MASTERS OF MEDICINE IN ANESTHESIOLOGY

BURNOUT SYNDROME AMONG ANESTHESIA PROVIDERS IN RWANDA: A QUANTITATIVE ANALYTICAL CROSS SECTIONAL STUDY

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DECLARATION **Date 18th/08/2019**

I hereby declare that this dissertation: " **Burnout syndrome among Anesthesia providers in Rwanda: A quantitative analytical cross sectional study** " is my own work. Where information is derived from other sources, I confirm that this has been indicated in the memoir.

This study in whole or in part has neither been submitted for publication anywhere nor has been submitted for the award of a degree in any other university.

Signed ……..

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Signed ……..

Dr Paulin Banguti

Signed ……

Dr. Dylan Bould

DEDICATION

To God the Almighty for whom I owe my existence, for his love and blessings.

To my beloved parents, **Late Ntarugera Emmanuel** and **Mukagatare Francoise**, who did everything so that I become who I am today.

To my brothers , sister and the whole family for their continuous support.

To my wonderful wife, **Nyiramuhire Claudine**, for her love and support.

To my amazing son, **TUYISHIME MUHIRE Anael**, for his blessings brought into my life.

To my Classmates and all my friends.

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Thanks to the Anesthesia department Consultants at the University of Rwanda, Dalhousie University, and all CASIEF volunteers especially Dr Patricia Livingston for their support during my residency training.
Lastly great thanks to my classmates with whom we struggled together up the end of this residency program.

May God uphold you all!

ACRONYMS AND ABBREVIATIONS

BOS: Burn Out Syndrome

EE: emotional exhaustion

DP: depersonalization

PA: personal accomplishment

MBI-HSS: Maslach Burnout Index Health System Survey

USA: United State of America

MOH: Ministry of Health

CHUK: University Teaching Hospital of Kigali

RMH: Rwanda Military Hospital

KFH: King Faisal Hospital

CHUB: University Teaching Hospital of Butare

VAST: Vital Anesthesia Simulation Training

NPA: Non Physician Anesthetists

ICU: Intensive Care Unit

CI: Confidence Interval

SPSS: Statistical Package for the Social Sciences

CMHS-IRB: College of Medicine and Health Sciences- Institution Review Board

SD: Standard Deviation

LIST OF TABLES AND FIGURES

Figure 1: Results of 3 burnout dimensions among 99 anesthesia providers in Rwanda

Figure 2: Results of Emotional Exhaustion among 99 anesthesia providers in Rwanda

Figure 3: Results of Personal Accomplishment among 99 anesthesia providers in Rwanda

Figure 4: Results of Depersonalization among 99 anesthesia providers in Rwanda

Figure 5: Results of Years in independent practice among 99 anesthesia providers in Rwanda

Figure 6: Results of number of Dependents among 99 anesthesia providers in Rwanda

Figure 7: Results of weekly work hours among 99 anesthesia providers in Rwanda

Figure 8: Results of hours of sleep per night among 99 anesthesia providers in Rwanda

Table 1. Comparison of Respondent Characteristics Among Anesthesiologists Who Met the Criteria for Burnout Compared to Non-burnout Participants

Table 2. Results of Binary Logistic Regression

Table of Contents

DEDICATION 2

ACKNOWLEDGEMENT 3

STUDY TITLE: BURNOUT SYNDROME AMONG ANESTHESIA PROVIDERS IN RWANDA: A QUANTITATIVE ANALYTICAL CROSS SECTIONAL STUDY 6

1.0 BACKGROUND 10

2.0 RATIONALE 11

3.0 LITERATURE REVIEW 11

3.1 Introduction 11
3.2 Definition 11
3.3 Current situation of burnout syndrome 12
3.4 Symptoms of burn out 12
3.5 Risk factors 12
3.6 Impact 13
3.7 Managing burnout 14
4.0 Aims and objectives 15
4.1 Aims 15
4.2 Objectives 16

5.0 METHODS 16

5.1 Study design 16
5.2 Study population 16
5.3 Sample size 16
5.4 Study procedures 16
5.5 Data collection tool 17
5.6 Reliability of data 17
5.7 Analysis 18
5.8 Ethical considerations 19

6.0 RESULTS 20

6.1 Baseline characteristics of the study population 20
6.2 Prevalence of burnout syndrome and scores of the individual dimensions 20
6.3 Comparison of Respondent Characteristics Among Anesthesiologists Who Met the Criteria for Burnout Compared to Non-burnout Participants 28
6.4 Binary Logistic Regression 32

7.0 DISCUSSION 35

8.0 References 39

9.0 APPENDICES 39

9.1 Participant Information sheet/English version 41
9.2 Consent form 43
9.3 Urupapuro rutanga amakuru ku bagira uruhare muri ubu bushakashatsi/ KINYARWANDA VERSION 45
9.4 Data collection tools/Urupapuro rwo gukusanya amakuru 49

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Summary of study

Key words: Emotional Exhaustion, Depersonalization, Factors associated with Burnout

Background: Burnout syndrome (BOS) (physical or mental stress in work place) is known to cause serious negative impacts that can lead to poor-quality work, job turnover, and personal and family problems. Despite having many studies done in other countries, no study done in Rwanda to understand factors leading to burn out for anesthesia providers.

Objectives:
1) To evaluate the prevalence of burnout among anesthesia providers in Rwanda
2) To determine factors associated with burnout among anesthesia providers in Rwanda

Method

Design: A quantitative analytical cross sectional study

Setting: Anesthesia providers from 12 hospitals including 4 teaching hospitals, 1 referral hospital, 1 provincial hospital, and 6 district hospitals in Rwanda.

Main outcome measures: First, socio demographic and work related variables including age, gender, marital status, parenthood status, habitation, role, position occupied, years of training, years of experience, availability of resources and supervision, seeing negative outcomes, work-load, salary issues, and social behavior. Second, mean score response on 22 questions of the full Maslach Burnout Index Health System Survey (MBI-HSS): 9 for emotional exhaustion, 5 assessing depersonalization, and 8 for personal accomplishment.

Results: The response rate was 72.3% (99/137) with the majority of respondents men (63.6%), married (64.3%), from teaching hospitals (76.1%), with a religion (98.9%), from urban area(85.7%), non physician (66.7%), and with experience of below 5 years (73.7%). The mean age was 34.6 (SD=6.4) and the average weekly working hours was 57.5 hours (SD=12.1). The prevalence of burnout (defined as high emotional exhaustion or high depersonalization) among anesthesia providers in Rwandan hospitals was 47.5%. Measured level of burnout as assessed by high emotional exhaustion, low personal accomplishment, and high depersonalization was 46, 15.2 and 8.1%, respectively.

Using a multiple logistic regression, we detected that sleeping hours, rights about the schedule, right drugs, right team, and sufficient salary were independently associated with burnout.

Conclusion:

The prevalence of BOS among anesthesia providers in Rwandan hospitals is high and of major concern. The study identifies key areas upon which interventions could be planned namely adequate sleep, appropriate schedule, right drugs, team support structures, and sufficient remuneration.

1.0 Background

Burnout syndrome is defined as a syndrome consisting of combination of specifically work-related emotional exhaustion (EE), depersonalization (DP) and reduced personal accomplishment (PA) (1). Burnout can lead to poor-quality work, job turnover, and personal and family problems. Performance-shaping factors, including workload, role conflict, lack of community, and value conflicts can predispose to exhaustion, depersonalization, and "in- efficacy" (2). More specifically, the negative consequences associated with burnout may affect the person, the institution, and the patients. Those include tiredness, impaired alertness, frequent medical errors, mood disturbances such as irritability, strained interpersonal relationships at work, low staff recruitment, frequent staff transfers, reduced quality of service to patients, substance misuse and suicidal ideation (3), (4).

The prevalence of burnout among anesthetists is higher than other specialties due to higher stress associated with the vigilance required to manage emergency situations and to monitor patients under anesthesia. Anesthesia providers may be at particular risk for burnout given increasing performance pressure and staff shortages, care of extremely ill patients, and work with extreme responsibility (2). As example, in a study done among anesthesia residents in USA, the risk of Burnout out was high in 41% of anesthesia residents with being female, working more than 70 hours per week, and drinking alcohol for more than 5 times a week increasing risk (5). Other studies found the level of burnout among anesthetists of 21.0% and 10.4% respectively in South Africa and Bresil (6), (7).

Most previous studies of burnout among anesthetists have been done in other countries, however there is no study done on burnout among anesthesia providers in Rwanda.

We designed the current study to evaluate the prevalence of burnout among anesthesia providers in Rwanda and to determine factors associated with burnout in order to propose recommendations about interventions that can improve those factors.

2.0 Rationale

According to Tarek et al. (2013), anesthetists are at high risk of burnout due to a job demand-supply mismatch. It has serious negative consequences for the anaesthetist such as tiredness, impaired alertness, frequent medical errors, mood disturbances such as irritability, strained interpersonal relationships at work, substance misuse and suicidal risk (8), (9). These negative consequences can pose an obvious risk to patient safety as well as the health of the anaesthetist (4). Internationally, numerous studies have been performed to determine the levels of burnout among anaesthetists but none has been done in Rwanda, therefore its prevalence and associated factors are currently unknown. The results from this study will inform policy makers about the current prevalence of burnout and factors to improve in order to decrease burnout rate among anesthesia providers in Rwanda.

3.0 Literature review

3.1 Introduction

In this chapter we will describe the definition of occupation stress and burnout syndrome, current situation, symptoms, risk factors, impact, and management.

3.2 Definition

Occupation stress is defined as “physical and emotional reactions that occur when demands at work exceed the capacity, tolerance, resources and needs of the anesthesiologist (10). Once the coping mechanism is exhausted, then occupation stress leads to burn out syndrome which is defined as a syndrome consisting of combination of specifically work-related emotional exhaustion, depersonalization and reduced personal accomplishment (1).

Emotional exhaustion refers to feelings of strain and fatigue toward job demands that overwhelm one’s coping capacity. Depersonalization refers to a coping mechanism consisting of withdrawal from work and detachment from people entrusted to one’s care (such as patients) or feelings of cynicism. Reduced personal accomplishment represents feelings of frustration towards work and lack of successful achievement within one’s job and organization (11). Burnout syndrome (BOS), unlike depression, it is only triggered by stress related to the working conditions.

It is reversible with change in working conditions and adequate recuperation hence making its early detection crucial (12).

3.3 Current situation of burnout syndrome

Different studies have been done to understand burnout syndrome among anesthetists globally. As example, the World Federation of Societies of Anaesthesiologists (WFSA) Professional Well-being Committee recent survey showed that 89% of anesthesiologists who participated believe that "Physician Burnout Syndrome" is a problem of concern in their society, 36.7% were not aware of the concept of "Working Time Regulations", 57.1% believe that substance abuse is a substantial problem among anesthesiologists, and only 18% of societies have particular group working on the subject of Professional Well-being of Anesthesiologists (13).

Another example, a study done in USA among 102 academic leaders anesthesiologists found that 28% of them had burn out syndrome and 59% were at high risk (14). The incidence of occupational stress among anesthesiologists can be as high as 50% in Europe and 59% - 64% in Latin America. This is approximately the double of the incidence of 28% among other doctors (15), (16).

