International Journal of Nursing Science 2017, 7(4): 91-95
DOI: 10.5923/j.nursing.20170704.03

# Factors that Contribute to Burnout Syndrome among Critical Care Nurses in Intensive Care Units, Botswana

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**Abstract** This study sought to investigate factors associated with burnout syndrome, to determine its prevalence and establish the levels of burnout amongst Intensive Care Unit nurses working in the 3 major hospitals in Gaborone, Botswana. A quantitative descriptive design was utilised. A self-administered questionnaire was used to collect data from 40 respondents/nurses who met the inclusion criteria. Levels of burnout were assessed using the English version of the Maslach Burnout Inventory-Human Services Survey. Results revealed that burnout exists at low levels in these three Gaborone hospitals. Emotional exhaustion had an average score of 2.67, depersonalization had an average of 1.53 and a variance of 1.52 and personal accomplishment had an average of 4.49, a variance of 1.01. Factors that can lead to Burnout were highly prevalent. This translates to need for emotional and physical support systems, improving individual and organizational strategies in relation to recruitment and identifying training needs in prevention of factors leading to burnout in the Intensive Care Unit environments.

**Keywords** Burnout, Critical care nurses, Intensive care units

## 1. Introduction

Intensive care units are large areas with a concentration of specialized, technical equipment and monitors needed to care for the critically ill. The Intensive Care Unit (ICU) has a larger ratio of doctors and nurses to patients than found in other areas of the hospital [1]. Every patient in the Intensive Care Unit has a monitor that can record the patient's heart rate, heart rhythm, blood pressure, temperature, respiratory rate, invasive parameters and many other parameters. Most patients may be assisted to breathe using mechanical ventilators connected via endotracheal tubes or tracheostomies or Continuous Positive Airway Pressure (CPAP) masks. One of the most potentially disturbing aspects of being in Intensive Care Unit is noise from equipment alarms, as they seem to go off regularly and come from all round. Almost all Intensive Care Unit equipment has alarms and according to previous studies these alarms cause the nurse to be "hyper alert" which in itself causes stress to 'the nurse.' However, it is important to remember that most ICU machine alarms do not signal an emergency but rather, they assist the staff in providing better patient care by letting the staff know that the patient needs closer attention [2]. The provision of Intensive Care can lead to physical, psychological and emotional exhaustion, which makes the healthcare provider prone to developing burnout.

Botswana, like many other African countries has been facing problems of brain drain resulting in staff shortages and this has worsened the stressful factors which the Intensive Care practitioners face. The ICU is characterized by a high level of work related stress, which is a factor known to increase the risk of burnout [3]. Currently, most of the Intensive Care Units in Botswana are inadequately staffed due to the fact that most qualified ICU personnel have left for "greener pastures" or have resigned from service. Shortages of nurses have led to overworking of the remaining nurses which has further compounded their stress of working in already stressful environments. Ideally, Intensive care units need to be well staffed with qualified nurses and highly experienced nurses who can provide the best possible patient care to critically ill patients.

There are 3 ICUs in Gaborone, the capital city of Botswana which has an approximate population of 15% of the total population of Botswana. To date there is no recorded research done on the burnout phenomenon on critical care nurses working in the Intensive Care Units throughout Botswana. Therefore, this research sought to investigate levels of burnout and factors that could lead to burnout amongst the nurses working in these units.

**Research objectives**

- To determine the levels of burnout in nurses working in ICUs in Botswana.
- To determine the factors that can lead to the

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Published online at http://journal.sapub.org/nursing

development of burnout in ICU nurses in Botswana.

**Operational definitions**

In this study, Intensive Care Unit (ICU) is defined as a hospital work area that provides patient care of a more intensive nature than the usual medical and surgical care, based on physicians or intensivists orders and approved nursing care plans. This unit is staffed with specially trained or on the job oriented nursing personnel who care for patients in shock, trauma, or life threatening conditions who require comprehensive care and monitoring.

Burnout for this study refers to the physical, mental, and emotional response to constant high levels of stress and ineffective or inadequate coping methods. Burnout produces a variety of feelings and behavior including hopelessness powerlessness, cynicism, resentment, stagnation and reduced productivity.

