WORKPLACE STRESSORS AND COPING STRATEGIES AMONG THE INTENSIVE CARE UNIT NURSES AT UNIVERSITY TEACHING HOSPITALS, RWANDA

By

MUNYANZIZA Thomas

A dissertation submitted in partial fulfillment of the requirements for the degree of MASTER'SOF SCIENCE IN NURSING, CRITICAL CARE AND TRAUMA

In theCollege of Medicine and Health Sciences

Supervisor: Prof. BUSISIWE Bhengu

Co-Supervisor: Mrs. Emeline UMUTONI CISHAHAYO

Kigali, August2019

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August, 2019

2. DECLARATION

I declare that this Dissertation contains my own work except where specifically acknowledged.

Thomas MUNYANZIZA

Signed:……

Date:19th August 2019

3. DEDICATION

I dedicate this research to the almighty God, my beloved parent and family and fellow classmates for their kind collaboration to handle and accomplish this work.

4. ACKNOWLEDGMENTS

First of all, the praise is to the Almighty God, for having given me life, the resources and strength to go through this dissertation, without his guidance nothing could have been possible. Secondly, I am deeply indebted to my supervisors Prof.Busisiwe Bhengu and Mrs. Emeline Umutoni Cishahayo who despite their tight schedules and heavy workloads accepted to guide and assists me to conduct this study; I do appreciate their uncomplaining efforts and encouraging statements.

Thanks are also addressed to the University of Rwanda, College of Medicine and Health Sciences administration that gave me opportunity to study and provided all necessary for this course.

Thirdly, my heartfelt thanks goes to members of School of Nursing and Midwifery, Masters program and Lecturers from whom I have got knowledge and skills to complete this research report.

Last but not least, I would like to express my appreciation to all those people who in one way or the other helped me to complete this research report.

Thank you all and may God reward you abundantly!

5. ABSTRACT

Background: Nursing is widely known as stressful profession while the ICU is among the most stressing work setting (Callaghan et al., 2017 p. 1518-1527). When the ICU nurses fail to cope with workplace stress, the quality of nursing care is hindered, the uncontrolled stress can lead burnout syndrome, depression and other health events(Burgess et al. 2010 p. 31-52)

Main purpose: To assess the workplace stressors and coping strategies among ICU nurses at University Teaching Hospitals, Rwanda.

Specific objectives: To determine the level of workplace stress, identify the workplace stressors and coping strategies among the ICU nurses at University Teaching Hospitals, Rwanda.

Methodology: Thecross-sectional descriptive design was used; the study sample size was 92 nurses working in ICU at University Teaching Hospitals, while the census sampling method was applied to get the sample. The simplified and adapted ENSS and Brief COPE Inventory were used as the data collection tools; SPSS 22 was used for data analysis.

Results: About the levels of workplace stress among the ICU nurses, this study found that, 26.1% participants exhibit the high level, while 54.3% and 19.6% have moderate and low level of workplace stress respectively.

The workplace stressors as reported by the participants, werethe nursing care for agitated, violent, abusive/ aggressive patients/families, patient's death and care for dying patient, heavy workload and work under pressure, and decision making in absence of physician.

The coping strategies werethe comfort from religious activities, emotional support from colleagues and self-distraction by watching movies/ TV/ music and sport activities. The increased education level was found to be associated with the improved coping.

Conclusions: Twenty six percent of ICU nurses reportedhigh level stress, while 54.3% exhibited the moderate level of workplace stress. The ICU stressors were caring for agitated patients, death and heavy workload while the religion, hobby activities and support from friends were reported as coping strategies.

Key words: Workplace stressors, coping strategies, intensive care unit.

TABLE OF CONTENTS

2. DECLARATION i

3. DEDICATION ii

4. ACKNOWLEDGMENTS iii

5. ABSTRACT iv

8. LIST OF TABLES ix

10. LIST OF ANNEXES ix

CHAPTER ONE: INTRODUCTION 1

1.1. INTRODUCTION 1

1.2. BACKGROUND 1

1.3. PROBLEM STATEMENT 3

1.4. AIM OF THE STUDY 4

1.5. RESEARCH OBJECTIVES 4

1.6. RESEARCH QUESTIONS 4

1.7. SIGNIFICANCE OF THE STUDY 4

1.8. DEFINITION OF CONCEPTS 5

1.9. STRUCTURE/ORGANIZATION OF THE STUDY 6

1.10. CONCLUSION OF CHAPTER ONE 6

CHAPTER TWO: LITERATURE RIVIEW 7

2.1. INTRODUCTION 7

2.2. THEORETICAL LITERATURE REVIEW 7

2.2.2 Physiological responses to stress 7

2.2.3 Selye's stress theory 8

2.2.5. Manifestation of stress 8

2.2.6 Management of workplace stress 9

2. 3. EMPIRICAL LITERATURE REVIEW 9

2. 3. 1. Levels of workplace stress in ICU nurses 9

2.3. 2. Workplace stressors in ICU nurses 9

2.3.3. The coping strategies 13

2.4. CRITICAL REVIEW AND RESEARCH GAP IDENTIFICATION 13

2.5. CONCEPTUAL FRAMEWORK 14

CHAPTER THREE: RESEARCH METHODOLOGY 17
3.1. INTRODUCTION 17
3.2. STUDY DESIGN 17
3. 3. RESEARCH APPROACH 17
3.4. RESEARCH SETTING 17
3.4.1 Historic of Kigali University Teaching Hospital 17
3.4.2 Historic of Butare University Teaching Hospital 18
4.3 Historic of King Faysal Hospital 18
3.5. STUDY POPULATION 18
3.6. SAMPLING 19
3.6.1. Sample size 19
3.6.2. Sampling strategy 19
3.7. VALIDITY AND RELIABILITY OF RESEARCH INSTRUMENTS 19
3.7.1. Data collection tool 19
3.7.2. Questionnaire for this study 20
3.7.3. Reliability of ENSS 21
3.7.4. Validity of ENSS 21
3.7.5. Reliability of the Brief COPE Inventory 21
3.7.6. Validity of the Brief COPE Inventory 21
3.8. DATA COLLECTION 23
3.9. DATA ANALYSIS 23
3.10. ETHICAL CONSIDERATIONS 23
3.11. DATA MANAGEMENT 24
3.12. DATA DISSEMINATION 24
3. 13. LIMITATIONS AND CHALLENGES 24
3.14. CONCLUSION OF CHAPTER THREE 24
CHAPTER FOUR: RESULTS 25
4.2. DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS 25
4.3. PRESENTATION OF FINDINGS 26
4.3.1. Levels of workplace stress in ICU nurses 26
4.3.2. Cross tabulation (Chi^2) of demographic characteristics and levels of stress 27
4.3.3. Coping strategies to workplace stress. 29

4.3.4. Cross tabulation (Chi^2) of demographic characteristics and coping 30
4.3.6. One way ANOVA by multiple comparisons of levels of workplace stress and coping strategies. 32
CHAPTER FIVE. DISCUSSIONS 34
5.1. LEVELS OF WORK PLACE STRESS 34
5.2. THE WORKPLACE STRESSORS AS REPORTED BY PARTICIPANTS. 36
5.3. COPING STRATEGIES AS REPORTED BY PARTICIPANTS 38
5.4. MULTIPLE COMPARISONS (one way ANOVA) OF COPING STRATEGIES AND LEVELS OF WORKPLACE STRESS 39
CHAPTER SIX. CONCLUSIONS AND RECOMANDATIONS 41
6.1. INTRODUCTION 41
6.2. CONCLUSIONS 41
6.3. RECOMMANDATIONS 41
REFERENCES 43
ANNEXES ..... A
1. AUTORIZATION LETTERS ..... A
2. RESEARCH INSTRUMENTS ..... E
2.1. INFORMATION SHEET IN ENGLISH ..... E
2.2 AMAKURU KU BUSHAKASHATSI ..... F
2.3. ATHORIZATION TO USE THE DATA COLLECTION TOOL ..... H
The Korean version of ENSS I
정금희 <ghjeong@hallym.ac.kr> I
Carver, Charles S. <ccarver@miami.edu> I
2.4 CONSENT FORM IN ENGLISH ..... J
2.5. INYANDIKO Y'UWEMEYE GUFASHA MU BUSHAKASHATSI ..... K
2.6. THE DATA COLLECTION TOOL (QUESTIONNAIRE) IN ENGLISH L
2.7. URUTONDE RW'IBIBAZO BY'UBUSHAKASHATSI ..... N

7. LIST OF SYMBOLS AND ACRONYMS/ ABBREVIATIONS

ANOVA: Analysis of Variance

BOS: Burnout Syndrome

BUTH: Butare University Teaching Hospital

CI: Confidence Interval

CNS: Central Nervous System

ENSS: Expended Nursing Stress Scale

GAS: General Adaptation Syndrome

KFH: King Faisal Hospital

KUTH: Kigali University Teaching Hospitals

ICU: Intensive Care Unit

IPAT: Institute for Personality and Ability Testing

IRB: Institutional Review Board

LB: Lower Bound

%: Percent

PTSD: Post-Traumatic Stress Disorder

UK: United Kingdom

UB: Upper Bound

UR/CMHS: University of Rwanda/ College of Medicine and Health Science

8. LIST OF TABLES

Table 3. 1 Content validity of data collection tool..... 22
Table 4. 1. Demographic characteristics of participants..... 26
Table 4. 2. Levels of work place stress..... 27
Table 4. 3 Cross tabulation (Chi^2) of demographic characteristics and levels of workplace stress..... 28
Table 4. 4 The workplace stressors as reported by participants 29
Table 4. 5 Coping strategies as reported by participants 30
Table 4. 6 Cross-tabulation (Chi^2) of demographic characteristics and coping 31
Table 4. 7 One way ANOVA by multiple comparisons of demographic and coping categories 32
Table 4. 8 One way ANOVA by multiple comparisons of coping categories and and levels of workplace stress……...…32

9. LIST OF FIGURES

Figure2. 1: Conceptual framework 16

10. LIST OF ANNEXES

AUTHORIZATION LETTERS……..A

RESEARCH INSTRUMENTS……...……..E

CHAPTER ONE: INTRODUCTION

1.1. INTRODUCTION

The chapter one includes, the background to the research problem, main purpose of study, research objectives, research questions, significance of study, definitions of key terms and concepts and subdivision of the research report.

1.2. BACKGROUND

Stress is the physiological and emotional reaction to an event or a stressor, It appears as a result of imbalance between stressful environment and coping ability of exposed individual (Mohamedkheir et al., 2016 p. 166–171).

Nursing profession has been accepted as a stressful profession, a study done in Hong Kong by Callaghan et al., (2017 p.1518-1527) has found that 75.8% of nurses practice under pressure. The intensive care unit was suggested to be the most stressful setting in the hospital, as the ICU nurses are in contact with critically ill patients requiring sophisticated care so the ICU nurses face the workplace stress overtime(Burgess et al., 2010 p. 129–140).

The research performed in Europe (Lithuania) suggested that caring for the dead and dying patient is the most stressful event in ICU setting, the second cause of workplace stress in ICU nurses is the conflict with physicians (Tarja Suominen, 2013).

In Asia, the study conducted in Singapore showed that 86% of ICU nurses experienced workplace stress as reported by ICU nurses, the same study has also reported that more than 80% of ICU nurses were highly stressed by caring for traumatic injuries, performing futile nursing care and heavy workload. Ninety-two percent of those stressed ICU nurses reported that they coped to workplace stress by religion/ spiritual activities as active positive coping strategy while 8% apply the negative coping means like denial and drug abuse (Yu Zheng Ong et al, 2013 p. 215–218.).

Other study done by Saini et al., (2016 p. 9-17) found that 50% of ICU nurses were highly stressed.In India, a study done by Kumar et al. (2016 p. 129)reported that 68.29% of ICU nurses express a certain level of workplace stress.

In sub-Saharan Africa, the workplace stress among ICU nurses was reported to be prevalent, a study conducted in Ethiopia by Dagget et al., (2016 p. 1-10), has found that 32.7% of ICU nurses presented the workplace stress. This study suggested that the ICU nurses were more stressed by caring for a patient at end stage of disease, particularly the suffering or dying patient (Dagget., 2016 p. 1-10).

A study done in Zambia found that 93.4 % of nurse practitioners had ever experienced a work place stress, among them 66.7% had a high level (3.00 - 4.00 ENSS) of workplace stress (Mwinga, 2015 p. 158-165). Seventy two percent pointed out the work environment and conflict with superiors/ physicians as workplace stressors while 20% of nurses reported that they took leave from duty as coping strategy to alleviate occupational stress (Mwinga, 2015 p. 158-165).

