UNIVERSITY OF GHANA

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IMPROVING HANDING OVER PRACTICES AMONG NURSES USING A STRUCTURED COMMUNICATION TOOL (SBAR): A STUDY AT 37 MILITARY HOSPITAL

BY

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DECLARATION

I, Joyce Kumah, hereby, declare that this study was conducted by me under the supervision of Dr. Samuel Adjorlolo and Dr. Gwendolyn Mensah both of the School of Nursing and Midwifery, University of Ghana. All references cited in this study from authors of articles, thesis and books have been appropriately acknowledged.

I certify that; this Dissertation has not already been accepted in substance for any other degree, neither is it being submitted concurrently for any other degree. I therefore, take full responsibility for any limitations associated with this study.

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CERTIFICATION

We hereby certify that this thesis was supervised in accordance with the procedures laid down by the University of Ghana. We therefore, recommend its acceptance.

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ABSTRACT

Miscommunication among health care providers is the root cause of errors leading to injury and death of patients. Consequently, handing over communication has become a primary focus of international and national concern. Nurses handing over has been identified to be prone to errors. The use of structured communication tools such as SBAR has been found to improve communication among health care providers and promote a positive outcome on patient safety. The purpose of this study is to observe the handing over practices, implement and assess the use of nurses with the use of SBAR communication tool in Ghana. The study design adopted an interventional sequential explanatory research design. Triangulation was applied in data collection; pre-test and post-test questionnaires were used to collect quantitative data and observation, semi-structured interviews and document analysis was used to collect qualitative data. Both quantitative and qualitative findings showed that participants were satisfied with handing over using the SBAR, because the SBAR tool is concise, accurate, quick, simple, well-structured and an effective tool for communication. Majority of the nurses (74.5%) recommended the use of SBAR in the hospital because the SBAR is easier to use, contains detailed and vital information, enhances systemic assessment and is more helpful than the existing method of handing over. Nurses expressed satisfaction with the way patients are handed over with the SBAR than the existing method as nurses stated that, important information is not skipped, the SBAR organize the handing over process, the SBAR summarizes handing over information and any nurse can hand over with the SBAR. The study recommended that, 37 Military Hospital should consider using the SBAR, Ghana Health Service should revise patient safety policy to include structured communication and Nursing and Midwifery Council (NMC) of Ghana should consider adding structured handing over in nursing education.

DEDICATION

I dedicate this work to my parents, Mr. and Mrs. Kumah, my siblings, my husband and children.

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I am grateful to the almighty God for life, knowledge, wisdom, strength and financial provision. I am grateful to Professor Lydia Aziato for serving as a role model throughout my professional life. I sincerely appreciate my supervisors, Dr. Samuel Adjorlolo and Dr. Gwendolyn Mensah for guidance, encouragement and for being the best. I accepted the challenge of conducting a mixed-method research because I have confidence in you. I am also grateful to the nurse managers of the surgical units of 37 Military Hospital who assisted in creating the SBAR communication tool to suit the ward. To all the supporting nurses especially those who volunteered in this study, I say thank you.

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LIST OF ABBREVIATIONS

DVT	Deep Vein Thrombosis
Hb	Haemoglobin
GHS	Ghana Health Service
ICU	Intensive Care Unit
IMI	Institute of Healthcare model of Improvement
IOM	Institute of Medicine
MOD	Ministry of Defence
MoH	Ministry of Health
SBAR	Situation Background Assessment Recommendation
UNICEF	United Nations Children's Emergency Fund
WHO	World Health Organization

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

Communication among health care providers is a requisite for quality of patient care, positive healthcare outcomes and patients' safety (Kesten, 2011; Zou & Zhang, 2016). A breakdown in communication, either by verbal or written, was identified as the root cause of 70% of all sentinel events according to the Joint commission report (Mujumda & Santos, 2014). The Joint Commission defines sentinel events as unexpected occurrences involving death or serious physical or psychological injury (Kesten, 2011). Such events are called sentinel because they create urgency for investigation and medical response (Kesten, 2011) and for this reason, communication among health care providers has received international attention (Ascano-Martin, 2008).

Nurses are the primary link of communication in a complex network of the interdisciplinary health care team (Karam, Brault, Van Durme, & Macq, 2018). The important communication links are the nurse-patient/family, nurse-nurse and nurse-physician (Karam et al., 2018). Nurse-nurse communication is essential in promoting safe and efficient patient care (Halm, 2013). Handing over communication which occurs at the beginning and the end of every shift is one of the common and the most routine form of nurse-nurse communication (Riesenberg, Leisch, & Cunningham, 2010). During handing over, the outgoing nurses communicate pertinent patient information to incoming nurses or to nurses in other units or facilities to enhance continuity of care (Chaboyer, McMurray, & Wallis, 2010).

Handing over communication can be done intradepartmental, interdepartmental and to other facilities on a referral basis (Halm, 2013; Narayan 2013; Smeulers, Lucas, & Vermeulen,

2014). Miscommunication or inadequate information during handing over can jeopardise the care of the patient (Scovell, 2010) and put the patient at risk of errors and unwanted outcomes such as medication errors, falls, increased hospital-acquired infections, delay in patient treatment, avoidable readmissions, increased hospital bills, increase time of stay in health care facilities or even death (Beckett & Kipnis, 2009; Chaboyer et al., 2010; Halm, 2013; Kutney-Lee & Kelly, 2011). Nurses are legally liable for inadequate communication leading to potential or actual harm of the patient (Riesenberg et al., 2010). Yet, several studies have shown that the nursing handing over process is unstructured, informal and prone to errors (Manser & Foster, 2011; Zou & Zhang, 2016).

Handing over communication has become a primary focus of international, national and local health organizations such as the World Health Organization (WHO), World Alliance for patient Safety, Joint Commission International, Australian Commission for Safety and Quality in health care, Canadian Council on Health Services Accreditation and many others (Kesten, 2011). This concern was awakened after the Institute of Medicine (IOM) released a report on patient safety in 2000 titled, ―To err is human. The report created an awareness of errors occurring in health care facilities and stated that most of these errors are preventable (Kohn, Corrigan, & Donaldson, 2000). Consequently, the IOM called for immediate reform in communication, norms, team performance and risk assessment processes (Kesten, 2011; Kohn et al., 2000).

On January 1, 2006, the Joint Commission presented a safety goal which aspires to improve the effectiveness of communication among care givers (Thomas, Bertram, & Johnson, 2009). This goal recommended a standardised approach to communication, including an opportunity to ask questions and respond to questions (Thomas et al., 2009). Since then, structured communication has been identified as a fundamental element of health care and is widely

recognised as a major research priority area (Chaboyer et al., 2010). Many health care institutions have attempted to redesign their handing over communication processes to meet the Joint Commission and WHO standard (Welsh, Flanagan, & Ebright, 2010). A research conducted in an Emergency Department and Critical Care unit to explore the process of handing over from emergency department to critical care unit revealed the need for a structured approach in communicating patient information by including mandatory and supplementary documentation (McFetridge, Gillespie, Goode, & Melby, 2007). Structured communication has been defined by the Joint Commission as ―a process in which information about patient/client/resident care is communicated in a consistent manner from one health care provider to another (Riesenberg et al., 2010).

Numerous handing over formats have been designed for structured communication based on the level of communication and the setting where the tool is being used (Anderson, Malone, Shanahan, & Manning, 2015; Malekzadeh, Mazluom, Etezadi, & Tasseri, 2013). Some of these tools which are often referred to by their mnemonics are the I PASS THE BATON' which stands for (Introduction, Patient, Assessment, Situation, Safety, the, Background, Action, Timing, Ownership, Next), the SHARQ representing (Situation, History, Assessment, Recommendations, Questions), the 5 Ps which stands for (Patients, Precaution, Plan, Problems, Purpose), SHARED (Situation, History, Assessment, Request, Evaluate, Document) and SBAR (Situation, Background, Assessment, Recommendation) amongst others have been developed and being used worldwide (Anderson et al., 2015; Halm, 2013; Malekzadeh et al., 2013).

One of the most widely used structured communication tool approved for use in health care by WHO and international accreditation institutions like the Joint Commission is the SBAR (Randmaa, Mårtensson, Swenne, & Engström, 2014; Woodhall, Vertacnik, & McLaughlin,

2008). The SBAR tool is concise and designed to help the nurse to effectively communicate relevant information about the care of patients to physicians as well as for effective communication during nurse-nurse handing over (Kesten, 2011; Martin & Ciurzynski, 2015). With the use of SBAR, researchers have identified that the SBAR improves communication and enhances patient's information transfer and safety in acute and non-acute health care settings as well as nursing educational institutions (Ascano-Martin, 2008; Boaro, Fancott, Baker, Velji, & Andreoli, 2010; Kesten, 2011). The SBAR was developed by the United States Military and adapted by the aviation industry (Thomas et al., 2009). The tool was then adopted for use by health care providers, notably Dr Michael Leonard, the then physician leader for patient safety at Kaiser Permanente (Denver), to provide a model of communication for clinicians (Ascano-Martin, 2008; Kesten, 2011; Thomas et al., 2009). The SBAR is an approved tool which provides a framework for improving structured communication in the health settings and can be applied to almost all forms of communication between health care professionals (Beckett & Kipnis, 2009; Kesten, 2011; Thomas et al., 2009). The SBAR tool can be used during case debriefing, ward rounds and handing over between doctors, doctor-nurse communication and nurse-nurse communication (Kesten, 2011; Nadzam, 2009). The SBAR tool uses assertive communication, crucial language and situational awareness that is necessary for patient safety and this serves as a hybrid of medical and nursing communication, thereby bridging the variation gap in the existing nurses and doctors' communication methods (Kesten, 2011).

For a handing over tool to be considered effective, it has to be accurate, concise, complete, specific, relevant, consistent and timely (Shahid & Thomas, 2018; Welsh et al., 2010). The Institute of Healthcare Improvement in the United States of America, states that the SBAR allows for an easy and focused way of communication among team members (Woodhall et al., 2008). Another study conducted in a rehabilitation facility about the adaptation,

implementation and evaluation of the SBAR as a communication tool showed that it remains a useful means of structuring communication among interdisciplinary rehabilitation team (Boaro et al., 2010).

Ascona (2008), a nurse educator, implemented the SBAR at a post-conference for students' evaluation. Results from the study showed that the students built their confidence and consequently led to the provision of detailed reports on patients. She concluded that the continuous process of students using SBAR in their practice will improve their confidence in interaction with their preceptors, other nurses, physicians, families and other members of the health care team (Ascano-Martin, 2008). Another research conducted in an academic setting with SBAR, using role-play concluded that the tool provided an organised and logically sequenced method to improve the communication skills of the students and helped improve the confidence, crucial thoughts and problem-solving abilities (Thomas et al., 2009).

In Africa, the use of structured communication is gradually being introduced and implemented in the health care system. For example, in South Africa, a health facility adopted SBAR and this showed significant improvement in communication among health professionals and improved safety of patient care (Raymond & Harrison, 2014). Improved communication is a part of patient safety goals and policies. However, the strategic goals developed to improve patient safety by the Ghana Health Service (GHS), covered infection prevention and control, clinic risk management, prevention of wrong surgery site and adverse event reporting systems (GHS, 2007). Emphasis was on documentation and case reporting but structured communication was not entirely captured as part of the strategy to improve patient safety (GHS, 2007). Consequently, most health care facilities in Ghana do not use structured communication tools. This creates a gap in empirical and practical evidence in Ghana about the use of structured communication tools like the SBAR. This study seeks to provide empirical and practical evidence of the use of SBAR in a health care facility in Ghana.

1.2 Problem statement

Miscommunication has been identified as the root cause of adverse events among health care providers (Kesten, 2011) especially during routine handing over among nurses (Riesenberg et al., 2010). Standardised handing over methods such as the use of communication tools like the SBAR has been shown to improve communication and is recommended for use in health care by the WHO and has become an implementation measure for patient safety (Vines, Dupler, Van Son, & Guido, 2014). Developing countries including Ghana are gradually integrating and implementing structured communication (Taylor, 2014). The use of SBAR in the country is introduced by charismatically-led individuals who have travelled to developing countries to work or for health training programmes, WHO delegates in the country on patient safety education errands and some private hospitals in the country implementing international standards of service (Taylor, 2014).

In the quest to improve patient safety, the GHS, Ministry of Health (MoH), Ghana and other development partners such as WHO, and other international health organizations have devised and implemented several measures such as workshops and seminars on patient safety measures. Although these measures are useful, a less-discussed area in healthcare delivery is communication, specifically structured communication among nurses. Anecdotally, several healthcare institutions do not have structured communication tools for nurses' handing over. This development is worrying, in that, improper healthcare communication can seriously undermine interventions aimed at improving patient safety. While literature and discussions explicitly suggest the need to implement structured communication in Ghanaian healthcare system. It is also important that empirical studies are conducted to determine feasibility of such implementation by taking into consideration the local and institutional factors. Unfortunately, this is an uncharted area among healthcare researchers in Ghana. Thus, it is extremely difficult

to state with certainty whether any proposed implementation of structured communication, notably SBAR will be embraced. The current study is designed to address this research gap.

1.3 Purpose of study

The purpose of this study is to observe the handing over practices, implement and assess the use of SBAR communication tool during handing over among nurses in Ghana.

1.4 Objectives of the Study

The specific objectives of the study were to:

1. Describe the handing over practices among nurses in Ghana.
2. Explore the perception of nurses on the use of structured communication.
3. Determine the feasibility of implementing SBAR among nurses in Accra, Ghana
4. Determine the acceptability of implementing SBAR among nurses in Accra, Ghana
5. Evaluate the satisfaction with SBAR among nurses as a handing over tool.

The first two objectives were carried out as the first of Lewin's model of change, 'unfreezing', and the third, fourth and fifth objectives are applicable in the second step, 'movement' of the change model

1.5 Research Questions

1. How do nurses hand over on the ward?
2. What is the perception of nurses on the use of structured communication?
3. What is the feasibility of implementing SBAR among nurses in a city hospital in Ghana?
4. What is the acceptability of implementing SBAR on four surgical units in a city hospital in Accra, Ghana?

5. What is the satisfaction of nurses with the use of SBAR as a handing over tool?

1.6 Significance of the study

The findings of this study can provide useful information in regards to the handing over practices in Ghana by creating awareness of the various methods of handing over, its benefits and limitations. The acceptance and implementation of a structured communication tool (SBAR) can improve nursing handing over practice, revise handing over protocols on the wards and result in a positive effect on patient safety. The finding can also influence the hospital management decision to implement structured communication in the hospital and consequently serve as an influence to other hospitals.

This study can lead to improved policy on handing over practice by the Ghana Health Service and the Ministry of Health, thereby, providing improved health service delivery in hospitals nationwide. The Nursing and midwifery council can also be influenced to provide theoretical foundation for educating nurses on the various methods of handing over and include structured method of handing over in nursing practice. The results of this study will also contribute to empirical knowledge about the handing over practice and the use of structured communication in Ghana and Africa at large.

1.7 Operational Definition of terms

Standardised Handing over or structured handing over: A process in which information about patient/client/resident care is communicated in a consistent manner from one health care provider to another.

Communication: The imparting or exchanging of information by speaking, writing, or using some other medium.

Feasibility study: An assessment of the practicality of a proposed plan or method.

Interdisciplinary: Relating to more than one branch of knowledge

Patient Safety: The prevention of errors and adverse effects to patients associated with health care

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter reviews nursing handing over in the context of benefits, methods, location, process, content, barriers and structured handing over. The literature reviews also critique existing studies related to the subject over the past two decades. Literature regarding nursing handing over was identified and reviewed from journal articles, books and thesis using electronic databases such as Science Direct, Scopus, PubMed and the University of Ghana Research repository. Search terms used for the review included: Nursing handoff, handovers, nursing handing over in Ghana, nursing handover in Africa, Structured Nursing handoff, SBAR in nursing and SBAR in Ghana. Over 50 relevant articles from nursing, medicine and non-medical field were identified and reviewed.

