ISSN: 0976-3031

Available Online at http://www.recentscientific.com

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 9, Issue, 4(A), pp. 25556-25561, April, 2018

International Journal of Recent Scientific Research

DOI: 10.24327/IJRSR

Research Article

ANALYSIS OF THE STRESS OF PHYSICIANS AND NURSES OF THE CITY OF LUBUMBASHI (IN DRC) WITH REGARD TO THEIR SOCIODEMOGRAPHIC AND PROFESSIONAL PARAMETERS

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DOI: http://dx.doi.org/10.24327/ijrsr.2018.0904.1881

ARTICLE INFO

Article History:

Received 8th January, 2018
Received in revised form 21st February, 2018
Accepted 05th March, 2018
Published online 28th April, 2018

Key Words:

Professional stress, sociodemographic parameters and professionals, doctors, nurses, City of Lubumbashi.

ABSTRACT

The professional stress is differently lived according to the professional categories. The objective of this article is to raise the sociodemographic parameters of physicians and nurses of the health institutions of the City of Lubumbashi, parameters that influence the real-life experience of the stress of investigated subjects. Registered in the quantitative approach, this study collected the data by questionnaire on a laminated proportional sample of 562 subjects (n=562), among which 432 nurses and 130 doctors. These data were encoded in Microsoft Excel and analyzed via Epi Infor software version 7.2 of 2016 and SPSS 19.0 of 2012. The hypothesis was tested on base of the test of chi-square. Considering the Odds ratio (OR) and the confidence interval (CI) of 95 % in the interpretation, the results indicate that, in the sanitary organizations of Lubumbashi, the sociodemographic and professional parameters (sex, marital status, age, age, seniority in health department) allow to understand that the professional stress is modulated or influenced by "moderating variables". In conclusion, certain results of association or of non-association converge or contrast with the previous searches or the existing literature on this matter. From then on, the professional stress of the physicians and nurses is a phenomenon inter-connected with the sociodemographic parameters as "individual resources".

INTRODUCTION

The investigated doctors and nurses take on various sociodemographic characteristics and professional. It is mainly about the profession, the age, the marital status, the academic level, the service of care, the seniority, the time spent in the health department, the nature of the gong in whom they work, the regime of the health structure (private or public). Statistically speaking, the age is a measurable character. It constitutes an indication which allows to characterize the investigated in the same way as the sex, the weight, the size… The marital status is a character which determines the conjugal situation of a subject in the eyes of the law. It can take on the status of single woman (or man), bridegroom, widower or divorcee. The academic level is one gives useful so much in the perception of the professional stress that in its management. Very often the work experience of a subject is confused with the seniority. So the seniority gets on as the duration during which an employee is for the service (department) in a given structure. The hospital structures organizes the rotation of the caregivers through the diurnal gong or the night-gong. These structures are either of the public sector or the private sector.

The parameters above described influence, somehow or other, the real-life experience of the stress of investigated caregivers in the City of Lubumbashi. But the professional stress is not lived in the same way by all the investigated actors. In other words, it is not a fate. In the same stressful situation, a nursing can develop but another one can be saved. As that the resources differ from an individual in the other one, as a given situation is not perceived in the same way. The objective of this article is to show the influence of certain sociodemographic and professional parameters on the real-life experience of the stress by caregivers of health structures of the City of Lubumbashi. Its problem formulates around this central question: what are the sociodemographic and professional parameters which can go into the explanation of the real-life experience diversified by the stress with physicians and nurses of the health institutions of the City of Lubumbashi? This questioning invites this hypothesis: the stress would be differently lived by the investigated physicians and nurses because it is very likely that the stress is the resultant of a number of parameters or of influences acting as "moderating variables" playing even "a role buffer between these factors and the reaction of stress of the individual "[1].

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REVIEW OF THE LITERATURE

The transactional approach of the professional stress "underlines the importance and the role of the subjective perception of a situation. In this approach it is not so much the situation which is important, but the resources, that is the capacities of the individual to set up individual or collective strategies which are to take into account "[2]. For Cox and al. [3], this approach is interested "in the cognitive and emotional processes which underlie the interactions of the person with its environment ". In other words, it is the imbalance perceived during the cognitive evaluation between the demand and the capacities to face of the person who will lead to the stress, who by feedback will modify the system in general. Three dimensions are then concerned in the diverse interactions: The demand (stressor), the led answer (result) of the cognitive evaluation and finally the available resources to manage the situation (said strategies of coping or of adjustment).

