$) have less risk of to be in professional burn-out. A peaceful atmosphere could protect against burnout, whereas a tense and permanently stressful climate would promote burnout. This suggests the promotion of a peaceful working climate between the different categories of caregivers as well as early management of caregivers showing signs of stress.

Interest and limits of the study

This study is a contribution to the knowledge and prevention of the factors of burnout among caregivers of maternities in district hospitals of Brazzaville. The participation of the only professionals present as well as the fear of sanctions from the respondents' hierarchical superiors could influence the quality of the participants' statements.

5. Conclusion

In our study, the prevalence of burnout is concerning and all dimensions of professional burnout are high. It is therefore a real phenomenon that must be taken into consideration in the management of health human resources. The factors associated with it can be avoided by preventive measures aimed at improving the quality of working conditions and organization, the stability of the employment of caregivers, the improvement of leadership and inter-personal relationships at work and the enhancement of caregivers. Furthermore, in-depth studies are needed to improve the understanding of this phenomenon and to put adequate control strategies.

Conflicts of Interest

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

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