Furthermore, in East Africa, the workplace stress among the nurses was also a challenge to the quality of nursing care, a study done in Tanzania has found that 38% of ICU nurses had high level (3.00 - 4.00 ENSS) of workplace stress (Mkiga, 2013 p. 1-51).

In Rwanda, a study done by Cishahayo et al., (2017 p.5121-5128) revealed high level of burnout among the majority of nurses working in critical care settings (61.7 %) and this high level was found to be significantly associated with heavy workload in the critical care settings.

This has led to high level of burnout, which was reported to be one of the consequences of workplace stress among the ICU and emergency nurses, the highlevel of workplace stress was found to be associated with heavy workload in ICU ($P<0.05$).

Furthermore, a study done in Rwanda by Nankundwa and Brysiewicz, (2017 p.19-22) reported that the ICU nurses experienced emotional distress when tasked to care for a patient at end stage disease bearing a do not resuscitate order, as this order is viewed as permission of patient's death.

However in Rwanda, there a scarcity of data on workplace stressors in ICU, therefore the present study is anticipated to reveal much data that will contribute to the exiting knowledge by determination of the level, workplace stressors and coping strategies among ICU nurses at university teaching hospitals, Rwanda.

1.3. PROBLEM STATEMENT

The nursing is recognized as stressful profession, as reported in a study done in Hong Kong by Callaghan et al., (2017 p. 1518-1527), 75% of nurses practice in stressful environment. Along with different hospital departments, the ICU setting was reported to be the most stressful workplace. The ICU stressors are patient's death and heavy workload as reported by Yu Zheng Ong et al, (2013 p.215-218) in his study conducted in Singapore.

The workplace stress can endanger the wellbeing of nurses and lead to different pathologic conditions like anxiety, depression, burnout and post stress traumatic disorders (Hafiz, Ima-nirwana and Chin, 2018 p. 492-495), the workplace stress in ICU also affects the quality of nursing care provided to the patients.

The ICU nurses use different coping strategies to handle the workplace stress, a study done by Saini et al., (2016 9-17) reported that some nurses use distraction (movies, music/TV or sport activities) and turning to religion and spiritual comfort as coping mechanism, others coping strategythat was reported by ICU nurses was to seek social support from friends and colleagues (Mohamedkheir et al., 2016 p. 166-171).

In Rwanda, it seems that there is a limiteddata on main workplace stressors in ICU and there is no model or interventions to curb stress among ICU nurses, therefore the present study was anticipated to reveal much data on level of workplace stress, the workplace stressors and coping strategies applied by ICU nurses to curb the ICU stress.

This will contribute to the nursing knowledge and help the policy makers and nursing managers to establish the workplace stress prevention and management models

1.4. AIM OF THE STUDY

To assess the workplace stressors and coping strategies among ICU nurses at University Teaching Hospitals, Rwanda.

1.5. RESEARCH OBJECTIVES

1. To determine the level of workplace stress among the ICU nurses at University Teaching Hospitals, Rwanda.
2. To identify the workplace stressors among the ICU nurses at University Teaching Hospitals, Rwanda.
3. To identify the nurses' coping strategies to the ICU stress at University Teaching Hospitals, Rwanda.

1.6. RESEARCH QUESTIONS

1. What is the level of workplace stress among the ICU nurses at University Teaching HospitalsRwanda?

2. What are the workplace stressors among the ICU nurses at University Teaching Hospitals, Rwanda?

3. What are nurses' coping strategies to the ICU stress at University Teaching Hospitals, Rwanda?

1.7. SIGNIFICANCE OF THE STUDY

This study would be significant in three major areas:

Nursing practice: Results of this study would inform the national healthcare policy makers in referral hospitals' administration in particular, to recognize the challenges of ICU nurses stressors and coping hence providing reasons to develop appropriate approaches to alleviate and mitigate stress in ICU.

This study would also increase nurse's awareness about ICU stress and intensify coping mechanisms to ICU stress.

Nursing education: The results of the study would be an added source of information to the existing literature on this subject as well as contribution to additional knowledge for caring of the carers and for the education of nurses especially those in management.

Nursing research: This study has identified the stressors and coping strategies among ICU nurses at three University Teaching Hospitals, Rwanda by providing information on the ICU stressors and coping strategies among nurses, this would provide a basis to further researches. Example, further studies on improved quality of care after addressing the ICU stressors among the nurses.

1.8. DEFINITION OF CONCEPTS

Intensive Care Unit: A section of a hospital equipped with lifesaving and life-support equipment in which seriously ill people who need constant medical attention are cared for (Medical dictionary, 2013). In the present study, the intensive care unit refers to service where critically ill patients are hospitalized and cared by the ICU nurses and physicians.

Stress: Stress is defined as a response of an organism to any demand made to it by agents threatening physical or emotional well-being and that are difficult to handle or endure (Brooker, 2010 p.56). In this study, stress refers to psychological and physical strain or tension experienced by ICU nurses while caring for critically ill patients.

Depression: A mental condition that prevents someone from carrying out the normal activities of life in the usual way (Medical dictionary, 2013). In the present study, depression refers to one of consequences of stress among ICU nurses.

Burnout: Burnout is a feeling of depression, fatigue and lack of energy caused by stress and may be a result of overwork (Medical dictionary, 2013). In this study burnout refers to one of the consequences of stress among ICU nurses.

Coping strategies: Coping strategy is defined as the efforts either behavioral or psychological, that a stressed individual apply to handle, tolerate, reduce, or minimize stressful events (Medical dictionary, 2013).

In the present study, the coping strategies refer to the means or efforts applied by ICU nurses to handle the ICU stressors.

1.9. STRUCTURE/ORGANIZATION OF THE STUDY

This study was organized into two main parts was made of title page, dedication, abstract, dedication, acknowledgement, table of contents, list of tables and list of acronyms and abbreviations.

The second part was made of six chapters, the chapter one that includes the introduction, background, problem statement, aims of the study, research questions, significance of the study , definition of concepts, structure/organization of the study and conclusion to chapter one

Chapter two presented the literature review which was made of theoretical literature, empirical literature, critical review, research gap identification and conceptual framework.

Chapter three wasmade of methodology that includes, research design, research approach, research setting, population, sampling, data collection data analysis methods, ethical considerations, data management, data dissemination, limitations and challenges to study and conclusion to chapter three.

Chapter four was made of introduction, demographic characteristics of respondents, presentation of results. Fifth chapter is composed by discussions, while the sixth is made of conclusions and recommendations

1.10. CONCLUSION OF CHAPTER ONE

The chapter one presented the background, problem statement, purpose of the study, research objectives and questions, definitions and significance of the study. The next chapter presented the literature.

CHAPTER TWO: LITERATURE RIVIEW

2.1. INTRODUCTION

The chapter two presented the existing literature about workplace stressors among the ICU nurses and the coping strategies that were applied by the ICU nurses to curb the workplace stress. It was made of theoretical and empirical literature review. In addition to that, this chapter contained the critical review and research gap identification, theory on stress, conceptual framework and conclusion to the chapter two.

2.2. THEORETICAL LITERATUREREVIEW

Stress is the physiological and psychological response to a stressful situation or stressors. Due to our daily life challenges almost all people experience stresses at different levels. The healthcare providers are more susceptible to workplace stressors, as the health care profession has direct effect on human life, this contributes to health care providers' stress (Hafiz, Ima-Nirwana and Chin, 2018 p. 492-495).

2.2.1 Causes of workplace stress

The workplace stress is caused by being unhappy in his/her job, heavy workload or too much responsibility, working long hours, poor work management and working under unsafe environment (Hafiz, Ima-Nirwana and Chin, 2018 p. 492-495).

2.2.2 Physiological responses to stress

The physiological responses to stress rely onactivation of hypothalamic-pituitary-adrenal axis,this leads to catecholamine (noradrenalin, adrenaline, dopamine…) are released from autonomic nerve system CNS and adrenal medulla and this results tothe stimulation of corticotrophin from pituitary gland with cardiovascular and other systemic manifestations like the increased heart rates, respiratory rates, and blood pressure, and excessive sweat (KATHRYN L. Mc CANCE, SUE E. HUETHER, 2016 p. 1908).

2.2.3 Selye's stress theory

Selye defined stress as "a state manifested by a syndrome which consists of all the nonspecifically induced changes in a biologic system". According to Selye, the stressors (work overload, patient's death …) applied to individual produce nonspecific but stereotypical changes in the body. This stereotypical reaction is the `General Adaptation Syndrome' (GAS) that comprises 3 steps, talarm reaction, an initial shock phase followed by counters shock phase.

Shock phase, autonomic nerve system is stimulated and release catecholamine (adrenaline and noradrenalin) and gastro-intestinal ulcerations occurs, the counter shock phase, defensive process dominated by adreno-cortical response. If stressors continue, the organism enters the phase of resistance, in which the signs of alarm reaction cease depending to personal factors;this indicates that, the applied individual's coping strategies to stressors have been successful.

However, persistence of stimulus (stressor) can be followed by exhaustion, the individual capacity to cope to stressor is exhausted and the signs of stress reappear, the resistance to stressors is no longer possible '' coping strategy failed'' the consequences of stress appear (Krohne, 2002 p. 15163-15170).

2.2.5. Manifestation of stress

Commonly the stressed ICU Nurses develop a decreased self-esteem, depression, irritability, nightmares and burnout syndrome (Callaghan, Tak-ying and Wyatt, 2017 p. 1518-1527). A study done by Saini et al. (2016 p.9-17) reported that the insomnia; difficulty in concentration, feeling of indifferent to anything, nervousness is also frequent psychological manifestations of stress among ICU nurses, this is related to the shock phase in Selye's stress theory (Krohne, 2002 p. 15163-15170).

According to the study done by Milutinović et al.(2012 p. 171-180), about 42.4% of ICU nurses have developed headache and lower back pain, mood swings, and fatigue as manifestations of stress, other had had despair, excessive sweating, diarrhea, constipation, shortness of breath, exacerbation of cardiovascular diseases like chest pain and palpitations.

The occurrence of headache and insomnia have been attributed to disrupted biorhythms from the night (Callaghan, Tak-ying and Wyatt, 2017 p. 1518-1527). Furthermore, the ICU stressors are the leading causes of depression and post-traumatic stress disorders as reported by Sayed et al., (2012 p. 25-31).

2.2.6 Management of workplace stress

The self distraction by music/ movies/ TV and other sport activities were reported to be effective in reducing workplace stress (Kushnir et al. 2012). Listening to pre-selected music has resulted in stress reduction by 5.72 times compared to the control; other means of stress management is the religion/spiritual activities (playing and meditation) (Bradt et al. 2013).

2. 3. EMPIRICAL LITERATUREREVIEW

This section covered the different levels of workplace stress, the workplace stressors and coping strategies applied by the ICU nurses to curb the workplace stress.

2. 3. 1. Levels of workplace stress in ICU nurses

The nursing was reported to be very stressful profession, a study done by Mealer & Moss, (2017 p. 1615-1617) has reported that the nursing cares provided to critically ill patients,sometime at end stage pathologies cause the stress to care providers.

A study done in India by Arunesh Kumar et al. (2016 p. 129), has reported that the general prevalence of moderate and high stress (2-4 on ENSS) among ICU nurses was 68.29% while the overall occurrence of stress among ICU staff was reported to be 52.43%.

Other study done in Brazil by Preto & Pedrão, (2009 p. 841-848) has found that 57.1% of ICU nurses suggested that the ICU is a stressful workplace and 23.8% scored overall high level stress (3-4/4 on ENSS).

2.3. 2. Workplace stressors in ICU nurses

Death and dying patients

The ICU nurses care for the critically ill patients, most of the at end stage organs failure, this leads to the workplace stress (Mealer & Moss, 2017 p. 1615-1617). When a critically ill patient is dying, the ICU nurses experience it as the most stressful moment than any other situation in nursing practice (Milutinović et al., 2012 p. 171-180).

A study done in Rwanda by Nankundwa and Brysiewicz, (2017 p. 19-22) reported that the ICU nurses are emotionally stressed when caring the critically ill patients with end organs failure and bearing a do not resuscitate order, this event was interpreted as termination of patient's life.

Erlen (2017 p. 953-961) has reported that challenges related to death and dying of patients hospitalized in ICU is the most stressor among ICU nurses. The critically ill and unstable patients are sources of stress among care providers because they do not have alternative care to improve them (Callaghan et al. 2017 p. 1518-1527).