And the sociodemographic and professional parameters constitute the resources of an individual which interact both in the perception of the stress and in its management. For Lazarus, the adequacy or not between the received outside demand and the resources also perceived or evaluated by the subject determines the appearance or not of the stress [4,5,1,6,7]. Besides, the various transactional models of the professional stress (Lazarus and Folkman's model, model of Mackay and Cooper, models of Siegrist) have the advantage to reveal, " in some nuances near, the following elements:

1. Agents stressors of diverse natures (physical, chemical, biological, mechanical, psychosocial, etc.);
2. Personal characteristics (type) of personality, mode of reaction to the stress, the sociodemographic parameters, etc.);
3. Indicators of stress (physiological, somatic, psychological and behavioral symptoms);
4. Moderating variables (support and social network) and finally
5. Consequences on the health of the individual (psychological organic, cardiovascular, shady diseases, etc.) as well as on the organization (absenteeism, accidents, rate of rotation, productivity, performance, etc.)"[8].

In this article, we lean on the sociodemographic characteristics personal and professional as appropriated resources to the individual as much in the perception of the professional stress as in the mechanisms of management of this phenomenon.

METHODOLOGY

Study area

In Democratic Republic of the Congo (DRC), the City of Lubumbashi (in Haut-Katanga Province) count attire of 300 institutions of health: hospitals, medical health centers or center, polyclinics if we trust the statement made during the survey from July, 2015 till July, 2016. These structures of health are distributed in eleven Zones of Health. Our study concerned 251 sanitary establishments distributed in nine Zones of health on eleven that counts the city of Lubumbashi [9,10].

Population and sample size

Two groups establish the population of this study: it is doctors and nurses. In the City of Lubumbashi, the number of doctors amounts to more or less 934 and that of the nurses, in 2382. This makes a total of 3316 subjects according to the statistics collected during our survey in the nine health zones surveyed. In total, this study built its sample around 562 subjects (n = 562), or 16.9%. It was stratified in this way: 130 doctors that is a 13.9% percentage and 432 nurses, or 18.1 %. The valuable differences in this diversification of the laminated proportional sample are based on the size of each of stratum [9,10].

METHODS

This study joins in the hillside of the quantitative approach. The collection of its data was made via a questionnaire directly sent to the nurses (n=432) and to the doctors (n=130). To encode and process the data, a matrix was designed in the format Excel and in Epi info software version 7.2 of 2016 and SPSS 19.0 of 2012. In the bivariate and multivariate analysis of data, the test of chi-square was used and the odds ratio (OR) facilitated the interpretation of independent variables with regard to the dependent variable (the professional stress) by considering the confidence interval (CI) of 95 % and the value of p [9,10].

RESULTS

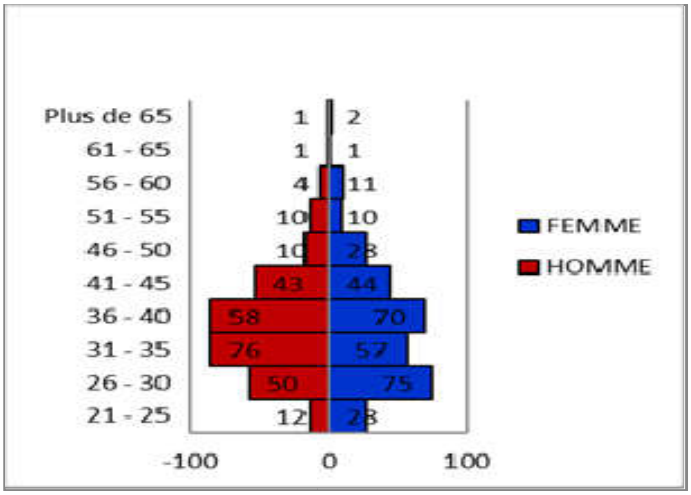

Figure 1 Pyramid of age

The profile of the pyramid presents a population rather young. The almost triangular and progressive shape of the pyramid on widened base indicates that Lubumbashi, following the example of other African cities, knows a strong birth rate and a high mortality. The only real surprise concerns the slice of 21-25 years at the men, which has a low size, compared with that of the women. We think that it is about a simple consequence of the number limited by our sample or by the tendency that, in the medical structures, we meet more female nurses than male nurses. Also, the number of men doctors is upper to that of the women doctors. The distribution of men offers the appearance of a curve starting with small percentages in the lower age, culminating at the ages of 31 to 40 years, then spreading to the right with lower and lower percentages to the limit of 65 years. The distribution of women has a similar profile but with a deficit in the age group of 31-35, compared to men.