2.2 Theoretical foundation: Lewin's Model of Change

Several models are suitable for application in this study, such as the Institute of Healthcare model of Improvement (IMI) (Deming, 2018; Langley et al., 2009) and modified Shannon and weaver model with Osgood model (Vachprasit, 2012). The Healthcare improvement model was developed by Associates in process improvement as a model to speed up improvement in healthcare systems. The model is in two phases; three sequential questions and the plan to do cycle. The first question sets aim for improvement that is - what are we trying to accomplish? the second question establishes measures for achieving the aim and that is - how will we know that a change is an improvement? and the third question selects the change and that is - what change can we make that will result in improvement? The plan to do cycle evaluate change by planning it, trying it, observing the results, and acting on what is learned. After the testing is

done, the change is then implemented (Deming, 2018; Langley et al., 2009). This model can be used to implement SBAR on the wards. The Shannon and Weaver communication model is a one-way linear model of message transmission where the speaker and the listener will strictly be the source and destination of the message, respectively. Feedback which is an important element of communication is not a requirement in this model. In order to remedy this defect, Osgood and Schramm developed a circular model which allows communication and feedback of information, however, this model; does not capture the noise of communication as seen in Shannon and Weaver model. The combination of the two models is necessary to capture all elements of communication before it can be implemented in nursing handing over; because handing over communication is done between incoming nurses, outgoing nurses and the patients (Vachprasit, 2012).

However, the theoretical foundation that was adapted and used to support the implementation of the SBAR communication tool is Lewin's three-step model of change. Kurt Lewin, a social scientist, developed the three-step change model in 1951 to describe the change process in human systems (Cummings, Bridgman, & Brown, 2016). The three steps are unfreezing, change or movement, and refreezing. Lewin's Model of change has been chosen for this study because the three steps of the theory are simple to follow and can easily be applied to the study as compared to the Healthcare Improvement model and modified Shannon and weaver model with Osgood model. According to Lewin, the need for change must be identified, then actions must be taken towards achieving the desired change of behavior and when the change has occurred, the process is then solidified (Hartzell, 2003). The change process involves behavioural change by the individual unlearning one behaviour and learning a new behaviour to replace the old one (Cummings et al., 2016). The stages in the model are discussed below:

Unfreezing: the first step in Lewin's model of change is to unfreeze the existing situation or status quo (Hartzell, 2003). The status quo is considered the equilibrium state (Kritsonis, 2005). Many people naturally resist change, it is important for the implementer of change to overcome the strains of individual resistance and group conformity (Hartzell, 2003). A careful examination of undesired behaviour must be done to educate the group on the necessity for change. The group need to be aware of imminent change, the logic for change and the benefits of the change to the group and organization because, the more the people become aware of the need for change, the readier they become in accepting the change (Hartzell, 2003; Kritsonis, 2005). Some activities that can assist in the unfreezing step include motivating participants by preparing them for change, building trust and recognition for the need to change, and active participation of the people in recognizing the problems and brainstorming solutions within the group (Hartzell, 2003).

Change/movement: Lewin's second step in the process of change is movement. In this step, it is necessary to move the group to a new level of equilibrium (Kritsonis, 2005). The movement step is the implementation period and is the hardest step to overcome and requires careful planning (Hartzell, 2003). The people learn the new behaviours through education, communication, motivation and constant reminder of the importance of the change (Kritsonis, 2005). For change to be effectively achieved, there must be a collaboration between the implementer of the change and the target group, and this is done by brainstorming and listening to individual opinion (Hartzell, 2003; Kritsonis, 2005).

Refreezing: The third and final step of Lewin's three-step change model is refreezing. Refreezing symbolises reinforcing, stabilizing and solidifying the new level of change (Hartzell, 2003; Kritsonis, 2005). The refreezing occurs after the second step of change when the desired behaviour has been accepted and refrozen as the new norm or status quo (Kritsonis, 2005). According to Lewin, it is highly possible that the change will be short-lived and the

employees will revert to their old behaviours if this step is not taken (Hartzell, 2003; Kritsonis, 2005). The purpose of refreezing is to stabilize the new equilibrium resulting from the change by balancing both the driving and restraining forces (Kritsonis, 2005). Activities to enhance this step include positive reward and acknowledgement of individual efforts geared towards the new equilibrium (Hartzell, 2003).

Theoretical framework

The study is guided by the framework below

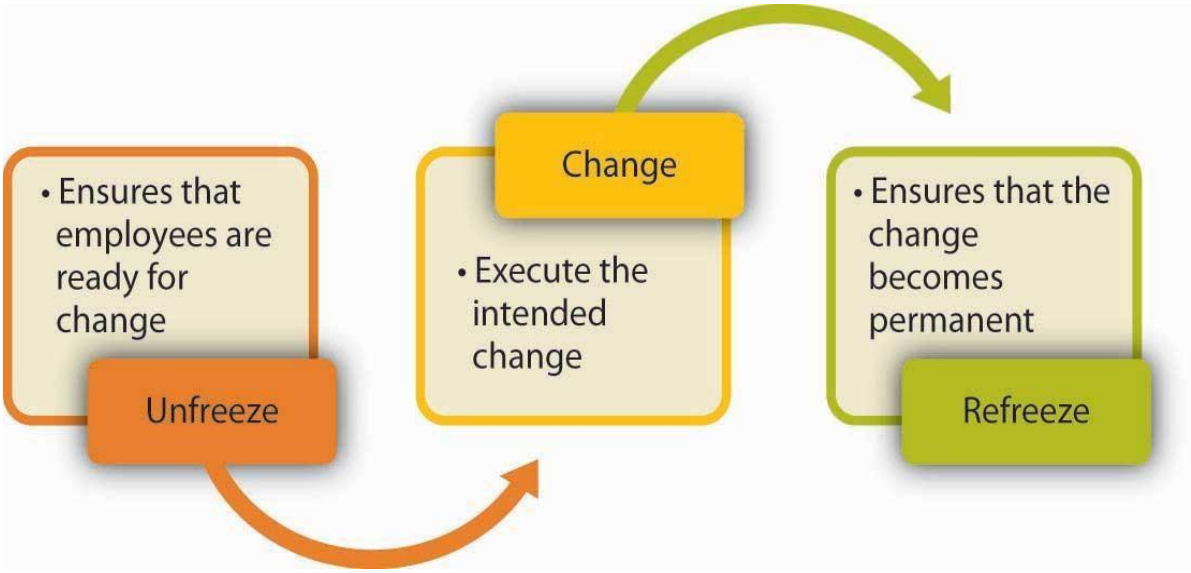

Figure 2.1 Theoretical framework for Lewin 3 step of change

(https://image.slidesharecdn.com)

Lewin's model was adopted in this study, the integration of the first two steps of Lewin's three-step model of change; that is unfreezing and change was used to support the feasibility study of structured communication on the ward. The model provides theoretical guidance in ensuring the successful use of the SBAR tool through the first two steps. The unfreezing process include, identifying the need for change, creating staff awareness of the SBAR communication tool through managers and staff education, ensuring participation of staff by allowing them to

share their opinions and ask questions, developing the SBAR tool with the involvement and approval of ward in-charges. The movement step involved the active use of the SBAR tool by research participants and obtaining feedback from nurse participants. The third step of the model cannot be achieved in this study because the implementation of the SBAR as a policy or standard protocol requires acceptance and approval of the tool by the hospital management. The step by step application of the Lewin's model is presented in the diagram below:

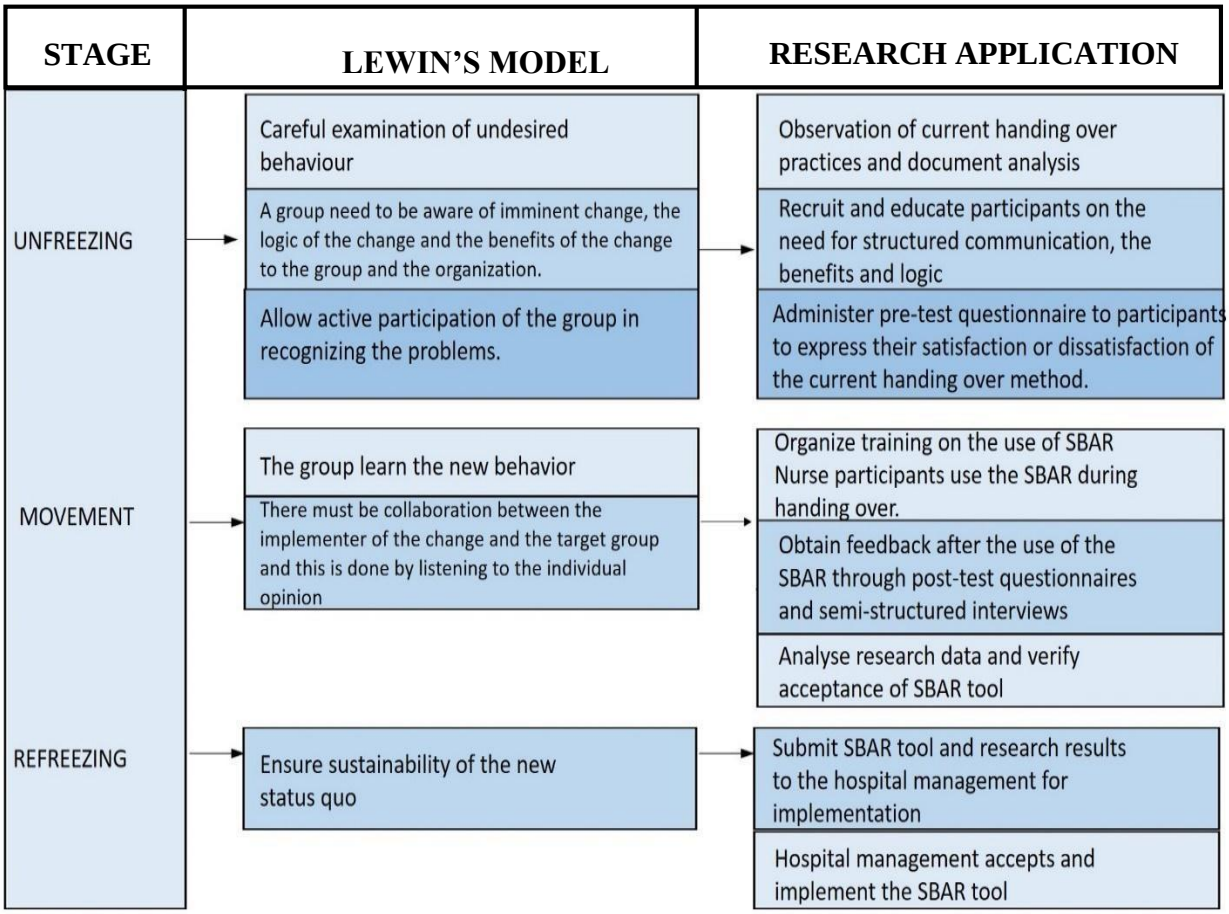

Figure 2:2 Lewin's Model of Change as applied to the Research Study

Unfreezing

1. The first stage of Lewin's model involves changing the status quo by identifying the need for change through careful examination of undesired behavior. In this study, the

unfreezing process involved observation of the current handing over practices and analysing the various documents used during handing over.

2. According to Lewin, after identifying the undesired behavior, a group needs to be aware of imminent change, the logic of the change and the benefits of the change to the group and the organization. In this study, participants were recruited by seeking institutional and ward in-charge approval. The SBAR was developed to suite the ward with assistance from the ward in-charges and participants were educated on the need for structured communication, the benefits and how to implement the tool.
3. The group should be allowed to actively participate in recognizing the problems. This was achieved in this study by ensuring participation of nurses. Participants were allowed to examine the SBAR tool, share their opinions and ask questions. Pre-test questionnaires were administered to participants to express their satisfaction or dissatisfaction of the current handing over method.

Movement

1. In the movement phase, the change is implemented firstly, by the group learning the new behavior. This was achieved by organizing training on the use of SBAR for the nurse participants and encouraging them to use the SBAR during handing over.
2. There must be collaboration between the implementer of the change and the target group and this is done by listening to the individual opinion. This was achieved in this study by obtaining feedback after the use of the SBAR through post-test questionnaires and semi-structured interview. The research data was analysed to verify acceptance of SBAR tool.

Refreezing

1. The third stage of Lewin's model ensures sustainability of the new status quo. The researcher will submit the research results to the hospital management for approval and implementation. The refreezing phase is not a focus of achievement in this study since it may take time for the hospital to consider the research finding and decide to implement the SBAR tool.

2.3 Nursing Handing Over

The nurse as a care-giver is always at post within any in-patient facility and is the primary link for communication for the patient (Karam et al., 2018). At any given time, the nurse is expected to be equipped with information regarding patient care especially during handing over (Riesenberg et al., 2010). It is crucial that information is communicated in detail and accurate way to ensure patient's safety (Cowan, Brunero, Luo, Bilton, & Lamont, 2018). The Australian Medical Association defines clinical handing over as the transfer of responsibility and/or accountability for patient care from one provider or team of providers to another (Chaboyer et al., 2010). Certain questions and challenges have emerged about nurse handing over including: how to conduct a handing over, what to include in the handing over, who should be involved, how to prepare for handing over and which method of handing over is preferable (Chaboyer et al., 2009; O'Connell, Macdonald, & Kelly, 2008). Some researchers have argued that the challenges arising can be due to informal training on handing over (Smeulers et al., 2014). Nursing handing over is beneficial in many ways, it ensures continuity of care of patient by communicating pertinent information from one shift to another or from one health care facility to another facility and this increases the effectiveness of action which facilitates quality nursing care (Halm, 2013; Scovell, 2010). Some researchers have categorised the function of nurse handing over into two; the-overt' function which involves sharing patient information and

patient care and the - covert function which involves the nurse demonstrating her knowledge, skills and expertise (McFetridge et al., 2007; Scovell, 2010). The handing over also provides a common value for group cohesion among nurses (Halm, 2013; Novak & Fairchild, 2012), while with his/her colleagues, the nurse is able to communicate emotions like grief, anxiety and amusement and is given the necessary support (Halm, 2013; Novak & Fairchild, 2012). The handing over process shapes professional identity since it is a testing ground for new nurses to learn from senior colleagues (Scovell, 2010). Furthermore, the handing over process creates a means for new nurses and student nurses to socialise and be integrated into the ward while they receive education on clinical practices (McFetridge et al., 2007).

Handing over occurs in different locations as a result of specialisation of care which requires generating new units and the involvement of more people in providing care (Scovell, 2010). Patient handing over can occur in different settings and by different members of the health team in and out of a hospital facility, including admission, nursing handing over, inter units and inter-facility transfer, anaesthesia and post anaesthesia, recovery room, emergency department and the discharge of a patient home or to another facility (Narayan, 2013; Smeulers et al., 2014). Nurses are dominantly involved during such transfers and are expected to effectively communicate pertinent information about the patient (Riesenberg et al., 2010).

In the IOM report 2001 entitled, ―Crossing the Quality Chasm, it was stated that handing over created opportunity for errors (Smeulers et al., 2014). Researchers over the years have searched into the content, process, quality of the various types of handing over to discover the cause of errors and to find the best ways of handing over to minimise such errors (Drach Zahavy & Hadid, 2015; Manser & Foster, 2011; Riesenberg et al., 2010; Scovell, 2010). It was observed that the handing over process lack individual planning, are often incomplete regardless of the method (Drach‗ Zahavy & Hadid, 2015; O'Connell et al., 2008), lack consistency, is time-consuming, and varied in style (Drach‗ Zahavy & Hadid, 2015; Smeulers

et al., 2014). The handing over processes also lack formal structure and content are retrospective in nature, problem-focused and inconsistent (McCloughen, O'brien, Gillies, & McSherry, 2008). They are also unpredictable and promotes confusion (Johnson, Jefferies, & Nicholls, 2012a). Researchers also identified factors that lead to the causes of ineffective handing over among nurses and these included: the haphazard nature of handing over, the haphazard nature of nursing shift, the chronic shortage of nurses (Riesenberg et al., 2010), as well as environmental factors such as noise, crowding and high workload (Manser & Foster, 2011; Riesenberg et al., 2010).

Barriers to effective nursing handing over has been identified as: nurse management lack of structure, policies and procedures related to the content, timing and the variation in handing over process, as nurses differ in opinions about information to communicate during handing over (Halm, 2013; Nadzam, 2009; Riesenberg et al., 2010). The lack of standardised handing over has been identified as a barrier to effective handing over (Riesenberg et al., 2010) and structured tools for improvement in handing over has been recommended by several authors (McMurray, Chaboyer, Wallis, & Fetherston, 2010; Riesenberg et al., 2010). Other barriers include the complexity of patient care, educational level, stress, fear, fatigue, increasing technology, emerging standards of care, enforcement from regulatory agencies and noisy health settings, language barriers, illegible handwriting and hierarchies which prevent people from speaking (Johnson & Cowin, 2013; Riesenberg et al., 2010; Roslan & Lim, 2017; Thomas et al., 2009).