The study done in British has reported that not only high mortality rate in ICU as stressors to ICU nurses but also the way that the ICU patients die;for instance, young people dying from acute pathologies or multiple injuries, multiple organ failure, exposes the ICU nurses to high workplace stress (Burgess et al. 2010 p. 129–140).

The ICU nurses caring for end stage cancers, cardiovascular diseases and patients undergoing organ transplantation were reported to face the higher stress than other ICU nurses (Rice 2008 p. 360-373).

Conflicts with physicians

When the physician refuses to prescribe appropriate treatment fearing of complications, this can be the source of conflict between nurses and physicians, thus ICU nurses are frustrated as they are caring for suffering patients but not able to administer appropriate treatment. The ICU nurses feel that they are working with staff that they consider as unsafe while carrying out the physicians' prescription for unhelpful treatment(Rice, 2018).

Others nurses reported that the source of ICU stress was linked to relationship with medical doctors, for instance absence of medical response in emergency calls, ICU nurses are stressed in front of suffering patients while not having the means to intervene (Valizadeh et al., 2012).A study done in Pakistan has reported that inappropriate communication between nurses and physicians is the one among the main stressors in ICU workplace (Johan et al., 2017 p. 96-109).

Inadequate emotional preparations

The inadequate emotional preparation of the ICU nurses to care forthe critically ill patients such as psychological support of a suffering patient wasthe main workplace stressor among ICU nurses (Rice, 2008 p. 360-373). The ICU nurses while saving lives or rescuing patients confront an unexpected ethical dilemma, particularly in relation to continuation or withdrawal from resuscitative efforts, this exposes the ICU nurses to emotional stress (Erlen, 2017 p. 953-961).

Other stressful event to the ICU nurses is the announcement of poor prognosis to the patient's family, therefore the nurse should be emotionally prepared to handle this situation (Rice, 2008 p. 360-373).

Conflicts with colleagues / supervisors

The absence of collaboration among the ICU nurses was reported to be a major source of stress, thus friendly support and cooperation at workplace is very important in smooth running of nursing care(Johan et al., 2017 p. 96-109) . A study done in Pakistan has reported that in addition to inappropriate communication between nurses and physicians, the poor relationship among the nurses is an important source of stress in ICU (Johan et al., 2017 p. 96-109).

Another study conducted in Portugal by Manuel & Pereira, (2011 p. 19) reported that the ICU nurses' non-cooperation are sources of stress among the nurses therefore when the ICU nurses experience the conflicts among themselves, stress increases. The poor interpersonal collaboration between nurses and nurses, nurses and doctors and nurses and supervisors has been found to be the source of stress in ICU (Daniele et al., 2011 p. 1187-1193).

Heavy workload/ timetable

A study done in India by Saini et al., (2016 p. 9-17) found that heavy workload and job pressures are the powerful determinants of stress among the ICU nurses. It was reported that, working by 12.5 hour shifts (from 7AM to 7:30 PM) and assignment of more than three patients per nurse was associated with stress and poor nursing care (Valizadeh et al., 2012 p. 245-254).

The rapid increase of workload and work pressures seen during massive injuries was reported to associated with the workplace stress among the critical care nurses (Burgess et al. 2010 p. 129–140).

While nursing is a profession occupied mainly by women (80% of ICU nurses), and most of household are taken care of by women (nurses), this increases further their work pressures and exposes them to workplace stresses (Saini et al. 2016 p. 9-17).

ICU equipments

The confined space, sophisticated equipments, and noise from alarms and failed electronic machines were reported to be the sources of ICU stress(Cavalheiro and Lopes, 2008 p. 29-35). A study conducted in Iran found that the source of stress in ICU is the sudden and unexpected alarming sounds from monitors and failed ICU equipments (Valizadeh et al., 2012 p. 245-254).

The inexperienced ICU nurses are more prone to workplace stress from equipment dysfunction compared to experienced ones, the reason is that the senior nurses are skilled enough to trouble shoot the ICU equipments(Burgess et al.. 2010 p. 129–140). This was supported by findings from a study done in India, which found that the young nurses assigned to complex patients with new changing technology were likely to experience the workplace stress (Saini et al. 2016 p. 9-17).

Uncertainty concerning treatment

ICU nurses reported high stress in case of carrying out a nursing care in which they do not feel competent, in addition the ICU nurses fellstressed while providing care which is not helpful to the patient because of following family wishes but do so because of fear of lawsuit, the example, is the continuation of none beneficial life support(Chappell et al., 2018 p. 723-740).

Personal factors affecting workplace stress

The occurrence of ICU stress is affected by personal factors, a study done by Burgess et al., (2010 p. 129–140) reported that the ICU nurses younger than 35 years old were found to have high level of stress in comparison to older ones.

The reason may be that young ICU nurses were less experienced and feel that they are over loaded while old ones were more experienced and might be well-adjusted to the stressful situation (Arunesh Kumar et al., 2016 p. 129).

2.3.3. The coping strategies

The coping strategy is the process whereby a person manages the emotional demands to overcome stresses (Yadollah et al., 2011 p. 123-129). A study done in UK by Callaghan et al., (2017 p. 1518-1527) has reported that the ICU nurses cope with workplace stressors by getting the emotional social support from friends and colleagues, cognitive management (trying to forget about work when off duty) and resting and hobby activities movies, music and sport activities.

Others used to get comfort from religion and spiritual beliefs to smoke, drink alcohol or drugs abuse (Callaghan et al., 2017 p. 1518-1527). A study done by Laal (2013 p. 437-442) reported that 58.3% of ICU nurses used to read books, newsletters and magazine and 57% discussed their stress with mothers, peers, and friends as a coping mechanism to workplace stress.

There is a gender difference is application of coping strategies, women tend to focus on emotions and to seek for social supports while the men tend to use alcohol and drugs as coping mechanism (Carver, Scheier and Weintraub, 2016 p. 267-283).

2.4. CRITICAL REVIEW AND RESEARCH GAP IDENTIFICATION

The study conducted in Sudan reported the sources of ICU nurses stress such as conflict with physicians, workload, ICU environment, inadequate preparation to meet emotional needs of patients and families, death and dying of ICU patients but this study did not report about different stress levels among ICU nurses and coping stress strategies (Mohamedkheir et al., 2016 p. 166-171).

In the study done by Rice (2018 p. 360-373), the findings focus only on ICU nurses stressors as from conflict with doctors while the study did not say anything about physicians stress from the ICU nurses.

In Rwanda, a sudy done by Nankundwa and Brysiewicz, (2017 p. 19-22) has reported that the ICU nurses were emotionally stressed while caring for the criticall ill patients with a do not resuscitate order, that order viwed as giving permission to end the patient's life. This was reported to be too hard, painful and very stressful event that is experienced by ICU nurses (Nankundwa and Brysiewicz, 2017 p. 19-2).

Still this study did not report about other ICU stressors in Rwanda, evidencing a scarcity of data about other possible workplace stressors and coping strategies in ICU nurses, therefore the present study will be of paramount importance to find out the levels of workplace stress, workplace stressors and coping strategies among the ICU nurses at University Teaching Hospitals, Rwanda so that evidence based preventive and management measures can be put in place to improve the workplace conditions of ICU nurses.

2.5. CONCEPTUAL FRAMEWORK

The conceptual framework in the present wasmade of several concepts, namely, the levels of workplace stress, workplace stressors and the factors that could affect the workplace stress, and coping strategies.

These concepts were defined and their relationships were spelt out hereunder, the workplace stressorsaffect the health workers but also the contexts in which the health care providers work influence the levels workplace stress. In addition the personal factors were reported to play a role in promoting workplace stress as risk factors to workplace stress, such factors are socio-demographics, years of education and experiences (Arunesh Kumar et al., 2016 p.129).

Workplace stressors among nurses

May studies have found that the workplace stressors are thedeath and dying patients, conflict with physicians, inadequate emotional preparation to respond to patient/ family needs, problems with peer/ colleagues, problems with supervisors/ administrators, heavy workload, uncertainty concerning patient's treatment, stress by patients and patient's families and malfunction of ICU equipments(Elizabeth French, 2014 p. 161-177).

Socio-demographic characteristics

Gender, age, marital status, educational levels, experiences, distance to services and monthly income/ incentives…

Levels of workplace stress in ICU nurses

The levels of workplace stress (2-4/4 ENSS), among the ICU nurses as evaluated by the expanded nursing stress scale (Elizabeth French, 2014 p. 161-177).

Coping strategies with ICU stress

As reported by many studies, the coping strategies that are applied by to curb the workplace stress are,other activities to take mind off (movies/TV/ music/ sport activities), using alcohol or other drugs, emotional support from colleagues and friends, turning to religion or spiritual beliefs by praying and meditation and blaming him/her for situation (Litman, 2006 p. 273-284).

Consequences of ICU stress

The ICU stress among nurses can lead to dissatisfaction at work, burnout, depression and anxiety and post-traumatic stress disorder, therefore the quality of care is compromised(Litman, 2006 p. 273-284).Nevertheless, the consequences of ICU stress were addressed in the present study.

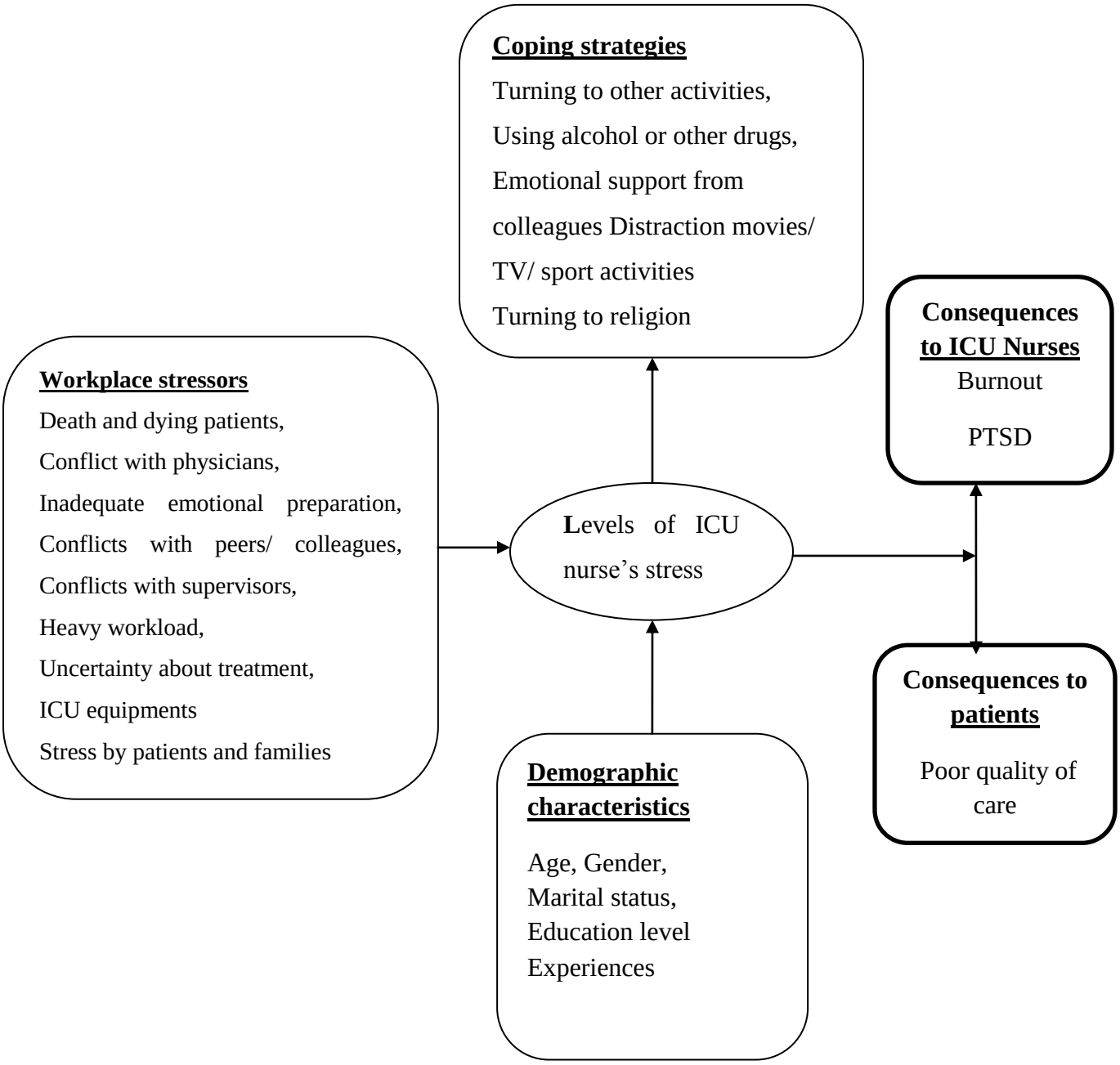

Figure2. 1: Conceptual framework adapted from Seyle's stress theory.