3.4 Symptoms of burn out (13)

Physical	Psychological	Behavior	Professional	Personal
• fatigue, • sleep disorders, • headache, • impotence, • gastrointestinal disorders	• irritability, • anxiety, • depression, • hopelessness	• aggressiveness, • defensive behavior, • cynicism, • drug abuse	• absenteeism, • decreased performance, • lack of commitment.	• poor communication, • isolation, • poor concentration

3.5 Risk factors

Physician-related factors include: Female gender, residents and young specialists , suboptimum attention to self-wellness by physicians, and predisposing traits (perfectionism, neuroticism, workaholism), difficult relationships with patients, their families and other medical staff, anesthesiologist-surgeon conflicts, genetic factors, difficulty balancing personal and professional life (17)**.**

Work-related environmental and organizational factors include: Excessive workload / production pressure / sleep deprivation, poor work organization, lack of clinical autonomy/lack of recognition, emotional interactions (deal with death and suffering), poor leadership/ lack of supervision, non-reciprocal relationship that anesthesiologists have with their patients, presence of non- skilled assistance in the operating theatre, physical environment (noise, air quality, toxic exposure), community hospitals *vs*. academic hospital, on call work and work in emergency, excessive administrative tasks, and work in large size teams (17).

3.6 Impact

Burn out has a negative impact on one's health, family, work, patients, and health system.

3.6.1 Health impact

- **Physical diseases:** chronic fatigue, gastroduodenal ulcer, gastritis, hypertension, arrhythmia, angina, musculoskeletal diseases, neurological disorders, decreased immunity, reproductive disorders and increased risk of spontaneous abortion (13).
- **Psychological disorders:** psychic emotional deterioration, such as anxiety, depression, and increased risk of suicide (13).
- **Behavioral disorders:** alcohol abuse, psychotropic drug use, drug abuse, and aggressive behavior (13).
- **Intellectual changes:** difficulty to concentrate, impairment of vigilance, reduced work performance (13).

3.6.2 Family impact

It is characterized by difficulties in balancing work and family life, failure in establishing or maintaining relationships with children, difficulties in marital relationship, lack of emotional support, isolation. This may lead to even family breakdown. (13).

3.6.3 Work impact

Important features are lack of interest in work, absenteeism, dissatisfaction, low- quality work, possibility of medical malpractice, which may occur through negligence and cause legal problems.

This may give a bad image to concerned staff and result in career abandonment, premature retirement and, in extreme cases, criminal issues that can even lead to suicide (13).

3.6.4 Impact on patients

Important consequences include reduced adherence to treatment plans, worsened clinical outcomes, and lower patient satisfaction(17).

3.6.5 Impact on healthcare system

Common consequences include overuse of resources and thereby increased costs of care, reduced health outcomes, reduced productivity, and sick leave (17).

3.7 Managing burnout

There is a need of strategies for early detection, prevention, and promotion of wellbeing at individual, team, and institutional level. In addition, there are specific recommendations to prevent fatigue for anesthesiologists.

- **Individual level:** An individual adjustment process to daily expectations includes not denying the situation, avoiding isolation, decreasing the intensity of routine, learning stress management skills, having healthy sleep, adequate rest, a healthy diet; reaching balance between family, friends, work and rest; and seeking psychological counseling. (17).
- **Team level:** Co-workers are key to early diagnosis and support. Staff should advocate for an occupational health program, a place to share experiences, professional support to improve interpersonal relationships (13).
- **Institutional level:** Hospitals and clinics must have an occupational health program focused on anesthesiologists, to prevent stressors, to offer psychological counseling, to support for physical diseases, and to provide prevention and treatment of possible behavioral changes and drug abuse (17).

Specifically, common strategies for burnout prevention include reducing working hours and schedule flexibility, improving physician autonomy, job control and organizational justice, recognizing physician value and opinion, measurement of physician satisfaction and wellness, promoting team work in small sized teams, improving physician work environment, physician wellness and health promotion programs, and development of non-technical skills to help physicians resolve conflicts and crises (communication, decision-making, teamwork and leadership) (17).

- **Recommendations for fatigue management for anesthesiologists**

In order to prevent fatigue, anesthesiologists should follow these preventive measures:

• Working no more than 48-50 hours/week and avoiding to perform two consecutive night shifts,

• Not working more than 10 consecutive hours per day, having a small break after around 5 or 6 hours, and having at least 10 hours break between shifts.

• Avoiding night shifts after being 55 years of age.

• Having a 15-day leave for every four months of work.

• Having a well-structured room to rest and take a nap during breaks, dining and reading place with silence and no environmental pollution (13).

For the practice of anesthesiology, physicians should be in their best physical, mental and emotional conditions in order to successfully integrate and apply all their knowledge and practical skills. Fatigue, burnout, sleep deprivation and indifference to the patient make professionals more prone to errors. Measures should be in place to ensure wellness of anesthesia providers, to prevent burnout syndrome, and to support and manage professionals diagnosed with burnout.

4.0 Aims and objectives

4.1 Aims

To understand the factors leading to burn out among anesthesia providers in Rwanda

4.2 Objectives

- To determine the prevalence of burnout among anesthesia providers in Rwanda
- To identify factors associated with burnout among anesthesia providers in Rwanda

5.0 Methods

5.1 Study design

This is a quantitative analytical cross sectional study

5.2 Study population

Rwanda has currently approximately 320 anesthesia providers practicing in Rwanda, including 270 non physician anesthetists, 31 anesthesia residents, and 19 anesthesiologists distributed within 4 teaching hospitals, 3 referral hospitals, 4 provincial hospitals, and 35 district hospitals (18).

5.3 Sample size

Using a purposive sampling method, in order to include anesthesia providers representing all hospitals conducting surgery in Rwanda, data collection was done in 12 hospitals including 4 teaching hospitals (University Teaching Hospital of Kigali) (CHUK), Rwanda Military Hospital (RMH), King Faissal Hospital (KFH), and University Teaching Hospital of Butare (CHUB)), 1 referral hospital (Kibungo), 1 provincial hospital (Rwamagana), and 6 district hospitals (Masaka, Nyamata, Gahini, Nyagatare, Rwinkwavu, and Kiziguro).

5.4 Study procedures

Both the electronic version of the questionnaire sent via WhatsApp or email and a paper version given in person were used; participants were asked to choose the most convenient method.

From September to November 2018, the data collector (ET) went to all 4 teaching hospitals as they were easily accessible and approached participants from other hospitals during their participation in the Vital Anesthesia Simulation Training (VAST) course which was organized for district hospitals (Masaka, Nyamata, Gahini, Nyagatare, Rwinkwavu, and Kiziguro), provincial hospitals (Rwamagana), and referral hospitals (Kibungo).

Approaching participants during VAST course, the data collector was able to include hospitals from different places without traveling to each place and without relying on the electronic questionnaires which had an anticipated limitation of irregular use of emails by most of participants. The data collector (ET) explained the risk and benefit of the study and obtained an informed consent from all participants before giving out the questionnaires.

5.5 Data collection tool

First section: The first section of the questionnaire included 14 questions designed to capture demographic, social, and work characteristics about the participants: age, gender, marital status, parenthood status, habitation, role, position occupied, years of training, years of experience, availability of resources and supervision, seeing negative outcomes, work-load, salary issues, and social behavior.

Second section: The second section of the questionnaire will include 22 questions from the Maslach Burnout Inventory—Human Services Survey (MBI-HSS) (Maslach et al, 1996). The full MBI-HSS involves 22 questions: 9 for emotional exhaustion, 5 assessing depersonalization, and 8 for personal accomplishment. A score is given to each part of the MBI-HSS, based on a frequency scale of 0 “never” to 6 “every day.”

The questionnaire evaluates depersonalization using questions such as “I feel I have become more callous toward people”; emotional exhaustion with questions such as “I feel emotionally drained from my work” and “I feel used up at the end of the workday”; personal accomplishment with questions such as “I feel I am positively influencing people’s life through my work.”

The risk ranges of the subgroup scoring for burnout are as follows: emotional exhaustion, 0 to 16 (low), 17 to 26 (moderate), and >26 (high); depersonalization, 0 to 6 (low), 7 to 12 (moderate), and >12 (high); and reduced personal accomplishment, 0 to 31 (high), 32 to 38 (moderate), and >39 (low) (1).

As similar as other previous burnout studies that focused on the presence of a high level of emotional exhaustion or depersonalization as the foundation of burnout in physicians (19), (20), we defined burnout as a high level on the emotional exhaustion or a high level on the depersonalization subscale in our study (9), (21).

5.6 Reliability of data

The data collection tool was piloted amongst 20 Intensive Care Unit (ICU) nurses from 2 teaching hospitals for clarity and understanding, and final corrections were made based on their feedback.

During data collection participants were assigned a research number and no identifying information was collected in order to maintain the privacy of their responses and anonymity . In addition, the principal investigator was always available to answer any questions on the questionnaire .

5.7 Analysis

Standard descriptive statistics were used to summarize the data. Basic characteristics are presented as the percentage for categorical variables and mean ± standard deviation for continuous variables. The difference between burnout and non-burnout participants was evaluated using $\chi 2$ test (2 x 2 table).

We selected the potential risk factors for to enter in the multiple regression model, based on the potential variables in previous studies, the actual situation in Rwanda, and the result of single factor analysis. The 6 variables selected for the multiple regression model were hospital category, sleeping hours, rights about the schedule, right drugs, right team, and sufficient salary. This multiple regression model was established using a backward stepwise likelihood ratio elimination method, and the criteria for entry and removal from the model at each step were set at a p-value of 0.01 and 0.05, respectively**.** Odds ratios and 95% Confidence Interval (CIs) were calculated for the variables in the final equation.

All variables were dichotomized before the analysis. The hospital category variable was dichotomized for the analysis as teaching and non-teaching, sleep hours variable was dichotomized for the analysis as sleeping < 6 hours and 6 hours and above.

The term ‘Right about the schedule’ referred to how participants responded to the question “do you feel like your right about the schedule and working hours are respected?”. The variable was dichotomized for the analysis with the reference condition referring to participants who answered they often had their rights about the schedule respected.

The term ‘Right drugs’ referred to how participants responded to the question, ‘how often do you feel you don’t have the right drugs to carry out work to an appropriate standard?’ the variable was dichotomized for the analysis with the reference condition referring to participants who answered they often had the right drugs.

'Team' referred to how participants responded to the question, 'do you feel you have the right team around you to do your job?' this variable was dichotomized for the analysis with the reference category referring to participants who answered they had team support.

Sufficient salary referred to how participants responded to the question, 'how do you agree with the following sentence. My salary is sufficient to support all reasonable needs for myself and my family.' the variable was dichotomized for the analysis with the reference condition referring to participants who answered they agree to having sufficient salary.

All the analyses were completed using Statistical Package for the Social Sciences (SPSS) software version 2013. All statistical tests were 2 sided, with a type I error level of 0.05.

5.8 Ethical considerations

Informed consent

All participants signed an informed consent before enrolment.

. Participants were informed of the research study and the ways in which the data may be used through a participant information sheet. They had also the opportunity to discuss the study with the researcher.

Ethical approval

Ethical approval (No 056/CMHS-IRB/2018) was granted by the University of Rwanda/College of Medicine and Health Sciences institutional review board. Ethical issues relevant to this work include consent, anonymity and confidentiality

Confidentiality

Identification numbers were used for data collection and entry purposes to maintain anonymity.

Data were stored in password protected computer of the Principal Investigator. Data will be kept for 5 years following the end of the study before destruction.

The data were only used for the purposes described in the participant information sheet. This is felt to be a low risk study with minimal potential for negative consequences for the research participants.

6.0 Results

6.1 Baseline characteristics of the study population

A total of 99 anaesthetists participated in the study. The total population was 137 selected from 12 hospitals. CHUK with 6 anesthesiologists, 15 residents, 21 NPAs; followed by RMH with 4 anesthesiologists, 7 residents, 14 NPAs; followed by CHUB with 4 anesthesiologists, 5 residents, 14 NPAs, and KFH with 3 anesthesiologists, 4 residents, 14 NPAs. The remaining hospitals have only approximately 3 to 5 NPAs per hospital (with 24 NPAs from 8 hospitals involved in VAST course). This accounted for approximately 72.3% response rate. The mean age was 34.6 (SD=6.4) and the average workload was 57.5 hours (SD=12.1).