2.3.1 Nursing Handing over Methods

Five methods of handing over have been reported in the literature, these include- Verbal handing over, Bedside handing over, Audio-recorded handing over, Written handing over and computerised or electronic handing over system (Chaboyer et al., 2010; Johnson & Cowin,

2013; Scovell, 2010). Nevertheless, the choice of method of handing over depends on the hospital policies.

2.3.2 The Verbal handing over

The verbal handing over is also called the traditional handing over and can be said to be the oldest handing over method (McCloughen et al., 2008). It involves verbal exchange of information and supported by nursing documentation (Johnson et al., 2012a). It is usually done away from the patient; at the nurses' station or nurses' office (McCloughen et al., 2008; Roslan & Lim, 2017; Scovell, 2010). Verbal handing over creates privacy for the outgoing nurses to communicate sensitive and relevant information that cannot be vocalised at the bedside (Scovell, 2010). This creates a means for non-patient specific roles such as peer assessment, debriefing and motivation (Novak & Fairchild, 2012; Scovell, 2010). The verbal handing over also provides a backup for inadequate documentation and is quite effective in promoting team-work and team-building (Johnson et al., 2012a). The verbal handing over promotes a two-way communication. Firstly, between the outgoing and incoming nurses, secondly, between nurses and patients (Randell, Wilson, & Woodward, 2011). The face to face interaction between the outgoing and incoming nurse allow clarifications to be made to questions asked by incoming nurses (Randell et al., 2011). In the United Kingdom, a research conducted on handing over between Ambulance staff and the emergency department showed that, the verbal handing over was most reliable and efficient means of information transfer and also, the verbal handing over compensates for deficient legibility (Jenkin, AbelsonMitchell, & Cooper, 2007).

However, the verbal handing over has been criticised to be ritualistic, lengthy, focused on medical rather than nursing concerns, disregard for patient perspective, focused on what the nurse has done and not on plan of patient care, imprecise and incomplete in information transfer, does not follow a structured pattern and associated with the repetition of information

that can be obtained from the nurse documentations (Chaboyer et al., 2010; Cowan et al., 2018; McMurray, Chaboyer, Wallis, Johnson, & Gehrke, 2011). Besides, the nurses' office may not serve as an ideal environment since there can be frequent interruptions from the medical team, telephones, patient, patient relatives and visitors (Roslan & Lim, 2017; Scovell, 2010).

2.3.3 Bedside Handing over

The bedside method is a preferred handing over method because it is patient-centred, involves family participation and promotes patient safety (McMurray et al., 2011; Tobiano, Chaboyer, & McMurray, 2013). According to McMurray et al. (2010), patient cantered approach reflects the rights of the patients to be partners in care, leading to greater results and patient satisfaction. The researchers further emphasized that the patient involvement in care decision making increase their sense of control, improved functional and clinical outcomes and reduced the rate of referral, diagnostic investigation and disease complication. The patient and family are given the opportunity to ask questions and express their concerns about the care and the nurse also receives pertinent information from the patient and family to improve care and build a better nurse-patient/family relationship (Aaberg, Hall‐Lord, Husebø, & Ballangrud, 2019; Roslan & Lim, 2017; Tobiano et al., 2013). There is also improved physician satisfaction as the nurses are better informed about their patients and could prioritise patient care (Anderson et al., 2015). However, the patient's inclusiveness has been observed to be disturbing and dehumanising to patients due to clinical jargons which can best be solved when nurses communicate in the language the patients understand (Anderson et al., 2015; McMurray et al., 2011). Bedside handing over provides the opportunity for the incoming nurses to assess patient and examine the documentation at the same time and the nurse can also conduct safety scan (Chaboyer et al., 2009; Narayan, 2013;

Novak & Fairchild, 2012; O'Connell et al., 2008; Tobiano et al., 2013). Clarifications are made to questions asked regarding patient care during the bedside rounds (Halm, 2013). Bedside handing over is said to be more accurate and time effective and support student learning through role-modelling (Chaboyer et al., 2010).

Scovell (2010) argues that even though bedside handing over is highly recommended for patient participation, there is a challenge of maintaining patient confidentiality. This is because screens and curtains which promote individuality of care may not be adequate to prevent other patients from hearing the conversation among nurses and so nurses may not voice out sensitive and relevant information in an attempt to maintain the patient's confidentiality. However, another research observed that; patient and relatives were not bothered about confidentiality as long as they felt acknowledged and respected during the bedside handing over (Tobiano et al., 2013). In the Intensive Care Unit (ICU), patient participation is not considered because nurses usually speak undertone so that the heavily sedated and unconscious patients may have rest (Scovell, 2010). Bedside handing over can also be challenging in units such as palliative care, psychiatry and oncology because sensitive information cannot be discussed at the bedside (Cowan et al., 2018; Zou & Zhang, 2016). This method of handing over has also been criticized to be unreasonably lengthy because nurses were frequently interrupted, included non-essential and irrelevant information, less efficient as it is a recitation of fact rather than interpretation of patient's condition (Chaboyer et al., 2010; Novak & Fairchild, 2012; O'Connell et al., 2008; Roslan & Lim, 2017).

2.3.4 The Audio-recorded Handing over

The audio-recorded handing over was initiated to lesson shift overlap and reduce financial loss (Scovell, 2010). The location of this handing over method is the nurses' office where the nurse gets the opportunity to record concise and relevant information onto an audio-recorder

so that the oncoming shift can listen to, at a convenient time (Scovell, 2010; Smeulers et al., 2014). The audio-recorder can be paused to deal with interruptions that may arise during the handing over process. The audio-recorded method is less time consuming because of minimal interruptions, but it also lacks the direct nurse to nurse interface and so does not meet the cohesiveness or emotional function (Scovell, 2010). Besides, it is ritualistic, retrospective, treatment-oriented information rather than focus on direction of planning and it is not patient-centered, and importantly, questions raised by the incoming nurses may remain unanswered and the incoming nurse spends more time going through patient documentation to confirm information (Chaboyer et al., 2010; Scovell, 2010). A researcher did a comparison study of recorded handing over and verbal handing over and found that the audi-recorded method was more prone to error of omission (Riesenberg et al., 2010), although it has also been found to contain more objective information (O'Connell et al., 2008).

2.3.5 The written handing over

The written handing over is formal documentation of patient care. For a written document to be appropriate for use, it must be legible either on the nurses' documents, on a handing over sheet or the computer (Johnson & Cowin, 2013; Smeulers et al., 2014). A template for documentation is preferred because it saves time (Riesenberg et al., 2010). The location for the written handing over can be at the bedside or the office (Smeulers et al., 2014). The written handing over can be challenging because people read at different rate and have different ways of expressing their thoughts in words and also different means of coding information and this can be difficult for another nurse to interpret (Scovell, 2010). Written documentation at the beginning of shift may eliminate problems associated with oral handing over and lead to increased focus on ensuring accurate documentation and improve the use of nursing care plans (Bakon, Wirihana, Christensen, & Craft, 2017). With the written document, the nurse will not

have to memorise lengthy information about numerous patients during handing over, since information from memory has been proved to be ineffective (Manias, Geddes, Watson, Jones, & Della, 2016). Research findings show that the written handing over should be used with the verbal handing over method because it retained 100% of handed over information (Johnson et al., 2012a). This is confirmed in another research finding in Australia where all health professionals agreed that it was important to use written notes to support verbal handing over (Manias et al., 2016).

2.3.6 Computerised or Electronic Handing over System

The electronic handing over system complements the other handing over methods by providing more efficient nursing care, coordination and patient safety (Kutney-Lee & Kelly, 2011). This is a straightforward means of extracting a handing over sheet from the electronic medical record system (Manser & Foster, 2011). The Electronic medical record (EMR)-based sheet is said to improve the completeness of handing over information (Johnson et al., 2012a; Manser & Foster, 2011). Other researchers reported that the use of technology reduced preventable adverse events such as medication errors, patient discharge and transfers and improved handing over quality (Kutney-Lee & Kelly, 2011; Manser & Foster, 2011). Previous study shows that, electronic handing over tools has increased efficiency, reduced time spent handwriting notes, decreased duration of handing over, increased adherence to handing over protocols, and clinicians also reported finishing work on time (Balka, Tolar,
Coates, & Whitehouse, 2013). According to another researcher, technology should not replace verbal handing over, because, with the verbal handing over, healthcare professionals are capable of doing much more than technology, such as, the ability to identify relevant information, provide more information and explanation when required (Randell et al., 2011).

2.3.7 Handing over Process and Content

The nurses' handing over has been described as complex and contains two major components: the process (including the method and the location of the handing over) and the content which includes the structure (Johnson et al., 2012a). The handing over process has three phases; the pre-handing over, inter-shift handing over and post-handing over (Chaboyer et al., 2010). In the pre-handing over phase, the patient information is reviewed from charts, team members, patient and family (Chaboyer et al., 2010). The incoming nurse takes note of important patient information, the patients are informed about the commencement of handing over, the nurse may ask visitors to wait at the waiting area or remain on request of the patient (Chaboyer et al., 2010). The inter-shift phase involves giving of oral report to the incoming nurse, completing a safety checklist or scan at the patient's bedside, reviewing of patient records and receiving of sensitive information away from the bedside (Chaboyer et al., 2010). The receiving of confidential information can be done in the pre-handing over phase to promote confidentiality (Chaboyer et al., 2010; Roslan & Lim, 2017; Scovell, 2010). The post-handing over phase is a planning phase that guides the nurses' action (Chaboyer et al., 2010). During this phase, nurses are assigned to patients, handing over sheet is used as a guide and new staffs are integrated to work with the team (Chaboyer et al., 2010). The content of handing over deals with the what and how aspect (Cowan et al., 2018; Smeulers et al., 2014). Based on the facility, the handing over content can be unstructured or structured by the use of checklist and mnemonic (Johnson et al., 2012a; Smeulers et al., 2014). Current studies reveal that the handing over content is irrelevant to patient care and that the content did not clarify issues regarding patient care, treatment or management (McCloughen et al., 2008). The handing over content can differ for patient care units according to the information needs of the nurses (McCloughen et al., 2008; Welsh et al., 2010). Content usually included in handing over are: demographic data; patient name, age, sex and date of birth, previous medical and surgical history and

allergies, present medical or surgical history. Observations including; vital signs, input and output, medications administered. Investigations and procedures, activities of daily living and discharge planning (Bakon et al., 2017; Johnson et al., 2012a; McFetridge et al., 2007).

2.3.8 Structured Handing over Communication

Standardization of handing over communication has been recommended as an effective and safe approach in nursing handing over (Malekzadeh et al., 2013; Welsh et al., 2010; Zou & Zhang, 2016). Standard strategies such as developing and using guidelines and tools such as forms and templates in the handing over process are being frequently used (Zou & Zhang, 2016). Manser and Foster (2011) identified two approaches to standard handing over. The first approach creates specific standard protocols for clinical setting by defining the content and the order. This approach makes use of checklist with specific items of information. The second approach to standardized handing over focuses on general interaction structures that do not define the exact content but the topic to be covered and their order, this approach makes use of mnemonics such as the SBAR. The use of standardized communication tools has been reported to reduce errors of omission and enhance reliable transfer of patient information (Anderson et al., 2015). This is achieved by minimising the reliance on memory and focusing on critical aspects of patient care (Anderson et al., 2015; Spooner, Chaboyer, Corley, Hammond, & Fraser, 2013). The critical aspects of patient care include essential elements such as patient identifiers, assessment, patient past and present state of condition (Anderson et al., 2015; Nadzam, 2009). Such information is relevant and vital regarding patient care (Anderson et al., 2015; Nadzam, 2009). The most recommended standard communication tool used worldwide and proved to be effective is the SBAR communication tool (Randmaa et al., 2014).

2.3.8.1 The SBAR communication tool

The SBAR stands for a mnemonic which means Situation, Background, Assessment and Recommendation. The situation gives a brief overview of the current patient's medical and surgical status, the background gives a summary of the patient past medical and surgical history, allergies, communication barriers and isolation (Achrekar et al., 2016). The assessment provides a brief overview of systematic assessment, vital signs, recent laboratory investigations, specific assessments depending on the wards such as pain, surgical site, Deep vein thrombosis (DVT) prophylaxis and physical activity (Achrekar et al., 2016). Recommendation describe the plan of action which include, decision to continue care, changes made in treatment and discharge of patient (Achrekar et al., 2016). To use the SBAR tool effectively, the nurse has to combine good assessment skills, clinical judgement and critical thinking skills (Achrekar et al., 2016). Even though the SBAR provide a standard framework for communication, there are variations in the handing over content of each hospital unit. These variations are influenced by cultural and environmental factors that are not measurable and easy to standardized (Smeulers & Vermeulen, 2016), as a result, efforts by WHO in 2010 to develop a standardized approach for handing over communication was abandoned (Smeulers & Vermeulen, 2016). A researcher concluded that the variation in content can be resolved by each unit identifying their own pertinent information (Welsh et al.,
2010), hence the SBAR content may vary for each unit.

The SBAR was introduced into health care by a rapid response team at Kaiser Permanente in Colorado in 2002 to enhance patient safety (Achrekar et al., 2016). The rapid response team is a group of hospital staff, usually intensive care unit personnel who respond to patients developing signs and symptoms of clinical deterioration outside the intensive care unit (Sharek, Parast, Leong, Coombs, & Earnest, 2007). In such a case, the nurse attending to the patient should be able to give prompt and appropriate information to the rapid response team members

for effective management (Achrekar et al., 2016). The main purpose of introducing the SBAR was to promote effective communication among the rapid response team members comprising mainly of doctors and nurses, to bridge the gap in communication methods that existed between the doctors and nurses (Achrekar et al., 2016).

2.3.8.2 Satisfaction with the use of SBAR among nurses

Several researches have been conducted worldwide to evaluate the SBAR communication tool by evaluating the key function of the SBAR, which is, to improve communication among health care providers and consequently result in improved patient safety. Randmaa et al. (2014), implemented the use of SBAR in an anaesthetic clinic and found significant improvement in communication accuracy and decreased incident reports. Narayan 2013, reported that the SBAR is effective in improving interdisciplinary communication and promote effective communication during patient transfers across units and facilities. In a home nursing setting, SBAR was found to improve satisfaction with communication between nurses and medical practitioners and improved care outcomes and client safety (Renz, Boltz, Wagner, Capezuti, & Lawrence, 2013). The implementation of SBAR in a study was observed to decrease hospital re-admissions from 14.5% to 2.1%, indicating improved patient safety (Townsend-Gervis, Cornell, & Vardaman, 2014).

2.3.8.3 Perception of nurses about the SBAR tool

Health workers who have used the SBAR tool have given similar descriptions of the tool across nations. In India, a study was carried out to assess the perception of nurses about the SBAR in a large health care facility (Nagammal, Nashwan, Nair, & Susmitha, 2016). 91.2% of nurses expressed satisfaction with the use of the SBAR and described the tool as an efficient tool which followed a logical sequence (Nagammal et al., 2016). Also, the SBAR provided sufficient information, opportunity for debriefing and saves time (Nagammal et al., 2016).

Another study done in India reported that, 79% of nurses described the SBAR tool as useful and easy to understand, they also said relevant information is communicated among nurses and doctors (Achrekar et al., 2016). A study was conducted in Singapore with the SBAR between anaesthetist and non-anaesthetist in a paediatric intensive care unit using a pre and post-intervention to evaluate recipient perception (Fabila et al., 2016). Nurses described the SBAR tool as concise, clear, very useful or extremely useful, relevant and contained sufficient information for patient management (Fabila et al., 2016). Nurses in the United States of America describe the SBAR tool as concise, easy to use and as a clear consistent means to communicate in a logical sequence (Pope, Rodzen, & Spross, 2008). The SBAR has the potential to enhance patient-centered care (Achrekar et al., 2016) and this helps suppress certain non-patient centred functions of handing over such as, nurses sharing their personal life experiences and the burden of the workload during the handing over process (Novak & Fairchild, 2012). A research carried out in the United States of America which examined the bedside handing over with the SBAR, found that even though the b7edside handing over promote socialization among nurses, the SBAR provided a more objective, concise and relevant information which is more focused and patient centred (Novak & Fairchild, 2012).