2.6 CONCLUSION TO CHAPTER TWO

In chapter two, the theoretical and empirical literature review was presented; in addition the critical review and research gap identification and conceptual frame work were outlined.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. INTRODUCTION

The chapter three presented the research methodology; it outlined the process and methods that was used to conduct this research.

It describedthe study design, research approach, study population, sample size and sampling methods, data collection procedure, data analysis, study limitation and challenges, and ethical consideration.

3.2. STUDY DESIGN

The descriptive cross-sectional design was used to conduct this research. The cross sectional study is a descriptive epidemiological study in which the health related event is determined at a given point of time(Marcello Pagano et al., 2015 p. 1-581).

3. 3. RESEARCH APPROACH

The quantitative non-experimental approach was applied to the present research. It is the study that involves the statistical measurement (numbers) or numerical analysis of data(Marcello Pagano et al., 2015 p. 1-581).

3.4. RESEARCH SETTING

This study was conducted at three University Teaching Hospitals and King Faisal Hospital, Rwanda, namely Kigali University Teaching Hospital (KUTH) , King Faisal Hospital (KFH) and Butare University Teaching Hospital (BUTH).

3.4.1 Historic of Kigali University Teaching Hospital

Based oninformation from the administration of CHUK, Kigali University Teaching Hospital is one of Rwanda University teaching hospitals located in Kigali city within Nyarugenge district, Nyarugenge Sector, Camp Kigali cell. Nearby SERENA Hotel, National laboratory and national blood transfusion Centre.

KUTH was built in 1918 by a group of Missionaries referred to as Pennies through the initiative of the official Authorities of Belgium. The hospital began with four rooms for hospitalization and a dispensary.

KUTH was awarded the status of a referral and teaching hospital on 7/12/2000 by the law N°41/2000 and then expanded.

Currently KUTH has a capacity of admitting 509 patients and employs 434 nurses. Its mission is to provide education and clinical training for a medical profession, to deliver high-quality medical care for all categories of people and to develop research.

The intensive care unit at KUTH is made of twelve beds; the nurses affected in ICU are thirty five.

3.4.2 Historicof Butare University Teaching Hospital

According to the information from the administration of CHUB, Butare University Teaching Hospital is situated in HUYE district, Southern province. It is a university teaching hospital with 511 staff and 206 beds. The hospital started since 1928, by the time, it was the Butare hospital. It was built by Belgian colonies. Butare Hospital became a University Teaching Hospital in 1966.

The intensive care unit at BUTH is made of ten beds; the nurses working in ICU are thirty.

4.3 Historic of King Faysal Hospital

According to the information from the administration of KFH, King Faisal Hospital, the hospital was constructed between 1987 and 1991 with the help of the Saudi Fund for Development (SFD).

Thus the name "King Faisal Hospital, Kigali"

The hospital currently offers more than 34 services and has a capacity of 160 beds, has 350 staff, with the mission of providing specialized health care in Rwanda and beyond.

The intensive care unit at KFH is made of seven beds; the nurses affected in ICU are thirty five.

3.5. STUDY POPULATION

The study population was made of the nurses working in intensive care units (ICUs) at three University Teaching Hospitals namely Kigali University Teaching, King Faisal Hospital and Kigali University Teaching Hospital.

Based on information provided by the departments of human resource management, the ICU nurses include 48 nurses from KUTH, 17 from BUTH, and 27 from KFH; the total population will be 92 ICU nurses.

3.6. SAMPLING

3.6.1. Sample size

The sample size was made all ICU nurses fulfilling the inclusion criteria thus the sample wasthe total number of ICU nurses working at University Teaching Hospitals, Rwanda. The sample size was made of 48 ICU nurses fat KUTH, 17 at BUTH and 27 at KFH; the sum was equal to 92 ICU nurses which is a sample size.

3.6.2. Sampling strategy

A census sampling method (complete enumeration) was applied in this study. The census sampling method isa sampling method during which every unit or everyone in the study population is included in sample. The whole study population constitutes the study sample.

The rationale for choosing this method which is because the ICU nurses are too few to for random selection therefore the census was applied in order to support generalization.

3.6.2.1. Inclusion criteria

The inclusion criteria were all nurses working in intensive care unit in University Teaching Hospitals(KUTH, BUTH and KFH), Rwanda, who consented to participate in the study.

3.6.2.2. Exclusion criteria

The exclusion criteria were all nurses working in other units than intensive care unit, and those who were on leave at the time of data collection and those who did not sign the consent form.

3.7. VALIDITY AND RELIABILITY OF RESEARCH INSTRUMENTS

3.7.1. Data collection tool

To achieve the first two study's objectives, the Korean version of ENSS was used as data collection instrument to identify to determine the level of workplace stress and workplace stressors among the ICU nurses at university teaching hospitals, Rwanda.

The other tool that was used is the Brief COPE inventory to identify the coping strategies that are applied by the ICU nurses to curb the workplace stress.

The tools were simplified, compiled and adapted to this study to be applied to Rwanda context, the researchers in collaboration with a language expert has translated the simplified and adapted data collection tool into Kinyarwanda to ensure of most accuracy and applicability in Rwanda.

3.7.2. Questionnaire for this study

The final data collection tool was composed of three sections; the first was made of socio-demographic data. The second section was made of adapted Korean version of ENSS, it is composed by nine major nurse workplace stressors, detailed in 18 items (Kim et al., 2015 p. 542-551).

Those items are scored on 4-point Likert scale, the participant's responses are 1: never, 2: occasionally, 3: frequently and 4: always. The sum scores of each participant are summed then divided by sixteen to get the mean scale of each participant (Kim et al., 2015).

The participant's level of workplace stress is determined as follow: 1.00 - 1.99 scale: low stress, 2.00 - 2.99: moderate stress and 3.00 - 4.00: high stress (Kim et al., 2015 p. 542-551). The third section was made of the adapted Brief COPE Inventory a tool developed to assess the coping strategies applied by nurses to control the workplace stress; it is composed by twelve items measured at four likert scales (1 = Not at all, 2 = Sometime, 3 = Most of time, 4 = Always(Carver et al., 2016 p. 41-44).

The sum scores of each participant are divided by the number of items (seven) sixteen, then coping capability is expressed as: 1.00 - 1.99: poor coping, 2.00 - 2.99: good coping, while 3.00 - 4.00: excellent coping (Carver et al., 2016 p. 41-44).

The permissions to use the Korean version of ENSS and the COPE inventory as data collection tools were obtained from authors: Geum Hee JEONG PhD, R.N. Tel 82-33-248-2713 and Carver, Charles S. (ccarver@miami.edu) respectively.

3.7.3. Reliability of ENSS

The study done in Korea by Kim et al., (2015 p. 542-551) , reported the reliable internal consistency of the Korean version of ENSS with Cranach's alpha of 0.95 and the composite reliability of 0.99 therefore the Korean version of ENSS has been reported to be valid to describe the ICU nurses 'stressors (Kim et al., 2015 p. 542-551).

3.7.4. Validity of ENSS

For concurrent criterion validity, the scores of the Korean version of ENSS might hold the capability to estimate the workplace stressors in other disciplines as well as stressors in daily life, therefore the correlation of Korean version of ENSS and subscales and overall life stressors are in expected direction and statistically significant (P=0.001) (Kim et al., 2015 p. 542-551).

To assess the construct validity, the stressors are hypothesized to be associated with health problems, for example, the ICU nurses' workplace stress contributes to poor health, based on a sample of 122 ICU nurses, the construct validity of Korean version of ENSS was supported by correlation coefficient between ENSS and IPAT anxiety scale (0.39 $P < 0.01$) (Kim et al., 2015 p. 542-551).

3.7.5. Reliability of the Brief COPE Inventory

The reliability of the Brief COPE Inventory was reported in study done in Malaysia with Cronbach's alpha value of 0.75 (Yusoff, Low and Yip, 2010 p. 41-44).

3.7.6. Validity of the Brief COPE Inventory

The internal consistency presented by the Cronbach's alpha values ranged from 0.25 to 1.00 while, the test-retest Inter-class Correlation Coefficient (ICC) ranged from 0.05 to 1.00. Sensitivity of the scale was shown by the mean differences as observed in majority of the domains, some of them had significant p-value ($p<0.05$) (Yusoff, Low and Yip, 2010 p. 41-44).

The adapted questionnaire for data collection was constructed by dropping the unnecessary items to remain with the items that are applicable in Rwandan context. To ensure of its applicability, the pilot study was applied to evaluate the reliability and validity of the final data collection tool.

The data were collected from 10 participants, the collected data were analyzed, and then the reliability (0.85) of the adapted questionnaire was reported before its use for the large scale of the study sample.

3.7.7 Content validity

Table 3. 1Content validity of the data collection tool

Objectives	**Items on the questionnaire**	**Items on the conceptual framework**
To determine the level of workplace stress among ICU nurses at UTH.	**Level of workplace stress** Likert scale on ENSS	**Level of workplace stress** Levels of ICU nurse's stress
To identify the workplace stressors among ICU nurses at UTH	**Workplace stressors** Death and dying patients Conflict with physicians Inadequate emotional preparation Conflicts with peers/ colleagues Heavy workload A violent/agitated patient ICU equipments	**Workplace stressors** Death and dying patients, Conflict with physicians, Inadequate emotional preparation, Conflicts with peers/ colleagues, Conflicts with supervisors, Heavy workload, A violent/agitated patient ICU equipments
To identify the nurses' coping strategies to ICU stress at UTH.	**Coping strategies** Turning to other activities Using alcohol/ drugs Getting emotional support Distraction by movies/ TV Find comfort in my religion	**Coping strategies** Turning to other activities Using alcohol/ drugs Getting emotional support Distraction by movies/ TV Find comfort in my religion

3.8. DATA COLLECTION

After getting approval from IRB/CMHS, the researcherhas applied for permission to conduct research from KUTH, BUTH and KFH ethical committees. Once permission obtained, the researcher met the unit managers of ICUs to introduce himself and explain the study purpose and ask permission and appointments to meet the ICU nurses. After explanation of the study purpose and requested the ICU nurses to participate to the study, the consents have signed the consent form thereafter the researcher left the questionnaires to be filled.

The sealed box was left with the Unit Manager where the participants have deposited the completed questionnaires and the researcher checked the box weekly for completed questionnaires until the end of the data collection period. Meanwhile a reminder has sent by SMS in the midterm and a week before the end of data collection to improve on the return rate.

3.9. DATA ANALYSIS

Data were captured and analyzed using SPSS 22. Descriptive statistics (frequency, percentages, mean and standard deviation and chi-square)were computed, and then inferential statistics (one way ANOVA)were used to determine the associations between variables.

3.10. ETHICAL CONSIDERATIONS

The researcher has applied for ethical clearance from IRB/CMHS and permission to conduct research from KUTH, BUTH and KFH ethical committees. To ensure anonymity and confidentiality to participants, the codes were used on questionnaires and kept in locked box; the softcopies were kept in computer locked by a password.

The participants were guaranteed the right to withdraw from the study at any stage without any negative consequences, therefore participation was totally voluntary. The researcher approached and informed the participants about research purpose and objectives, procedures involved, their rights regarding study participation or withdrawal including potential risks and how they would be mitigated. For example, this study involves minimal risk of interruption of ward routine; however, the researcher allowed the participants to complete the questionnaires during their own time to avoid disruption of unit activities.

Of course the comfort of their leisure time would be disrupted but the benefit of the information that would be produced by this study may balance or even outweigh the sacrifice. Then the participants were requested to sign an informed consent in the language of choice as the documents were translated into Kinyarwanda.

3.11. DATA MANAGEMENT

The soft copies were stored on external disk, kept confidential and were used for the purpose of research.

3.12. DATA DISSEMINATION

The results of this study would be published in order to be accessible to the user as needed and the researcher would provide feedback to the study setting in order to facilitate them to set strategies to prevent workplace stress.