Thirty six (36.4%) were female and 63 (63.6%) males, 63 (64.3%) were married and 35 (35.7%) single, 70 (76.1%) were from teaching hospitals, 10 (10.9%) from Referral or Provincial hospitals, and 12 (13%) from district hospitals; 94 (98.9%) had a religion and 1 (1.1%) had no religion, 14 (14.3%) were from rural area and 84 (85.7%) were from urban area, 66 (66.7%) were non physician, 24 (24.2%) residents, and 9 (9.1%) physicians; and 5 (5.3%) had experience of below 2 years, 39 (41.1%) experience of 2 to 5 years, 31 (32.6%) experience of 6 to 10 years, and 20 (21%) experience of above 10 years.

6.2 Prevalence of burnout syndrome and scores of the individual dimensions

As burnout was defined as a high level on the emotional exhaustion (score >26) or depersonalization (score >12) subscales, the percentage of burnout in the 99 anesthesia providers in Rwanda is 47 (47.5%).

All participants with high scores on depersonalization had also high scores on emotional exhaustion except one. A small number, 1 (approximately 1%) of the respondents presented a high level of emotional exhaustion, depersonalization, and reduced personal accomplishment simultaneously.

On emotional exhaustion dimension, 46 participants (46.5%) had high scores, 20 (20.2%) moderate scores, and 33 (33.3%) low scores.

On reduced personal accomplishment dimension, 15 participants (15.2%) had high scores, 23 (23.2) moderate scores, whereas 61 (61.6%) had low scores.

On depersonalization dimension, 8 (8.1%) had high scores, 13 (13.1%) moderate scores, and 78 (78.8%) low scores (Figure 1).

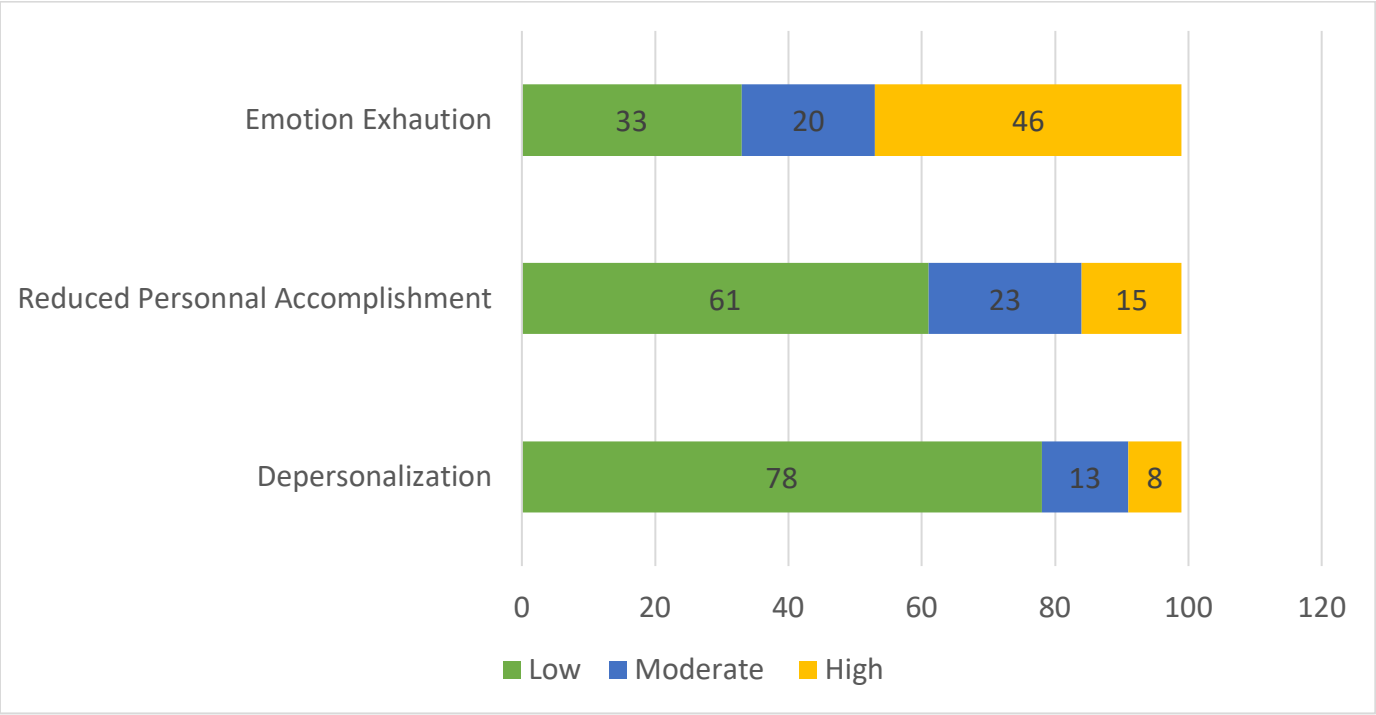

Figure 1: Results of 3 burnout dimensions among 99 anesthesia providers in Rwanda

For emotional exhaustion, 46.5% had high scores and high risk of BOS, 53.5% had moderate and low scores ((20.2%) moderate scores, and 33 (33.3%) low scores) (Figure 2).

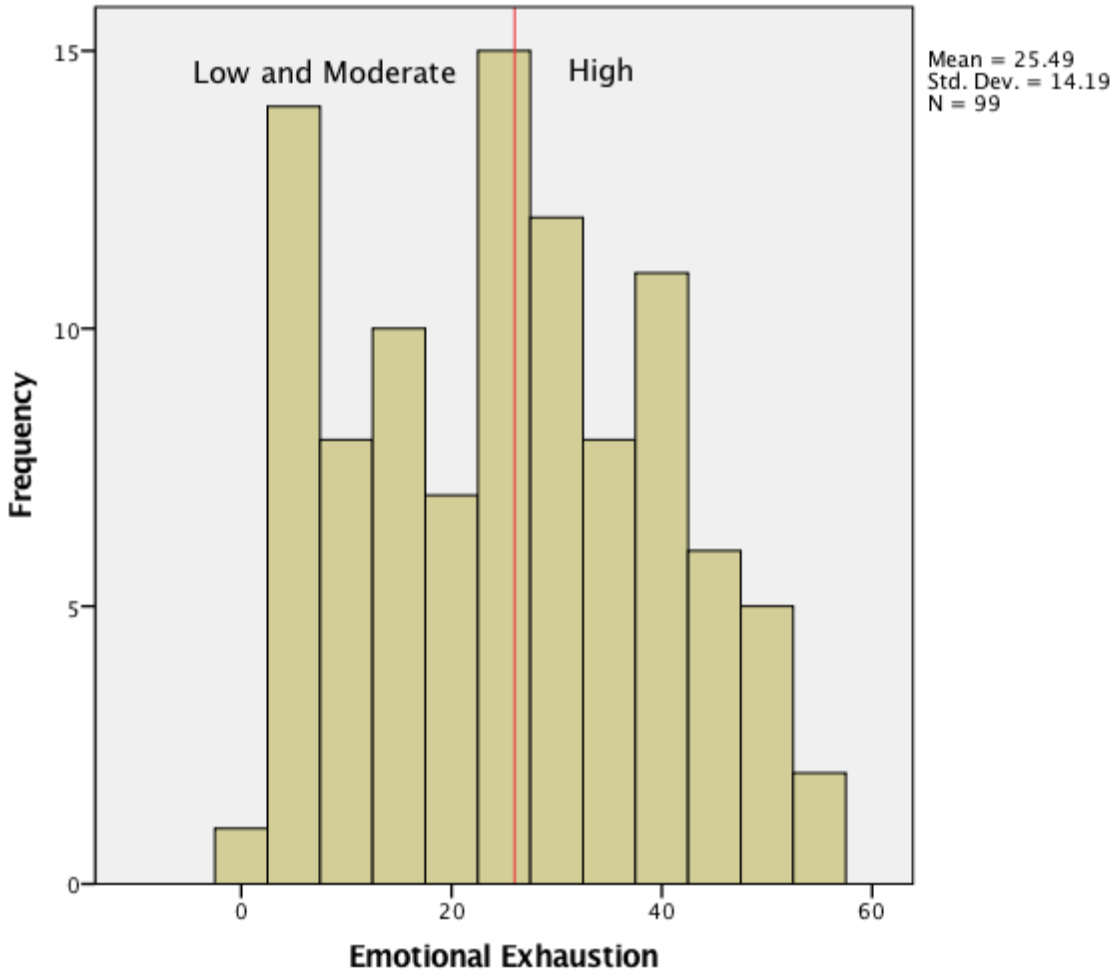

Figure 2: Results of Emotional Exhaustion among 99 anesthesia providers in Rwanda

For reduced personal accomplishment dimension, 15.2% had high scores and high risk of BOS, 84.8% had moderate and low scores (23.2% with moderate scores and 61.6% with low scores) (Figure 3).

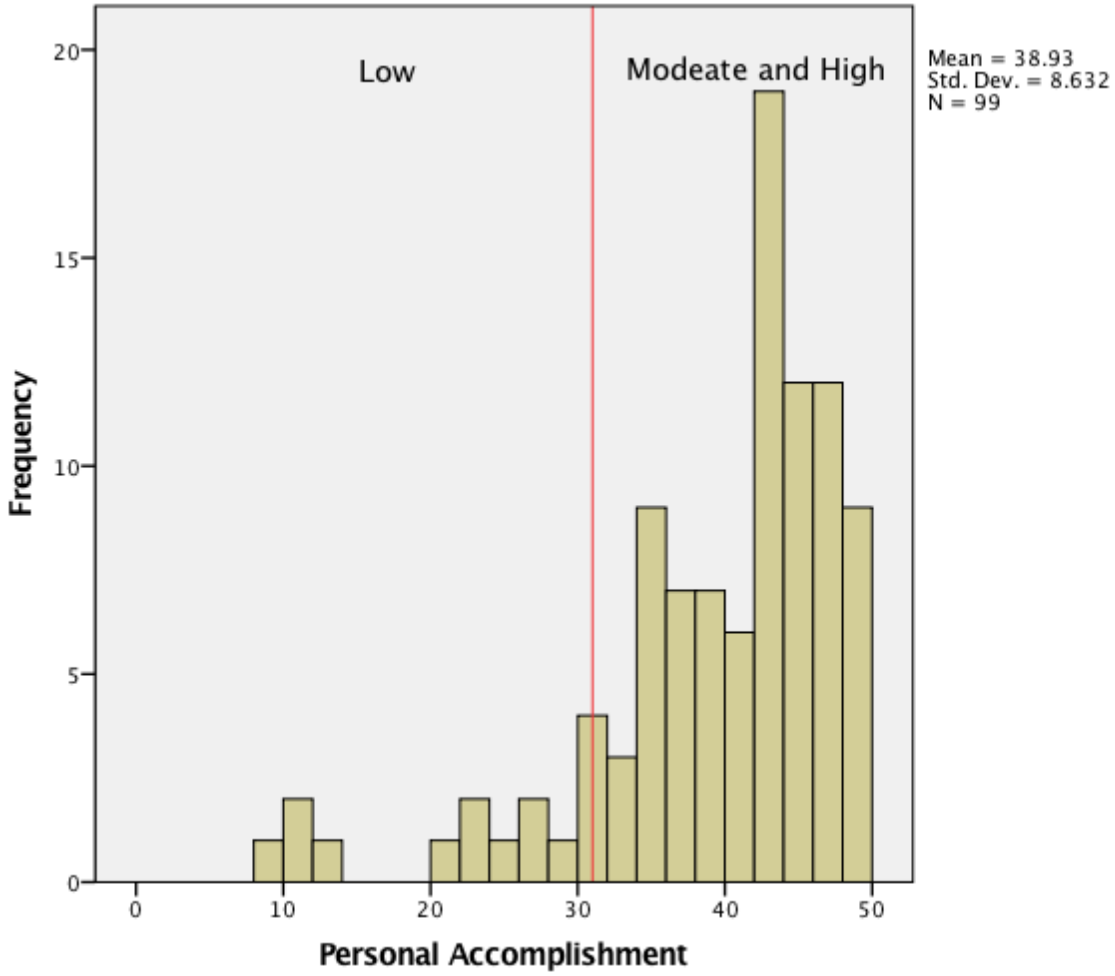

Figure 3: Results of Personal Accomplishment among 99 anesthesia providers in Rwanda

For depersonalization dimension, only 8.1% had high scores and high risk of BOS, 91.9% had moderate and low scores (13.1% with moderate scores and 78.8% with low scores) (Figure 4).

