Original Article

A Study of Burnout Amongst Doctors at the University Teaching Hospital in Lusaka, Zambia

Moses C Simuyemba[1], Thubelile Mathole[2]

[1]*University of Zambia School of Public Health, Lusaka, Zambia.*
[2]*University of Western Cape School of Public Health, Cape Town, South Africa.*

ABSTRACT

Background: Stress among health care workers is a subject that has received much attention worldwide. However, there have been few studies that address the issue of work-related stress among health care workers in Africa and in Zambia in particular. There was an urgent need to study burnout at the University Teaching Hospital in order to have concrete evidence for planning and policy purposes in order to help address some of the human resource for health problems in Zambia. This study sought to measure the levels of work-related burnout among doctors at the University Teaching Hospital and to investigate associated factors.

Methods: This was a cross-sectional study. Data was collected by means of a self-administered survey using Maslach Burnout Inventory provided by mindgarden.com. Data analysis was done using guidelines as set out in the Maslach Burnout Inventory manual using Epi-info software. Cross tabulations and chi-square and statistical analysis tests were done in order to establish whether there were any statistically significant associations between levels of burnout and other variables such as sex, age, seniority, department and marital status, among others.

Results: More than half, 54.4.%, of doctors studied at the University Teaching Hospital experienced average or high levels of emotional exhaustion with 44.8% experiencing average or high levels of depersonalisation and 66.4% experiencing average or low levels of personal accomplishment. Personal accomplishment was the subscale with the highest indication of burnout, followed by emotional exhaustion and depersonalisation. There were no significant associations between demographic and individual work factors studied and burnout levels.

Conclusions: Burnout levels are significant at the University Teaching Hospital. There were no significant associations between demographic and individual work factors studied and burnout levels. This study has highlighted that burnout is a problem that needs to be addressed at the hospital and further investigation is required to assess what factors may be contributing to it, particularly those related to the work environment, since personal and demographic characteristics did not show any associations to burnout.

BACKGROUND

Currently, Zambia suffers from a serious shortage of health workers, particularly doctors, with a doctor to patient ratio of 1:10,000, the average for Africa being 2:10,000 population [1]. The distribution also favours urban areas over rural areas [1] with as much as much as three quarters of doctors working in urban areas. It is therefore important to ensure that the limited available workforce is optimally utilised and well-motivated. The setting of this study is the University Teaching Hospital, which is Zambia's

Corresponding Author
Dr Moses C. Simuyemba,
Department of Community and Family Medicine,
University of Zambia School of Public Health,
email: msimuyemba@gmail.com

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largest hospital. As a teaching hospital the doctors are expected to carry out clinical work and dedicate some of their time to teaching and/or supervising medical students. The potential for burnout in such a busy setting is therefore great.

Burnout is a term in psychology that describes a prolonged response to having to undergo chronic emotional and interpersonal stressors on the job, which ultimately leads to sub-optimal performance at work [2]. One definition considers burnout as a syndrome composed of physical and psychological exhaustion that leads to a reduction in motivation and performance [3]. It is characterised by emotional exhaustion, depersonalisation and a feeling of lack of accomplishment at work [2]. Burnout differs from depression in that it is specific to the work context, whereas depression tends to pervade every aspect of a person's life. However, individuals who are prone to depression are more likely to experience burnout [4]. People that work in roles that require contact and interaction with other people, human service institutions, such as occurs in the medical or teaching professions are thought to be likely to develop burnout [5].

According to studies by Maslach [6] the effects of burnout in the health care sector include a deterioration in the quality of care or service provided by the staff, high job turnover, absenteeism, low morale, personal dysfunction, physical exhaustion, insomnia, increased use of alcohol and drugs, marital and family problems, lack of sleep and headaches, cynicism, negativity towards patients, withdrawal from social contact within the workplace environment, performance at bare minimum standards and disappointment with self. In addition, burnout has been associated with negative workplace behaviour, including increases in sick leave, premature retirement or resignations, increased smoking and coffee consumption, workplace accidents, interruptions in the provision of quality of service, low morale, and frequent job changes [7].

While there were a few studies on burnout in the Zambian context, there were none done at the University Teaching Hospital. Given its unique context as the highest level and most complex referral hospital in Zambia, it was thought necessary to fill this gap.

OBJECTIVES

The main objective was to determine levels of burnout and factors associated with burnout amongst doctors practicing at the University Teaching Hospital (UTH) in Lusaka, Zambia. Specific objectives were:

i. To identify overall levels of burnout amongst doctors at the University Teaching Hospital.

ii. To determine which features of burnout are most common in doctors working at the hospital.

iii. To determine factors associated with burnout and with the different dimensions of burnout at the hospital

METHODS

This was a quantitative, cross-sectional study conducted in 2015. The population under study was medical doctors at UTH (i.e. those with a minimum bachelor's in surgery and medicine degree, MBChB, or equivalent qualification). At the time of the study there were 350 doctors at various levels working at UTH either employed by the Ministry of health or the University of Zambia and of these 173 were tracked during the 3 months of data collection. At 95% confidence level and 5% confidence interval the ideal sample size for this population of 173 doctors that were tracked was 119.