3. 13. LIMITATIONS AND CHALLENGES

The limitations and challenges that were encountered during the study process are the time factor as this research has been conducted along with the course work and job.

In addition to the time factor as challenge during research conduct, the cost was also an important issue, particularly the process of collecting data from Butare University Teaching Hospital which was far from Kigali. Furthermore, the collection of data was as hard as, the participants (ICU nurses) were so busy to complete the study questionnaire because of overloaded workload/time table so I was obliged to wait and regularly remind them.

More over the sample size was small so findings are limited generalizability and no established causal-effect relationship.

3.14. CONCLUSION OF CHAPTER THREE

The chapter three described the procedure and instruments that were applied by the researcher to answer the research questions.

CHAPTER FOUR: RESULTS

4.1.INTRODUCTION

This chapter presents the findings of this study; the results are presented according to the research objectives. The results are presented in tables which are preceded by a short summary of the contents within table.

The aim of the study was to assess the workplace stressors and coping strategies among ICU nurses at three University Teaching Hospitals, Rwanda.

The study was intended to determine the level of workplace stress, to identify the workplace stressors and the coping strategies to the workplace stress among the ICU nurses at University Teaching Hospitals and King Faisal Hospital, Rwanda; with the sample size of 92 nurses working in Intensive Care Unit (ICU).

4.2. DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

The demographic characteristics of the respondents are presented in the table 4. 2.

The participants were mainly young, 46 (50%) had less or equal to 35 years old, 39 (42.4%) ranged from 36 to 45 years old, while 7 (7.6%) of participants had 46 years old and over. Fifty (54.3%) of participants were female while 42 (45.7%) were male, many of participants 61 (66.3%) were married, 21 (22.8%) were single while 7 (7.6%) were divorced.

Fifty one (55.4%) of participants had the advanced diploma in general nursing while the bachelor and masters holders were 36 (39.1%) and 5 (5.4%) respectively.

About the clinical experience, 43(46.7%) had less than five years, 35(38%) had the clinical experience ranging from six to ten years, while 14(15.2%) had more than eleven years of clinical experiences.

Table 4. 2. Demographic characteristics of participants (n=92)

Variables	Frequency	Percent
Age		
≤35	46	50
36-45	39	42.4
≥ 46	7	7.6
Sex		
Male	42	45.7
Female	50	54.3
Marital status		
Single	21	22.8
Married	61	66.3
Divorced	7	7.6
Widower	3	3.3
Education level		
Advanced diploma (A1)	51	55.4
Bachelor degree (A0)	36	39.1
Masters	5	5.4
Clinical experience in ICU (years)		
≤ 5	43	46.7
6-10	35	38
≥ 11	14	15.2

4.3.PRESENTATION OF FINDINGS

4.3.1. Levels of workplace stress in ICU nurses

As stated in research instruments (ENSS), the levels of workplace among the ICU nurses are classified as follow: 1-1.99: low stress, 2-2.99: moderate stress while 3-4: high stress, therefore the table 4.3 presents the levels of workplace among the ICU nurses.

Referring to Table 4.2, twenty-four (26.1%) of ICU nurses reported the high level of stress, 50 (54.6%) were found to have moderate stress while 18 (19.6%) expressed the low level of stress.

Table 4. 3.Levels of work place stress (n = 92)

Levels of workplace stress	Frequency	Percent
Low stress	18	19.6
Moderate stress	50	54.3
High stress	24	26.1

4.3.2. Cross tabulation (Chi^2) of demographic characteristics and levels of stress

The cross tabulation (Chi2) of demographic characteristics and levels of workplace stress has been produced and displayed in the table 4.4.

The numbers and percentage of the participants with low, moderate and high stress, per socio-demographic variable (age group, sex, marital status education and years of clinical experiences), Chi2 and P value were presented.

However there is no association of socio-demographic variables and levels of workplace stress, all P values were greater than 0.05 (P>0.05), so the association of socio-demographic characteristics and levels of workplace stress among the ICU nurses was not statistically significant.

Confer to the table 4.4. So, demographic characteristics of participants could not be considered as the predictorsof different levels of workplace stress among the participants.

Table 4.4Cross tabulation (Chi^2) of demographic characteristics and levels of workplacestress

Variables		Levels of workplace stress, n (%)			Chi^2	P value
		Low stress	Moderate stress	High stress		
Age	≤35	11(61.1)	26(52)	9(37.5)	4.061	0.398
	36-45	7(38.9)	19(38)	13(54.2)		
	≥45	0(0)	5(10.0)	2(8.3)		
Sex	Male	10(55.6)	18(36)	14(58.3)	4.145	0.126
	Female	8(44.4)	32(64)	10(41.7)		
Marital status	Union	9(50)	33(66)	19(79.2)	19.015	0.141
	No union	9(50)	17(34)	5(20)		
Education level	A1	10(55.6)	27(54)	14(58.3)	2.021	0.732
	A0	7(38.9)	19(38)	10(41.7)		
	Masters	1(5.6)	4(8)	0(0)		
Experience	≤5	10(55.6)	25(50)	8(33.3)	2.810	0.59
	6-10	6(33.3)	17(34)	12(50)		
	≥11	2(11.1)	8(16)	4(16.7)		

4.3.2. The workplace stressors in ICU as reported by participants

The table 4.5; presents the workplace stressors as reported by the participants, the workplace stressors are ranked according to the mean score, almost all events were stressors to participants (mean ≥2/4: from occasionally to always stressed), the standard deviation was also displayed.

The first three workplace stressors were the nursing care for agitated, violent or abusive patients/families (2.93±1.046), care for patient's deathor dying patient (2.65±1.208) and unpredictable workload/ time table/ shift or schedule and work under pressure (2.63±1.213). The least workplace stressor is the conflict with the physicians (2.20±1.061).

Table 4. 5The workplace stressors as reported by participants (n=92)

Workplace stressors	**Mean**	**SD**
Care for agitated, violent, abusive/ aggressive patients/families	2.93	1.046
Nursing care for dying/ death of patient	2.65	1.208
Heavy workload/ time table/ shift or schedule and work under pressure	2.63	1.229
Fear of making mistake during patient care	2.61	1.213
Decision making about patient care in absence of physician	2.59	1.121
Dysfunction/ noise of ICU equipments (ventilators, monitors, pumps…)	2.59	1.111
Nursing care for a suffering patient/ fails to improve	2.51	1.124
Blames from supervisors/ administrators	2.47	1.104
Inadequate emotional preparation to help the patient/ family	2.42	1.092
Failure to solve the patient's concerns	2.41	1.101
Poor salary/incentivesor unpaid overtime	2.40	1.090
Absence of physician during emergency/ order of inappropriate treatment	2.39	1.222
Inexperience and uncertainty about function of ICU equipments	2.39	1.109
Poor exchange of experiences and feeling with other personnel	2.29	1.153
Lack of opportunity to express my negative feelings and absence of team work	2.26	1.185
Conflict with the physicians	2.20	1.061

4.3.3. Coping strategies to workplace stress.

The table 4.6; displays the coping strategies that are applied by the ICU nurses to curb the workplace stress, those coping strategies are presented by order of their means of score, from the one with high mean (most applied) to the least (low mean), almost all coping strategies wereapplied (mean ≥2/4: from sometime to always used) by the participants at different degree.

The most useful coping strategy is the comfort in religion or spiritual beliefs (praying and meditation), followed by emotional support and advice from colleagues and friends (3.23, 0.996) and (3.05, 1.062) respectively.

The least applied coping strategies as reported by the participants are the use of alcohol or other drugs to make him/her self feel better and making jokes about the situation with mean and standard deviation (2.41, 1.285) and (2.04, .982) respectively.

Table 4. 6Coping strategies as reported by participants (n=92)

Coping strategies	**Mean**	**SD**
Comfort in religion or spiritual beliefs (praying and meditation)	3.23	.996
Emotional support and advice from colleagues and friends	3.05	1.062
Doing something to think about it less, such as going to movies/ TV/ music…	2.88	1.088
Blaming him/her self for things that happened	2.55	1.042
Turning to other activities to take his/her mind off things	2.52	1.000
Use of alcohol or other drugs to make him/her self feel better	2.41	1.285
Joking about the situation	2.04	.982

4.3.4. Cross tabulation (Chi^2) of demographic characteristics and coping

The table 4.7; displays the cross tabulation (Chi^2) of demographic characteristics of participants and coping categories.

The table presents the numbers and percentage of the participants with poor, good and excellent coping to workplace stress per demographic characteristic of participant, the Chi^2 and P value were presented.

The association of education level and coping categories was statistically significant (P 0.001), therefore the education level can predict the coping of participant.

However other demographic variables are not statistically significant (P> 0.05).

Table 4. 7Cross-tabulation (Chi^2) of demographic characteristics and coping

Variables		Coping categories			Chi^2	P value
		Poor coping	Good coping	Excellent coping		
Age	≤35	1(100)	44(49.4)	1(50)	1.195	0.879
	36-45	0	38(42.7)	1(100)		
	≥46	0	7(7.9)	0		
Sex	Male	0	41(46.1)	1(50)	0.861	0.65
	Female	1(100)	48(53.9)	1(50)		
Marital status	In union	1(100)	58(65.2)	2(100)	17.734	0.954
	No union	0	31 (23.6)	0		
Education level	A1	0	50(56.2)	1(50)	8.919	0.001*
	A0	0	35(39.3)	1(50)		
	Masters	1(100)	4(4.5)			
Experience	≤5	0	43(48.3)	0	1.576	0.63
	6-10	0	33(37.1)	2(100)		
	≥11	1(100)	13(14.6)	0		

4.3.5. One way ANOVA by multiple comparisons of demographic characteristics and coping categories

The table 4.8; displays the one way ANOVA by multiple comparisons of education levels and years of experience and coping categories, the mean differences (MD), standard error of the mean (SE), 95% confidence interval (95% CI) and P value were computed.

The association of education levels of participants and coping categories (poor, good and excellent coping) were statistically significant (P< 0.05), the masters holders exhibited the excellent coping compared to the A1 holders (MD: 0.220, 95% CI: 0.02-0.42, P 0.027), while the masters holders compared to A0 holders (MD: -.228, 95% CI: -.43 - -.02, P 0.024).Hence the education level was suggested to predict the coping capability of respondents; however other demographic characteristics were not statistically significant (P> 0.05).

Table 4. 8One way ANOVA by multiple comparisons of demographic and coping categories

Coping categories			MD	SE	95% CI		P value
					LB	UB	
Education	A1	A0	-.008	.038	-.10	.09	1.000
		Masters	.220*	.082	.02	.42	0.027*
	A0	A1	.008	.038	-.09	.10	1.000
		Masters	.228*	.084	.02	.43	0.024*
	Masters	A1	-.220*	.082	-.42	-.02	0.027*
		A0	-.228*	.084	-.43	-.02	0.024*
Experience	≤ 5	6-10	-.057	.040	-.16	.04	.485
		≥11	.071	.055	-.06	.20	.585
	6-10	≤ 5	.057	.040	-.04	.16	.485
		≥ 11	.129	.056	-.01	.27	.074
	≥ 11	≤ 5	-.071	.055	-.20	.06	.585
		6-10	-.129	.056	-.27	.01	.074

4.3.6. One way ANOVA by multiple comparisons of levels of workplace stress and coping strategies.

The table 4.9 presents the one way ANOVA by multiple comparisons of coping strategies and levels of workplace stress.

The ICU nurses with high stress were found to cope with the workplace stress by turning to other activities to take mind off things (MD -1.32, CI -2 - .0.64, P 0.00), while getting support from colleagues/ friends was likely to apply by the moderately stressed ICU nurses (MD 0.991, CI -0.35-1.6, P 0.001).

Doing something to think about it less such as movies/music/TV/ sport activitieswere likely to be applied by the highly stressed ICU nurses than those with low or moderate workplace stress (MD – 1.15, CI -1.93- -0.37, P 0.002).Furthermore, finding the comfort from religion/ spiritual beliefs was found to be used by moderately and highly stressed ICU nurses (MD 0.924, CI 0, 29 - 1.5, P 0.002) and (MD 0.819, CI 0.10 – 1.5, P 0.019) respectively.