2.3.8.4 Acceptability and feasibility of the use of SBAR among nurses

Most health institutions implementing the SBAR tool weighed the benefits over the traditional way of handing over. Some nurses found the SBAR tool to be more useful because it was easy to understand the content and contained detailed handing over information (Achrekar et al., 2016; Fabila et al., 2016). Several researches have been carried out during implementation phases and almost all their findings were favourable, in some instances nurses requested for electronic versions of the SBAR instead of sheet of papers.

SBAR is presented on sheets of papers in some health settings. However, several researches encourage the use of electronic versions because of the paperless healthcare system worldwide. In America, a hospital replaced the paper SBAR with an electronic version in response to nurses complains (Bello, Quinn, & Horrell, 2011). The electronic version was automatically updated anytime nurses and non-nursing staff imputed new patient information (Bello et al., 2011). This ensured quick, efficient and consistent means of communicating during handing over (Bello et al., 2011). The electronic SBAR was printed for use during handing over and transfer of patient from one ward to another ward (Bello et al., 2011). Also, the electronic version allowed any healthcare professional involved in patient care to assess recent patient information. Above all the nurses expressed satisfaction with the electronic SBAR because it was accurate, easy to use and modify, time-saving and enhanced patient safety (Bello et al., 2011). A similar research done in Australia to support nurses handing over with electronic copies had challenges (Spooner, Aitken, & Chaboyer, 2018). The electronic medical data set was unable to accommodate all relevant information, leading to several documents being printed to handover (Spooner et al., 2018). The researchers noted that for an electronic interface to be effective, it must be flexible, modifiable, easy to navigate and contain relevant information (Spooner et al., 2018). Another research that was carried out on the use of an electronic SBAR template in providing care in a pediatric intensive care unit reported a complete documentation of patient information which can improve patient safety (Panesar, Albert, Messina, & Parker, 2016). However, researchers believe that the electronic version of SBAR should be used to complement other methods of handing over like the verbal and bedside (Manser & Foster, 2011; Randell et al., 2011).

Some researchers identified limitations with the use of the SBAR. In a study in a home care setting, nurses said it takes time to complete the SBAR tool, and communication barriers which they encountered such as rushed physician communication and language barrier (accent)

were not corrected by the SBAR tool (Renz et al., 2013). Other researchers indicate that nurses and other health care professionals need adequate education on the effective use of the SBAR tool (Chaharsoughi, Ahrari, & Alikhah, 2014; Compton et al., 2012; Shahid & Thomas, 2018). Another limitation identified in a study was that nurses were not using the SBAR because they did not like it and some nurses faced a challenge with English proficiency and some staff identified missing ward items on the SBAR tool (Compton et al., 2012). The use of the SBAR in patients with complex medical histories and care plans, especially in the critical care setting is challenging (Shahid & Thomas, 2018).

2.4 Research Hypothesis

The following hypothesis was tested in this study:

H_1: The use of SBAR communication tool will significantly improve communication during nursing handing over relative to the existing handover protocol.

H_2: The participants will highly appreciate the SBAR than the existing handing over protocol.

CHAPTER THREE
3.0 METHODOLOGY

3.1 Introduction

The methodology of the study describes how the identified research problem was investigated. The methodology includes: the study design, the research setting, research technique, research instrument, data gathering procedure, validity and reliability, methodological rigour and Ethical considerations.

3.2 Study design

This research study adopted an interventional sequential explanatory mixed-method design(Bowen, Rose, & Pilkington, 2017). The interventional sequential explanatory design involves the administration of SBAR and collecting quantitative data, then qualitative data. Mixed method research is useful in nursing and health science because of the complexity of the phenomena studied (Östlund, Kidd, Wengström, & Rowa-Dewar, 2011), as in the case of nursing handing over communication. The integration of qualitative and quantitative findings ensured triangulation by the use of different method of data collection. This helps (Bowen et al., 2017)researchers to clarify theoretical propositions and the results of the study, thereby offering a better understanding of the links between theory and empirical findings (Östlund et al., 2011).

3.3 Research setting

The study was conducted at the 37 Military Hospital in Accra, Ghana. The hospital is located between Kotoka international airport and central Accra, making the hospital very accessible to Ghanaians. The 37 hospital is a 500-bed capacity hospital which was built in

1941 to provide health care services to the Armed Forces, their families, senior civil servants of the Ministry of Defense (MOD), Veterans and some Diplomatic Missions. Services were later revised to include all civilian employees of MOD and their families, senior government officials and their families as well as the general public. The hospital also serves as the National Disaster and Emergency Response health facility. The 37 Military Hospital is a Teaching Hospital and has several departments: Surgical, Medical, Pediatrics, Obstetrics, Gynecology, Dental, Pathology, Pharmacy, Physiotherapy, Radiology, Medical record unit, the Laundry unit, the Nutrition department, Public health division and the Morbid Anatomy department. The Surgical Division has departments including: Urology, General Surgery, Orthopedics and Trauma, Plastic Surgery and Neurosurgery. The 37 Military Hospital also has training institutions such as the Nursing and Midwifery Training School (NMTC), School of Anesthesia, Emergency Medical Technicians School and a Post Graduate Medical College.

Four surgical wards were used for this study; these were the main surgical block, the allied surgical block which contained the Neuro-surgical ward, Orthopaedic ward and the Burns/miscellaneous surgeries ward. There were military and civilian ward in-charges on each ward. Surgical cases are transferred from the surgical and trauma emergency department on daily basis to their respective wards. The 37 Military Hospital was selected for this study because it is considered the second largest referral hospital in Ghana which has specialised units and receives nursing staff from diverse background for practice.

3.4 Study population

The target study population included Registered nurses and Rotation nurses who have adequate knowledge about the care of patients and are actively involved in the handing over process either as team leaders or team members.

3.5 Inclusion criteria

The inclusion criteria of the study are stated below;

1. Participants only included registered nurses working at the four surgical blocks of 37 Military Hospital for at least two months.
2. Rotation nurses working at the four surgical blocks of 37 Military Hospital for at least two months.
3. Participants who consented to be part of the study.

3.6 Exclusion criteria

The exclusion criteria of the study are;

1. Registered nurses working at the surgical block less than two months
2. Rotation nurses working at the surgical block of the 37 Military Hospital less than two

(2) months.

3.7 Sample size

Quantitative sample size: The required sample for the quantitative research was calculated by using Yamane's (1967) formula. Statistical significance level of 0.05 was maintained. The total accessible population was 43 registered nurses who were within the inclusive criteria.

n =**N**/**1**+ $(\boldsymbol{e})^2$ Where: n = required sample size N= Accessible population e

= alpha level or significance level N = 43

n =43/1+43$(0.05)^2$

n =43/1.1075 **n** =39
The required sample for the quantitative study is 39.

Qualitative sample size: The qualitative sample size is 16, based on data saturation. Data saturation is achieved when no new information is reported by participants.

3.8 Sampling technique

This study used convenient sampling method to collect both quantitative and qualitative information. Convenient sampling technique is used when participants are accessible, available and willing to participate in a study (Etikan, Musa, & Alkassim, 2016). Registered nurses and Rotation nurses who had worked for more than two months and willing to participate in the study were recruited as participants on the four surgical wards.

3.9 Measures

Data collection utilised pre-test and post-test questionnaires, observation, and semistructured interview and document analysis methods. The research instrument was designed and categorized into four sections: Section A obtained demographic information of the research participants which included age, gender, rank, basic qualification and country of training. Section B enquired information about current nursing handing over practices, knowledge and use of structured communication tools such as the SBAR. Section C comprised of the quantitative pre-test questions based on the Collaboration and satisfaction about Care Decision (CSACD) in relation to the current handing over practice as well as the SBAR.

3.9.1 The CSACD tool

The tool selected for the pre and post-test surveys were based on the Collaboration and satisfaction about Care Decision (CSACD) (Gedney, 1994). The CSACD was designed by Judith Gedney to evaluate quality of interactions in the decision-making process and satisfaction with decision making process among health care providers, notably, nurse-physician relationship (Gedney, 1994). The tool was designed with nine questions, seven questions evaluated collaboration and two questions evaluated satisfaction. The tool uses a 7point Likert scale from 1-strongly disagree to 7-strongly agree to evaluate collaboration and satisfaction among health care professionals. In this study, the Collaboration and Satisfaction about Care Decisions‖ (CSACD) was adapted and modified for use to make the tool more suitable for nursing handing over since the tool was used to evaluate nurse-physician relationship. The CSACD was modified into 10 items; 7 assessed collaboration and 3 questions assessed satisfaction. The tenth item assessed satisfaction on the current handing over process and the SBAR (Nguyen, 2016). The Likert scale was also modified into a 5- Likert scale tool where 1-very dissatisfied and 5- very satisfied. 5-Likert scale was selected to make the questionnaire simple and easier to respondents, and also because, the 7-Likert scale has been found to be less stable and promote response bias (Dolnicar, Grun, Leisch, & Rossiter, 2011). The decision making was also modified to handing over (Appendix C).

3.9.2 Observation

Observation is the process of making careful and accurate measurements about a phenomenon (Jorgensen, 2015). The handing over practice for three shifts in a day was observed by the primary investigator before, during and after the handing over process. Questions were asked when necessary and observations documented in the field diary

appropriately. The various types of handing over identified in the literature were observed, the process and content handed over were also observed before and after implementing the SBAR tool.

3.9.3 Semi-Structured interview

Semi-structured interviews occur when the researcher creates predefined questions but then probes for further information (Peters, 2015). In this study, an interview guide was developed and administered to some participants who participated in the quantitative study. Participants were interviewed face to face and via mobile phones regarding the satisfactory use of the SBAR using the developed interview guide (Appendix B).

3.9.4 Document analysis

Document analysis involves reviewing or evaluating both printed and electronic documents (Bowen, 2009). Document analysis in this study was used to complement data from the semi-structured interviews and observations as handing over information on the electronic and nurse documentation sheets were reviewed appropriately. Document analysis is effective in triangulation study and requires that data be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge (Bowen, 2009). Contents of documents were observed in this study and these included, the changes book, the admission and discharge book, bedside documents and the electronic medical records. The purpose of this analysis is to identify relevant information needed for communication during handing over.

3.10 Data gathering procedure

An introductory letter was obtained from the University of Ghana, School of Nursing after approval of the topic and proposal. Ethical approval was obtained from the Institutional Review Board of the 37 Military Hospital. The SBAR was designed to suit the four surgical wards in

consultation with the ward nurse in-charges. Interested participants signed the consent form after explaining the purpose of the study to them, and then the participants were trained on how to use the SBAR per shift. Participants were trained on SBAR as a handing over tool, how to fill the SBAR tool and physical assessment skills needed for documenting the SBAR. One research assistant was trained on the use of the SBAR to assist with data collection and one staff from one of the wards volunteered as a research assistant after the person understood how to use the SBAR tool. Before participants implemented the SBAR, Pre-test questionnaires (CSACD) were handed over to them to evaluate their satisfaction with the current handing over method. After a period of one month, following the implementation of the SBAR, the post-test questionnaires (CSACD) were given to participants to evaluate the use of the SBAR tool. The pre-test and post-test tool for each participant were given a unique identifier to match pre and post-test questionnaires and also to ensure that; the same participant was interviewed. The names and phone numbers of participants were also documented in the field diary to ensure accuracy in tracing the same participants, after obtaining their consent. Semi-structured interviews were conducted after the use of the SBAR, face to face or by means of phone calls. The current handing over process was observed and the documents used for handing over were analysed by the primary investigator.

3.11 Data analysis

The quantitative data comprising pre-test and post-test questionnaires were analysed using Statistical Package for Social Sciences (SPSS) version 23. In analysing the data, descriptive statistics were used to summarise the data and repeated measures t-test analysis used to investigate mean differences between pre-test and post-test scores. Repeated measures t-test was selected because of the consistency in providing identifiers of paired samples. The semi-structured interview was analysed using thematic content analysis by identifying common

themes. Thematic content analysis is a technique is an objective descriptive means of analysing a phenomenon (Vaismoradi, Turunen, & Bondas, 2013). Each interview was transcribed word by word and then, the transcript was coded with colours (Appendix E). The codes were categorized to main themes, subthemes, and categories, according to their similarities and differences.

3.12 Validity and reliability

Validity and reliability are essential elements in evaluating measurement instrument (Tavakol & Dennick, 2011). In order to determine the reliability of the CSACD tool used for the pre-test and post-test data collection, Chronbach alpha co-efficient of reliability of instrument which is the most widely used objective measure of reliability was used to analyse the CSACD tool (Tavakol & Dennick, 2011). The value for the Pre-test tool was 0.89 and post-test was 0.71, both values exceed the acceptable range of 0.70-0.95 (Tavakol & Dennick, 2011).

3.13 Methodological Rigour

Methodological rigour in qualitative research is ensuring that the study is conducted strictly, using acceptable standards and rational interpretation (Yang, Chang, & Chung, 2012). The quality of qualitative research is also referred to as the trustworthiness of the study and varies according to the level of freedom from biases that are present in the research and the rigour by which investigators adhere to the methodology used to reduce bias (Hadi & Closs, 2016; Yang et al., 2012). There are four criteria proposed by Lincoln and Guba (1985) that forms the framework for determining the rigour of a qualitative research study, these are: credibility, dependability, confirmability and transferability (Houghton, Casey, Shaw, & Murphy, 2013).

Credibility of a study refers to the believability or truth value of the study; that is the extent to which the researcher 's account is faithful to the experiences of the participants (Carnevale, 2016). This implies strategies that foster proximity of the researcher to the participants while taking measures to guard against having the researcher inadvertently influence the manner in which the participants' experiences are recorded (Carnevale, 2016).

To ensure credibility of the study, recruited participants' minimum qualification was diploma in nursing because they have an understanding of patient assessment. Triangulation which involves using several methods for data collection was used in this study to ensure credibility; qualitative data was collected by observation, document analysis and semi-structured interview, the interview questions were derived from a previous study (Nguyen, 2016) and was critically studied with both supervisors to ensure the questions were essential for the study. The semi-structured interview was transcribed verbatim and verified with participants to ensure accuracy in report.

Dependability refers to how stable the data are and the potential to be replicated in other studies (Houghton et al., 2013). In order to ensure dependability, the research method, data collection procedures and data analysis were described in details.

Confirmability refers to the assurance that data were collected and analysed in a neutral manner, whereby the researcher's potential distortion of participants accounts is minimized (Carnevale, 2016). To ensure confirmability; Research assistants were recruited to collect data, qualitative data were colour coded to identify common responses and discussed with supervisors.

Transferability refers to the extent to which the research finding can be applicable to persons in similar contexts (Houghton et al., 2013). Transferability was ensured by giving details of the research setting, methodology and background of the sample used in the study.

Analysed documents and transcribed data is being kept for reference purposes, this enable other researchers transfer the conclusion of this study to other similar contexts.

3.14 Ethical consideration

Since the research was conducted at the 37 Military Hospital, approval was sought from the Institutional Review Board (IRB) of the 37 Military Hospital (Appendix F) with the aid of an introductory letter from the University of Ghana, School of Nursing and Midwifery. The respect of the participants was maintained through informed consent (Appendix D). Prior to the signing of the consent form, the participants were provided with sufficient information about the research study. They were made to understand their rights to accept or refuse to participate in the study and the risk and benefits of the study were also explained to them. Confidentiality and anonymity of participants were maintained as they were made to understand that their names would not be mentioned in the study. The Deputy Director of Nursing Services (DDNS) for the surgical wards of the hospital and the surgical ward in-charges were also adequately informed and their consent and approval were sought for education and implementation of the SBAR tool on the ward, copies of the ethical clearance were presented to each ward in-charge before data was collected.

CHAPTER FOUR

4.0 RESEARCH FINDINGS

4.1 Introduction

This chapter is a representation of the study results including socio-demographic and the quantitative and qualitative analysis. The quantitative data collected from the pre-test and post-test were analysed with SPSS 23 and the qualitative data was analysed using Thematic content analysis. Themes and subthemes were developed after common responses were identified and categorised.