**Ethics**

The following entities were regulatory bodies that granted permission for the study;

- Ministry of Health, health research and development division in Botswana
- Princess Marina Hospital
- Gaborone Private Hospital
- Bokamoso Private Hospital

Permission was sought to use the Maslach Burnout Inventory Human Services. Permission was granted by Mind Garden, Inc., the publisher to use the Maslach Burnout Inventory Forms; General Survey, Human Services Survey and Educators Survey. The publisher gave this permission on behalf of Christina Maslach, Susan Jackson, Michael Leiter, Wilmar Schaufeli and Richard Schwab who are copyright holders for the instruments permitted. Of the three instruments to which permission was granted by the publisher, only the Maslach Burnout Inventory- Human Services Survey was used for this study.

## 2. Methods

The study utilized a quantitative descriptive design. Purposive sampling of nurses was done. The sample consisted of 40 Registered nurses who met the criteria.

**Inclusion criteria**

- All trained and experienced (more than one year) registered nurses working in the Intensive care units at the time of the study
- Registered nurses willing to participate in the study
- Nurses working in Intensive care units of 3 major hospitals of Gaborone, Botswana.

**Exclusion criteria**

- Registered nurses not willing to participate in the study
- Registered nurses who were not present at time of data collection
- Registered nurses with less than one year working experience in an Intensive Care Unit
- Nurse managers of the units under study

**Study sites**

In this study, information was obtained from nurses working in Intensive Care Units of Hospital ICU-A1, Hospital ICU-B1 and Hospital ICU-C1 all based in Gaborone, Botswana. The sampling frame for the nurses was the duty roster register which revealed a total number of 53 nurses for the selected ICUs. One Intensive Care Unit is at a public hospital with a bed capacity of 8 and a staff complement of 20 nurses. The other two Intensive Care Units are in private hospitals with bed capacities of 5 and 16, and staff complements of 15 and 18 nurses respectively.

**Data collection**

A self-administered questionnaire was utilized to collect data. Distribution of forty seven (47) questionnaires to ICU nurses who had been continuously working in ICU for one year and above was done. These were willing to participate in the study. The respondents were given questionnaires to answer individually over a day since ICU was considered a busy place to allow nurses to care for their patients. The questionnaire was adopted and modified from the Maslach Burnout Inventory. Section A addressed socio-demographic data, Section B looked at levels of burnout using the Maslach Burnout Inventory (MBI-HSS). Section C addressed factors that can lead to burnout syndrome in ICU nurses. The MBI-HSS questionnaire was utilized to gain information on Burnout Syndrome. The Maslach Burnout Inventory has been consistently proven as the key assessment tool of burnout with more than 27 years of extensive research since its inaugural publication [4]. For example, in a pilot study of the Malay Maslach Burnout Inventory in Malaysia, the overall Cronbach's alpha for the Malay version of the MBI-HSS exceeded expectations because it was at least 0.90 hence the confidence to use it in this study. This tool is also a reliable measure of burnout among nurses with Cronbach alpha values of 0.90 for EE, 0.71 for DP and 0.79 for PA as demonstrated by original tests of the instrument [5].

**The Maslach Burnout Inventory (MBI)**

The instrument was devised to estimate three elements of the burnout syndrome which are Emotional Exhaustion, Depersonalization and Personal Accomplishment. It consists of 22 items which are aggregated into the three subscales [5]. The Emotional Exhaustion subscale was divided into items that assessed feelings of being emotionally overextended and exhausted by one's work. The Depersonalization subscale consisted of items that measured an unfeeling and impersonal response towards ICU service recipients. Personal Accomplishment had items that assessed feelings of competence and successful achievement of one's work by ICU nurses.

For Emotional Exhaustion and Depersonalization, higher scores were an equivalent of higher degrees of experienced burnout by ICU nurses. Contrary to the two, in the Personal Accomplishment subscale, lower scores by ICU nurses

paralleled higher degrees of experienced burnout. The three subscales were scored separately in this study.