Data was collected by means of both an electronic and paper-based self-administered, anonymous questionnaire that was obtained through the authorized publishers, Mind Garden (http://www.mindgarden.com). The Maslach Burnout Inventory (MBI) questionnaire consists of twenty-two items that are used to form three scales, Emotional Exhaustion (EE), Depersonalisation (DP) and Personal Accomplishments (PA) [8]. The

MBI takes about 10 to 15 minutes to complete. Ethical clearance was obtained from both the University of Western Cape and University of Zambia Biomedical research Ethics committees (UNZABREC).

Data analysis was carried out using guidelines contained in the MBI. The data was entered in Epi-Info (version 7.1.1.14) for basic descriptive analysis [8]. Bivariate analysis was carried out using cross tabs and chi-square tests in order to establish whether there were statistically significant associations between levels of burnout and variables such as sex, age, seniority, department and marital status, among others.

RESULTS

A total of 125 responses were obtained, exceeding the minimum required of 119. Of these, only 45 (38%) responded through the online survey and the remainder responded through the paper-based survey. Male respondents represented 75.2% (n 94) and female respondents 24.8% (n = 31). Age groups are shown in the bar chart in figure 1. Most respondents were married (71.0%) followed by never married (25.0%) and separated (4.0%). No respondents were widowed or divorced. Overall, 69.4% of respondents had children and the remainder did not (30.6 %). Of those with children, those with two children were 38.4% whilst 29.0% had three children, 22.1% had 1 child, 7.0% had four children and only 3.5% had five children.

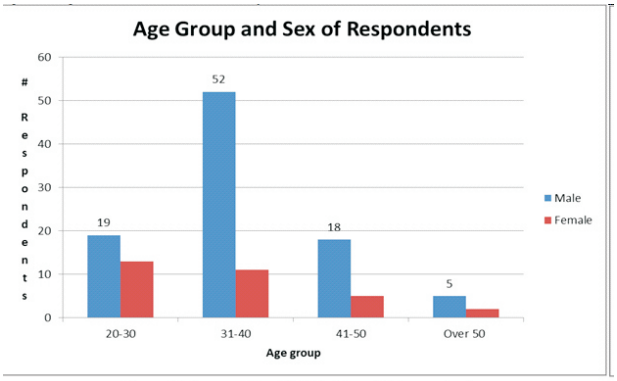

Figure 1: Age and Sex Distribution of Respondents

The department of paediatrics had the largest number of respondents (39.6%) and Figure 2 illustrates the distribution across departments.

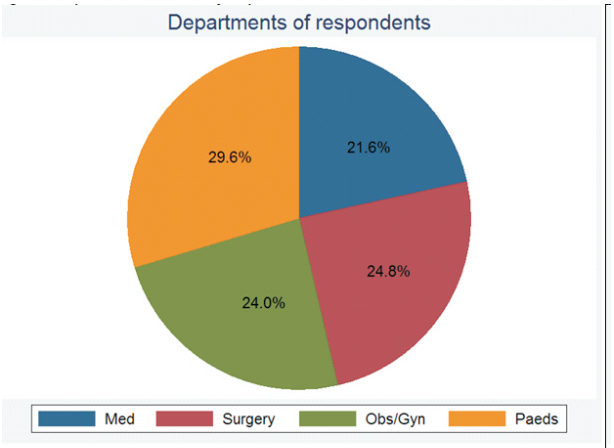

Figure 2: Departments worked in by respondents

Figure 3 shows the positions of the doctors and most respondents were registrars (36.8%). Two respondents were on attachment ("other" category). The average number of years worked were 7.9 (95% confidence interval 6.6 - 9.1). The least number of years worked was 1 (15.6% of respondents) and the longest was 40 years (1.6% of respondents). Those pursuing postgraduate studies represented 47.6% of respondents and 52.4% were not. Those that had combined clinical duties as well as teaching duties were 65.6% and those that did not were 34.4%. Of the respondents, 48% were involved in research and 52% were not. Those that also worked at other health facilities represented 23.2% of respondents, whereas 76.8% only worked at UTH.