Table 4.9 One way ANOVA by multiple comparisons of coping strategies and levels of workplacestress

Coping strategies	Levels of stress	MD	SE	95%CI		P value
				LB	UB	
Turning to other activities to take mind off things						
Low stress	Moderate stress	-.531	.247	-1.13	.07	.103
	High stress	-1.32*	.280	-2.0	-.64	.00*
Moderate stress	Low stress	.531	.247	-.07	1.1	.103
	High stress	-.788*	.223	-1.33	-.24	.002*
High stress	Low stress	1.319*	.280	.64	2.0	.000*
	Moderate stress	.788*	.223	.24	1.3	.002*
Getting emotional support from colleagues and friends						
Low stress	Moderate stress	.991*	.264	.35	1.6	.001*
	High stress	.069	.299	-.66	.80	1.00
Moderate stress	Low stress	-.991*	.264	-1.63	-.35	.001*
	High stress	-.922*	.238	-1.50	-.34	.001*
High stress	Low stress	-.069	.299	-.80	.66	1.00
	Moderate stress	.922*	.238	.34	1.5	.001*
Doing something to think about it less, such as movies/TV						
Low stress	Moderate stress	-.658	.283	-1.35	.03	.066
	High stress	-1.15*	.320	-1.93	-.37	.002*
Moderate stress	Low stress	.658	.283	-.03	1.3	.066
	High stress	-.495	.255	-1.12	.13	.167
High stress	Low stress	1.153*	.320	.37	1.9	.002*
	Moderate stress	.495	.255	-.13	1.1	.167
Finding the comfort from religion or spiritual beliefs						
Low stress	Moderate stress	.924*	.258	.29	1.5	.002*
	High stress	.819*	.293	.10	1.5	.019*
Moderate stress	Low stress	-.924*	.258	-1.55	-.29	.002
	High stress	-.105	.233	-.67	.46	1.00
High stress	Low stress	-.819*	.293	-1.53	-.10	.019*
	Moderate stress	.105	.233	-.46	.67	1.00

CHAPTER FIVE. DISCUSSIONS

5.1. LEVELS OF WORK PLACE STRESS

The present study shown that the majority of the ICU nurses report the moderate level of workplace stress at 50 (54.3%), the high level of workplace stress was found in 24 (26.1%) while 18 (19.6%) reported the low level of workplace stress. The small difference was found in a study done in Nigeria which reported that the 31.6% of ICU staff exhibit the high level of stress(Adeolu, Yussuf and Popoola, 2016 p. 92-98).

Furthermore , the findings of current study were consistent with the study done in Saudi Arabia which reported the big number of ICU nurses (87%) with moderate level of workplace stress, few of them (11.7%) reported the low level of workplace stress while only 1.3% reported high level of workplace stress (Alharbi and Alshehry, 2019 p. 48-55).

A study done in Australia, the high level of workplace stress was reported in 21.56% of ICU nurses, this is very closer to the findings of present study which reported that 26.1% of ICU nurses who reported the high level of workplace stress, however in this study done in Australia, the other levels of work place stress were not reported (Babanataj et al., 2019 p. 1-6).

This is similar to the founding of the study done in Brazil which reported that the prevalence of workplace stress among the ICU nurses was 59.4%, the results support my founding, however the levels of workplace stress were not classified (Inoue, Versa and Matsuda, 2014 p. 69-77).

The workplace stress were reported among the ICU nurses in the study done in Iran by Saedpanah, Salehi and Moghaddam, 2016 who reported that 92% of ICU nurses presented the workplace stress, even though this study is not specific about the specific numbers of ICU nurses with different levels of workplace stress, it is evident that the workplace stress is more prevalent among the ICU nurses (Saedpanah, Salehi and Moghaddam, 2016 p. 1-4).

A study done in Brazil has found that 57.1% of ICU nurses were moderately stressed while 23.8% were highly stressed this result support the present study findings which reported the similar results with moderate stress in 54.3 % while 26.1% of ICU nurses were highly stressed (Vivian Aline Preto et al., 2009 p. 1-4).

The level of workplace stress was found to associated with marital status ($P < 0.05$), this is different from the findings of a study done in Nigeria in which the socio-demographic variables was not associated with the workplace stress (Adeolu, Yussuf and Popoola, 2016), the reason may be the young age of participants.

In a study done in Sao Paulo, Brazil, the women reported high stress, as women have to balance home and work duties, this double shift increases the risk to workplace stress (Cavalheiro and Lopes, 2008 p. 29-35).

In a study done in Brazil, the younger ICU nurses exhibited the high level of workplace stress than older ones; however the findings of present did not reveal any significant association of age and levels of workplace stress. The reason may be the sample size and work setting (Inoue, Versa and Matsuda, 2014 p. 69-77).

Furthermore, a study done in Sao Paulo, Brazil, has found that, the women were more stressed than other population, the reason being that, women have to balance home and work duties. This causes a double shift and increases the risk of workplace stress; however the findings of this study have found no significant association of marital status and workplace stress (P 0.954 in table 4.6).

The years of work experience was reported to be negatively associated with workplace stress, the reason may be the growing capacity to resist to the ICU stressors that develop overtime (Cavalheiro and Lopes, 2018 p. 29-35).

According to the study done in Brazil, the increase of experience in intensive care unit was found to be associated with lower level of stress, as nurses develop more technical confidence and control over situations of everyday practice. He/she becomes resistant to the stressful events (Guido etal., 2011 p. 1427–1431).

Similarly, the time of experience offers support for the workers to adjust and make a better evaluation of their practice, thus mediating the negative impact of stress over work (Guido et al., 2011 p. 1427–1431). However this correlation was not found in the current study ($P>0.05$).

5.2. THE WORKPLACE STRESSORS AS REPORTED BY PARTICIPANTS.

The present study has found that the dealing with agitated, violent, abusive patients/families, death of patient with whom you have developed a close relationship, unpredictable workload/ time table/ shift or schedule and work under pressure and fear of doing mistake while patient care are the most stressful events that are reported by the participants.

The similarity was reported in a study done in Brazil, which suggested that, facing the patient's death and attending the emergencies requiring the advanced resuscitation were found to be the most stressful situation followed by guiding the family of critically ill patients and performing tasks with minimal available time as reported by the ICU nurses in study conducted in Brazil (Inoue, Versa and Matsuda, 2014 p. 69-77).

Furthermore the fear of making mistakes in high technological and complicated nursing cares, seem to be resulted of increasing use of technology in medical science including the intensive care unit and inadequate training on the use of technology in critical care settings (Alharbi and Alshehry, 2019 p. 48-55).

This is different in our setting, the possible reason being, that in the study done by Alharbi and Alshehry, in 2019 p. 48-55 , the majority of participants (67.5%) worked in cardiac ICU which requires the high technology and sofisticated nursing cares while this study, the participants were the nurses working in general ICU.

Other workplace stressors in ICU are the interaction with patients with complicated health conditions, ethical dilemmas in relation to end-of-life care, and dealing with families of dying ICU patients (Alharbi and Alshehry, 2019 p. 48-55).

A study done in Pakistan by Johan, Sarwar and Majeed, 2017 has found that, 65% of ICU nurses strongly agreed that excessive workload is the main causes of workplace stress, while 53% of ICU nurses strongly agreed that the lack of proper knowledge and training to handle special ICU equipment cause the workplace stress to them (Johan, Sarwar and Majeed, 2017 p. 96-109). This is similar to the findings of the current study, which suggested that the unfamiliarity with the ICU equipment as a source of workplace stress.

The lack of motivation and reward was the sources of workplace stress in 47- 51% of ICU nurses (Johan, Sarwar and Majeed, 2017 p. 96-109).This was the contrary to the findings of this study, where the issues related to the motivation and reward (poor salary) was not mentioned as a workplace stressor, the reason may be that the remuneration of the health care providers in referral hospitals was recently up dated so the ICU nurses were motivated in regard to the salary and payment.

In addition to that, 43.5% strongly agreed that aggressive and demanding family members were a greater source of workplace stress in ICU. This is very similar to the findings of this study which ranked the dealing with agitated, violent, abusive patients/families as the first and most important source of workplace stress among the ICU nurses.

The reason may be that the ICU patients are sometime agitated and families are very stressed when one of their members is admitted in ICU so this behavior is likely to surface in ICU setting (Johan, Sarwar and Majeed, 2017 p. 96-109). While 56.5% of ICU nurses strongly agreed that the unexpected deaths of patients causes stress to them (Johan, Sarwar and Majeed, 2017 p. 96-109). The same case was revealed by the present study which reported that the death of ICU patients were the main workplace stressor.

Even though, the heavy workload was reported by medical staff as the fist ICU stressor to them (Adeolu, Yussuf and Popoola, 2016 p. 92-98), in the present study, the issue of heavy workload and work under pressure was the third workplace stressor among the ICU nurses, the difference may be the responsibilities of medical staff and nurses, the nurses spend most of his/her time with the patient while the medical staff are not so the agitated/violent ICU patient is very stressful to the ICU nurses (Adeolu, Yussuf and Popoola, 2016 p. 92-98).

Seventy six percent of ICU staff reported that dealing with death and dying is one and recurrent ICU stressors among the ICU health care providers (Adeolu, Yussuf and Popoola, 2016 p. 92-98).

5.3. COPING STRATEGIES AS REPORTED BY PARTICIPANTS

The results of this study suggested that comfort in religion or spiritual beliefs (praying and meditation), getting emotional support and advice from colleagues and friends and doing something like watching movies/ music/ TV are the most applied coping strategies; while blaming him/her self for things that happened, turning to other activities and the use of alcohol or other drugs as coping strategy were less likely to be applied by the participants.

This was supported by the findings from various studies, in a study done by Alharbi and Alshehry, 2019, the religion was reported to be the highest coping behavior followed by getting the emotional support from friends and colleagues and the use of instrumental support like watching TV/movies while the lowest rated dimensions were substance abuse and self-blame (Alharbi and Alshehry, 2019 p. p. 48-55).

The religion is considered as the milestone about coping to and control of stress, particularly in our setting as many people are affiliated to the religion confession, furthermore the use of instrumental support like watching TV/ music/ movies is likely to surface concomitantly with increasing use of technologies (Alharbi and Alshehry, 2019 p. 48-55).

The findings of the present study pointed out the positive association coping with level of education, the ICU nurses with Master's were likely to cope well, in comparison to A1 and A0 (MD: 0.220, 95% CI: 0.02-0.42, P 0.027) and (MD: 0.228 95% CI: - 0.43 – -0.2, P 0.024).

The truth is that as the knowledge and practice expand with education, the way of dealing with stress also grow, this is supported by the study done in Brazil, which reported that the professional preparation in continuing education empower the ICU nurses to deal with the critical patients and other workplace stressors and facilitates a broader coping capacity thus relieving stress; this was observed in this study where nurses with low education level (A1) experience poor coping compared to those with high education (master's degree holders) (Vivian Aline Preto1 et al., 2009 p. 838).

The nurse specialists in Critical Care are suggested to be prepared enough to curb the ICU stressors than the nurses without specialization with limited skills and knowledge to carry out the sophisticated nursing interventions necessary to the critically ill ICU patients.

Therefore the professional qualification and specialization are aspects that strongly impact the development of stress coping skills and the advanced education level is positively correlated to improved coping capacities (Vivian Aline Preto1 et al., 2009 p. 838).

In a study done in Brazil, it has been found that having a graduate degree increases self-esteem and helps to improve performance, and, consequently, provides more security for nurses to cope with stressors at work (Guido et al., 2011 p. 1427–1431). The education should therefore be improved to empower the ICU nurses with knowledge and skills to provide the advanced nursing care to the ICU patients that are normally stressing the ICU personnel.

In addition, the advanced education is intended to equip the ICU nurses with skills and knowledge to curb ICU stress (Guido et al., 2011 p. 1427–1431).

5.4. MULTIPLE COMPARISONS (one way ANOVA) OF COPING STRATEGIES AND LEVELS OF WORKPLACE STRESS

By multiple comparisons of coping strategies and levels of workplace stress, the ICU nurses with high stress were found to cope with the workplace stress by turning to other activities to take the mind off things (MD -1.32, CI -2 - .0.64, P 0.00).

This was supported by the findings in a study done in Brazil, in which the ICU nurses with high level of workplace stress, commonly use the problem solving as coping strategies, this is similar to the findings of this study, where many stressed ICU use to turn to other activities (Guido et al., 2011 p. 1427–1431).

Doing something to think about it less such as movies/music/TV/ sport activities… were likely to be useful for the highly stressed ICU nurses than those with low or moderate workplace stress (MD – 1.15, CI -1.93- -0.37, P 0.002). The similarity was reported in the study done in Saudi Arabia in which self-distraction like music, movies and TV was found to be commonly used by the highly stressed ICU nurses.