4.2 Quantitative findings

Quantitative data was collected from 39 nurses who participated in the pre-test and posttest data collection. The data was analysed using SPSS version 23, repeated-measures t-test with a significance level of p = 0.05 was used to compare the means of each item in the pretest and post-test. The phone numbers of participants were recorded to ensure that the same nurse participates in the post-test. The data sheets for the pretest and post-test were given unique numbers and handed over to the same participants to ensure consistency in data collection. Normality test was conducted to ensure that the means could be used for the study. To meet the criteria for using repeated measures t-test, the analysis was done with paired samples of the 39 participants who successfully participated in the pre-test and post-test.

The quantitative analysis was divided into two sections: demographic and repeated measures t-test analysis. Demographic data included sex, age, academic qualification and professional rank. The analysis of the mean differences is represented in table 4.1 below:

Table 4.1 Pre-test and Post-test results

Variable	Pretest Survey Mean(SD) N=39	Post-test Survey Mean(SD) N=39	t-value	p-value	significance
Nurses planned together to make decision about care	3.64 (1.09)	3.64 (1.01)	0.00	P > 0.05	NS
Satisfaction with the way of communication	3.38 (0.96)	4.41 (0.68)	-5.33	P< 0.001 S	S
Adequate information provided during handing over	3.46 (1.05)	4.67 (0.58)	-7.30	P < 0.001	S
Information given during handing over about patients	3.54 (0.91)	4.54(0.64)	-5.14	P < 0.001	S
Nurses cooperated well during handing over	3.63 (1.02)	3.63(1.02)	-1.77	P > 0.05	NS
decision-making for patients was coordinated among nurses	3.20 (1.08)	4.36 (0.67)	-5.42	P < 0.001	S
during handing over, all nurses' concerns about patients' needs are considered	3.41 (1.04)	4.05 (0.83)	-2.97	P < 0.05	S
collaboration among nurses and patients occurs during handing over of patients	3.64 (1.01)	3.74 (1.09)	-0.45	P > 0.05	S
How satisfied are you with the way handing over is done for patients?	3.36 (0.90)	4.46 (0.55)	-6.17	P < 0.001	S
How satisfied are you with patient participation during the handing over?	3.18 (1.07)	4.10 (0.88)	-3.82	P < 0.001	S
Total Mean	34.4211	41.9737	-4.971	P = 0.000	S

NS: not significant S: significant

The statistical significance remains, even after incorporating Bonferroni correction (α = 0.005).

4.3 Socio-demographic

Out of 39 (100%), 61.5% (n =30) of participating nurses were females and 38.5% (n = 15) were males. Participant's ages ranged from 21-47years, the mean age was 30years, median was 28years and the modal age was 24years. The qualifications of participants were categorised into lower qualifications; diploma, advanced diploma and higher qualifications; first degree and

second degree, creating a dichotomous set to enhance data analysis. 42.6% (n = 20) had lower qualifications and 57.4% (n = 27) had higher qualifications. 23.4% (n = 11) were rotation nurses,

The pre-test question on whether nurses planned together to make decision before, during and after handing over mean was M = 3.6410 (n = 39, SD = 0.17420). The post-test after the implementation of the SBAR had a mean of M = 3.6410 (n = 39, SD = 0.16217). The repeated measures t-test found this difference to be insignificant, t(38) = 0.000, p > 0.05. This suggest that the use of the SBAR did not have influence on nurses planning together to make decision about patient care before, during and after handing over.

The pre-test question on satisfaction with the current way of handing over mean was M = 3.3846 (n = 39, SD = 0.96287). The post-test on satisfaction of the SBAR during handing over had a mean of M = 4.4103 (n = 39, SD = 0.10847). Repeated measures t-test found this difference to be significant, t(38) = -5.325, p < 0.001. There was a significant difference between the two means; the mean for satisfaction with use of the SBAR is higher than the current method. Meaning nurses were more satisfied handing over with the SBAR as compared with the current method of handing over.

The pre-test question on whether nurses felt they received and handed over adequate information to other team members mean was M = 3.4615 (n = 39, SD = 1.04746). The posttest on the same question after the implementation of the SBAR had a mean of M = 4.6667 (n = 39, SD = 0.57735). Repeated measures t-test found this difference to be significant, t(38) = -7.303, p < 0.001. There was a significant difference between the two means; the post-test mean with the SBAR is higher than the pre-test mean. Indicating that, nurses received and handed over adequate information with the use of the SBAR as compared with the current method of handing over.

The pre-test question about, whether the information given during handing over about patients is accurate and concise mean was; $M = 3.5385$ ($n = 39$, $SD = 0.91324$), the post-test on the same question after the use of the SBAR had a mean of $M = 4.5385$ ($n = 39$, $SD = 0.64262$). Repeated measures t-test found this difference to be significant, $t(38) = -5.144$, $p < 0.001$. There was a significant difference between the two means; the post-test mean with the SBAR is higher than the pre-test mean. Indicating that information handed over about patients is considered to be concise and accurate with the use of the SBAR as compared with the current method of handing over.

The pre-test question on nurses' cooperation during handing over mean was; $M = 3.6316$ ($n = 39$, $SD = 1.02459$), the post-test on the same question after the use of the SBAR had a mean of $M = 4.0000$ ($n = 39$, $SD = 0.90045$). Repeated measures t-test found this difference to be significant, $t(37) = -1.771$, $p > 0.05$. There was no significant difference between the two means, indicating that nurses felt the SBAR did not enhance cooperation during handing over.

The pre-test question on whether all nurses concerns about patients' needs are considered mean was; $M = 3.2051$ ($n = 39$, $SD = 1.08044$), the post-test on the same question after the use of the SBAR had a mean of $M = 4.3590$ ($n = 39$, $SD = 0.66835$). Repeated measures t-test found this difference to be significant, $t(37) = -5.424$, $p < 0.001$. There was a significant difference between the two means; the post-test mean with the SBAR was higher than the pre-test mean. Indicating all nurses concerns about patient's need are considered during handing over more than the current method of handing over.

The pre-test question on whether decision making for patients was coordinated among nurses' mean was; $M = 3.4103$ ($n = 39$, $SD = 1.04423$). The post-test after the use of the SBAR had a mean of $M = 4.0513$ ($n = 39$, $SD = 0.82554$). Repeated measures t-test found this difference to be significant, $t(38) = -2.971$, $p < 0.05$. There was a significant difference between

the two means; the post-test mean with the SBAR was higher than the pre-test mean. Indicating that decision making for patients was more coordinated among nurses during handing over using SBAR than the current method of handing over.

The pre-test question on collaboration among nurses and patients occurs during handing over of patients' mean was; $M = 3.6410$ ($n = 39$, $SD = 1.01274$). The post-test after the use of the SBAR had a mean of $M = 3.7436$ ($n = 39$, $SD = 1.09347$) Repeated measures t-test found this difference to be insignificant, $t(38) = -0.448$, $p > 0.05$. There was no significant difference between the two means, indicating nurses felt the SBAR did not promote collaboration among nurses and patients during handing over of patients as compared with the current method of handing over.

The pre-test question on how satisfied nurses were with the way handing over is done for patient's mean was; $M = 3.3590$ ($n = 39$, $SD = 0.14457$). The post-test after the use of the SBAR had a mean of $M = 4.4615$ ($n = 39$, $SD = 0.08882$). Repeated measures t-test found this difference to be significant, $t(38) = -6.153$, $p < 0.001$. There was a significant difference between the two means; the post-test mean with the SBAR was higher than the pre-test mean. Indicating that nurses were more satisfied with the way handing over was done with the SBAR as compared with the current method of handing over.

The pre-test question on how satisfied nurses were with patient's participation during handing over mean was; $M = 3.1795$ ($n = 39$, $SD = 0.107292$). The post-test after the use of the SBAR had a mean of $M = 4.1026$ ($n = 39$, $SD = 0.88243$). Repeated measures t-test found this difference to be significant, $t(38) = -3.815$, $p < 0.001$. There was a significant difference between the two means, the post-test mean with the SBAR was higher than the pre-test mean indicating that nurses were satisfied with patient participation during handing over with SBAR as compared with the current method of handing over.

4.4 Qualitative findings

Participants

The total number of nurses interviewed were 16; 10 females and 6 males who implemented the SBAR tool except one ward in-charge who examined the SBAR tool

critically and was interviewed but did not participate in the quantitative study.

The first and second stage of Lewin 3-step change model, suggest that there should be careful examination of an undesired behavior and allow participants to give feedback respectively. In this study, two main themes emerged and these were; observation of handing over process and obtaining feedback from participants. Five subthemes emerged after observing the current handing over method and documents used during handing over. The subthemes were; verbal handing over, bedside handing over, written handing over and electronic handing over. Feedback was obtained after the nurses used the SBAR and six subthemes were identified and these were: The Perception about the SBAR, comparison of current handing over method with SBAR handing over method, how SBAR helps during handing over, strength of the SBAR, weakness of the SBAR and recommendation of the SBAR tool. Subthemes were identified under the main themes.

The main themes, sub themes and categories are tabulated in table 4.2 below.

Table 4. 2 Main themes, sub themes and categories of current and post SBAR handing Over

Main theme	Sub-theme	Categories
Observation of handing over process	Verbal handing over	
	Bedside handing over	
	Written handing over	
	Electronic handing over	
	Document Analyses	
Obtain feedback from participants	Perception about the SBAR	The SBAR is concise and accurate
		The SBAR is quick and simple
		The tool is well structured/organized
		Effective tool for communication
	Comparison of current handing over	Easier to use and carry than current method
	method with SBAR handing over method	More detailed and vital information is handed over
		SBAR is more helpful and keeps past information
		The SBAR saves time
		Provides a common trend to follow
		SBAR enhances systemic assessment monitoring
	How SBAR helps during handing over	Important information is not skipped
		Organised handing over process
		Summarises handing over information
		Any nurse can handover
	Strength of the SBAR	Very effective tool
	Weakness of the SBAR	Missing needed ward information
		All aspects of patient care are not covered
	Recommendation of the SBAR tool	Provide electronic copy
		The use of SBAR with other documents
		needs more training

4.4.1 Observation of Handing over process

This main theme examined the various handing over methods on the surgical wards. The process, content handed over and documents used during handing over were observed. The nursing handing over process was observed in all the wards by the primary investigator on Sundays, Wednesdays and Fridays during the morning and afternoon shift. Four methods of handing over; verbal, bedside, written and electronic were observed concomitantly during every shift. Handing over in the morning started at 7:30 am, 1:30 pm for afternoon shift and 7:30pm for the evening shift, various ranks of nurses are involved during the handing over, usually the Registered nurses who are the team leaders, nurse assistants and student nurses. Audio-recorded handing over has not been observed or documented as a method of handing over among nurses in Ghana. Structured approach to handing over was not observed among the nurses.

4.4.2 Verbal handing over

This sub-theme describes the verbal handing over process of nurses on the ward. The verbal handing over was observed to occur in two different settings; in a closed room and at the nurses' station. In one of the wards, in the morning, all the nurses including the incoming, outgoing and student nurses gathered in a room near the nurses' station and closed the door. After a word of prayer, the outgoing nurse read the information in the changes book, questions were asked and clarifications made appropriately. On the other three wards, handing over was initiated at the nurses' station, the incoming nurse reads quietly the information on the electronic medical record and asks the outgoing nurse questions for clarifications. After that, the incoming and the outgoing nurses conduct the bedside handing over.

4.4.3 Bedside handing over

This sub-theme describes the handing over process that occur at the bedside of patients. All nurses move from bed to bed handing over the patients. The in-coming nurse assesses the documents at the bedside which include the treatment chart, intake and output chat and the vital signs chart, patient assessment is done where necessary; pressure areas, wounds and patency of intravenous lines are assessed. Information handed over during the bedside handing over is usually from memory. On one of the wards however, the changes book was read from bed to bed and further information given in relation to the patient's condition. Patients barely participated during the bedside handing over process objectively because they were not greeted. However, in one of the wards, during a bedside handing over, a patient was permitted to express concerns about a leaking tap in the bathroom. One of the incoming nurses was observed documenting salient information during the rounds but most of the time information was kept in memory.

4.4.4 Written handing over

This sub-theme describes the documented information used during the handing over process by nurses on the ward. Information needed for handing over were documented in the changes book, the admission and discharge book, bedside documents (vital signs chart, treatment sheets, intake and output chart) and the electronic medical records. The changes book, admission and discharge book and electronic medical records are read usually before the handing over, whereas the bedside documents are assessed at the bedside during the bedside handing over.

4.4.5 Electronic handing over

This sub-theme describes the means by which nurses use electronic medical record to hand over on the ward. All the wards had electronic medical records on tablet computers and desk top computers. The information on the electronic medical record is voluminous for detailed reading and all provided documentations may not be needed for all the patients on the ward. The incoming nurse reads the nurses' notes, checks the vital signs, intake and output chart where applicable and other specific documents relevant to the patient's condition. All the wards are gradually moving towards a paperless system: one of the ward's does not use the changes book, another ward does not use the bedside documents, the other two wards are still combining the paper documents and the electronic medical records.

4.4.6 Document analysis

This sub-theme reviewed all the documents used during the handing over process. The document analysis was done to complement the qualitative findings by providing background information (Bowen, 2009). The content was assessed for relevant information needed to handover. Documents used during handing over were the changes book, the admission and discharge book, bedside documents and the electronic medical records. The changes book is a large note book which contains information about all the patients on the ward. This information includes; the patient's name, rank/title, room number, days of admission, diagnosis and changes made during reviews by doctors, dieticians and physiotherapists. The admission and discharge book is a large note book containing detailed information of newly admitted patients and discharged patients as well as record of the total number of patients, patients that had been transferred out of the ward or into the ward, state of seriously ill patients and death reports. The bedside documents

were the treatment sheets, vital signs chart, intake and output chart, special assessment sheets such as the Glasgow coma scale, hourly temperature chart and routine laboratory investigation sheets. The electronic medical record for the nurses is divided into five categories; general, observation, treatment, documents/management and others. The general folder contains information on triaging, detained patient and discharged for bill. The observation folder contains the vital signs, general observations such as oxygen saturation, height, weight, blood sugar levels, fits chart, neurological flow chart, pain scale, fluid balance sheet, stool chart, vomit chart, and discharge summary. The treatment/management folder contains treatment chart, oxygen administration, feeding chart, blood transfusion chart, warfarin chart, nurses' notes, internal referral list, preoperative check list, incident report and primary referral form. There were no documents in the folder named others'. The electronic documents represented a complete documentation of patient information, while the written information represented fractional patient information that was already on the electronic medical record. All information documented were appropriate per the sheets provided. During the handing over, information handed over by the outgoing nurses verbally was minimal as compared with documented information. The incoming nurses usually read through the electronic record after the handing over process.

4.5 Obtaining feedback from participants

This is the second main theme of the finding, feedback was obtained by conducting interviews face to face and through mobile phone communication after the implementation of the SBAR tool. Five sub-themes emerged from the main theme and these were: Perception of the SBAR, Comparison of current handing over method with SBAR handing over method, How SBAR helps during handing over, Strength of the SBAR and Weakness of the SBAR, and Recommendations of the SBAR tool.

4.5.1 Perception about the SBAR

This sub-theme assessed the participants' understanding of the SBAR tool. Responses regarding perception of the SBAR were coded into four categories. The categories were: the SBAR is concise and accurate, the SBAR is quick and simple, the tool is well structured/organized and the SBAR is an effective tool for communication.

4.5.1.1 The SBAR is concise and accurate

The purpose of structuring handing over communication is to make complex communication brief. A communication tool is considered efficient for use based on the accurate and concise nature. Most of the participants reported that the SBAR tool is concise and accurate.

.....it gives concise, precise, accurate data about the patient ***nurse 1***

The SBAR is accurate, at a glance; you know everything about the patient ***nurse 5***

.....It is good because it gives accurate and concise information about the patient. ***nurse 10***

4.5.1.2 The SBAR is quick and simple

The participants considered the SBAR to be a tool that simplifies the handing over process in a shortest possible time and also the SBAR provides a quick means of assessing patients. Some of the participants stated that the SBAR tool facilitates quick and simple handing over and assessment of patients. This assertion was reiterated by a ward in charge:

The tool is concise and helps quick assessment of patient. ***ward in-charge***

It is OK, it makes handing over organized and simple. ***nurse 3***

Another participant explained that the SBAR tool is quick because without holding the changes book and reading the information in the book, a nurse can still handover. *It is quick, without holding a book, it captures all details needed during handing over*

nurse 1

4.5.1.3 The tool is well structured/organized

Information for handing over is available in the changes book which are usually large, and the electronic medical record which need to be checked before the bedside handing over.
The SBAR however was designed to have all needed information from the electronic medical record and the changes book for each patient on one sheet of paper. Some of the participants considered the SBAR tool to be well structured/organised.