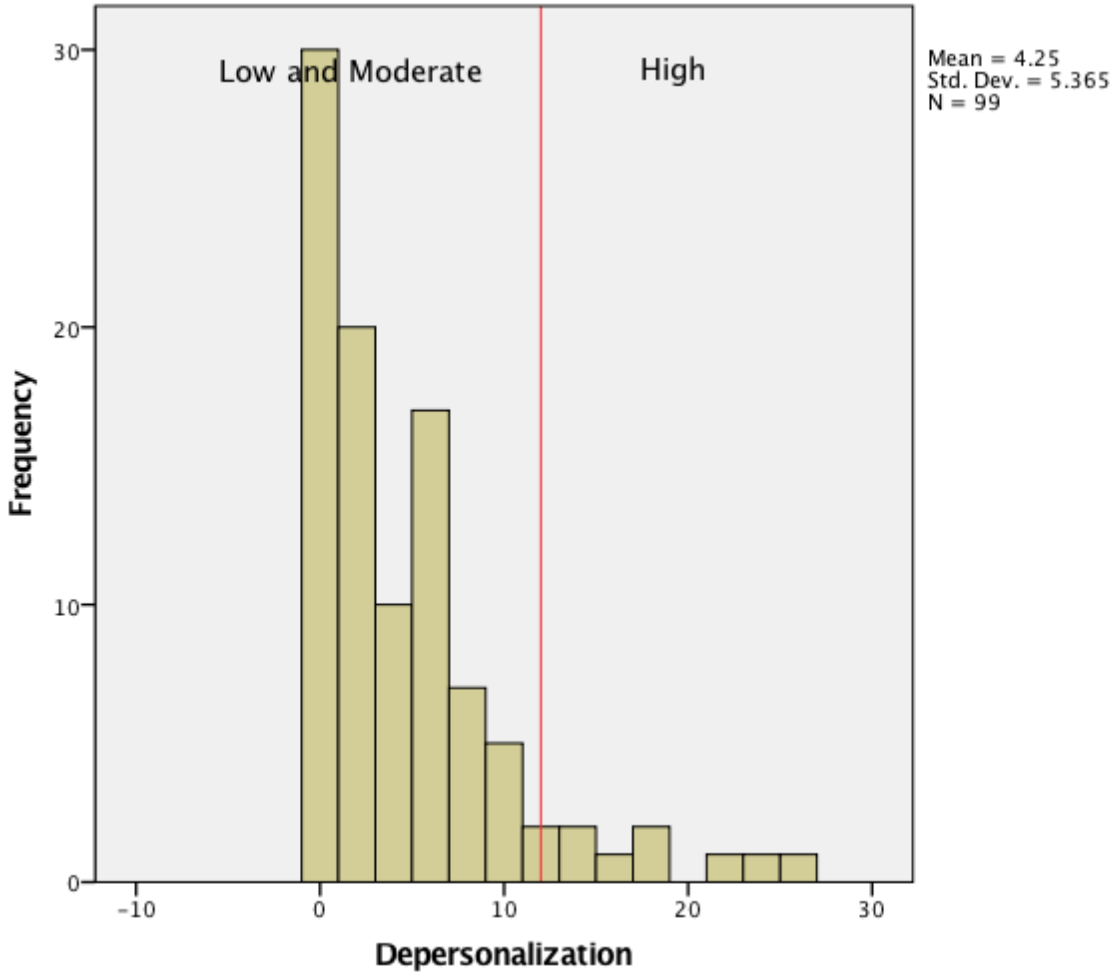

Figure 4: Results of Depersonalization among 99 anesthesia providers in Rwanda

The median years in independent practice among 99 anesthesia providers in Rwanda is 3 years (50% of participants had less than 3 years of practice) (Figure 5).

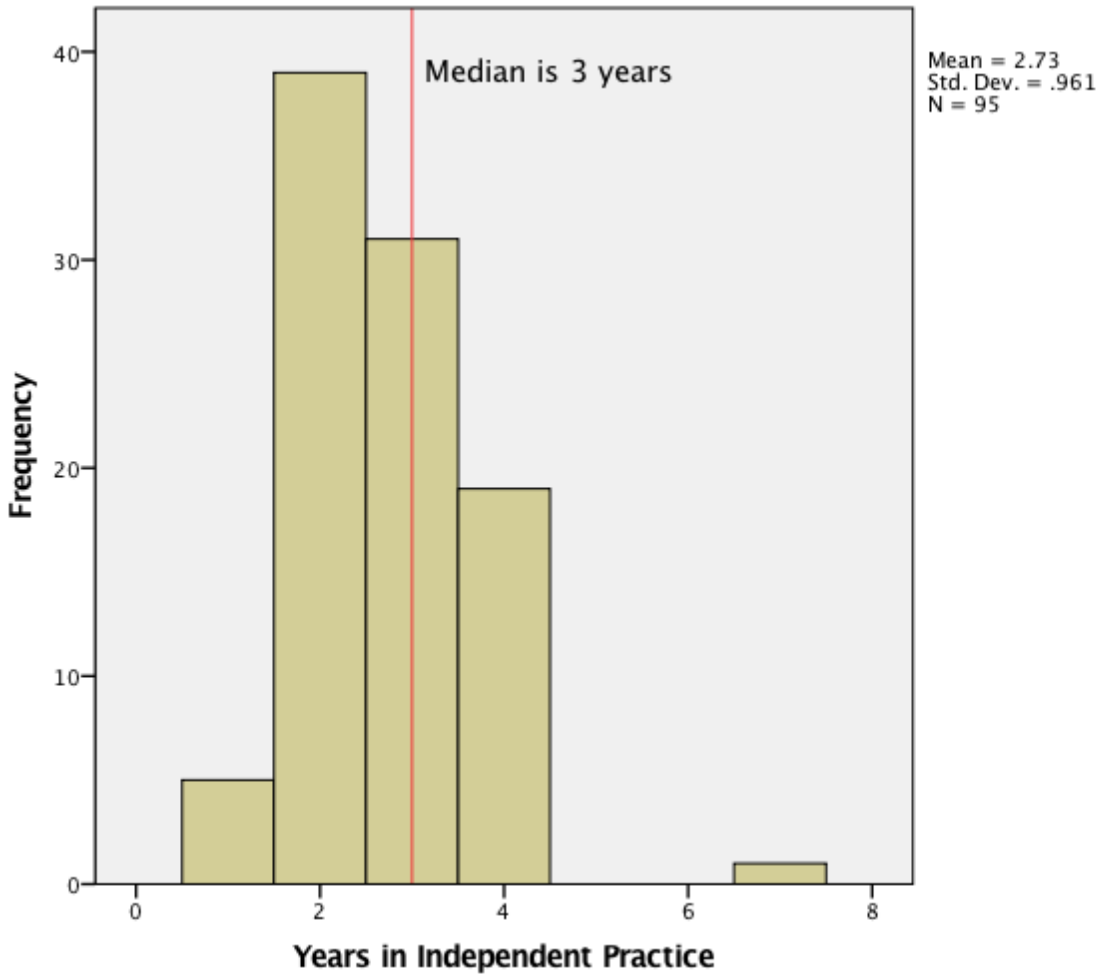

Figure 5: Results of Years in independent practice among 99 anesthesia providers in Rwanda

The median number of dependents among 99 anesthesia providers in Rwanda was 3 (50% of participants had more than 4 dependents) (Figure 6).

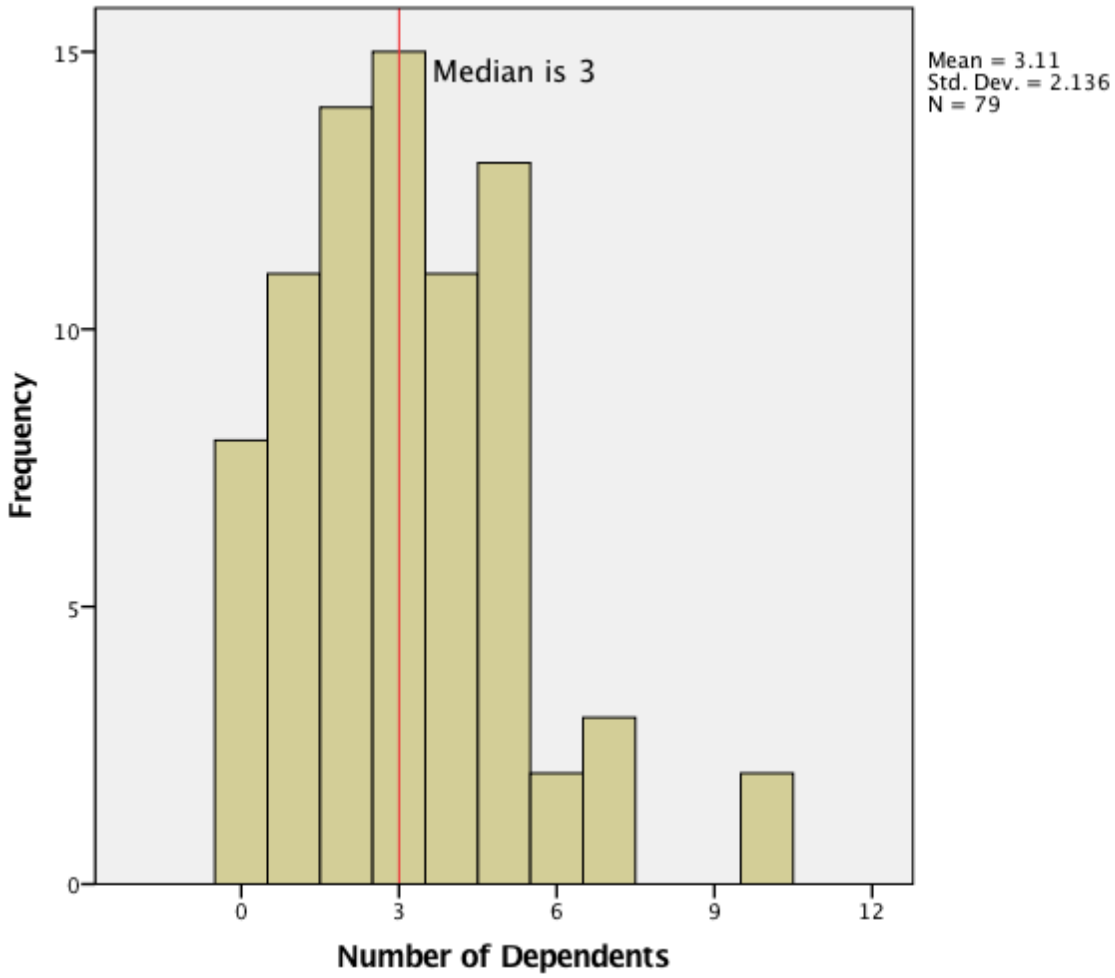

Figure 6: Results of number of Dependents among 99 anesthesia providers in Rwanda

The mean weekly work hours among 99 anesthesia providers in Rwanda was 57.43 hours (94% of participants reported to work more than 45 hours recommended by the law) (Figure 7).