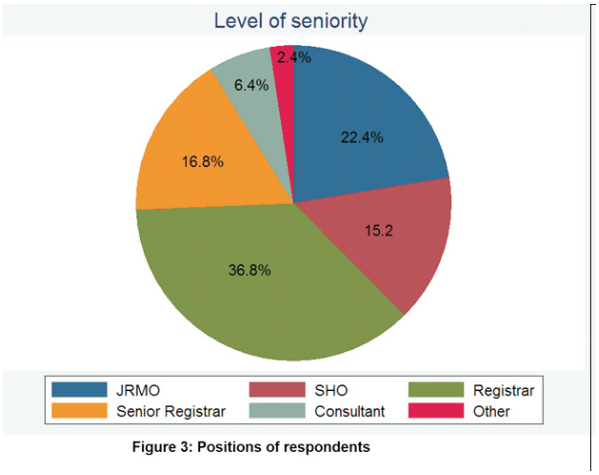

Figure 3: Positions of respondents

Average burnout scores were calculated using the actual scoring for each participant and not by first converting the score to a category of low, average or high. This is as recommended in the MBI manual which states that more accurate results may be obtained by using actual scores and not categorisations of the scores (Maslach et al, 2011). The mean total score for emotional exhaustion was 19.8 (95% Confidence interval = 17.9 - 21.8, Standard error = .098). The mean total score for depersonalisation was 6.0 (95% Confidence interval = 5.1 - 6.8, Standard error = 0.43). The mean total score for personal accomplishment was 36.6 (95% Confidence interval = 35.2 - 38.0, Standard error = 0.71). The grading for burnout scores for the three sub-scales in this study, as well as the overall categorisation of burnout at UTH are shown in Table 1:

Table 1: Overall MBI scores and range of experienced burnout

MBI Subscale for medicine	Low (lower third)	Average (middle third)	High (upper third)
Emotional Exhaustion	≤18	**19-26 (Actual found = 19.8)**	≥27
Depersonalisation	≤5	**6-9 (Actual found = 6.0)**	≥10
Personal Accomplishment	≥40	**39-34 (Actual found = 36.6)**	≤33

An analysis of each subscale is shown below in table 2, with scoring of how many doctors were in the low, average or high categories for each subscale. Note that these categories are not mutually exclusive.

Table 2: MBI sub-scale rankings for respondents at the University Teaching Hospital

Burnout Subscale	Low (No. and %)		Average (No. and %)		High (No. and %)	
Emotional Exhaustion	57	45.6%	32	25.6%	**36**	**28.8%**
Depersonalisation	65	52.0%	36	28.8%	**24**	**16.0%**
Personal accomplishment	**50**	**40.0%**	33	26.4%	42	33.6%

Overall, 54.4% of doctors studied experienced average or high levels of emotional exhaustion, 44.8% experienced average or high levels of depersonalisation and 66.4% experienced average or low levels of personal accomplishment. This is also illustrated more clearly in the chart below as figure 4.

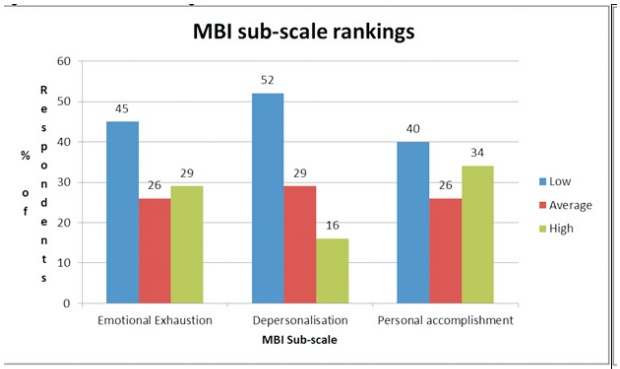

Figure 4: MBI sub-scale rankings

Pearson correlation coefficients were as outlined in the table 3.

Analysis of all the other variables, such as age, level of seniority, department worked in, whether the doctor was involved in teaching, research or other work outside UTH, how many children they had, their marital status, all showed no significant association with the level of burnout. Associations were analysed by first grading the individual total scores for EE, DP and PA as high, low or medium (categorical) rather than using the actual scores.

DISCUSSION

Doctors in the study at UTH scored average on all three MBI subscales, namely emotional exhaustion, depersonalisation and personal accomplishment. However, more than half (54.4%) experienced average or high levels of emotional exhaustion with 44.8% experiencing average or high levels of depersonalisation and 66.4% experiencing average or low levels of personal accomplishment. Ideally, in a health work environment, you would expect most respondents to

score low on depersonalisation and emotional exhaustion and high on personal accomplishment. There were significant proportions of doctors experiencing high levels of EE (29%), high levels of DP (16%) and low levels of PA (40%).

In comparison, a systematic review of 182 studies from 45 countries [9], most (85.7%) of which utilised MBI to assess burnout amongst doctors, burnout levels were high at 67% for overall burnout, 72% for EE, 68.1% for DP and 63.2% for low PA. The review however pointed out a need for consensus on definition of burnout globally but shows that burnout is relatively high in doctors globally. Studies and systematic reviews from Ethiopia [10], sub-Saharan Africa [11], South Africa [12], the Middle East [13], low- and middle-income countries [14] have all demonstrated moderate to high levels of burnout in doctors.