Table 1 Sociodemographic and professional parameters

Sociodemographic and professional parameters	Population	Percentage
Profession		
Nurses	432	76,87
Doctors	130	23,13
Sex		
Female	297	52,85
Male	265	47,15
Marital status		
Single	147	26,16
Divorced	20	3,56
Married	383	68,15
Widower	12	2,14
Age bracket		
≤ 45 years	487	86,65
> 45 years	75	13,35
Academic level		
Non-academic	103	18,33
Academic	459	81,67
Seniority in the profession		
≤ 24 ans	546	97,15
> 24 ans	16	2,85
Time spent in the department		
≤ 10 ans	460	81,85
> 10 ans	102	18,15
Hospital departments		
Surgery	37	6,58
Obstetrics and gynecology	71	12,63
Internal medicine	423	75,27
Emergency departments	31	5,52
Institutional affiliation		
Private	428	76,16
Public	134	23,84
Total	**562**	**100**

This table shows that 432 are nurses (76.87%) and 130 doctors (23.13%).

The female caregivers are the most investigated with 297, that is 52.85 %, against 265 male caregivers, that is 47.15%. About the marital status, we observe more bridegroom with 383 caregivers, that is 68.15%. The marital status shows that the medical structures to Lubumbashi more trust the married people. In this parameter, among nurses, married women assert themselves with 58.2% against men who represent 41.8%. On the other hand, in the category of doctors, we observe a high rate of married men, 77.5% against 22.5% of women. Regarding age, 487 caregivers, or 86.65%, belong to an age group ≤ 45 years old. The level of education indicates more academics with 459, or 81.67%. According to seniority, 546 caregivers, or 97.15%, represent caregivers whose seniority ≤ 24 years. Regarding the time spent in the service, we identify the fact that 460 caregivers, or 81.85%, have a duration ≤ 10 years in the service where we found them in the process of delivering. In connection with all hospital departments, internal medicine has more than 423 health care workers, or 75.27%. Regarding institutional affiliation, many caregivers work in private medical institutions with 428 subjects, or 76.16%.

The results in this table indicate that 268 female nurses, or 47.69%, and 29 female physicians, or 5.16%, experience stress, on the one hand, and 164 male nurses, or 29.18%, and 101 male physicians or 17.97, also experience stress, which means that female caregivers are more stressed with 297 subjects, or 52.85%, compared to male caregivers with 265, or 47.15%. This difference is statistically significant with OR 0.17 (95% CI) within [0.1113], [0.2773] and p=0.00 (p <0.05).

Table 2 Influence of the sociodemographic and professional parameters on the real-life experience of the stress

Variables of study	Lived on the stress by the caregivers						
Sex	**doctors**	**nurses**	**X^2**	**OR (CI 95%)**	**OR**	**p**	**D**
Female	29 (5,16)	268 (47,69)	61,7128	[0,1113], [0,2773]	0,17	0,00	S
Male	101 (17,97)	164 (29,18)					
Marital status							
Married	89 (15,84)	294 (52,31)	0,0000	[0,6684], [1,5533]	1,01	0,51	NS
No Married	41 (7,30)	138 (24,56)					
Academic level							
No-academic	0 (0)	104 (18,51)	Indefined				
Academic	130 (23,13)	328 (58,36)					
Age bracket							
≤ 45 years	121 (21,53)	370 (65,84)	4,3460	[1,0871], [4,6686]	2,25	0,01	S
> 45 years	9 (1,60)	62 (11,03)					
Seniority							
≤ 24 years	129 (22,95)	417 (74,20)	1,7528	[0,6071], [35,4692]	4,64	0,08	NS
> 24 years	1 (0,18)	15 (2,67)					
Hospital departments of tie							
Surgery	18 (3,20)	19 (3,38)	[], []				
Obstetrics and Gynecology	8 (1,42)	63 (11,21)					
Internal medicine	102 (18,15)	321 (57,12)					
Emergency Department	2 (0,36)	29 (5,16)					
Time spent in the department							
≤ 10 ans	112 (19,93)	324 (57,65)	6,5206	[1,2047], [3,5708]	2,07	0,00	S
> 10 ans	18 (3,20)	108 (19,22)					
Shifts							
Diurnal	80 (14,23)	124 (22,06)	45,1835	[2,6368], [5,9899]	3,97	0,00	S
Night	50 (8,90)	308 (54,80)					
Institutional affiliation							
Private	96 (17,08)	332 (59,07)	0,3454	[0,5420], [1,3345]	0,85	0,27	NS
Public	34 (6,05)	100 (17,79)					