However this coping strategy was used to predict the severe symptoms of stress and posttraumatic stress among ICU nurses (Alharbi and Alshehry, 2019 p. 48-55).

Furthermore, finding the comfort from religion/ spiritual beliefs was found to be used by moderately and highly stressed ICU nurses (MD 0.924, CI 0, 29 - 1.5, P 0.002) and (MD 0.819, CI 0.10 – 1.5, P 0.019) respectively.

This was supported by the findings of a study done in Saudi Arabia, where it has been reported that turning to religion was rated as the most frequent coping mechanism especially during both moderately and highly stressful situations (Alharbi and Alshehry, 2019 p. 48-55).

This study strongly supports the use of religion as the most useful coping strategy in Saudi Arabia. The reason may be that this region is the most religious places in the world, so the religion is considered as relief, support, and strength to the respondents during difficult times (Alharbi and Alshehry, 2019 p. 48-55).

This is not different in our setting as about 95% of Rwandan population believe in God, the religion and spiritual beliefs are considered to be very important as coping means to stress.

CHAPTER SIX. CONCLUSIONS AND RECOMANDATIONS

6.1. INTRODUCTION

Chapter six is made of conclusions that are drawn from the findings of this study, and the recommendations to the ministry of health, administration of university teaching hospitals, health care providers and to the health researchers.

6.2. CONCLUSIONS

This study has found that 26.1% of participants reported the high level of workplace stress, while 54.3% and 19.6% have moderate and low level of workplace stress in ICU respectively.

The identified workplace stressors were the nursing care for agitated patients/families, care for dying/ death of patient, heavy workload, fear to make mistakes and care for emergency cases in absence of a physician.

The least ICU stressors were thedysfunction/ noise of ICU equipments, care for a suffering or patient's failure to improve, blaming from supervisors andpoor emotional preparation to psychologically care for patient/ family.

The coping strategies were thecomfort from religion, emotional support from friends, hobby activities (movies, sport…), alcohol/ drugs abuse.

The education level was positively associated with coping capacity, (master'sholders exhibited excellent coping).

6.3. RECOMMANDATIONS

According to the findings of the present study on workplace stressors and coping strategies among the ICU nurses conducted at the University Teaching Hospitals, Rwanda, the recommendations are presented as follows:

To the ministry health to take measures to mitigate the workplace stress by planning for training/ symposium/seminars/ workshops/ on workplace stress prevention and control, for example, emotion regulation training on workplace stress to the ICU nurses.

To plan for continuing education, including the specialization as this was found to be negatively associated with the workplace stress (increased education level reduces the level of workplace stress).

To the administration of University Teaching Hospitals: to take measures prevent the workplace stress by availing sufficient ICU nurses (patient/ nurse ratio should be 1:1). This would lessen the ICU heavy workload.

To avail the religious/ spiritual infrastructure (rooms and resources) as this was reported to be the coping strategy that is mostly applied to curb the workplace stress.

To promote and support the leisure activities (movies/music TV or sport activities) as this has been found to help in coping and control the workplace stress. More so the government promotes sports activities on Fridays and hospital management could take this opportunity and encourage their employees to participate in such activity.

To plan for induction initial training/ workshops/ seminars of the new hired and even other ICU nurses about the function and use of sophisticated ICU equipment, as this was reported to be stressful to the ICU nurses.

To the ICU nurses: To promote team work/good communication/ mutual collaboration/ inter-professional relationships to enhance coping with workplace stress as this was found to be an effective coping strategy.

The education should begin to emphasize to include in the curriculum, the unit on care of the carer so that nurses are educated and trained to self-care while managers are taught on creating and promoting conducive/positive workplace environments to reduce the risk of workplace stress.

To the researchers: Additional research is needed to find and test the best interventions that can be applied to reduce/ minimize the workplace stress and its consequences in ICU setting.

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ANNEXES

1. AUTORIZATION LETTERS

UNIVERSITY OF RWANDA

COLLEGE OF MEDICINE AND HEALTH SCIENCES

CMHS INSTITUTIONAL REVIEW BOARD (IRB)

Kigali, 14/01/2019
Ref: CMHS/IRB/008/2019

MUNYANZIZA Thomas
School of Nursing and Midwifery, CMHS, UR

Dear MUNYANZIZA Thomas,

RE: ETHICAL CLEARANCE

Reference is made to your application for ethical clearance for the study entitled *"**Workplace Stressors and Coping Strategies among The Intensive Care Unit Nurses at University Teaching Hospitals, Rwanda.**"*

Having reviewed your protocol and been satisfied with your revised version incorporating the comment from the IRB, your study is hereby granted ethical clearance. The ethical clearance is valid for one year starting from the date it is issued and shall be renewed on request. You will be required to submit the progress report and any major changes made in the proposal during the implementation stage. In addition, at the end, the IRB shall need to be given the final report of your study.

We wish you success in this important study.

Professor Jean Bosco GAHUTU
Chairperson Institutional Review Board,
College of Medicine and Health Sciences, UR

Cc:
- Principal, College of Medicine and Health Sciences, UR
- University Director of Research and Postgraduate studies, UR

CENTRE HOSPITALIER UNIVERSITAIRE
UNIVERSITY TEACHING HOSPITAL

Quality Health Care
Training & Research

Ethics Committee / Comité d'éthique

February 08th , 2019 **Ref.: EC/CHUK/014/2019**

Review Approval Notice

Dear **Munyanziza Thomas,**

Your research project: ***"Workplace stressors and coping strategies among the intensive care unit at CHUK"***

During the meeting of the Ethics Committee of University Teaching Hospital of Kigali (CHUK) that was held on 08th February, 2019 to evaluate your request for ethical approval of the above mentioned research project, we are pleased to inform you that the Ethics Committee/CHUK has approved your research project.

You are required to present the results of your study to CHUK Ethics Committee before publication.

PS: Please note that the present approval is valid for 12 months.

Yours sincerely,

ETHICS COMMITTEE
CHUK

Dr. Emmanuel Rusingiza
The Chairperson, Ethics Committee,
University Teaching Hospital of Kigali

<<***University teaching hospital of Kigali Ethics committee operates according to standard operating procedures (Sops) which are updated on an annual basis and in compliance with GCP and Ethics guidelines and regulations***>>

UNIVERSITY TEACHING HOSPITAL

CENTRE HOSPITALIER UNIVERSITAIRE DE BUTARE (CHUB)
OFFICE OF DIRECTOR GENERAL

Huye, 22/03/2019

N° Ref: CHUB/DG/SA/02/0501/2019

Mr. Thomas Munyanziza
UR-CMHS
Phone : +250783029165
Email: munyanziza@gmail.com

Dear Munyanziza,

Re: Your request for data collection

Reference made to your letter requesting for permission to collect the data within University Teaching Hospital of Butare for your research proposal entitled "***Workplace stressors and coping strategies among the intensive care unit nurses at university teaching hospitals and king Faisal hospital, Rwanda***", and based to the different approvals **Ref: CMHS/IRB/008/2019** from Institution Review Board of University of Rwanda and **No: RC/UTHB/011/2019** from our Research-Ethics committee, we are pleased to inform you that your request was accepted. Please note that your final document will be submitted in our Research Office.

Sincerely,

Dr. Augustin SENDEGEYA
Director General of CHUB

Cc:

- Head of Clinical Services Division
- Director of Education and Research
- Chairperson of Research Committee
- Research officer

CHUB

KING FAISAL HOSPITAL KIGALI

KING FAISAL HOSPITAL, KIGALI

Patient Centered Care

18th March, 2019

IUNYANZIZA, Thomas
ost-graduate Masters of Science in Nursing
:ritical Care and Trauma Nursing
:ollege of Medicine and Health Sciences [CMHS]
Jniversity of Rwanda [UR]
?hone: 0783029165
Email: tmunyanziza@gmail.com

We acknowledge receipt of your study protocol: **"Workplace stressors and coping strategies among the intensive care unit nurses at University teaching hospitals and King Faisal Hospital, Rwanda".**

After a thorough review; the reviewers of KFH, K Ethics Research Committee conclude that the research topic is important and the study is very well written. It is likely to yield credible results.

Therefore; it is recommended that the researcher be permitted to commence the study immediately.

N.B. It is a requirement that you deposit a final copy of your research in the office of Continuous Quality Improvement in King Faisal Hospital, Kigali for our records.

Best Regards

King Faisal Hospital
by OSHEN Healthcare I Rwanda

Prof. Samuel Lutalo
Clinical Professor of Medicine;
Chief Consultant Physician and
Chairperson KFH, K Ethics Research Committee

CC:
- Chief Executive Officer, Oshen- KFH
- All KFH, K Ethics-Research Committee Members.

2. RESEARCH INSTRUMENTS

2.1. INFORMATION SHEET IN ENGLISH

Dear participant,

I am Thomas MUNYANZIZA, a Master's student in nursing, Critical Care and Trauma track at University of Rwanda, College of Medicine and Health Science. I am conducting a research project; therefore, I am asking you to participate in this project entitled: **Workplace stressors and coping strategies among the intensive care unit nurses at university teaching hospitals, Rwanda**

The main purpose: To assess the workplace stressors and coping strategies among ICU nurses at three University Teaching Hospitals, Rwanda

The specific objectives:

To determine the level of workplace stress among the ICU nurses at University Teaching Hospitals, Rwanda.

To identify the workplace stressors among the ICU nurses at University Teaching Hospitals, Rwanda

To identify the nurses' coping strategies to the ICU stress at University Teaching Hospitals, Rwanda.

Participation to this study is totally voluntary and the completion of data collection tool (questionnaire) will not affect your daily activities (completion of the questionnaire will be done in free time). The participation in this study doesn't bear any risks.

The provided information will be confidential and identification will be anonymous (use of code instead of names).The provided information will be used only for research purpose and will be accessed by the researcher and supervisors.

Your participation in this study is highly appreciated and is for invaluable contribution in the improvement of work environment.

For any information and clarification you can contact,

Researcher: Thomas MUNYANZIZA, Cell phone: (+250) 783029165,

email: tmunyanziza@gmail.com.

Supervisor: Prof. BUSISIWE Bhengu, email: bhengub2@ukzn.ac.za

Co-Supervisor: UMUTONI Emeline Cishahayo, Cell phone: (+250) 788865066,

email: emelicis@yahoo.fr

Kind Regards

Sincerely,

Thomas MUNYANZIZA

A master's student, University of Rwanda, College of Medicine and Health Sciences.

2.2 AMAKURU KU BUSHAKASHATSI

Nyakubahwa, Madamu,

Njyewe, Thomas MUNYANZIZA, umunyeshuri mukiciro cya gatatu cya Kaminuza mu ishami ry'Ubuvuzi bw'Indembe n'inkomere, muri Kaminuza y'u Rwanda, Koleji y'Ubuzima n'Ubuvuzi, nejejwe no kubasaba kugira uruhare mu bushakashatsi bwo kurangiza amasomo mu cyiciro cya gatatu.

Ubwo bushakashatsi bufatiye ku kumenya **Ibishobora guhangayikisha abaforomo bakorera mu bitaro by'indembe n'uburyo bitwara iyo bahanayikishijwe n'akazi bakora n'ibibera kukazi**.

Ubu bushakashatsi bugamije kumenya ikigero cyo guhangayika, ibibahangayikisha ku kazi, n'uburyo bitwara iy bahangayikishijwe n'akazi, bukaba buzakorerwa mu bitaro bikuru bya Kaminuza mu Rwanda.

Nyakubahwa Madamu, kugira uruhare muri ubu bushakashatsi ni ubushake bwanyu, si agahato kandi mbijeje ko , ubushake, uruhare n'amakuru muzatanga muri ubu bushakashatsi bizagirwa ibanga . bivuzeko, amazina yanyu, ibisubizo muzatanga kurupapuro rw'ibibazo, cg ubundi buryo ubwaribwo bwose buzakoreshwa mukuranga urupapuro mwasubirijeho, ntaho bizandikwa cyangwa ngo bigaragazwe.

Mbijeje ko kutagira uruhare muri ubu bushakashatsi nta ngaruka n'imwe bizabagiraho kandi mwemerewe guhagarika kubugiramo uruhare igihe icyo aricyo cyose bitewe n'impamvu zanyu bwite.

Kugira uruhare muri ubu bushakashatsi ni ibyagaciro gakomeye, ni inkunga ntagereranywa mu guteza imbere umurimo unoze mu birebana n'imigendekere myiza y'akazi.