**Level of burnout**

To assess the levels of burn out of the respondents, the MBI-HSS Score tool with 22 questions divided into three categories was considered. Scoring of items surveyed adopted a Likert Scale from 0 to 6: (0) represented "never" i.e. the absence of a burnout determinant, 1 represented "a few times per year" meaning the respondent experienced the determinant less frequently, 2 represented "once a year" meaning the respondent experienced the determinant less frequently,3 represented "a few times a month" meaning the respondent experienced the determinant less frequently, 4 represented "once a week" indicating increased frequency of experiencing the derterminant,5 represented "a few times per week" indicating increased frequency of experiencing the determinant and 6 represented "everyday" indicating very high frequency of experiencing the determinant causing or measuring burnout levels.

The responses were summarized into three categories which are absence of determinant indicated by the zero score, less frequency of the determinant indicated by 1 – 3 and more frequency of the determinant indicated by 4 – 6.

**Data analysis**

The data collected was analyzed using International Business Machines Statistical Package for Social Sciences (IBM SPSS) version 21 and Microsoft Excel. Descriptive statistics were generated using SPSS and Excel and they were used to analyze the data and establish the results. Only significant relationships were highlighted in the research to explain different situations encountered.

# 3. Results

Out of the 47 questionnaires distributed, 40 were returned giving a response rate of 85%, 1 participant did not return the questionnaire and 6 participants declined to give consent to participate in the study after the initial verbal agreement. All 40 responses were collected and used in this research. ICU nurses from Hospital ICU-A1 (17); Hospital ICU-B1 (7) and Hospital ICU-C1 (16) responded.

**Demographic variables**

Results showed 53% of respondents were in the 30 – 39 years age group, 33% were in the 40 – 49 years age group, 10% were in the 21 – 29 years age group while only 5% were in the 50 – 59 years age group. 57.5% were married and 40% were single and only one which is 2.5% of the respondents were divorced. The majority (75%) of the nurses lived with other adults and children 25% of the nurses lived alone. Respondents making up 52.5% had a diploma, 25% had a post basic diploma, 17.5% had a degree and 2.5% had a master's degree. Respondents constituting 87.5% had more than 5 years' experience working as nurses. Considering the number of years of working in the ICU, 50% had worked in the ICU for 1 – 5 years, 9% had worked in ICU for 6 – 10 years, 22.5% worked in ICU for 11 – 15 years and 5% had worked in the ICU for more than 15 years. The number of years worked in ICU showed a positive skew to the effect that the number of nurses who had worked in ICU decreased with the number of years worked in ICU.

**Levels of burnout –MBI-HSS Score**

Considering results for the three components it was found that *Emotional Exhaustion* had an average of 2.67, a variance of 2.03, a standard deviation of 1.42, a minimum score of 0 and a maximum score of 5.2.Given a minimum range of 0 – 16 it shows that the levels of emotional stress in ICU nurses in Botswana hospitals under study were very low. *Depersonalization* had an average of 1.53 and a variance of 1.52 which are almost the same, a standard deviation of 1.23, a minimum score of 0 and a maximum score of 4. Given a minimum range of 0 – 6 it shows that the levels of depersonalization in ICU nurses in Botswana hospitals under study were again very low. *Personal achievement* had an average of 4.49, a variance of 1.01, a standard deviation of 1.005, a minimum score of 2.5 and a maximum score of 6.Given a minimum range of 0 – 31 it shows that the levels of personal achievement in ICU nurses in Botswana hospitals under study were very low. All the variances and standard deviations of the component scores were in the 1 – 2 range indicating minimum and almost uniform variations in the data across the components. These findings are contrary to studies reporting this level of burnout for the emotional exhaustion and depersonalization domains [6, 7]. This could be a result of diverse environmental contexts of the studies or other such factors that may need to be researched. With regards to the Personal achievement dimension, lower personal achievement scores are similar to available empirical evidence [6-8]. This means that ICU nurses in Botswana are experiencing a universal phenomenon of feeling incompetent and unsuccessful in offering comprehensive critical care services.

**Factors that can lead to burnout in ICU nurses**

Considering factors that can lead to burnout syndrome in ICU nurses: none said they never did night shifts in a month. 30% of the respondents said that they did night shifts less frequently in a month and 70% of the respondents said they did night shifts more frequently in a month. The majority of the nurses did night shifts more frequently in a month. Studies related measuring a similar phenomenon have positioned that sleep deprivation, frequent shifts and limited leisure time are associated with physiological stress that translate to high levels of burnout [9].