The marital status of the respondents shows that the married are the most stressed with 383 subjects, or 68.15% (of which 294 nurses or 52.31%, and 89 doctors, or 15.85%) against non-married with 179 subjects, or 31.85% (including 138 nurses or 24.56%, and 41 doctors, or 7.30%); the test is not significant with OR 1.01 (95% CI) within [0.6684], [1.553] and p=0.51 (p>0.05). Compared with the level of education, the data show that university level caregivers are more stressed with 458 subjects, or 81.49% (of which 328 nurses or 58.36%, and 130 doctors, or 23.13%), against non-university caregivers with 104 subjects, or 18.51%, all being nurses. However, we found a non-indefinite relationship between university and non-university level. Regarding the age group, caregivers ≤ 45 years are the most stressed with 491 subjects, or 87.37% (including 370 nurses or 65.84%, and 121 doctors, or 21.53%), against the slice > 45 years with 71 subjects, or 12.63% (of which 62 nurses or 11.03%, and 9 doctors, or 1.60%). Their average age was 35.8 ± 8.45 years (range 21-72 years). And the test is statistically significant with OR 2.25 (95% CI) within [1.0871], [4.6686], p-value is 0.01 (p<0.05).

Regarding seniority, we observed the following: 546 caregivers, or 97.15% (including 417 nurses, or 74.20%, and 129 doctors, or 22.53%), who have seniority ≤ 24 years have developed stress and those whose seniority is> 24 years have also developed stress with 16 subjects, 2.85% (including 15 nurses or 2.67%, and 1 doctor, or 0, 18%). Their average seniority is 8.09 ± 6.34 years (range 1-40 years). With OR 4.64 (95% CI) of [0.6071], [35.4692], p-value is 0.08 (p>0.05). The test is statistically insignificant. Compared to the home hospital service, we observed the following: the caregivers working in the internal medicine department are more stressed with 423 subjects, or 75.27%, followed by gynecological obstetrics caregivers with 71 subjects, or 12.63%. But the test is not significant. In relation to the time spent in the service, we observed that 436 caregivers under stress, that is to say 77.58%, have already performed ≤ 10 years spent in the current service against 126 caregivers, that is 22.42% who have already done more > 10 years of time spent in the department (at the time of the research). Their mean time was 6.70 ± 5.87 years (range 1 - 40 years) with OR 2.07 (95% CI) is [1.2047], [3.5708], p value is 0.00. However, we found an association between time spent in the service and stress. The test is statistically significant. Compared to the nature of gongs or rolling shifts, we observed that the majority of caregivers who stress are those who work in the night gong with 358 subjects, or 63.70% against those who evolve in the daytime gong with 204 subjects, or 36.30%, the test is significant, with OR 3.97 (95% CI) is [2.6368], [5.9899], p value is 0.00 (p<0.05). Compared to the system of institutional affiliation, we have observed the following: caregivers who work in private structures are very stressed with 428 subjects, or 76.16%, against those who work in public health facilities with 134 subjects, or 23.84%; with OR 0.85 (95% CI) within [0.5420], [1.3345], p-value is 0.27 (p>0.05), the test is not statistically significant.

DISCUSSION

Differences in stress experience between doctors and nurses

When we compare doctors' stress and that of the nurses in the same statistical series, we realize that the nurses are more put under stress (76.87 %), that the doctors (23.13 %), the association getting up significant with regard to OR of 1.17. Certain authors [11] consider that the nurse profession is considered as a "dirty work" and, consequently, a stressful job. By staying at the bedside in the support of the patient, during the relation of help, nurse is the eye, the ear, the nose of the hospital institution. He lives and attends for a long time the hospital reality and, in these conditions, he is subject to the professional stress.