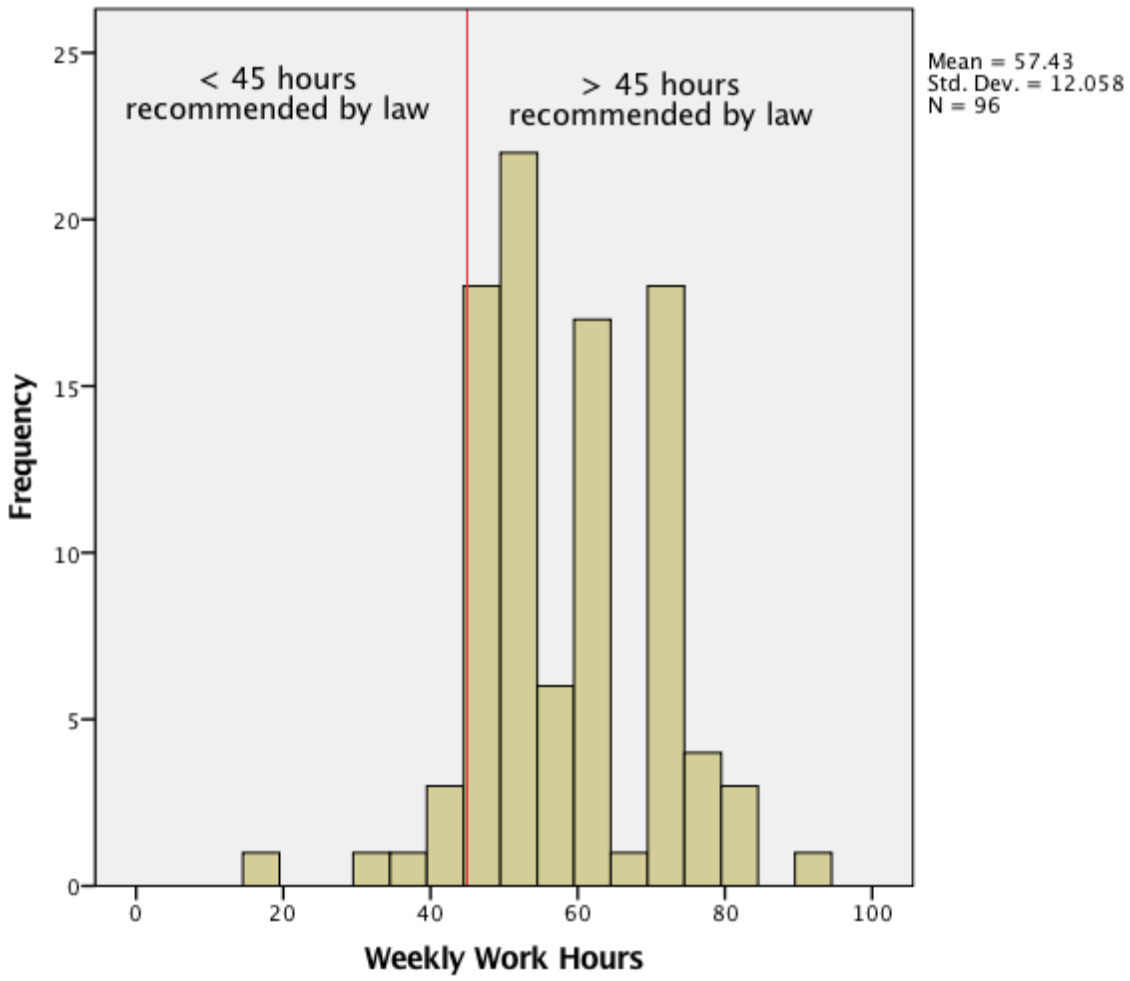

Figure 7: Results of weekly work hours among 99 anesthesia providers in Rwanda

The median hours of sleep per night among 99 anesthesia providers in Rwanda was 6 hours (50% of participants sleep less than 6 hours) (Figure 8).

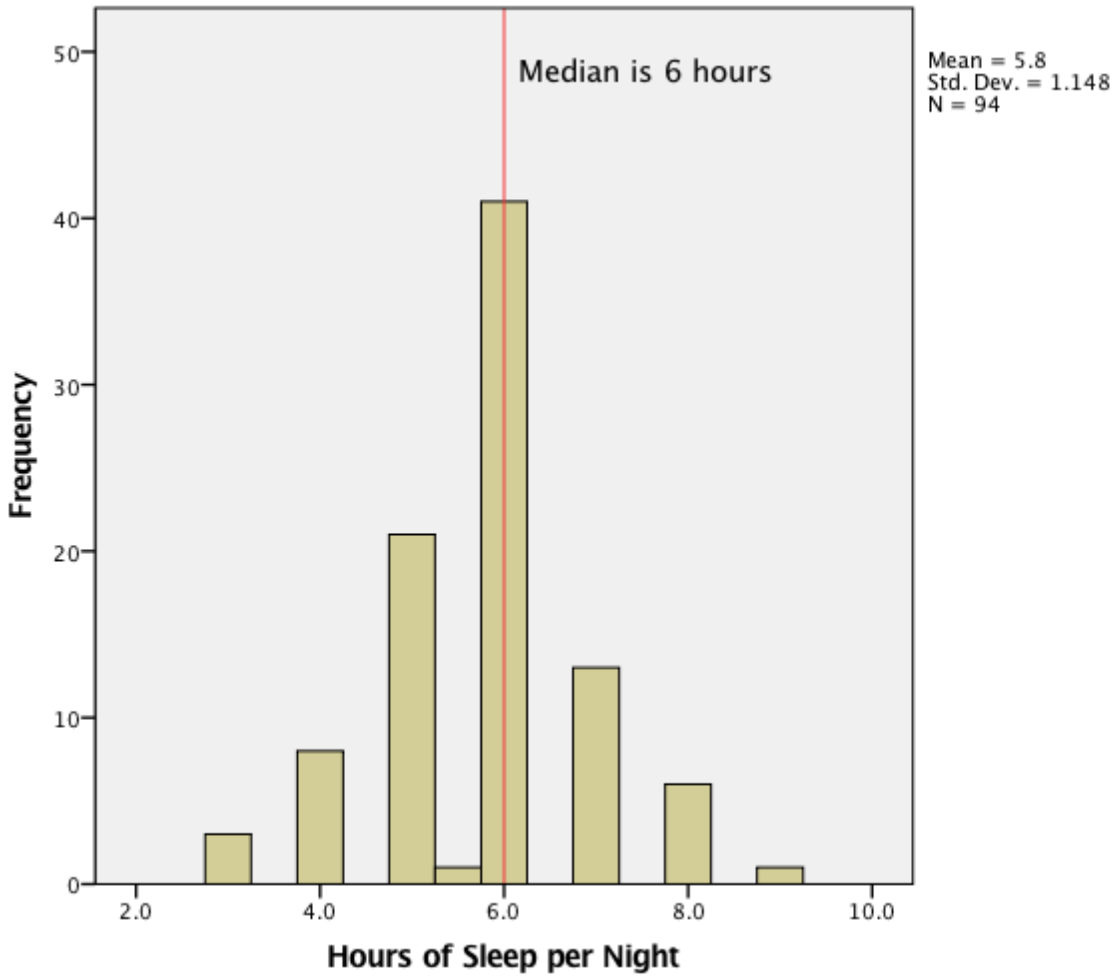

Figure 8: Results of hours of sleep per night among 99 anesthesia providers in Rwanda

6.3 Comparison of Respondent Characteristics Among Anesthesiologists Who Met the Criteria for Burnout Compared to Non-burnout Participants

Comparison of respondent characteristics among anesthesiologists who met the criteria for burnout compared with non-burnout participants is presented in (Table 1).
Primary role, rights about schedule, vacation days in last year, right equipment, right drugs, seeing patients with negative outcomes, right team, and sufficient salary were significantly different between these 2 groups.

Table 1. Comparison of Respondent Characteristics Among Anesthesiologists Who Met the Criteria for Burnout Compared to Non-burnout Participants

Variables	Total	With Burnout	Without burnout	P Value
Sociodemographic factors				
Age (y)				
<30	17 (17.5)	5 (5.2)	12 (12.4)	0.127
30-39	59 (60.8)	34 (35.1)	25 (25.8)	
40-49	17 (17.5)	7 (7.2)	10 (10.3)	
50-59	4(4.1)	1 (1.0)	3 (3.1)	
>60	0 (0)	0 (0)	0 (0)	
Gender				
Male	63 (63.6)	32 (32.4)	31 (31.3)	0.382
Female	36 (36.4)	15 (15.2)	21 (21.2)	
Marital status				
Single	35 (35.7)	13 (13.3)	22 (22.4)	0.110
Married	63 (64.3)	34 (34.7)	29 (29.6)	
Hospital category				
Teaching	70 (76.1)	39 (42.4)	31(33.7)	0.116
Referral or Provincial	10 (10.9)	9 (4.3)	6 (6.5)	
District	12 (13)	3 (3.3)	9 (9.8)	
Religion				
Yes	94 (98.9)	45 (47.4)	49 (51.6)	0.299
No	1 (1.1)	1 (1.1)	0 (0)	
Habitation				
Rural	14 (14.3)	4 (4.1)	10 (10.2)	0.117
Urban	84 (85.7)	43 (43.9)	41 (41.8)	
Primary role				
Non physician anesthetist	66 (66.7)	26 (26.3)	40 (40.4)	**0.030**

Resident	24 (24.2)	17 (17.2)	7 (7.1)	
Anesthesiologists	9 (9.1)	4 (4.0)	5 (5.1)	
Experience				
< 2 year	5 (5.3)	1 (1.1)	4 (4.2)	0.404
2 to 5 years	39 (41.1)	19 (20.0)	20 (21.1)	
6 to 10 years	31 (32.6)	18 (18.9)	13 (13.7)	
> 10 years	20 (21)	8 (8.4)	12 (12.7)	
Work related factors				
Respect of rights about schedule				
Yes	15 (15.3)	1 (1.0)	14 (14.3)	**0.001**
No	83 (84.7)	46 (46.9)	37 (37.8)	
Working hours per week				
less or equal to 45 hours	10 (10.3)	3 (3.1)	7 (7.2)	0.218
> 45 hours	87 (89.7)	44 (45.4)	43 (44.)	
Sleep hours				
< 6 hours	31 (33.0)	12 (12.8)	19 (20.2)	0.206
6-8 hours	62 (66.0)	34 (36.2)	28 (29.8)	
8 hours and above	1 (1.1)	1 (1.1)	0 (0)	
Vacation days in last year				
< 16 days	28 (28.5)	14 (14.2)	14 (14.2)	**0.025**
16 to 30 days	70 (71.5)	33 (33.7)	37 (37.7)	
No access to right equipment				
Never (0%)	3 (3)	0 (0)	3 (3)	**0.0001**
Rarely (10%)	13 (13.1)	2 (2)	11 (11.1)	
Occasionally (30%)	21 (21.2)	4 (4.0)	17 (17.2)	
Sometimes (50%)	16 (16.2)	9 (9.1)	7 (7.1)	
Frequently (70%)	22 (22.2)	13 (13.1)	9 (9.1)	
Usually (90%)	12 (12.1)	10 (10.1)	2 (2)	
Every time (100%)	12 (12.1)	9 (9.1)	3 (3)	
No access to basic drugs				