The SBAR is well structured, it makes handing over easier and it helps to deliver all necessary information within the shortest possible time. ***nurse 8***

….The SBAR is well organized too. ***nurse 7***

4.5.1.4 Effective tool for communication

Most participants who used the tool were of the opinion that the SBAR tool is an effective tool for communicating specific patient information to the incoming nurses. Other participants

said the tool is effective because it covers almost all patient information and also because it is flexible and vivid:

I think it is going to be an effective tool for communication because the specific care of the patient is handed over. ***nurse 7***

It is very effective and easier to use ***nurse 15***

It is very effective because it gives accurate information about the patient ***nurse 10***

I think the tool is effective; it covers almost all information about the patient ***nurse 14***

The SBAR tool is flexible and gives vivid information about the patient ***nurse 11***

4.5.2 Comparison of current handing over method with SBAR handing over method

This sub-theme enabled the participants to express the differences observed between the current method of handing over and handing over with the SBAR. Eight categories were developed under this main theme including: easier to use and carry than the current method, More detailed and vital information is handed over, SBAR is more helpful and keeps past information, the SBAR saves time, SBAR covers all aspect of patient care than the current method, SBAR provides a common trend to follow, SBAR enhances systemic assessment and monitoring and SBAR helps draft care plan.

4.5.2.1 Easier to use and carry than current method

Most participants considered the SBAR tool to be easier to use in several ways. Some participants stated that the tool was easier to understand and implement.

It is very effective and easier to use ***nurse 15*** *When I used it, it was easy for me because I understood the details and I was able to handover with it.* ***nurse 4***

Other participants observed that the SBAR tool makes the handing over process easier because all information needed regarding patient care is available on a sheet of paper and a nurse does not have to read and recheck information on the electronic medical record or the changes book as stated by nurse 9.

> *It makes the handing over easier and fast because all the needed information is available on a sheet of paper without making reference to the electronic medical record and the changes book.* ***nurse 9***

Some participants also said the SBAR tool is easier to carry along, compared with the large and heavy changes book.

> *…The SBAR tool is easy to carry along compared to the changes book* ***nurse 7***
>
> *….It is also easy to carry than the book.* ***nurse 13***

Other participants said that the SBAR tool facilitated easy assessment of patient response to care as stated by nurse 15.

> *With the use of SBAR communication tool, it is easier to assess the response of the patient*
>
> ***nurse 1***

4.5.2.2 More detailed and vital information is handed over

Most participants compared information handed over in the changes book and the verbal information provided at the bedside to the information provided on the SBAR and majority of participants reported that with the use of the SBAR, the information handed over about each patient is more detailed.

> *… It gives detailed information in a short time and gives adequate information about what is to be done for the patient. It helps you to know the history too.* ***nurse 12***
>
> *There is a big difference; with the SBAR you know everything about the patient but*

with the normal handing over does not go into details. ***nurse 6***

The SBAR is more detailed than the method being used ***nurse 11***

The information handed over with the use of the SBAR was observed to be patient centered as some of the participants stated that the tool enabled them to handover vital information about patients.

The SBAR helps you hand over vital information ***nurse 3***

Some of the participants said that the information handed over with the use of the SBAR was straight on point and also enhances the use of professional jargonized language as mentioned by nurse 4.

The SBAR help us to go straight to the point, gives us vital information about the patient rather than beating around the bush, it makes us use our nursing jargons in handing over, the other method, we say some things. ***nurse 4***

4.5.2.3 SBAR is more helpful and keeps past information

This subtheme sought to find out from participants if the SBAR is more helpful and whether past information about the patients are kept for future reference. Some of the participants considered the SBAR to be more helpful than the usual means of handing over because detailed information about patients are handed over in a short time and also the SBAR keeps past information about patients that are handed over.

There is a huge difference, the SBAR is more helpful than the usual method because it gives detailed information in a short time and gives adequate information about what is to be done for the patient. It helps you to know the history too. ***nurse 12***

Vast difference, it helps you to remember any past information about the patient.

nurse 9

The SBAR helps a lot, because after handing over, the information is there for the next person to use ***nurse 13***

4.5.2.4 The SBAR saves time

Nurses have to recheck information in the electronic medical record after bedside handing over to confirm certain information handed over and the act of rechecking is considered to be time consuming. However, some of the participants indicated that the SBAR tool saves time because all the needed information which has to be rechecked are already available on the SBAR as stated by nurse 1 below:

…… also it saves time basically because you may handover and forget some details that you have to recheck on the computer, so it saves me time. ***nurse 1***

I think the SBAR saves time because it summarizes the diagnosis, laboratory investigations, medications and the care of patient. ***nurse 13***

4.5.2.5 SBAR covers all aspects of patient care (comprehensive) than the current method

It is believed that the SBAR covers all aspects of patient care than the current method. This was clear in responses from participants of this study. Some participants indicated that the SBAR tool covers all aspects of patient care.

A lot of differences because with this method it is giving you specific areas, you are looking at the patient systematically, you look at all aspects of the care, for orthopaedics we deal with the threes A's; analgesics, antibiotics and anticoagulants which have been captured in the tool. ***nurse 2***

….. it is very comprehensive because anybody can handover... ***nurse 7***

4.5.2.6 SBAR provides a common trend to follow

According to participants, the verbal handing over does not follow a common trend, because there are variations in the way each nurse communicates during the handing over process. According to nurse 1, the SBAR creates a common trend for all nurses to follow when handing over.

The SBAR is easier and it gives a common trend to follow because you realize that at handing over everybody does his/her stuff. ***nurse 1***

4.5.2.7 SBAR enhances systemic assessment and monitoring

Another category that emerged under the sub theme of ―Comparison of current handing over method with SBAR handing over method was that SBAR enhances systemic assessment and monitoring. Many of the participants were of the opinion that, the SBAR enhanced systemic assessment and monitoring. Certain necessary assessment which need to be noted such as the post-operative haemoglobin (Hb) level and prophylaxis against Deep Vein Thrombosis (DVT) are omitted with the usual way of handing over according to nurse 2 and nurse 12.

It's OK, especially the lab areas; people do not pay attention to the labs. The person Hb does not have to drop before you transfuse. I like the surgical site aspect, it allows you to monitor the wound; whether it is getting better or worse and what you have to do. I like the pain aspect too, basically it helps you to really monitor and assess the patient; for instance, if you take prophylaxis; if you get to a patient and he is not on prophylaxis, it helps you to assess. The physical assessment is also important because physiotherapy is usually done after surgery and not before surgery and this lead to a lot of complications on this ward as I have observed

especially of the unaffected part of the body so if the physiotherapist can perform group therapy for all the patients before surgery it will help minimize such complications.

nurse 2

It is good, it is a nice way to assess patient, to monitor their disease condition. ***nurse 12***

4.5.2.8 SBAR helps draft care plan

Nursing care plan provides a guide for nurses to plan and implement care for patients. Care plan document is available on the electronic medical record; however, the document is barely used by the professional nurses. Student nurses are the ones who usually make use of care plans as ward nurses spend time to teach student nurses how to plan care for patients. During one morning observation of the handing over process, a student nurse who was preparing for the licensure examination used the SBAR tool to plan care for a patient without referring to the electronic medical record and she had no knowledge about the SBAR tool before using it. According to Nurse 7, the SBAR helps to draft care plan.

The SBAR will also help by helping you draft your care plan. ***nurse 7***

4.5.3 How SBAR helps during handing over

This sub-theme allowed participants to describe how the SBAR helped with the handing over process. Five categories were developed and were: important information is not skipped, organized handing over process, summarises handing over information, any nurse can handover, and the SBAR facilitates cooperation.

4.5.3.1 Important information is not skipped

Patient information is usually handed over from memory, nurses who have handed over, sometimes return to the ward or call on phone to handover omitted information. At times such

needed information may not be handed over at all. Nurse 3 stated that, with the SBAR, important information is not skipped.

> *You do not skip important things because sometimes after handing over, you have to come back and say this and that.* ***nurse 3***

4.5.3.2 Organised handing over process

Information given during the bedside handing over was usually from memory and there were variations in the way each nurse handed over information. Some of the participants reported that with the use of the SBAR, the handing over process was organized.

It made my handing over organized and my reliever praised me that she liked the way I handed over. ***nurse 4***

*..... It makes handing over organized****……*** ***nurse 3***

4.5.3.3 Summarises handing over information

Some participants reported that the SBAR summarises needed handing over information such as the diagnosis, laboratory investigations, and medications and care to give, on one sheet of paper which the changes book does not provide.

> *I think the SBAR will help because it summarizes the diagnosis, laboratory investigations, medications and the care to give the patient on one sheet of paper. The changes book does not provide all the written information but with the SBAR, all needed information has been summarised, making it preferable.* ***nurse 13***

4.5.3.4 Any nurse can handover

Nurse handing over involves continuous transfer of patient information from one shift to another shift. Any communication tool used to handover information should be consistent and understandable by different nurses. Nurse 7 and nurse 13 said that any nurse can easily handover using the SBAR.

> *It is flexible, it gives accurate information, easy to carry along, it is very comprehensive because anybody who takes this can handover.* ***nurse 7***
>
> *The SBAR helps a lot, because after handing over, the information is there for the next person to use* ***nurse 13***

4.5.3.5 The SBAR facilitates co-operation

Handing over provides a means for communicating between the nurses, patients and family members. According to nurse 7, the SBAR facilitates cooperation between nurses, family and patients

> *It helps with co-operation between the nurse, patient and family within the shortest possible time.* ***nurse 8***

4.5.4 Strength of the SBAR

This sub-theme permitted the participants to express the strengths of the SBAR tool. One category emerged as participants described the SBAR as a very effective tol for handing over. Most of the participants said that they had already spoken about the strength of the SBAR tool and others repeated what they had already said regarding the perception of the tool.

> *I have said it already* ***nurse 1, 2, 3, 5, 6, 7, 8, 14***

It is very effective in handing over. ***nurse 4, 10***

The information is helpful ***nurse 9***

It is accurate ***nurse 10***

It helps you to know what should be done for the patient ***nurse 11***

4.5.5 Weakness of the SBAR

This sub-theme allowed participants to express the weakness about the SBAR tool. Three categories were developed from the weakness of the SBAR and these were: missing needed ward information, all aspects of patient care are not covered and it takes time to hand over.

4.5.5.1 Missing needed ward information

The SBAR used for handing over by nurses was designed with the ward in-charges who usually do not participate in the bedside handing over process. However, during the bedside handing over, some of the nurses including those who were not within the inclusion criteria identified certain needed information on the ward. On one of the wards, while one of the participants used the SBAR to handover among 15 nurses, a health care assistant mentioned an important observation; head, ear, eye, nose and throat (HEENT) assessment which was very important to that ward but not provided on the SBAR tool. All the other nurses, including the research participants agreed with her. Other nurses also took time to redesign the tool to suite their wards and the hospital. Some participants after using the SBAR tool identified certain needed information that were necessary but were not seen on the tool.

The absence of eye opening assessment ***nurse 5 and 7***

Date of admission, date dressing was changed especially for the orthopaedic wards ***nurse 4***

4.5.5.2 All aspects of patient care are not covered

Participants stated that the SBAR does not cover all aspects of patient care. According to the participants, the tool mainly focused on the physiological aspect of patient care and not on other aspects such as the socioeconomic, psychological assessment and patient complaints which are important in the holistic care of a patient.

The SBAR covers the physiologic aspect of the patient but does not cover other aspects like the socioeconomic and patient complaints. ***nurse 14***

.....it does not have psychological assessment from the patient..... ***nurse 7***

Patient participation is essential especially during bedside handing over where the patient is allowed to express health concerns and concerns about health care services. ***nurse 7*** observed that patient participation in the SBAR handing over process is poor.

.... and also there is poor patient participation. The SBAR does not allow patients participate during the handing over process at least a column should be created so that the patient comments regarding health progress and services can be captured and that is very important. ***nurse 7***

Nurses take record of patient responses to interventions carried out on identified problems. However, nurse 3 stated that the SBAR tool did not evaluate the care given to the patient

The SBAR does not cover all aspect of patient care, example "patient is not eating well"; that is absence of evaluation of care. ***nurse 3***

4.5.5.3 Takes time to handover

Some participants felt that the SBAR takes time to handover because detailed information has to be given for one particular patient at a time before moving to the next patient.

It takes time to handover, looking at it; you spend more time giving detailed information about one patient condition before moving to the next patient. We have a large number of patients; we can use the tool at the critical area..... ***nurse 4***

4.5.6 Recommendations of the SBAR tool

This sub-theme created opportunity for participants to make recommendations about the use of the SBAR. Three categories emerged and these were: Provide electronic copy, the use of SBAR with other documents, more training of nurses on the use of SBAR.

4.5.6.1 Provide electronic copy

The hospital is gradually moving towards a paperless system; some participants were concerned about the use of the SBAR on a sheet of paper, even though the paper is easy to carry along. Having an electronic copy has been recommended by many of the participants including the ward in-charge as stated below:

The hospital management should fix this into the records so it can be permanent for use since we are going paperless. ***Ward in-charge***

Nurse 7 and nurse 13 said electronic copy of the SBAR should be provided because the sheet of paper could get wet or missing.

……we should have it on the system because it is a paper that may not be found or water may fall on it and that's the end…… ***nurse 7***

If the paper gets missing it may be difficult so it should be on the electronic system to save the information. ***nurse 13***

4.5.6.2 The use of SBAR with other documents

Other participants felt the SBAR tool should be used along with other documents especially the bedside documents such as the treatment sheet to make up for the missing needed patient information.

> *It does not give details of medication, whether it has been given or not. It should be used in collaboration with the treatment sheet because that is the only thing that has been left out* ***nurse 1***

4.5.6.3 More training of nurses on the use of SBAR

According to one of the participant, the use of the SBAR in the hospital requires more training especially when an electronic copy is provided as stated by nurse

We need more training in the use of the tool. It should be included electronically so everybody can be educated ***nurse 8***

CHAPTER FIVE

5.0 DISCUSSION

5.1 Introduction

This chapter presents the discussion of the findings of the study. The purpose of this study is to assess the handing over practices, implement and assess the use of SBAR communication tool among nurses in Ghana. A sequential mixed method of quantitative and qualitative approach was used to collect data. The quantitative data was collected first, using pre-test and post-test questionnaires and the qualitative data was collected using observations, structured interviews and document analysis. Data collected was analysed and the findings discussed in this chapter in relation to relevant researches. The chapter proceeded by first and foremost discussing the sociodemographic data of the participants, followed by the discussions of the findings in relation to the objectives of the study.

5.2 Demographic findings of quantitative data

Out of 100% (39) nurses, 61.5% (n =24) of nurses were females and 38.5% (n = 15) were males. Although nursing is historically dominated by females, a recent study has shown a steady increase in the number of male nurses in Ghana (Lievens et al., 2011), as well as other nations (Popper-Giveon, Keshet, & Liberman, 2015). The relatively high number of male nurses in this study can also be attributed to the research setting; Military Hospital, where male nurses are many as compared with Non-Military hospitals in the country (Asamani, Naab, & Ofei, 2016). Nurses' ages ranged from 21-47years, the minimum age of 21years is due to the recruitment of rotation nurses and the maximum age of 47years is as a result of senior nurses participating in the study. 23.4% (n = 11) of nurses were rotation nurses, 40.4%

(n = 19) were staff nurses and 36.2% (n = 17) were nursing officers. 42.6% (n = 20) had lower qualifications and 57.4% (n = 27) had higher qualifications indicating that majority of the nurses, both rotation and staff nurses had a first degree. This finding is a result of the mandate made in 2007 by MoH to increase the number of trained health workers at all levels in the country (Bell, Rominski, Bam, Donkor, & Lori, 2013). This lead to a flexible admission policy of the degree programme which allowed students to be admitted from secondary school programs, nursing certificate or diploma, or other recognition of prior learning (Bell et al., 2013). This policy gave more practicing nurses the opportunity to upgrade themselves to the first degree level.