Gender differences in caregiver stress experience

From our data, female caregivers are more stressed with 297 subjects, or 52.85%, versus male caregivers with 265 or 47.15%. This difference is statistically significant with OR of 1.17 and p-value of 0.00 (p<0.05). This result meets Aucoin's conclusion [12], which states that "women experience more stress than men" while continuing that "without being inherent in sex, this difference can possibly be explained by the dual role (nurse and mother) that the woman at work is often forced to exercise [13]. In "Assessment of stress among health care workers in Morocco: a multi-center study", an epidemiological study of doctors and paramedics, Laraqui & al. [14] also find that it is the female gender that predominates with 53.9% (compared to 52.85% for the caregivers of our study).

Regarding the sex-specificity of caregiver occupational stress, Noura [15] indicates in Stress and resilience level of hospice palliative care nurses that "female sex is more likely to develop work stress than male. Women are more sensitive than men to difficult work situations and have less ability to cope with critical situations. " And in "Stress in Organizations" [16], in "Sex Differences in Work Stress" [17] and in "Measuring Occupational Stress: The Job Stress Survey" [18], the authors conclude, in general, that sex must be considered a direct predictor of stress and also a moderator depending on how the stressor is perceived.

Influences of the marital status in the real-life experience of the stress of caregivers

The marital status of the respondents shows that it is the married who are the most stressed with 68.15% against the unmarried with 31.85%. It has been observed that medical facilities in Lubumbashi have more confidence in married people. Moreover, Anju's study results [19] conducted in the city of Meerut Hospital (India) indicate that there is also no significant difference in the experience of stress between married and those who are not. For this author, this non-significance shows that there is no influence of marital status on the occupational stress of caregivers. It is in the same line that he quotes Ogunlanoh (1986), Fasakin (2002) and Salawu (2004), who also reported, through the results of their research, this insignificant difference in experienced stress by the married and unmarried. And the research results conducted in Hong Kong (China) by Callaghan et al. [20] abound in the same sense of conclusion of the non-significance of the test.

Age and lived on the stress of caregivers

Our results indicate an association between age and the stress experienced by caregivers. The results reveal that the medical structures employ a young staff (491 subjects, or 87.37% are ≤

45 years old). As pointed out by Howie & al. [21], older physicians are less likely to develop stress than younger physicians. It is the same for nurses as for doctors, in our study. According to the quoted authors, it would be about a question of experience and about responsibility or about seniority and about beginner. The young doctors or the young nurses present high risks of stress bound to the exercise of their profession: mental and physical load raised and not much autonomy. It could be argued that the older people experiment the less stress or stressors thanks to their experience.

But let us not forget that caregivers can also be vulnerable to this phenomenon of stress in certain professional circumstances, particularly due to the risks of permanent exposure to problematic working conditions. It is in this perspective that other researchers believe that age is a parameter that increases the number of stressed subjects. According to Holmes & Rahe (1967) and Mathieu (1979), cited by Howie & al. [21], the older a person gets, the higher their stress level, according to the data on the cumulative effect of stressors. This point of divergence therefore makes it possible to note that unanimity is not required regarding this age parameter. As much as the conclusions contrast, as much must be taken into account the peculiarity of each research conducted in this area of work stress.

Level of education and experience of caregiver stress

In terms of educational attainment, the results show that university level caregivers are more stressed (81.49%) than non-university caregivers (18.51%). But we found a non-indefinite relationship between university and non-university because of the presence of 0 physicians in this category. How to understand that it is the academics who put under stress more than the non-academics? A first explanatory element concerns, doubtless, their number: the level of under-graduated and of graduated gathers 458 subjects on 562, which are 81.5 %. But moreover, nursing increased and graduated are the most committed in the medical trainings of the City of Lubumbashi.

Seniority and experience of caregivers stress

The results reveal a difference that is not significant for seniority. And it is in seniority ≤ 24 years that we find many caregivers who develop stress (97.15%) than in seniority > 24 years where there is only 2.85%. Previous research has also identified differences in seniority on variables related to the stress model. It is in this context that Havlovic and Keenan [22] find in "Coping with Work Stress: The Influence of Individual Differences" that the more the individual has experience built from seniority, the more he uses the cognitive assessment mechanisms related to positive thinking, such as the perception of having the ability to cope with a stressful situation.