Never (0%)	5 (5.1)	0 (0)	5 (5.1)	**0.0001**
Rarely (10%)	22 (22.4)	4 (4.1)	18 (18.4)	
Occasionally (30%)	21 (21.4)	6 (6.1)	15 (15.3)	
Sometimes (50%)	18 (18.4)	10 (10.2)	8 (8.2)	
Frequently (70%)	11(11.2)	8 (8.2)	3 (3.1)	
Usually (90%)	12 (12.2)	12 (12.2)	0	
Every time (100%)	9 (9.2)	7 (7.1)	2 (2)	
Seeing patients with negative outcomes				
Never (0%)	3 (3.0)	0 (0)	3 (3.0)	**0.035**
Rarely (10%)	32 (32.3)	13 (13.1)	19 (19.2)	
Occasionally (30%)	18 (18.2)	6 (6.1)	12 (12.1)	
Sometimes (50%)	5 (5.1)	4 (4.0)	1 (1.0)	
Frequently (70%)	21 (21.2)	15 (15.2)	6 (6.1)	
Usually (90%)	10 (10.1)	6 (6.1)	3 (4.0)	
Every time (100%)	10 (10.1)	3 (3.0)	7 (7.1)	
No right team				
Never (0%)	3 (3.0)	0 (0)	3 (3.0)	**0.0001**
Rarely (10%)	21 (21.2)	6 (6.1)	15 (15.2)	
Occasionally (30%)	24 (24.2)	5 (5.1)	19 (19.2)	
Sometimes (50%)	23 (23.2)	15 (15.2)	8 (8.1)	
Frequently (70%)	11 (11.1)	6 (6.1)	5 (5.1)	
Usually (90%)	11 (11.1)	11 (11.1)	0 (0)	
Every time (100%)	6 (6.1)	4 (4)	2 (2)	
Opportunities for professional career development				
Strongly agree	24 (24.5)	12 (12.2)	12 (12.2)	0.138
Agree	40 (40.8)	14 (14.3)	26 (26.5)	
Neither agree or disagree	22 (22.4)	13 (13.3)	9 (9.2)	
Disagree	12 (12.3)	8 (8.2)	4 (4.1)	
Strongly disagree	0 (0)	0 (0)	0 (0)	

Sufficient salary to support all reasonable needs				
Strongly agree	5 (5.1)	3 (3.0)	2 (2.0)	**0.004**
Agree	20 (20.2)	4 (4.0)	16 (16.2)	
Neither agree or disagree	11(11.1)	7 (7.1)	4 (4.0)	
Disagree	31 (31.3)	22 (22.2)	9 (9.1)	
Strongly disagree	1 (1.0)	0 (0)	1 (1.0)	

Data are presented as n (% of column). The univariate analysis was performed using $\chi 2$ test.

6.4 Binary Logistic Regression

6.4.1 Choice of the model

The model considered independent variables and compared them to the null hypothesis (no association of each variable with burnout out) and produces a Chi-square value of 56.555 whose *p* value was 0.0001 which qualifies as statistically significant and supports the use of the binary regression model to predict burnout from the given predictor variables.

The variables included in the final model needed to be reduced due to the sample size and prevalence of positive outcomes in order to minimize the chances of obtaining a type 1 error. Only variables with a strong theoretical basis where included from the available literature and local context.

6.4.2 Results of Binary Logistic Regression

The results of a binary logistic regression model of burnout risk factors included the following 6 factors, hospital category, sleeping hours, rights about the schedule, right drugs, right team, and sufficient salary as shown in (Table 2).

We selected the potential risk factors for the binary regression based on the potential variables in previous studies, the actual situation in Rwanda and the result of single factor analysis.

The 5 statistically significant predictors of burnout (p value <0.05) were sleep hours (p=0.006), right about the schedule (p=0.037), right drugs (p=0.002), right team (p=0.023), and sufficient salary (p=0.046).

Interestingly and inversely to what was expected, sleeping 6 hours and more was found to increase the odds of being burnt out by a factor of 6.557 (95% C.I 1.694-25.376).

Not having respected rights about the schedule and working hours was found to increase the odds of being burnt out by a factor of 10.182 (95% C.I 1.155-89.779).

For a unit increase in availability of drugs, the odds of being burnt out were lower by a factor of 0.113 (95% C.I. 0.028-0.455) i.e. odds ratio for an increase in availability of drugs was 0.113.

For a unit increase in team support, the odds of being burnt out were lower by a factor of 0.180 (95% C.I. 0.041-0.788) i.e. odds ratio for an increase in team support was 0.180.

Not having a sufficient salary was found to increase the odds of being burnt out by a factor of 4.527 (95% C.I 1.029-19.919).

The model did not find statistically significant predictive ability for hospital category variable (p=0.061) as the p value was >0.05.

Table 2: Results of Binary Logistic Regression

Variables	Stratification	P Value	OR (95 % CI)
Hospital category			
Teaching (ref)	75		1.00
Non-Teaching	22	0.061	0.217 (0.044-1.072)
Sleep hours			
< 6 hours (ref)	35	0.006	1.00
6 hours and above	62		6.557 (1.694-25.376)
Rights about the schedule			
Yes (ref)	15	0.037	1.00
No	82		10.182 (1.155-89.779)
No right drugs			
Yes (ref)	32	0.002	1.00
No	65		0.113 (0.028-0.455)
No right team			
Yes (ref)	28	0.023	1.00
No	69		0.180 (0.041-0.788)
Sufficient salary			
Yes (ref)	23	0.046	1.00
No	74		4.527 (1.029-19.919)

7.0 Discussion

The study found that the prevalence of burnout among anesthesia providers working in Rwandan hospitals was 47.5%. This was defined as the presence of high scores in the emotional exhaustion or the depersonalization dimensions (9), (21).

This was comparable to the findings of studies from other countries like Brazil, Portugal, Lithuania, South Africa, and Serbia which reports a burnout prevalence among anaesthetists as being between 33 and 52.7% (22), (23), (24), (25).

The dimensional scores when considered individually showed that 46% had high scores on EE, 15% scored high on DP and 8% had low scores on the PA. This compares and contrasts with an Egyptian study among 96 academic career anaesthetists at an Egyptian university hospital which found 62.2% experienced high scores in EE, 56.1% had high DP scores, and 58.2% reduced PA (8). The main difference in this study was that the number of anesthesia providers who scored low on the personal accomplishment dimension and higher on depersonalization was lower than expected, when compared to emotional exhaustion scores. This implied that majority of the anesthesia providers had a feeling of high accomplishment from the daily care of patients despite the challenging circumstances surrounding their work. It is not clear why this particular aspect of burnout seems to be relatively prevalent in Rwandan anesthesia providers, and other observational or qualitative research is needed to further explore this.

It is important, however, to note that the study population was not a homogeneous one as was notably the case in other studies. The anesthesia providers population in Rwanda which at the time of the study stood at an estimated 320 consisted of physician, residents, and non-physician anaesthetists. The vast majority were the non-physicians (approximately 66.7%) with 3-4 years post-secondary school anesthesia training. The study population was therefore influenced by the characteristics and circumstances surrounding the work environment of the non-physician anaesthetists. In addition, the gender balance was tipped towards males with only 36.4% of the group being females. This contrasted sharply with the Romanian study as example in which 146 anaesthetists were studied for the prevalence of burnout and female gender comprised 70.5% (103) of the study population (26).

The observed gender imbalance, like the job position imbalance stated above, reflects the fact that the anesthesia workforce in Rwanda at the time of the study was largely male.

In this study, 5 factors were found to be statistically significant predictors of burnout (*p* value <0.05), namely sleep hours (p=0.006), right about the schedule (p=0.037), right drugs (p=0.002), right team (p=0.023), and sufficient salary (p=0.046).

Inversely to what was expected sleeping > 6 hours was associated with increased risk of burnout. The findings of other studies are controversial where some studies like the one done in China described the quality of sleep as an important risk factor for burnout among anesthesia providers while others failed to associate sleep hours and burnout (21), (27). Sleeping more hours doesn't guarantee good quality of sleep and rest necessary to ensure adequate performance on psychomotor tasks. Therefore, the reason of increased hours of sleep in respondents with burnout and the quality of sleep need further evaluation.

As described previously, lack of control over the schedule and working hours was associated with the risk of developing BOS (28). However, other studies failed to associate number of working hours and burnout (27).

The lack of right team and right drugs to work with were found to be independent predictors of BOS. This was consistent with other studies where burnout was considerably lower among anaesthetists working in teaching hospitals with established team structures and adequate working condition than community hospitals were anaesthetists felt isolated and without enough resources (17). Even if adequate team structures and resources have shown to decrease burnout rates, most of respondents in our study reported a lack of formal team structure and drugs to carry adequately their work with only 28.6% and 33.4% reporting the frequent availability of right team and right drugs respectively. Working on improving team work, interprofessional collaboration, availability of anesthesia resources, and support for isolated anesthesia providers should be a priority for Rwandan healthcare, in order to maintain a healthy workforce.

Effective team structures if put in place would allow more supervision, support for difficult cases, shared ideas, debriefing in case of critical incidents and planned breaks to enable each member recuperate.

Similarly to our findings, relatively lack of sufficient salary has been described as an important risk factor for burnout among anesthesia providers in other settings like China as example (21). Working extra-hours with simultaneous limitation to personal and family needs combined with an awareness that other specialists may be compensated better may lead to having lower personal accomplishment and higher burnout (25).

However, the model did not find statistically significant predictive ability for the hospital category (p=0.061). This contrasts with the study done among Chinese anesthesiologists which found the hospital category as an important predictor for burnout (21). This may be explained by the fact that most of our respondents were from one hospital category, a study with bigger sample size including all hospitals categories equitably is needed in order to explore this further.

Even if the following factors were not found to be statistically significant, they need more exploration for better understanding of their impact on burnout. Those factors include the median years in independent practice of less than 3 years for more than 50% of participants, the median number of dependents of more than 3 for more than 50% of participants, the mean weekly work hours of 57.43 hours where 94% of participants reported to work more than 45 hours recommended by the law, and the median hours of sleep per night of less than 6 hours for more than 50% of participants.

Study limitations

1. The number of participants was small and purposive sampling method was used. This could have potentially an impact on the generalizability of the results to the whole population. In addition, the small sample size could have potentially compromised the power of the study and limited the number of variables that could be fitted into the logistic regression model to avoid overfitting.
2. The skewed numbers of male vs. female, physician vs. non-physician anaesthetists, teaching vs non-teaching, and rural vs urban could have led to observations less generalizable to other populations with different contextual factors.
3. Sensitive information such as frequency of negative outcomes experienced might have been underreported.

Conclusion

The prevalence of BOS among anesthesia providers in Rwandan hospitals is high and of major concern. Early detection and planned interventions are therefore crucial. The study identifies key areas upon which interventions could be planned namely; adequate sleep, appropriate schedule, right drugs, team support structures, and sufficient remuneration. These measures would reduce stress at work and provide better and safer working environment.

In addition, due to the small number of anesthesia providers in Rwanda, this study may be underpowered to identify factors which actually are predictive, but with a relatively small effect size (odds ratio). Therefore, although it is safe to conclude that sleep hours, schedule and working hours, drugs, team, and salary are important factors to improve on, we should be cautious in overlooking the other factors which were statistically not significant in this study, but have been found to be relevant in other literature like gender, hospital category, marital status, and role.

Recommendations

1. The study identified that sleep hours, schedule and working hours, drugs, team, and salary are important factors to consider in order to decrease BOS. Therefore, every institution should have a wellness program to decrease those risk factors.
2. Every hospital should have access to psychotherapy services to regularly assess at-risk personnel such as anesthesia providers to detect and treat BOS early.
3. Further studies are needed to assess other potential independent variables and interventions

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9.0 Appendices

9.1 Participant Information sheet/English version

Burnout syndrome among anesthetists, Intensive Care staff, and Emergency Care staff in Rwanda: A quantitative analytical cross sectional study

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Introduction

Eugene Tuyishime is a post graduate MMED Anaethesia and critical care candidate at the University of Rwanda, College of Medicine and Health Sciences.

This study seeks to determine the prevalence of burnout syndrome among anaesthetic care givers in Rwanda. As an anaesthetist, you constitute the group of professionals that this research focuses on.

