

**DECLARATION**

I, **Vine Hamwiibu**, declare that I am the sole author of this Dissertation whose title is “Evaluation of Critical Care Nursing Competence Level among Nurses working in Critical Care Units at University Teaching Hospital”, that during the period of study I have not been registered for other academic award or qualification, nor has any of this material been submitted wholly or partly for an award to any other university. This dissertation is a result of my origin work, and where other people’s research was used, they have been dully acknowledged by complete references.

Signed ..... Date.....

**Candidate**

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## **CERTIFICATE OF APPROVAL**

This Dissertation for Vine Hamwiibu is approved as fulfilling the requirement for the award of a Master's Degree in Nursing from the University of Zambia.

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## **ABSTRACT**

The quality of nursing care offered to critically ill patients and their survival greatly depend on nurses' critical care nursing competence. Critical care nursing competence is emerging to be useful in early identification of deteriorating clinical condition in critically ill patients. The purpose of the study was to evaluate critical care nursing competence levels among nurses so as to determine reasons for nurses' failures to recognise early deteriorating conditions in acutely ill patients and delay to act. Hence the study aimed at describing factors influencing competence levels among nurses caring for critically ill patients, at University Teaching Hospital.

A cross-sectional study design was utilized to evaluate and explain competence levels of nurses working in critical care areas with regard to care of acutely ill patients. A convenient sampling technique was used, and data collection comprised of participants (n=95) completing the same questionnaire containing questions on demography, competence, clinical vignettes knowledge and Likert scale self-reported responses. Nurse's competence levels were further described in relation to the state of art technology from the environment they worked using the observation checklist.

Descriptive and inferential statistics were used to analyse data. The level of significance was set at 0.05 and confidence levels at 95%. The competency indicator for the knowledge vignettes and skill level was set at 75%.

Results: Regardless of the age, sex, training background, support offered during the management of an emergency, position, work experience, type of qualification and equipment arrangement in the work environment in a critical care setting, the study result revealed that nurses were incompetent. In addition, nurses had poor levels of knowledge and skill, with average scores of 28% and 51%, respectively, far below the competence level indicator of 75%. However, nurses' qualifications and knowledge level were the only factors that statistically influenced nurses' competence level.

Furthermore, the results showed that 31.6% of nurses in critical care settings were incompetent, 64.2% of them had low knowledge, 29.5% were unskilled and 90.5% had no qualification in critical care nursing. In addition, the findings of this study observed significant association between knowledge in critical care nursing and competency level,  $p=0.001$ , 1-tailed. Controlling knowledge with nurses' qualification observed a strong correlation,  $p=0.000$ , 1-tailed. Nurses' skill levels in relation to competence level had no significant association,  $p=0.439$ . Controlling skill with nurses' qualification, the  $p$ -value of  $p=0.301$  was obtained, disputing the fact that nurses' skill in this was influenced by qualifications. It can be conclusively be said that more than three quarters (90.5%) of nurses working in critical care nursing units were not qualified for the current job undertaken in the units. This manifested in their poor competence levels that lead to high mortality rates observed in the Critical Care Units in 2013 at UTH.

In addition, nurses experienced a misconception regarding their work experience and skills for working in critical care units. It is recommended that nurses working in high dependent units must be provided with post graduate training in critical care nursing to enable them acquire qualifications, knowledge and skill congruent with critical care nursing competencies. Standards and protocols for critical care nursing practice must be developed to guide non-trained critical care nurses practice safely. Critical care units should be equipped with ideal critical care nursing equipment to help nurses deliver quality nursing care to critically ill patients.

**Keywords: Knowledge, Skill, Work Experience, Qualification and Competence level.**

## **ACKNOWLEDGEMENTS**

It is with great pleasure and appreciation that I thank the following persons:

- My supervisor Dr. Catherine M. Ngoma for her patience and direction in motivating me to complete the study, and seeing me through till the end!!
- My friends and colleagues Emmanuel Musenge, Patricia Mambwe and Ireen Muleya for their support and friendship during this study
- Dr Dmitriy Staroverov and Mr. Wisdom Chelu for their expert advice, support and help in undertaking this study and completing this Degree
- All the respondents in the critical care units who consented and participated in the study
- My long suffering family especially my two daughters, Rebecca Mwisiya and little Theresa Mwisiya, and my mother, Margaret, who never gave up on me

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## **ABBREVIATION**

AACCN	American Association of Critical Care Nurses
ACMV	Assist control mandatory ventilation
AMEW	Adult Medical Emergence Unit
CCN	Critical Care Nurse
CMV	Control Mandatory Ventilation
CN V	Cranial Nerve V
CPAP	Constant Positive Airways Pressure
CPP	Cerebral Perfusion Pressure
CPR	Cardiopulmonary Resuscitation
CSO	Central Statistical Office
ECG	Electro Cardiogram
ET	Endotracheal
FiO <sub>2</sub>	Fraction of inspired Oxygen
GNC	General Nursing Council
HDU	High Dependent Units
HMIS	Health Management Information System
ICP	Intracranial Pressure
ICU	Intensive Care Unit
MAP	Mean Arterial Pressure
MCQ	Multiple Choice Questions
MICU	Main Intensive Care Unit
NICU	Neonatal Intensive Care Unit
P Op-D	Paediatric Outpatient Department
PEEP	Positive end expiratory pressure
PICU	Paediatric Intensive Care Unit
PSV	Pressure Support Ventilation
SIMV	Synchronised intermittent mandatory ventilation
SPSS	Statistical Package for Social Sciences
UTH	University Teaching Hospital