Hospital departments of tie and lived on the stress of nursing

Even if it is not known how to calculate the value of p in order to decide whether the test is meaningful or not, we note that many of the caregivers surveyed are working in internal medicine (75.27%). The obstetrics and gynecology department hosts 12.63%, the surgery department 6.58% and the emergency services 5.52%. It emerges that in services where major interventions such as emergencies and surgery take place, there are not many caregivers working there. It is, in fact, in the department of internal medicine that we meet more stressed caregivers. It is possible that the explanation of the large number of caregivers working in internal medicine may justify the large number of stressed caregivers.

Time spent in the service and experienced caregiver stress

In relation to the time spent in the service, there is indeed a link between this moment of work within a service and stress (77.58% have already performed ≤10 years in the current service against 22.42% who have already done >10 years). It can be noted that caregivers who have spent >10 years in a service have required some experience and become seasoned to avoid being stressed in certain situations, sometimes repeated during their previous benefits. On the other hand, in the same contexts, those whose time spent in the service is ≤10 years, they can stress because having little experience or being fragile at the beginning of the career. In other words, the experience gained in the service does not insure caregivers, rather reassure them in their professional practice.

Shift and lived through the stress of caregivers

Caregivers working in the daytime gong (36.30%) stress the least as those working in the night gong (63.70%), the relative test being statistically significant. The night service becomes more stressful. In a context of insecurity, working at night is often worrying and stressful for caregivers.

Structure affiliation and experiencing the stress of caregivers

The caregivers surveyed belong to 76.16% to the private medical structures. Only 23.84% belong to the public sector (the test is not statistically significant). Like other sectors of Congolese national life (education, security, banking, etc.), it is worth noting the increased movement of privatization of health care institutions. This question of stress in relation to the regime of belonging of the hospital often divides the results of surveys conducted around the world. According to, for example, a survey conducted online in France by the Labo Staff (2013) among 910 professionals in the health, social and medico-social sectors and entitled "The stress of health and social professionals in France" is "within public hospitals that respondents report the highest perceived stress with an average of 7. /10, followed closely by those of private hospitals and clinics as well as those of private non-profit hospitals with respectively 6.9/10 and 6.7/10"[23]. But in "Job Stress and Burnout among Hospital Nurses in a City of Myanmar", a research conducted in Singapore, Lwin & al. [24] contrast this result reported by Dubois (2013) and indicate that nurses working in private hospitals develop work stress twice as much as those working in the public sector (with OR: 2.28; 95% CI: 1.36- 3.83). And this result is also shared with our research. Admittedly, the organization of private and public health structures depends on one country to another. In the DRC, we note more to let go in the public than in the private. In this one, the caregivers are used to the maximum and they have tasks that cover their time at work. The many solicitations can make that they stress in several respects.

CONCLUSION

It follows from the analysis of socio-demographic and professional parameters that stress is experienced differently depending on whether one is a male or female, doctor or nurse, of a certain marital status, old or young, beginner or old in the

service, such service or such other one, public or private institution... This finding confirms our hypothesis that stress is experienced differently depending on the caregivers or the inter-individual differences of the respondents. It should be remembered that stress is the result of a number of parameters or influences acting as "moderating variables" playing even "a buffer role between these factors and the stress response of the individual"[1].

In sum, the results obtained in relation to the socio-demographic parameters make that some can converge with the previous researches or the existing literature on this subject. There are significant relationships of socio-demographic factors related to sex, age, time spent in the service, the nature of gong as well as lack of association for parameters such as marital status, level of education, hospital services, institutional affiliation in the public or private sector. Work stress is, therefore, subject to personal modulations and changes from one individual to another, from one care facility to another, or even the same subject, from one hour to another, from day to day.