Please read this participant information sheet and consent form carefully and ask as many questions as you wish before deciding whether to participate in this research or not.

Background, Purpose and Design of the study

Burnout syndrome is a common phenomenon among specialties providing around the clock care to patients such as anaesthesia. It has been shown to threaten delivery of quality health service, patient safety and the wellbeing of anaesthetists and staff working in ICU who are at risk. Unfortunately, it has not received the attention it deserves and therefore little is known about the prevalence and sociodemographic or work factors that may heighten this risk. This study aims at identifying, exposing and quantifying the presence or absence of burnout syndrome and its associated risk factors among anaesthetists in Rwanda.

Study Procedures

This is a questionnaire-based study that aims to gain insight into the prevalence of burnout syndrome amongst anaesthetists, ICU staff, and emergency care staff and the various sociodemographic and work related factors that may alter the pattern of burnout seen. The questionnaire is in two parts which aim to cover the above-mentioned study aims. The questionnaire will require approximately 10-15 minutes to fill at your own convenience.

Potential risks

There are no known risks

Potential benefits

You may not receive direct benefit from this study. However, your participation in this research could allow a better understanding of the anaesthetist's working conditions and form a crucial basis for evaluating changes in the work environment and improve patient safety.

Withdrawal from study

Your participation in this research is not obligatory. You have the right to withdraw from the study at any point. You may cancel this consent at any time. Refusal to participate or stopping your participation will involve no penalty or loss of benefits to which you are otherwise entitled.

Confidentiality

All personal identifying information will be kept confidential, unless release is required by law. You will not be identifiable in any publications or presentations resulting from this study.

We will assign to you an independent study number and request you to provide only your initials. The personal information and study files will be stored separately and securely; they will be only available to the principal investigator for this study.

All paper records will be stored in a locked file in the office of the Head of department of Anesthesia at the University of Rwanda.

Voluntary participation

Participation is your choice whether or not to participate in this research. If you choose to participate, you may change your mind and leave the study at any time. Refusal to participate or stopping your participation will involve no penalty or loss of benefits to which you are otherwise entitled.

Questions about the Study

For any further clarification, you may contact Dr. Eugene Tuyishime on the number given above or by email: tuyishime36@gmail.com.

Or please contact

The Chairperson of the UR-CMHS/IRB, Prof. Kato Njunwa, Telephone: +250788 490 522 and email: knjunwa@yahoo.co.uk

The Vice Chairperson, Telephone: +250783 340 040

9.2 Consent form

Burnout syndrome among anesthetists, Intensive Care staff, and Emergency Care staff in Rwanda: A quantitative analytical cross sectional study

Consent to Participate in Research

I understand that I am being asked to participate in a research study about burnout syndrome among anaesthetists and ICU staff in Rwanda. This study has been explained to me by _____.

I have read this 2-page Participant Information Sheet and Consent Form (or have had this document read to me). All my questions have been answered to my satisfaction. If I decide at a later stage in the study that I would like to withdraw my consent, I may do so at any time.

I voluntarily agree to participate in this study.
A copy of the signed Information Sheet and Consent Form will be provided to me.

Signatures

_____

Participant's Name & Signature

_____ _____

Witness Date

_____ _____

Investigator Statement (or Person Explaining the Consent)

I have carefully explained to the research participant the nature of the above research study. To the best of my knowledge, the research participant signing this consent form understands the nature, demands, risks and benefits involved in participating in this study. I acknowledge my responsibility for the care and well-being of the above research participant, to respect the rights and wishes of the research participant, and to conduct the study according to applicable Good Clinical Practice guidelines and regulations.

_____

Name of Investigator

_____

Signature of Investigator

_____

For any further clarification, you may contact Dr. Eugene Tuyishime on the number given above or by email: tuyishime36@gmail.com.

Or please contact:

The Chairperson of the UR-CMHS/IRB, Prof. Kato Njunwa, Telephone: +250788 490 522 and email: knjunwa@yahoo.co.uk

The Vice Chairperson, Telephone: +250783 340 040

9.3 Urupapuro rutanga amakuru ku bagira uruhare muri ubu bushakashatsi/ KINYARWANDA VERSION

Ubushakashatsi ku munaniro ukabije mu kazi mu bavuzi batanga ikinya, abaganga bavura indembe, n'abaganga bavura abakeneye ubufasha bwihuse mu Rwanda

Umushakashatsi mukuru: Dr. Eugene Tuyishime +250 783462334

Abahagarariye ubushakashatsi: Dr. Dylan Bould +1 613-737-7600

Dr. Paulin Ruhato Banguti +250788772114

Intangiriro

Eugene Tuyishime ni umunyeshuri wimenyereza umwuga w'ubuvuzi mu ishami ryo gutanga ikinya no kuvura indembe muri Kaminuza y' u Rwanda. Ubu bushakashatsi burashaka kugaragaza ikibazo cy'umunaniro ukabije mu kazi mu bavuzi batanga ikinya, abaganga bavura indembe, n'abaganga bavura abakeneye ubufasha bwihuse mu Rwanda. Nawe nk'umwe mu bavuzi bavuzi batanga ikinya, abavuzi bavura indembe, n'abavuzi bavura abakeneye ubufasha bwihuse mu Rwanda, uri umwe mu bantu ubu bushakashatsi bureba by'umwihariko.

Geregeza gusoma neza aya makuru ku bushakashatsi n'urupapuro rw'amasezerano yo kugira uruhare muri ubu bushakashatsi. Ushobora kubaza ibibazo byose ushaka mbere yo gufata umwanzuro wo kugira uruhare muri ubu bushakashatsi.

Intangiriro/Impamvu n'uburyo ubushakashatsi buzakorwa

Kunanirwa bikabije mu kazi bikunda kuboneka mu baganga bita ku barwayi umunota ku wundi nk'abatanga ikinya n'abita ku ndembe. Byagaragayeko bigira ingaruka mu gutanga serivisi nziza, kwita kubuzima bw'abarwayi, n'imibereho myiza y'abaganga batanga ikinya. Gusa iki kibazo ntigihabwa agaciro gikwiye, niyo mpamvu nta makuru ahagije ahari ku mubare w' baganga batanga ikinya n'abavura indembe bagifite. Kandi n' imiterere y'akazi cyangwa izindi mpamvu zongera ibyago ntibizwi. Ubu bushakashatsi bugamije kugaragaza umubare w'abaganga batanga ikinya cyangwa bavura indembe mu Rwanda bafite ikibazo cy'umunaniro ukabije n'impamvu zongera ibyago byo kugira umunaniro ukabije mu kazi.

uburyo ubushakashatsi buzakorwa

Ubu bushakashatsi buzakoresha urupapuro rw'ibibazo bugamije kugaragaza umubare w'abavuzi batanga ikinya, bavura indembe, cyangwa bavura abakeneye ubuvuzi bwihuse mu Rwanda, bafite ikibazo cy'umunaniro ukabije n'impamvu zongera ibyago byo kugira umunaniro ukabije mu kazi. Urupapuro rw'ibibazo rufite ibyiciro bitatu kugirango dusubize bya bibazo twavuze haruguru.

Ibyago bigendanye n'ubu bushakashatsi

Nta byago bigendanye n'ubu bushakashatsi

Inyungu zigendanye n'ubu ubushakashatsi

Ushobora kutagira inyungu y'ako kanya ivuye muri ubu bushakashatsi, ariko uruhare rwawe muri ubu bushakashatsi rushobora gutuma twumva neza imikorere y'abaganga batanga ikinya n'abavura indembe. Bishobora gutuma imikorere irushaho kugirwa neza ndetse n'ubuzima bw'abarwayi bukarushaho kwitabwaho.

Guhagarika uruhare rwawe mu bushakashatsi

Kwitabira ni ku bushake, kandi ushobora guhagarika uruhare rwawe igihe cyose.
Kutitabira ubu bushakashatsi ntibyagutera guhabwa igihano cyangwa kubuzwa uburenganzira bwawe.

Kubika ibanga

Amakuru yose ku bikuranga azabikwa mu ibanga, keretse kuyatanga bisabwe n'amategeko. Ntakintu kikuranga kizagaragazwa mu kwandika cyangwa gutanga ibiganiro ku byavuye muri ubu bushakashatsi.

Tuzaguha numero muri ubu bushakashatsi ntabwo tuzagusaba gutanga amazina yawe ahubwo uzatanga inyuguti zitangira amazina yawe gusa. Ayo makuru n'impapuro z'ubushakashatsi bizabikwa ahantu hatandukanye kandi hafunze neza hagerwa n'uhagarariye ubu bushakashatsi wenyine. Impapuro z'ubushakashatsi zose zizabikwa mu kabati gafunze mu biro by' umuyobozi w'ishami ry'abaganga batanga ikinya muri Kaminuza y'u Rwanda.

Kwitabira ni ku bushake

Kwitabira ni ku bushake, kandi ushobora guhagarika uruhare rwawe igihe cyose. Kutitabira ubu bushakashatsi ntibyagutera guhabwa igihano cyangwa kubuzwa uburenganzira bwawe.

Ni nde nabaza ngize ikibazo?

Ukeneye ibindi bisobanura, wahamagara Dr. Eugene Tuyishime kuri numero yatanze haruguru cg kuri email: tuyishime36@gmail.com.

Cyangwa ukavugisha:

Umukuru wa komite ishinzwe ubushakashatsi mu ishuri ry'ubuganga muri Kaminuza y'u Rwanda,

Prof. Kato Njunwa kuri numero: +250788 490 522

Cyangwa umwungirije kuri numero: +250783 340 040

2. Icyemezo cyo kugira uruhare mu bushakashatsi

Ubushakashatsi ku munaniro ukabije mu kazi mu bavuzi batanga ikinya, abaganga bavura indembe, n'abaganga bavura abakeneye ubufasha bwihuse mu Rwanda

Kwemera kugira uruhare mu bushakashatsi

Ndumva neza ko nsabwe kugira uruhare mu bushakashatsi ku munaniro ukabije mu bavuzi batanga ikinya cyangwa bita ku ndembe mu Rwanda.

Nasobanuriwe ubu bushakashatsi na _____.

Nasomye amakuru agenewe abagomba kugira uruhare mu bushakashatsi n'icyemezo cyo kugira uruhare mu bushakashatsi. Ibibazo byose byashubijwe neza. Kandi nshobora guhagarika uruhare rwanjye muri ubu bushakashatsi igihe icyaricyo cyose.

Nemeye ku bushake kugira uruhare muri ubu bushakashatsi

Nzahabwa fotokopi y' amakuru agenewe abagomba kugira uruhare mu bushakashatsi n'icyemezo cyo kugira uruhare mu bushakashatsi imaze gushyirwaho umukono.

Umukono

_____

Amazina n'umukono w'ugomba kugira uruhare mu bushakashatsi

_____ _____

Umugabo Itariki

_____ _____

Ijambo ry'umushakashatsi cg undi uri gusobanura impamvu yo kugira uruhare mu bushakashatsi

Nasobanuye neza impamvu z'ubu bushakashatsi twavuze haruguru. Ndemezako umuntu ugiye kugira uruhare muri ubu bushakashatsi uri gusinya iki cyemezo cyo kugira uruhare mu bushakashatsi yumvise neza ibyo asabwa, ibyago cyangwa inyungu bigendanye n'ubu bushakashatsi. Nemeye uruhare rwanjye mu mibereho myiza ye, kubahiriza uburenganzira n'ibyifuzo bye, no gukora ubu bushakashatsi nkurikije amategeko n'amabwiriza agenga ubushakashatsi.

_____

Izina ry'umushakashatsi

_____

Umukono w'umushakashatsi

Ukeneye ibindi bisobanura, wahamagara Dr. Eugene Tuyishime kuri numero yatanze haruguru cg kuri email: tuyishime36@gmail.com.