Respondents constituting 92.5% had conflicts with other healthcare providers to some extent and only 7.5% said they never had conflicts. This is indicative of that conflicts do exist in ICUs in Botswana. The issue of respondents having conflicts with other healthcare providers to some extent is in line with studies that concurred that conflicts exist in the workplace [10, 11]. The studies highlighted that working in collaboration with colleagues, relatives exposed one to

constant criticism, excessive demands of others; malicious gossip and arguments leading to moral distress a precursor of burnout. It has been ascertained that there is potential that ICU nurses have in building or bringing each other down because of conflicts [12]. Conflicts on the job can be useful when people work together but can be destructive when they are not handled properly [13]. Inter team conflicts in critical care have been identified and acknowledged as a risk factor for burnout [9, 14].

Respondents constituting (10%) indicated that their supervisors were never supportive in work related conflicts, (27.5%) highlighted that their supervisors were less frequently supportive in work related conflicts and (62.5%) indicated that their supervisors were more frequently supportive in work related conflicts which could possibly explain their low levels of burnout. This supports studies that have positioned that nurse leadership in critical care should nurture a respectful and supportive environment to mitigate against conflict that is inherent in such setting [15]. A related grounded theory study indicated that supportive behavior and attitudes by nurse managers, nursing administrators and co-workers alleviated the intensity of burnout symptoms among critical care nurses [16].

Five percent (5%) of the nurses said they never dealt with death and end of life issues, (37.5%) said they less frequently dealt with death and end of life issues and (57.5%) of the nurses said they more frequently dealt with death and end of life issues. These results show that there are inherent issues of death in ICU. This could be an important lever in the development of burnout. The research findings confirm that death and dying contributes to high levels of burnout [2]. This is also consistent with the findings which found that increased mortality rate was associated with high levels of burnout [17]. A study on coping with death by nurses found that ICU nurses were living with the frustration of continuous exposure to patient death and pain because their training was designed to enable them to assist the patients to live [18].

On the issue of dealing with angry relatives, 2.5% of nurse respondents said they had never dealt with angry or distraught parents' relatives, (42.5%) confirmed that they had less frequently dealt with angry or distraught parents' relatives while (55%) said they had more frequently dealt with angry or distraught parents' relatives. The results show that the nurses in ICUs in Botswana have more frequently dealt with angry or distraught patients' relatives. Empirical evidence has consistently demonstrated that families with a loved one in ICU are often distressed, anxious, angry or in shock and may displace their anger on nurses [12, 19]. In such situations nurses become detached from their patients, family members, their colleagues and the work setting [20]. It has been predicted that if the nurses' moral distress goes unresolved, a cynical attitude can develop and constrain the nurse from enacting moral judgment and action in future encounters with patients' relatives [21, 22]. All the factors considered in this research to possibly lead to burnout syndrome in ICU nurses were highly prevalent in selected ICUs Botswana hospitals.

# 4. Discussion

Burnout measured by the MBI appeared to be low among nurses working in selected ICUs in Botswana. Low levels of emotional exhaustion and depersonalization seemed to be linked to supportive supervision of the ICU nurses. Low levels of Personal Achievement are however, a cause for concern and need redress.

Factors that can lead to burnout were highly prevalent. This means that ICU nurses in Botswana are exposed to and are at risk of developing burnout even if they were presently not. Issues of night shifts, conflict in the workplace and dealing with distraught relatives of patients receiving a service need to be monitored.

**Implications of Findings to Nursing Practice**

To date, there is no current record or research done on the burnout phenomenon in Botswana on critical care nurses working in the Intensive care units, this research seeks to conscientise the government, Ministry of health, policy makers, health service providers (employers and employees) and all the interested stake holders about the existence of the burnout syndrome precursors in Botswana. This is important so that measures to stop, eliminate or reduce the syndrome can be put in place. It is very important to have control or monitoring measures of the syndrome in place so that all the concerned stakeholders can benefit positively at the end.

**Implications in Research**

Since no such research has been done in Botswana, this research seeks to close the gap of silence about the syndrome and create a platform for more robust quantitative and qualitative researches that cover a broader perspective of this phenomenon.

# Limitations of the Study

Only the hospitals in Gaborone were considered for the research which might not truly represent the situation outside Gaborone.

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