References

1. Service Public Federal (2004), *Le stress au travail : Facteurs de risques, évaluation et prévention*, Bruxelles, SPF Emploi, Travail et Concertation sociale : http://www.meta.fgov.be
2. Banyasz, L. (1998), Approche psycho-ergonomique du stress au travail. Modèles conceptuels du stress en psychologie: apports et limites, Paris, Institut National de Recherche et de Sécurité.
3. Cox, T., Griffiths, A. & Leka, S. (2004), Organisation du travail & stress, *Organisation Mondiale de la Santé*, Collection Série Protection de la Santé des Travailleurs, n° 3.
4. Boudarene, M., Timsit-Berhtier, M., Legros, J.J. (1997), Qu'est-ce que le stress? *Revue Medicale de Liège.* 52(1): 1-6.
5. Neboit, M., Vézina, M. (Eds.). (2002). *Stress au travail et santé psychique*. Toulouse: Octarès.
6. Cox, T., Griffiths, A. & Rial-Gonzalez, E. (2006), *Recherche sur le stress au travail*, Agence européenne pour la Sécurité et la santé au Travail (Collection Issue, n° 203), Luxembourg.
7. Lancry, A. (2007), Les définitions et les modèles scientifiques du stress, *Les Cahiers*, n° 2 (Stress au travail : du repérage à l'action en Picardie), 20-23.
8. Alderson, M. (2004), La psychodynamique du travail et le paradigme du stress: une saine et utile complémentarité en faveur du développement des connaissances dans le champ de la santé au travail, *Santé mentale au Québec*, vol. 29, n° 1, 261-280.
9. Mutelo, K.C. (2018). Analysis of the Work Stress Bound in the Conditions of Work of Doctors and Nurses in the Health Institutions of the City of Lubumbashi (in DRC). *International Journal of Science and Research (IJSR)*, 7 (2), 1190-1192.
10. Mutelo, K.C. (2018). Analysis of the Work Stress of Doctors and Nurses Resulting from Organizational Problems in the Health Institutions of the City of Lubumbashi (in DRC). *International Journal of Science and Research (IJSR)*, 7 (3), 380-383.
11. Najimi, A., Moazemi Goudarzi, A. & Sharifirad, G. (2012), Causes of job stress in nurses: A cross-sectional study, *Iranian Journal of Nursing and Midwifery Research*, 17(4), 301–305.
12. Aucoin, S. (1989), *Evaluation du niveau de stress chez les infirmières et de leur préparation à le gérer*, Mémoire de maîtrise, Université du Québec, Chicoutimi.
13. Guay-Genest, S. (1987). *Stress et double rôle: Une étude chez les infirmières*, Mémoire de maîtrise (inédit), Québec, Université Laval.
14. Laraqui, O., Laraqui, S., Tripoli, D., Caubet, A., Verger, C. & Laraqui C.H. (2008), Evaluation du stress chez le personnel de santé au Maroc: à propos d'une étude multicentrique, *Archives des Maladies Professionnelles et de l'Environnement*, n° 69, 672-682.
15. Noura D.(s.d.), *Stress et niveau de résilience chez le personnel infirmier en soins palliatifs,* Sousse : Institut Supérieur des Sciences Infirmières.
16. Beehr, T. & Schuler, R. (1980), Stress in Organizations. In ROWLAND, K. & FERRIS, G. (Eds.), *Personnel management*, Boston, Allyn and Bacon, 390-419.
17. Jick, T.D. & Mitz, L.F. (1985), Sex Differencies in Work Stress, *The Academy of Management Review*, 10 (3), 408-420.
18. Spielberger, C.D. & Reheiser, E.C. (1995), Measuring Occupational Stress: The Job Stress Survey. In CRANDALL, R. & PERREWE, P.L. (Eds.), *Occupational Stress*, Washington DC, Taylor & Francis, 51- 118.
19. Anju, K.S. (2015), Effect of Marital Status on the occupational Stress Level of Hospital Nurses, *American Research Thoughts*, 1 (5), 1330-1336.
20. Callaghan, P. & al. (2000), Factors related to stress and coping among Chinese nurses in Hong Kong, *J Adv Nurs.*, 31(6), 1518-1527.
21. Howie, J., Porter, AMD. & Heaney, D. (1993), General practitioners, work and stress, *J R Coll Gen Pract* Occasional Paper Series, n°61, 18-29.
22. Havloic, S. J. & Keenan, J. P. (1991), Coping with Work Stress: The Influence of Individual Differences, *Journal of Social Behavior and Personality*, Vol. 6, n° 7, 199-212.
23. DUBOIS, C. (2013), Le stress des professionnels de santé et du social en France : www.actusoins.com/13382/des-infirmieres-stressees.html
24. Lwin, P.M., Cheerawitratanapan & Orapinlaosee (2015), Job Stress and Burnout among Hospital Nurses in a City of Myanmar, *ASEAN Institute for Health Development*, 92-95.

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