5.3 Handing over practices among nurses in Ghana

The present study examined the handing over practices among nurses in Ghana and four methods of handing over: verbal handing over, bedside handing over, written handing over and electronic handing over were observed concomitantly during every shift. Audio-recorded handing over has not been observed or documented as a method of handing over among nurses in Ghana. The implementation of four methods of handing over during each shift is considered a high standard of handing over practice which can minimise errors associated with handing over, compared with just one method, if done appropriately. Since information omitted during one method can be covered in the next method of handing over. This is consistent with a study which found that, even though the nursing handing is prone to errors, it also provides the opportunity to identify and correct errors (Drach‐Zahavy & Hadid, 2015).

The verbal handing over was done before, during and after the handing over process and was observed to be initiated in two different settings: (1) In a closed room where the outgoing nurse read the information in the changes book or the admission and discharge book and (2) At the nurses' station where the outgoing nurse read the electronic medical record quietly.

The choice of the location and the practice of reading quietly is to promote confidentiality of patient information. According to previous research findings, the verbal handing over should be the minimum required to safely take over from the previous shift (Cowan et al., 2018). Another research supported the location of the verbal handing over, by stating that, handing over is conducted away from patients' bedside to reduce interruptions, maintain confidentiality of patient information and prevent handing over inaccurate information (Roslan & Lim, 2017). The face to face interaction between the outgoing and incoming nurse provide an opportunity for clarifications to be made to questions asked by incoming nurses. This has been confirmed in previous research that the verbal handing over promotes a two-way communication between the outgoing and incoming nurses and between the nurses and patients (Randell et al., 2011).

The bedside handing over has been practiced in Ghana for long and was observed as part of this study. This handing over involves the incoming and outgoing nurses moving from bed to bed to hand over each patient. During the process, the incoming nurses assess the patients, the bedside documents, conduct safety scan and obtain verbal report from the outgoing nurses. This is practiced as a routine in all the hospitals throughout the country. Because the bedside handing over is taught in practical nursing in nursing and midwifery training institutions. Although the bedside handing over is a common practice in many nations (Smeulers & Vermeulen, 2016), it is interesting to note that some nations are yet to familiarise with the process. In Australia, bedside handing over is progressively being implemented to improve patient safety (Johnson & Cowin, 2013). The process is sometimes met with resistance to change as some nurses who were used to the verbal handing over said they were not comfortable with the approach because of frequent interruptions (Johnson &

Cowin, 2013).

Physical assessment of patients is one benefit of the bedside handing over and is reflected in the Ghanaian practice that -make sure you receive a live patient. Indeed, without assessing

the patients during handing over, a patient may pass on without the incoming nurse knowing, and also, a patient may deteriorate unknowingly and the change may not be reflected in the outgoing nurses' report, therefore, the state of the patient when taking up is important. This is confirmed in a study that, changes in patient's condition can be quickly identified during bedside handing over (Novak & Fairchild, 2012). Physical assessment is also done to confirm verbal report and to equip the incoming nurses with knowledge in order to prioritise the care of the patients during the shift. The component of physical assessment includes; general appearance, state of wound where applicable, state of the implant where applicable, pressure ulcers and specific assessment related to the patient's condition. Bedside handing over also allows for assessment of the bedside documents which include the treatment chart, intake and output chart, the vital signs chart and other charts related to patient's condition such as the Glasgow coma scale, the blood sugar chart and specific routine laboratory examinations. These pieces of information are documented on the electronic medical record but are also available at the bedside for quick observation, especially where frequent assessment is required.

Previous studies have found that bedside handing over promotes patient participation (Roslan & Lim, 2017; Tobiano et al., 2013). However, in this study, patient participation during bedside handing over was barely encouraged. This is because the patients were not greeted by the incoming nurses. Throughout the period of observation of this current study, an incoming nurse greeted patients only once. The nurse greeted the patients on entering the ward and the greeting was received with a loud chorus response from all patients present. Greetings are very important in Ghanaian culture. There are rules to greetings, such as, where to start from, what to say, how to say it, which hand to use, the tone of voice to use when greeting, posture to assume when greeting and sometimes the duration. A study conducted to assess the perception of politeness among Ghanaians above 50 years in three regions in the country, identified greetings as the first communicative behaviour (Thompson & Anderson, 2019). According to

previous research, the participation of patient in the handing over process is influenced by patient capabilities, patient indecisiveness to participate in the handing over process and the attitude of nurses; noticeably, when nurses appeared busy, patient participation is difficult to achieve (Tobiano, Marshall, Bucknall, & Chaboyer, 2015). In this case, nurses' inability to greet patients.

Similarly, poor patient participation during bedside handing over was identified in a research conducted in Singapore where the nurses were more concerned about confidentiality of patients' information and the fact that some patients were not interested in listening to other patients' information (Roslan & Lim, 2017). In Ghana, however, the issue of confidentiality is addressed properly, as sensitive information is handed over behind closed doors or under tone at the nurses' station. Patients should be allowed to express themselves during handing over. Another study found that patient felt respected and recognised when nurses involved them in the handing over process (Tobiano et al., 2013).

Family participation is not encouraged during the handing over process, but rather after the process, to maintain individuality of care. Before the bedside handing over, visitors are usually asked to wait in the waiting area where information related to patient care is communicated to family members after handing over. Other researchers indicate that family members should be allowed to participate in the handing over process, so that family members can access information regarding patient care while visiting. Also, family members can support patient care by giving pertinent information to nursing staff, and this promotes family-centered care (Tobiano et al., 2013).

The written and electronic handing over methods complement the verbal and bedside handing over. The written and electronic information are used to initiate and end the handing over process. In this regard, incoming nurses confirm verbal information by reading quietly or

discussing patient information with the outgoing nurses. Other researchers support the view that written and electronic methods should be used to complement the verbal handing over since the verbal handing over is considered to be incomplete, as compared with information available on the patient record (Drach‐Zahavy & Hadid, 2015). Also, the written and electronic handing over allows nurses to only read documentation, but does not provide the opportunity for asking further questions or seeking clarification (Bakon et al., 2017). Therefore, others have suggested that verbal handing over should be supported with written documentation to provide detailed patient information (Johnson, Jefferies, & Nicholls, 2012b). The electronic data are usually printed out and used during handing over and also as reference during the shift (Manser & Foster, 2011). However, nurses in Ghana do not use printed handing over documents or use any format during handing over. Patient information is given and received from memory. On one shift, an incoming nurse was observed noting patient information on a piece of paper during the handing over to serve as reference during

the shift.

5.4 Perception of nurses on the use of structured communication

The quantitative findings indicate that structured approach to handing over is an uncommon practice in the study setting as majority 78.7% of the nurses are not familiar with structured communication tools. Minority 21.3% of nurses said they have seen similar tools used in other hospitals or at workshops they attended in other places. All the participants have never heard or used the SBAR communication tool. Qualitative results revealed that the participants described the SBAR tool as concise, accurate, quick, simple, well-structured and an effective tool for communication. This qualitative finding relates with the quantitative finding which showed that participants were satisfied with the concise and accurate information given with the SBAR as compared with the current method of handing over. These descriptions

are consistent with other studies that used the SBAR. Pope (2008), for instance, described the SBAR tool as concise, easy to use and as a clear consistent means of communication. Similarly, in another research, nurses described the SBAR communication tool as organized, simple, highly efficient, followed a logical sequence and improved communication (Nagammal et al., 2016).

5.5 Acceptability and feasibility of implementing SBAR among nurses

The quantitative findings revealed that majority 74.5% of nurses recommended the use of the SBAR tool in the hospital and the minority 25.5% did not comment on the question. The qualitative analysis evaluated the acceptability and feasibility of the SBAR by nurses expressing differences between the current method of handing over and handing over with the SBAR. Majority of participants interviewed found the SBAR easier to use than the current method in several ways. Firstly, the tool was considered easy to understand and the information easy to communicate without making reference to information on the electronic medical record and changes book. Secondly, the SBAR sheet was said to be easy to carry along, as compared with the changes book, which is often very large and heavy. Thirdly, some nurses said the SBAR tool facilitated easy assessment of patient response to care. Similarly, in other studies, nurses found the SBAR tool useful, easy to use, read and easy to differentiate important information (Fabila et al., 2016).

Participants expressed their opinions about the content of the SBAR tool. The quantitative analysis revealed that with the SBAR, nurses provide and receive adequate information from other nurses during handing over than the current method. The qualitative finding also reveals that, most participants confirmed that with the SBAR, more detailed information is handed over in a short time as compared with the information in the changes book and the verbal report which is given from memory. Participants also said with the SBAR, vital patient information

was handed over. According to the participant, the information handed over with the SBAR is straight on point, and enhanced the use of professional language. Participants who were interviewed felt that the SBAR covers all aspect of patient care than the current method by assessing all the systems of the patient. This is in line with a study which suggests that the introduction of a structured handing over tool like SBAR enable nurses to capture all relevant patient information (Achrekar et al., 2016). Similarly, in a post-intervention phase of a research, nurses found that the SBAR handing over tool was important, relevant and contained sufficient information for patient care (Fabila et al., 2016). Participants interviewed reported that the SBAR enhances systemic assessment and monitoring. Systemic assessment of patients was not part of the electronic medical record or the written documents and obviously not a frequent practice among nurses in Ghana. Nurses usually obtain systemic assessment report from the surgeons. During the training phase of this study, nurses were taught basic systemic assessment skills. The SBAR helps to draft care plan and was practically demonstrated by a student nurse.

Participants explained that the tool was more helpful than the current method because the SBAR keeps past patient information which could be used as reference during the shift. The above is particularly encouraging, although, the SBAR is a tool used to improve handing over communication and not a standard document or form (Compton et al., 2012). Other participants interviewed said the SBAR saves time because all the needed information which has to be rechecked on the electronic medical record is already available on the sheet of paper. Additionally, a participant said the SBAR provides a common trend to follow. This is in agreement with a study which found that the information passed through SBAR was easy to follow (Nagammal et al., 2016).

Nurses made three recommendations in the study: (1) Most participants said the hospital should provide electronic copy of the SBAR since the hospital was moving towards a paperless

system. In consistency with other studies, integrating SBAR with the electronic medical record provided a complete documentation of patient information (Panesar et al., 2016). The time-consuming nature of the SBAR which is an identified weakness can be solved with the provision of electronic copies as mentioned by a nurse and confirmed by a research that the introduction of electronic handing over tools reduced time spent writing notes and handing over (Balka et al., 2013). However, some researchers are of the opinion that technology should not replace verbal handing over (Randell et al., 2011). Because with the verbal handing over, healthcare professionals are capable of doing much more than technology, such as, the ability to identify pertinent information and provide more information and explanation when required (Randell et al., 2011). Other researchers are of the opinion that the use of sheets should be maintained during handing over because the sheets contained relevant information that facilitated quick access without having to refer to the electronic medical record (Cowan et al., 2018). (2) A participant said the SBAR should be used with other documents such as the treatment sheet to make up for missing information and (3) Another participant indicated that nurses need more training on the use of the SBAR tool.

5.6 Satisfaction with the SBAR among nurses as a handing over tool

The research findings show that the participants were satisfied with handing over using the SBAR, compared with, the existing traditional means of handing over. This report resonates with many research findings that support the fact that SBAR improves communication among nurses and other health care professionals. In one study, the SBAR communication tool was identified to improve not only communication among health professionals, but all communication (Narayan, 2013). A research conducted using SBAR during handing over reported improved communication among Nurse practitioners and Registered nurses (Martin & Ciurzynski, 2015). To corroborate this finding, another study recorded improved

communication with the SBAR during face-to-face handing over among nurses (Fabila et al., 2016). The quantitative finding showed that nurses are satisfied with the way patients are handed over with the SBAR than the current method. Qualitatively, the SBAR tool is considered as an effective tool that improved handing over as nurses described how the SBAR helped with the handing over process in five sub themes. Firstly, participants said with the SBAR, important information is not skipped. Other participants stated that the SBAR organized the handing over process; another participant reported that the SBAR summarizes handing over information. Some participants also said any nurse can hand over with the SBAR and a participant stated that the tool facilitates cooperation. This finding is confirmed by a study that reported that structured communication tools have the potential to organize handing over report, reduce omissions of content and minimize the time spent handing over (Welsh et al., 2010).

5.7 Nurses concern with the SBAR

Nurses in this study raised concerns about the SBAR. Nurses who were interviewed expressed the weakness of the SBAR tool in three sub-themes. Firstly, some participants said the SBAR tool was missing needed ward information. The missing information identified was unique to each ward and not applicable to other wards. This according to previous study is because, the handing over process is influenced by cultural and environmental factors (Smeulers & Vermeulen, 2016). The variations in ward content can be resolved by each ward identifying their own pertinent information (Welsh et al., 2010).

The SBAR initially was designed to handover salient information of critically ill patients who needed urgent medical care. The tool was used to communicate with the rapid response team', for urgent care of patients outside the intensive care unit, hence the tool did not include patient participation (Achrekar et al., 2016). In this study, some participants observed that there

was poor patient participation with the use of the SBAR. Similarly, in a study by Achrekar (2016), after using the SBAR, more than half of the nurses raised concern about poor patient participation. The nurses said that, patient involvement in the plan of care is necessary. In this study, the use of the SBAR and the current method of handing over did not entirely support patient participation, even though; patient participation with the SBAR has been proved to be better than the current method of handing over.

The participants who were interviewed also raised concern that the SBAR tool focused more on physiological assessment than other aspects of patient's care. Few participants observed that the SBAR tool does not cover all aspects of patient care, such as the psychological and socioeconomic status of the patient. These assessments were essential to nurses on the surgical wards because they are required in the pre-operative preparation of the patient. Other participants said that there was absence of evaluation of care such as reporting on the response of patients to treatment and care. According to another participant, it took time to hand over with the SBAR because detailed information has to be given for one particular patient at a time before moving to the next patient. This was consistent with a previous finding that, SBAR tool itselfis time-consuming (Achrekar et al., 2016).

In view of these concerns raised, the SBAR tool used in this study for nursing handing over was redesigned to suit each ward by including all needed items identified by nurses, instead of one SBAR design for all four wards (Appendix C). Redesigning of the SBAR tool was also done in another study where the SBAR tool was reformatted to clear up ambiguity and carry adequate information (Fabila et al., 2016).

5.8 Summary

In summary, the SBAR has been proven to be an effective communication tool as participants in this study expressed general satisfaction with the use of the SBAR tool over the traditional method of handing over. The perception of participants about the tool confirms the global voice of nurses regarding the SBAR. The tool has also been proved to be acceptable and feasible.

CHAPTER SIX

6.0 SUMMARY, IMPLICATIONS, LIMITATIONS, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

In this chapter, a summary of the research conducted has been outlined and conclusions drawn. The implications for nursing practice, policy and research based on the findings of this study are also presented in this chapter. Limitations encountered during the study and suggested recommendations are outlined.

6.2 Summary

Handing over communication among nurses has been found to be prone to errors leading to harm of patients. The use of structured communication tools like the SBAR has been proved to be an effective means of improving handing over communication and consequently improve patient safety. However, the use of structured communication tools is not a common practice among Ghanaian nurses. This study seeks to observe the handing over practices, implement and assess the use of SBAR communication tool at the 37 Military Hospital. The study utilized a sequential explanatory mixed-method design. Lewin's 3-step model was adopted as the theoretical framework for this study. The quantitative data was analysed using repeated measures t-test and the qualitative data was analysed using thematic content analysis. The findings showed that nurses were satisfied with the use of the SBAR during handing over.

6.3 Implications for Nursing Practice, Nursing Research, Nursing education and Policy formulation

The findings of this study is relevant to clinical nursing practice, empirical knowledge improved nursing policy, management, education and future research studies.

6.3.1 Nursing Practice

The successful use of the SBAR and positive response by the nurse participants is an indication that structured communication tools can be embraced by Ghanaian nurses. Nurse' protocols regarding handing over can be reviewed to include structured communication. The managers and ward in-charges at the hospital facility and wards where this study was conducted can provide the necessary support to implement, assess and evaluate the SBAR tool in the hospital and if possible, provide electronic copies.