Cyangwa ukavugisha:

Umukuru wa komite ishinzwe ubushakashatsi mu ishuri ry'ubuganga muri Kaminuza y'u Rwanda, Prof. Kato Njunwa kuri numero: +250788 490 522

Cyangwa umwungirije kuri numero: +250783 340 040

9.4 Data collection tools/Urupapuro rwo gukusanya amakuru

Date/Itariki……..

Hospital name/Izina ry'ibitaro:

Number of staff per department/umubare w'abakozi:

Anesthesia: .....Non Physician Anesthetists, ...Residents, ...Specialists

Surgery: .....nurses, ...doctors

Obstetrics: .....nurses, ...midwifes, ...doctors

Emergency: ....nurses, ...doctors

ICU: .....nurses, ...General Practitioners, ...Residents, ...Specialists

Part 1.a. Basic demographic data/Ibimuranga

1.Gender/Igitsina M/Gabo ☐ F/Gore ☐

2.Age/Imyaka ……...

3. Marital status/Niba warashatse:

Single/Ingaragu Yes ☐ No ☐, Married/Uwashatse: Yes ☐ No ☐, Divorced/Uwatandukanye n'uwo bashakanye Yes ☐ No ☐

4.Children and/or relatives looked after at home/Abana cg abanyamuryango witaho ……

5. Habitation/Aho utuye:

Rural/Icyaro: Yes ☐ No ☐

Urban/Umujyi: Yes ☐ No ☐

6. Religion: .....

Part 1.b. Professional data/Amakuru yo mu kazi

6. Primary role/akazi ukora

Nurse, midwife, non physician anesthetist, GP, Resident, Specialist ……

umuforomo , umubyaza, utanga ikinya utari muganga, Umuganga utari inzobere, umuganga wimenyereza kuba inzobere, umuganga w'inzobere

……

……

7.Other position/Akandi kazi

Administration/Umuyobozi: ……

Academic/Umwarimu: …….

Research/Umushakashatsi: ……..

Other please specify/Akandi: …….

8. High level of training/Amashuri yo hejuru wize

Undergraduate/Mu kiciro cya 1 cya Kaminuza: .....

Post graduate/Mu kiciro cya 2 cya Kaminuza: .....

Fellowship/Mu kiciro cya 3 cya Kaminuza: .....

Or other formal training/Andi mashuri(diploma, Masters,….),

please specify/Yavuge ……..

9. Time spent in independent practice (Years or months)/Imyaka umaze mu kazi: .....

If no independent practice, please specify time spent in supervised practice ……

Niba utikorana, vuga imyaka umaze ukora hari uhagarariye ibyo ukora ……..

10. Working hours/Amasaha y'akazi

a. Do you feel your rights concerning schedule and working hours are respected? Yes or No
   Ese amategeko agena amasaha y'akazi arakurikizwa? Yes or No

If no, provide advice on how the situation can be improved

……

……

Niba adakurikizwa tanga inama y'uko byakemuka

……

……

b. Estimated weekly workload in hours (average of last month) ……..
   Ukora amasaha angahe mu cyumweru ugereranije (mu kwezi gushize) ……..

c. Number of days spent on vacation in the previous year?.....

Wamaze iminsi ingahe mu biruhuko mu mwaka ushize? …….

d. How many hours do you sleep each night for last month, on average? .....

Usinzira amasaha angahe buri joro, gereranya mu kwezi gushize? .....

11. How often do you see patients have negative outcomes at work such as death or permanent disability?

Ni kangahe ubona abarwayi barembye bikabaviramo ibyago nko gupfa cg ubumuga buhoraho?

- o 1 – never/Nta na rimwe
- o 2 – rarely/Gake cyane – about 10% of the time/Inshuro 10 ku ijana
- o 3 – occasionally/Gake– about 30% of the time/Inshuro 30 ku ijana
- o 4 – sometimes/Rimwe na rimwe– about 50% of the time/Inshuro 50 k ijana
- o 5 – frequently/Kenshi– about 70% of the time/Inshuro 70 ku ijana
- o 6 – usually/Kenshi cyane– about 90% of the time/Inshuro 90 ku ijana
- o 7 – every time/Buri gihe

12. Team, equipment, supplies, and supervision/Ikipe, ibikoresho, kubona umuntu mukuru ufite inararibonye uhagarariye ibiri gukorwa

a. How often do you feel that you don't have the equipment to carry out your work to an appropriate standard?

Ni kangahe wumva udafite ibikoresho byo gukora akazi neza?

- o 1 – never/Nta na rimwe
- o 2 – rarely/Gake cyane – about 10% of the time/Inshuro 10 ku ijana
- o 3 – occasionally/Gake– about 30% of the time/Inshuro 30 ku ijana
- o 4 – sometimes/Rimwe na rimwe– about 50% of the time/Inshuro 50 k ijana
- o 5 – frequently/Kenshi– about 70% of the time/Inshuro 70 ku ijana
- o 6 – usually/Kenshi cyane– about 90% of the time/Inshuro 90 ku ijana
- o 7 – every time/Buri gihe

b. How often do you feel that you don't have the drugs to carry out your work to an appropriate standard?.....

Ni kangahe wumva udafite wumva udafite imiti yo gukora akazi neza?

- 1 – never/Nta na rimwe
- 2 – rarely/Gake cyane – about 10% of the time/Inshuro 10 ku ijana
- 3 – occasionally/Gake– about 30% of the time/Inshuro 30 ku ijana
- 4 – sometimes/Rimwe na rimwe– about 50% of the time/Inshuro 50 k ijana
- 5 – frequently/Kenshi– about 70% of the time/Inshuro 70 ku ijana
- 6 – usually/Kenshi cyane– about 90% of the time/Inshuro 90 ku ijana
- 7 – every time/Buri gihe

c. How often do you feel you don't have the right team around you to carry out your work to an appropriate standard?

Ni kangahe wumva udafite wumva udafite ikipe yo gukora akazi neza?

- 1 – never/Nta na rimwe
- 2 – rarely/Gake cyane – about 10% of the time/Inshuro 10 ku ijana
- 3 – occasionally/Gake– about 30% of the time/Inshuro 30 ku ijana
- 4 – sometimes/Rimwe na rimwe– about 50% of the time/Inshuro 50 k ijana
- 5 – frequently/Kenshi– about 70% of the time/Inshuro 70 ku ijana
- 6 – usually/Kenshi cyane– about 90% of the time/Inshuro 90 ku ijana
- 7 – every time/Buri gihe

d. Rate your agreement with the following statement:

"I have opportunities to advance my professional career"

Emeranya n'aya magambo "Mfite amahirwe yo gutera imbere mu mwuga wanjye"

1. Strongly agree/Ndabyemera cyane
2. Agree/Ndabyemera
3. Neither agree nor disagree/Simbyemera kandi simbihakana
4. Disagree/Ndabihakana
5. Strongly disagree/Ndabihakana cyane

13. Salary issues/Ibijyanye n'umushahara

Rate your agreement with the following statement:

"My salary is sufficient to support all reasonable needs for myself and my family"

Emeranya n'aya magambo " Umushahara urahagije kumfasha mu byo nkeneye byagombwa n'umuryango wanjye"

1. Strongly agree/Ndabyemera cyane
2. Agree/Ndabyemera
3. Neither agree nor disagree/Simbyemera kandi simbihakana
4. Disagree/Ndabihakana
5. Strongly disagree/Ndabihakana cyane

14. Social behavior/Imibereho isanzwe

a. Do you smoke tobacco?/Unywa itabi

b. How many alcoholic drinks do you have per week?/Unywa inzoga kangahe mu cyumweru? ……

c. Do you currently use other drugs, e.g. fentanyl, morphine, cannabis? Yes or No

Ukoresha ibiyobyabwenge? Yego cg Oya

Leave email if you are interested in interview: .....

Andika email yawe niba wemeye ko tuganira birambuye: .....

Part 2: The Maslach Burnout Inventory Human Services Survey/Ikusanyamakuru rya Maslach ku munananiro ukabije mu kazi

For each question, indicate the score that corresponds to your response/Buri kibazo vuga amanita agendanye n'igisubizo cyawe

SECTION A/Igice cya A=EMOTIONAL EXHAUSTION/Kunanirwa mu mutwe,

SECTION B/Igice cya B=PERSONAL ACCOMPLISHMENT/Guterimbere ku giti cyawe,

SECTION C=DEPERSONALIZATION/Kutita ku bantu bakugana

Questions/ Ibibazo	**Never/ Nta na rimwe**	**A few times per year/ Rimwe na rimwe mu mwaka**	**Once a month/Rimwe mu kwezi**	**A few times per month/ Rimwe na rimwe mu kwezi**	**Once a week/ Rimwe mu cyumweru**	**A few times per week/ Rimwe na rimwe ku cyumweru**	**Every day /Buri munsi**
SECTION A	**0**	**1**	**2**	**3**	**4**	**5**	**6**
I feel emotionally drained by my work./Numva akazi kananiza mu mutwe							
I feel used up at the end of the workday/Numva imbaraga zanshizemo umunsi wakazi urangiye							
I feel fatigued when I get up in the morning and have to face another day on the job/ Mbyuka nananiwe kandi ngomba gukora uwo munsi							
Working with people all day is really a strain for me/ Gukorana n'abantu umunsi wose bimaramo imbaraga							

I feel burned out from my work/ Numva mfite umunaniro ukabije kubera akazi kanjye,							
I feel frustrated by my work./ Numva akazi kambihiye							
I feel I work too hard at my job./ Numva nkora cyane bikabije mu kazi kanjye							
Working with people directly puts too much stress on me/ Gukorana n'abantu duhura cyane bintera guhangayika							
I feel like I'm at the end of my rope. /Numva nta mbaraga zo gukora nsigaranye							
Total score – SECTION A							

Questions	Never	A few times per year	Once a month	A few times per month	Once a week	A few times per week	Every day
SECTION B	**0**	**1**	**2**	**3**	**4**	**5**	**6**
I can easily understand how my recipients feel about things/ Numva byoroshye uko abarwayi nitaho biyumva							
I deal very effectively with the problems of my recipients/ Nkemura neza ibibazo by' abarwayi nitaho							
I feel I'm positively influencing other people's lives through my work/ Numva ngira uruhare rwiza ku buzima bw'abandi mu kazi nkora							
I feel very energetic/ Numva mfite umuhate wo gukora							
I can easily create a relaxed atmosphere with my recipients/ Nshobora kugira ibiganiro bituje n'abarwayi nitaho mu buryo bworoshye							
I feel exhilarated after working closely with my recipients/ Ngira ibyishimo byinshi nyuma yo kwita ku barwayi banjye							
I have accomplished many worthwhile things in this job/ Nageze kuri byinshi muri aka akazi kanjye							
In my work, I deal with emotional problems very calmly/ Mu kazi kanjye nkemura ibibazo bijyanye n'amarangamutima ntuje							
Total score – SECTION B							

Questions	**Never**	**A few times per year**	**Once a month**	**A few times per month**	**Once a week**	**A few times per week**	**Every day**
SECTION C	**0**	**1**	**2**	**3**	**4**	**5**	**6**
I feel I treat some recipients as if they were impersonal 'objects/ Numva mfata abarwayi bangana nk'aho atari abantu							
I've become more callous toward people since I took this job/ Numva kwita ku bantu ntacyo bikimbwiye kuva najya muri aka kazi							
I worry that this job is hardening me Emotionally/ Mpangayitswe nuko aka kazi kankomeje umutima bikagabanya impuwe							
I don't really care what happens to some recipients/ Ntakintu biba bimbwiye ibaba ku barwayi nshinzwe							
I feel recipients blame me for some of their problems/ Numva abarwayi bandenganya ku bibazo bibareba							
Total score – SECTION C							