Ku bindi bisobanuro, mwabaza,

Umushakashatsi: Thomas MUNYANZIZA, Telefoni: (+250) 783029165,

imeli: tmunyanziza@gmail.com.

Umugenzuzi w'ubushakashatsi: Prof. BUSISIWE Bhengu, imeli: bhengub2@ukzn.ac.za

Umugenzuzi w'ubushakashatsi wungirije: UMUTONI Emeline Cishahayo,

Telefoni: (+250) 788865066, Imeli: emelicis@yahoo.fr

Mbashimiye ubwitange n'uruhare rwanyu muri ubu bushakashatsi

Murakoze.

Thomas MUNYANZIZA

2.3. ATHORIZATION TO USE THE DATA COLLECTION TOOL

Thu, 31 May 2018, 12:41

The Korean version of ENSS

정금희 <ghjeong@hallym.ac.kr>

to me

I allow you to use the Korean version ENSS tool in your research.

French SE, Lenton R, Walters V, Eyles J . An empirical evaluation of expanded nursing stress scale.

Journal of Nursing Measurement. 2000;8(2):161-17

Geum Hee JEONG, Ph.D., R.N.

Professor, Division of Nursing Science

Dean, Graduate School of Nursing Science

Hallym University

Tel 82-33-248-2713

2. The Brief COPE Inventory

Carver, Charles S. <ccarver@miami.edu>

to me

All measures I have developed are available for research and teaching applications without charge and without need to request permission; we ask only that you cite their source in any report that results.

Information concerning the measure you are asking about can be found at the website below. I think most of your questions will be answered there.

If I know for sure that there is a translation of a scale published in a language other than English that information can be found there.

You are free to use The Brief COPE Inventory as a data collection tool.

If questions remain, do not hesitate to contact me. Good luck in your work.

http://www.psy.miami.edu/faculty/ccarver/CCscales.html

_____

Charles S. Carver
Department of Psychology
University of Miami
Coral Gables FL 33124

305-284-2817
ccarver@miami.edu
http://www.psy.miami.edu/faculty/ccarver/

2.4 CONSENT FORM IN ENGLISH

Chairperson of the CMHS IRB (0788 490 522)

Deputy Chairperson (0783 340 040)

Number:… /2019

My name is Thomas MUNYANZIZA, In order to improve the quality of working conditions in ICU, a Master student from the University of Rwanda, College of Medicine and Health Sciences, Master's program, is conducting a research on The workplace stressors and coping strategies among the ICU nurses at University Teaching Hospitals, Rwanda.

The main purpose of this study was to assess the workplace stressors and coping strategies among the ICU nurses at University Teaching Hospitals, Rwanda.

The specific research objectives were, to determine the level of workplace stress, to identify the workplace stressors and coping strategies to the ICU stress at University Teaching Hospitals, Rwanda.

For this purpose, I humbly request you to participate in this study by completing this questionnaire which will take about 10 minutes.

All of the answers you give will be confidential and will not be shared with anyone other than the researcher and my supervisors.

You have right to participate in the study or not and you have right to withdraw at any stage.

Do you have any questions/ clarifications?

I thanks to you in advance for your kind and precious participation

I agree to participate in the research: Yes ☐ No ☐

Signature of participant:…… ……..date:……

2.5. INYANDIKO Y'UWEMEYE GUFASHA MU BUSHAKASHATSI

Umuyobozi wa CMHS IRB (0788 490 522)

Umuyobozi wungirije wa CMHS IRB (0783 340 040)

Turabasuhuje, Inomero:… /2019

Nitwa MUNYANZIZA Thomas, mu rwego rwo twarushaho gutunganya imikorere mu kuvura abarwayi b'indembe, umunyeshuli wiga mu cyiciro cya gatatu cya kaminuza mu bijyanye no kuvura indembe n'inkomere muri Kaminuza y' u Rwanda, ishami ari gukora ubushakashatsi mu baforomo bakorera mu bitaro by'indembe.

Ubushakashatsi bufatiye ku kumenya ibishobora guhangayikisha abaforomo bakorera mu bitaro by'indembe n'uburyo bitwara iyo bahanayikishijwe n'akazi bakora n'ibibera kukazi.

Intego y'ubushakashatsi: Kumenya igipimo cyo guhangayikishwa n'akazi, ibihangayikisha ku kazi n'uburyo bwo kurwanya umuhangayiko ku kazi mu baforomo bakora mu bitaro bivura indeme, mu Rwanda.

Kubw'iyo mpamvu, turifuza ko mwadufasha gusubiza ibibazo twateguye mu rwego rw'ubushakashatsi.

Gusubiza ibyo bibazo bifata iminota icumi.

Ibisubizo bigirwa ibanga (bibonwa n'umushakashatsi gusa n'abamuyoboye).

Gusubiza ni ubushake, kandi wahagarika ubufatanye mu bushakashatsi igihe cyose ubishakiye.

Hari ikibazo ufite?

Mbaye mbashimiye ubufatanye mungaragariza muri iki gikorwa.

Uremera gusubiza ibibibazo ntagahato?

Yego ☐ Oya ☐

Umukono w'ubazwa…… Itariki……

2.6. THE DATA COLLECTION TOOL (QUESTIONNAIRE) IN ENGLISH

I. DEMOGRAPHIC CHARACTERISTICS

1 Age (in years): | ≤ 35 | | 36-45 | | ≤ 46 |

2. Sex: Male ☐ Female ☐

2. Marital Status: Married ☐ Cohabitant ☐ Single ☐ Divorced ☐ Widow ☐

3. Education level: A1 ☐ A0 ☐ Master's ☐

4. Clinical experience in ICU (in years): ≤ 5 ☐ 6-10 ☐ ≥ 11 ☐

II. THE ICU WORKPLACE STRESSORS (ENSS).

Instructions: Answer the questions below by encircling the number that corresponds to how often you are stressed by the following workplace stressors.

1-never, 2-occasionally, 3-frequently, and 4- always

1. Caring a patient who suffers or fails to improve1 – 2 – 3 – 4

2. Care for dying/ death of patient 1 – 2 – 3 - 4

3. Making a decision about patient's care in absence of physician 1 – 2 – 3 – 4

4. Conflict with the physicians 1 – 2 – 3 - 4

5. Feeling inadequately emotionally prepared to help the patient or family1 – 2 – 3 – 4

6. Being asked a question by a patient for which I do not have a satisfactory answer1-2-3-4

7. Lack of opportunity to express my negative feelings and absence of team work 1-2 -3 -4

8. Lack of opportunity to share experiences and feeling with other personnel 1 – 2 – 3 - 4

9. Being blamed by the supervisor/ administrators 1– 2 – 3 – 4

10. Heavy workload/ time table/ shift and work under pressure1-2-3-4

11. Poor salary and unpaid overtime 1 – 2 – 3 – 4

12. Absence of physician during medical emergency/ order of inappropriate treatment1-2-3-4

13. Inadequate experience about function of ICU equipment 1– 2 – 3 – 4

14. Fear of doing mistake while patient care 1 – 2 – 3 – 4

15. Caring for an agitated, violent, abusive patients/families1 – 2 – 3 - 4

16. Dysfunction and noise of ICU equipments (ventilators, monitors, pumps…) 1 – 2 – 3 - 4

III. THE COPING STRATEGIES TO THE ICU STRESS

Instructions: Answer the questions below by encircling the number that corresponds to how often you use by the following coping strategies

1 = Not at all, 2 = Sometime, 3 = Most of time, 4 = Always

17. Turning to work or other activities to take my mind off things 1 – 2 – 3 - 4
18. Getting emotional support and advice from other colleagues and friends1-2-3-4
19. Use of alcohol or other drugs to make him/her feel better 1 – 2 – 3 - 4
20. Joking about the situation 1 – 2 – 3 - 4
21. Watching the movies/ TV/ other hobbies activities 1 – 2 – 3 - 4
22. Find comfort in religion or spiritual beliefs1-2-3-4
23. Blaming him/ herself for things that happened1 – 2 – 3 - 4

2.7. URUTONDE RW'IBIBAZO BY'UBUSHAKASHATSI

I. IBIRANGA UMUNTU

1 Imyaka yawe:

≤ 35	36-45	≤-46

2. Igitsina: Gabo ☐ Gore ☐

3. Irangamimerere: Ndubate ☐ Ndibana ☐ Ingaragu ☐ Divorsed ☐

4. Amashuli yize: Ayisumbuye ☐ Icyiciro cya mbere ☐ icya kabiri ☐ Icya gatatu ☐

5. Uburambe (imyaka): ≤ 5 ☐ 6-10 ☐ ≥ 11 ☐

II.IBIHIHANGAYIKISHA KU KAZI KO MU BITARO BY'INDEMBE

Amabwiriza: Subiza ibibazo bikurikira, uhitamo umubare ujyanye n'inshuro uguhangayikishwa n'akazi.

1-Nta na rimwe, 2-Rimwe na rimwe, 3-Keshi, 4- Buri gihe

6. Uhangayikishwa n'umurwyi urembye cyangwa utoroherwa? 1 – 2 – 3 – 4

7. Uhangayikishwa n' urupfu rw'umurwayi mwari mumaze kumenyana? 1 – 2 – 3 - 4

8. Uhangayikishwa no gufata imyanzuro muganga adahari? 1 – 2 – 3 – 4

9. Uhangayikishwa no gushwana cg kutumvikana na muganga? 1 – 2 – 3 - 4

10. Uhangayikishwa no kumva utiteguye guha inama umurwayi cg umuryango we?1–2–3-4

11. Uhangayikishwa no kuba umurwayi cg umuryango we bakubaza ibibazo udafitiye ibisubizo? 1 – 2 – 3 – 4

12. Uhangayikishwa no kubura mugenzi wawe wabwira ibikubabaje mu kazi? 1 – 2 – 3 – 4

13. Uhangayikishwa no kubura mugenzi wawe mwungurana ibitekerezo? 1 – 2 – 3 - 4

14. Uhangayikishwa no kunengwa/ kugawa n'umukoresha wawe ? 1– 2 – 3 – 4

15. Uhangayikishwa n'akazi keshi, ihindagurika ry'indangabihe y'akazi, gukorera ku gatugo cg gushyirwho igitsure ku kazi? 1 – 2 – 3 – 4

16. Uhangayikishwa n' umushahara udahagije cg amasaha y'ikirenga ku kazi ariko ntiyishyurwe? 1 – 2 – 3 – 4

17. Uhangayikishwa no kuba muganga adahari mu gihe hari indembe cg uhangayikishwa n'umuganga wandika imiti idakwiranye n'uburwayi? 1–2 – 3– 4

18. Uhangayikishwa n' akamenyero gake mu gukoresha imashini zo cyumba cy'indembe? 1 –2– 3 – 4

19. Uhangayikishwa no kuba wakora ikosa mu kazi kawe? 1 – 2 – 3 – 4

20. Uhangayikishwa no kuvura umurwayi udatuje cg urwana cg umurwayi wakwiyahura?1 – 2 – 3 – 4

21. Uhangayikishwa no gukora nabi cg urusaku rw'imashini/ ibikoresho byo mu cyumba cy' indembe 1 – 2 – 3 – 4

III. KWIHANGANIRA UMUHANGAYIKO W'AKAZI KO MU BITARO BY'INDEMBE

Amabwiriza: Subiza ibibazo bikurikira, uhitamo umubare ujyanye n' uko witwara iyo uhangayikishijwe n'akazi. 1 = Sinjya mbikora 2 = Mbikora gake 3 = Mbikora mu rugero 4 = Mbikora buri gihe

Nkora ibindi bintu ngo binyibagize umuhangayiko wo ku kazi 1 – 2 – 3 - 4

Niyambaza inshuti n'abavandimwe ngo bangire inama binyibagize umuhangayiko wo ku kazi 1 – 2 – 3 – 4

Nkoresha inzoga cg ibindi kugira ngo niyibagize umuhangayiko wo ku kazi 1 – 2 – 3 – 4

Mbiteramo urwenya, ibyampangayikishaga kukazi bigashira 1 – 2 – 3 - 4

Niyibagiza umuhangyiko wo ku kazi ndeba televiziyo, amafilimi cg indirimbo cg nkaryama cg nkajya mu isoko … 1 – 2 – 3 - 4

Iyo mpangakishijwe n'akazi ndasenga cg imihangayiko w'akazi nyitura Imana 1-2-3-4

Iyo mpangakishijwe n'akazi, ndirenganya ku byabaye 1 – 2 – 3 - 4