Of the three subscales, EE is thought to be the most central quality of burnout [4] as it is the most commonly occurring subscale in cases of burnout. This EE is then thought to lead to cynicism and distancing oneself from the patient in order to cope better resulting in depersonalisation. It thus becomes difficult to experience a great sense of personal accomplishment when one is emotional exhausted and cynical [4]. These results point to burnout levels that warrant some concern and action in order to ensure that it does not worsen and that those experiencing such burnout, including those with average levels of burnout, are helped to cope and, where possible, reverse it. These results are also comparable to the findings of other studies detailed below for the Zambian context and point to the finding that burnout is a problem that requires recognition and active solutions to be developed for Zambia's public health sector.

For instance, Dieleman et al's [15] study in two Zambian districts of Mpika and Mazabuka found that emotional exhaustion occurred in 62% of 42 health workers who took the survey and mainly affected nurses and counsellors. Emotional support for health workers to deal with HIV was said to have been lacking in Dieleman et al's paper [9]. Results from other studies also point to burnout among health workers who dealt with HIV & AIDS [9] and this is likely the case at UTH.

Another study by Kruse et al [16] of 483 health care workers in the public sector in Lusaka district found that 51% reported occupational burnout, although it did not use the MBI, but rather another questionnaire they developed. These findings were mainly attributed to staff attrition resulting in increased workload amongst the health care workers [16]. Lack of adequate staff has been implicated as a factor that can contribute to increased levels of stress and thus burnout amongst health care workers as the remaining staff take on a larger work burden [16]. Attrition levels were unclear at UTH as no statistics could be found. However, attrition is likely to be high at UTH given there are a lot of doctors there only for the master's studies and internship who leave once they are done.

Kruse et al [16], however, point to the fact that there have been few strategies that have focused on maintaining the well-being of existing workers through such measures as paying adequate salaries and improving general conditions of service. These factors could have a major impact on the motivation and satisfaction with work of the doctors. In Kruse et al's study [16] low salaries and benefits were found to have been a consistent source of frustration, especially given the fact that many took on additional jobs in order to meet their needs. In this study however about a quarter of the doctors (23.2%) worked at another health facility outside UTH, possibly to supplement their income. There is a general perception of low remuneration in the Zambian health care system [11], although public sector conditions of service are not as low as may be perceived when allowances are taking into account [17]. The World Bank [17] report found that Zambian doctors pay in the public sector compares favorably against gross national income and regional benchmarks for doctors. However, in such cases perception may matter and thus this would be

something worth investigating further.

Amongst the factors that might contribute to feeling a low level of personal accomplishment is lack of recognition and support at work, including promotion. A UNAIDS report cited by the World Bank [17] points to not being trained and prepared for new tasks, inadequate support and lack of supervision and recognition at work, including promotion, as factors that may contribute to work-related stress. It would thus be worthwhile to investigate these factors further at UTH. This is particularly important when one considers the evidence that contact with supervisors is more important to subordinates than contact with co-workers with reference to burnout and such contacts that are pleasant and supportive are likely to result in feeling of high personal accomplishment [8].

Factors such as shortages of supplies, drugs and equipment can lead to more stress amongst health care workers and thus contribute to burnout [14]. The general work environment would therefore require further study and analysis in order to determine what factors may be contributing to burnout and to address them. Deliberate and clearly outlined policies and guidelines are critical to effective prevention and management of stress and burnout in the workplace as is their active implementation through such means as workshops, training, and education with the aim of improving overall work-life balance [18] and this needs to be looked into at UTH.

LIMITATIONS OF THE STUDY

The healthy-worker effect must be considered in interpreting the results presented in this report. This effect is the systematic underestimation of levels of burnout because exclusively working and thus healthy subjects have been included in the study whilst those that may not be as healthy or experiencing higher levels of burnout, including those who might have left as a result, may not have been captured in the workplace at the time of the study [19, 20, 21, 22]. Another limitation of the survey is that it only involved doctors at the University Teaching Hospital and no other health cadres and thus the results are not generalisable to other health cadres or other settings.

CONCLUSION

Burnout levels are significant at the University Teaching Hospital. There were no significant associations between demographic and individual work factors studied and burnout levels. This study has highlighted that burnout is a problem that needs to be addressed at the hospital and further investigation is required to assess what factors may be contributing to it, particularly those related to the work environment, since personal and demographic characteristics did not show any associations to burnout.

LIST OF ABBREVIATIONS

DP – Depersonalisation
EE – Emotional Exhaustion
MBI – Maslach Burnout Inventory
MOH – Ministry of Health
PA – Personal Accomplishment
UTH – University Teaching Hospital
UNZABREC - University of Zambia Biomedical research Ethics committees

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