6.3.2 Nursing Research

This study finding suggest that further studies be conducted to follow up on Refreezing the status quo which include the acceptance and successful implementation of the SBAR communication tool at the 37 Military Hospital. Since the Nurses and Midwifery Council, Ghana is instrumental in influencing nurses through training; research can also be done to assess student nurses' perception and acceptance of structured communication tools.

6.3.3 Nursing education

The study found that nurses were not familiar with the use of structured communication tools during handing over. The handing over practice observed is what is being taught in the Nursing and midwifery institutions. This means that the Nursing and Midwifery Council of

Ghana has a great influence on nursing practice and therefore, include structured communication in the nursing curriculum. Patient assessment skills among nurses were not practiced frequently in this study, even though such skills are taught in the nursing and midwifery schools. Nurses should be encouraged to put theory to practice to improve quality of patient care.

6.3.4 Policy formulation

The finding of this study showed that structured communication is uncommon among nurses in Ghana and this signal the need for improved patient safety policy. Institutions for healthcare such as the Ghana health service and ministry of health in Ghana should consider including structured communication as part of patient safety policy.

6.4 Limitations of the study

This study was conducted in one of the largest healthcare facilities and findings may not be an exact representation of the use of structured communication across Ghana.

6.5 Conclusion

The handing over practice among nurses at the 37 Military Hospital was observed in this study. Four methods; verbal handing over, bedside handing over, written handing over and electronic handing over is used concomitantly during each shift. Structured handing over was not observed as part of the handing over practice in the research setting. After implementing the SBAR, participants described the SBAR tool as concise, accurate, quick, simple, well-structured and an effective tool for communication. The feasibility and acceptability of the SBAR was determined quantitatively by participants' recommending the tool for use in the hospital and qualitatively by nurses differentiating between the traditional method of handing over and handing over with the SBAR. Majority of the nurses (74.5%) recommended the use of SBAR in the hospital because the SBAR is easier to use, contains detailed and vital

information, enhances systemic assessment and is more helpful than the current method of handing over. This shows that the SBAR tool is acceptable by participants and feasible as well. Nurses expressed satisfaction with the way patients are handed over with the SBAR than the current method as nurses stated that, important information is not skipped, the SBAR organized the handing over process, the SBAR summarizes handing over information and any nurse can hand over with the SBAR. The SBAR tool is generally accepted and feasible as nurses described the tool favourable and expressed satisfaction with the use of the tool.

6.6 Recommendations

Based on these research findings, the following recommendations are made to nurses, nurse managers, 37 Military Hospital, Ghana Health Service and Nursing and Midwifery Council of Ghana.

- This study recommends that nurses on the ward embrace the use of structured communication as measure to improve handing over practice.
- Nurse Managers can also ensure that electronic SBAR copies are provided to meet up with the hospital's standard.
- It is also recommended that 37 Military Hospital considers adopting the SBAR as a tool to improve communication in all departments.
- Ghana Health Service should revise patient safety policy to include structured communication
- Nursing and Midwifery Council (NMC) of Ghana should consider adding structured handing over in nursing education.

6.7 Avenue for Future research

1. Patient participation in nursing handing over process
2. Nursing assessment of patients among practicing nurses
3. The use of SBAR among nurses and Doctors in Ghana
4. Ghanaian culture and response to nursing care
5. The perception of student nurses about the SBAR communication tool

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APPENDIX A: RESEARCH QUESTIONNAIRE

UNIVERSITY OF GHANA, SCHOOL OF NURSING AND MIDWIFERY

RESEARCH QUESTIONNAIRE FOR NURSES

Dear Respondent,

This questionnaire is in respect of a research being carried out on — '**Improving hanging over practices among nurses using a structured communication tool (SBAR)'**. Please be assured that your responses will be kept in strict confidence and will not be disclosed to anyone. You also reserve the right to withdraw from the study but your participation is much valued and appreciated. Please fill out this questionnaire appropriately. Thank you.

SECTION A- DEMOGRAPHIC CHARACTERISTICS OF THE NURSE

(Please indicate by writing or ticking (√) what applies to you)

1. Age: ……..
2. Gender: Male [ ] Female [ ]
3. Rank:

Rotation Nurse [ ]

Staff Nurse [ ]

Senior staff nurse [ ]

Nursing Officer [ ]

Senior Nursing Officer [ ]

Principal Nursing Officer [ ] Deputy

Director of Nursing Services [ ]

4. Basic Qualifications [Please, tick only ONE]:

   Certificate [ ]

   Diploma [ ]

   Advanced Diploma [ ]

   First Degree [ ]

   Masters [ ]

Others (specify)----------

5. Kindly specify country where you trained as a nurse----------

SECTION B- QUESTIONS ON HANDING OVER

6. What handover method is practiced on the ward (tick many as practiced)

   A. Verbal [ ]

   B. Bedside [ ]

   C. Audio taped [ ]

   D. Written [ ]

   E. Electronic [ ]

7. Have you used a structured communication tool during handing over?

   Yes [ ] No [ ]

8. Have you used an SBAR communication tool?

   Yes [ ] No [ ]

   If yes, then please answer question 9

9. How often did you use SBAR tool during the handing over process?

SECTION C-PRETEST QUESTIONNAIRE Collaboration and Satisfaction about Care Decisions (CSACD)

Date: ……..Time:

……

These questions are related to Nurse handing over. Please TICK the number that best represents your judgment about your satisfaction with the handover.

[KEY: 1= Very dissatisfied, 2 = Dissatisfied, 3 = Neither Dissatisfied nor Satisfied, 4 = satisfied, 5 = Very satisfied

NO	QUESTION/STATEMENT	RESPONSE				
		1	2	3	4	5
1	Nurses planned together to make decision about care for patients before, during and after handing over.					
2	How satisfied are you with your current way of communication during handing over?					
3	With the current handing over, you feel that you provide and receive adequate information to other team members.					
4	Information given during handing over about patients is accurate and concise.					
5	Nurses cooperated well during handing over.					
6	During handing over, all nurses‘ concerns about patients need are considered.					
7	Decision-making for patients was coordinated among nurses.					

8	Collaboration among nurses and patients occurs during handing over of patients?					
9	How satisfied are you with the way handing over is done for patients?					
10	How satisfied were you with patient participation during the handing over?					

SECTION C-POSTEST QUESTIONNAIRE Collaboration and Satisfaction about Care Decisions (CSACD)

Date: ……..Time: ……

These questions are related to Nurse handing over. Please TICK the number that best represents your judgment about your satisfaction with the handover.

[KEY: 1= Very dissatisfied, 2 = Dissatisfied, 3 = Neither Dissatisfied nor Satisfied, 4 = satisfied, 5 = Very satisfied

NO	QUESTION/STATEMENT	RESPONSE				
		1	2	3	4	5
1	Nurses planned together to make decision about care for patients before, during and after handing over with SBAR.					
2	How satisfied are you with the SBAR during handing over?					
3	With the SBAR handing over, you feel that you provide and receive adequate information to other team members.					
4	Information given during SBAR handing over about patients is accurate and concise.					
5	Nurses cooperated well during SBAR handing over.					
6	During SBAR handing over, all nurses‘ concerns about patients need are considered.					

7	Decision-making for patients was coordinated among nurses during SBAR handing over.					
8	Collaboration among nurses and patients occurs during SBAR handing over of patients?					
9	How satisfied are you with the way handing over is done for patients with the use of SBAR?					
10	How satisfied are you with patient participation during the SBAR handing over?					

10. Would you want to continue using the SBAR in the Hospital?

Yes [ ] No [ ]

APPENDIX B-INTERVIEW GUIDE

11. What content do you include when handing over?
12. What is your perception of the effectiveness of using SBAR communication tool?
13. How does SBAR tool help you during your handing over?
14. Compared to your previous handing over method, how does SBAR tool affect your practice?
15. Do you feel that you provide/receive adequate information about the patient?
16. What do you think are the strengths of this SBAR tool?
17. What do you think are the weaknesses of this SBAR tool?
18. What are your suggestions to improve the SBAR communication tool?

APPENDIX C- SBAR

37 MILITARY HOSPITAL **SBAR FOR NURSING** **(Allied surgery)**	**Patient name**..... **Folder No**..... **Room No**.....	
SITUATION		
Diagnosis/Surgery: Date of Surgery:	Surgeon:	Wt/Ht
BACKGROUND/ PATIENT HISTORY		
PMH..... Rx..... PSH..... Rx..... Psychosocial	**Isolation:**..... **Allergies:**..... **Comm Barriers**.....	
ASSESSMENT		
POD#..... T P R Bp SPO2	DAILY PLAN/CHANGES/EVALUATION OF CARE	

ISSUES					
NEUROLOGICAL: **Movement** **Sensation**	**RESPIRATION:** **Spiro/DBE**	**CARDIAC:** **TRANSFUSION:**	**GIT** **BM**	**GU** **Catheter:** **Insertion date:**	**SKIN:** **STAGE:** **% of burns**

SURGICAL SITE: Dressing change date: Drainage (amount & colour): Wound vac/chest tube Staples/sutures External fixator/pin care s/s of infection	**PAIN scale:**..... **Oral** ..... **IV**	**LAB VALUES** **Wound culture date:**.....

DVT prophylaxis: Heparin ☐ Clexane ☐ Coumadin ☐ Stockings ☐ Others	**HEENT** Head..... Ear..... Eye..... Nose..... Throat.....	**DIET:** NPO ☐ Fluid ☐ Light ☐ Regular ☐ Special ☐	**IV** Location:..... Date inserted:..... 24hr fluid balance:..... **Central line:** Dressing change date:

PHYSICAL THERAPY: **Bed rest:** ☐ **Dangle:** ☐ **OOB:** ☐ **Chair:** ☐ **AMB:** ☐ **assistive device:** walker: ☐ cane: ☐ other:.....	**RECOMMENDATION:** Call Doctor: ☐ Chase labs: ☐ Continue care: ☐ Discharge education: ☐ Others:.....

37 MILITARY HOSPITAL **SBAR FOR NURSING** **(Neuro surgery)**	**Patient name**..... **Folder No**..... **Room No**.....

SITUATION

Diagnosis/Surgery: Date of Surgery:	Surgeon:	Wt/Ht

BACKGROUND/ PATIENT HISTORY

PMH..... Rx..... PSH..... Rx..... Psychosocial	**Isolation:**..... **Allergies:**..... **Comm Barriers**.....

ASSESSMENT

POD#..... T P R Bp SPO2	DAILY PLAN/CHANGES/EVALUATION OF CARE

ISSUES

NEUROLOGICAL:	**RESPIRATION:**	**CARDIAC:**	**GIT**	**GU**	**SKIN:**
Movement **Sensation**	**Spiro/DBE**	**TRANSFUSION:**	**BM**	**Catheter:** **Insertion date:**	**STAGE:**

SURGICAL SITE:	**PAIN scale:**.....	**LAB VALUES**
Dressing change date: Drainage (amount & colour): Wound vac/chest tube Staples/sutures External fixator/pin care s/s of infection	**Oral** ..... **IV**	**Wound culture date:**.....

DVT prophylaxis:	**HEENT**	**DIET:**	**IV**
Heparin ☐ Clexane ☐ Coumadin ☐ Stockings ☐ Others	Head..... Ear..... Eye..... Nose..... Throat.....	NPO ☐ Fluid ☐ Light ☐ Regular ☐ Special ☐	Location:..... Date inserted:..... 24hr fluid balance:..... **Central line:** Dressing change date:

PHYSICAL THERAPY:		**RECOMMENDATION:**
Bed rest: ☐ **Dangle:** ☐ **OOB:** ☐ **Chair:** ☐ **AMB:** ☐	**assistive device:** walker: ☐ cane: ☐ other:.....	Call Doctor: ☐ Chase labs: ☐ Continue care: ☐ Discharge education: ☐ Others:.....

37 MILITARY HOSPITAL **SBAR FOR NURSING** **(General surgery)**	**Patient name**..... **Folder No**..... **Room No**.....	
SITUATION		
Diagnosis/Surgery: Date of Surgery:	Surgeon:	Wt/Ht
BACKGROUND/ PATIENT HISTORY		
PMH..... Rx..... PSH..... R x..... Psychosocial	**Isolation:**..... **Allergies:**..... **Comm Barriers**.....	
ASSESSMENT		
POD#..... T P R Bp SPO2	DAILY PLAN/CHANGES/CARE EVALUATION	

ISSUES

NEUROLOGICAL:	**RESPIRATION:**	**CARDIAC:**	**GIT**	**GU**	**SKIN:**
Movement **Sensation**	**Spiro/DBE**	**TRANSFUSION:**	**BM**	**Catheter:** **Insertion date:**	**STAGE:**

SURGICAL SITE: Dressing change date: Drainage (amount & colour): Wound vac/chest tube Staples/sutures External fixator/pin care s/s of infection	**PAIN scale:**..... **Oral** ..... **IV**	**LAB VALUES** **Wound culture date:**.....
DVT prophylaxis: Heparin ☐ Clexane ☐ Coumadin ☐ Stockings ☐ Others	**DIET:** NPO ☐ Fluid ☐ Light ☐ Regular ☐ Special ☐	**IV** Location:..... Date inserted:..... 24hr fluid balance:..... **Central line:** Dressing change date:
PHYSICAL THERAPY: **Bed rest:** ☐ **Dangle:** ☐ **OOB:** ☐ **Chair:** ☐ **AMB:** ☐	**assistive device:** walker: ☐ cane: ☐ other:.....	**RECOMMENDATION:** Call Doctor: ☐ Chase labs: ☐ Continue care: ☐ Discharge education: ☐ Others:.....

37 MILITARY HOSPITAL **SBAR FOR NURSING** **(Othopaedic surgery)**	**Patient name**..... **Folder No**..... **Room No**.....

SITUATION

Diagnosis/Surgery: Date of Surgery:	Surgeon:	Wt/Ht

BACKGROUND/ PATIENT HISTORY

PMH..... Rx..... PSH..... Rx..... Psychosocial	**Isolation:**..... **Allergies:**..... **Comm Barriers**.....

ASSESSMENT

POD#..... T P R Bp SPO2	DAILY PLAN/CHANGES/EVALUATION OF CARE

ISSUES

NEUROLOGICAL:	**RESPIRATION:**	**CARDIAC:**	**GIT**	**GU**	**SKIN:**
Movement **Sensation**	**Spiro/DBE**	**TRANSFUSION:**	**BM**	**Catheter:** **Insertion date:**	**STAGE:**

SURGICAL SITE:	**PAIN scale:**.....	**LAB VALUES**
Dressing change date: Drainage (amount & colour): Wound vac/chest tube Staples/sutures External fixator/pin care s/s of infection	**Oral** ..... **IV**	**Wound culture date:**.....

DVT prophylaxis:	**HEENT**	**DIET:**	**IV**
Heparin ☐ Clexane ☐ Coumadin ☐ Stockings ☐ Others	Head..... Ear..... Eye..... Nose..... Throat.....	NPO ☐ Fluid ☐ Light ☐ Regular ☐ Special ☐	Location:..... Date inserted:..... 24hr fluid balance:..... **Central line:** Dressing change date:

PHYSICAL THERAPY:		**RECOMMENDATION:**
Bed rest: ☐ **Dangle:** ☐ **OOB:** ☐ **Chair:** ☐ **AMB:** ☐	**assistive device:** walker: ☐ cane: ☐ other:.....	Call Doctor: ☐ Chase labs: ☐ Continue care: ☐ Discharge education: ☐ Others:.....

APPENDIX D: CONSENT FORM

University of Ghana

Institutional Review Board. 37 Military Hospital, Neghelli Barracks, Accra

CONSENT FORM

BACKGROUND INFORMATION

Title of Study: Improving Nurse-Nurse Communication Using SBAR

Principal Investigator: Joyce Kumah

Address: School of Nursing and Midwifery, University of Ghana, P. O. Box LG43 Legon.

Mobile: 0549146151

CONSENT TO PARTICIPATE IN RESEARCH

General Information about Research

Nursing Handing over communication has become an issue of international concern because it has been identified to be the root cause of adverse events which affect patient safety in healthcare delivery; however the use of structured communication tools such as SBAR (Situation, Background, Assessment, Recommendation) has been proven to have a positive effect on the handover communication process. The objectives of the study are to examine the handing over practices among nurses and determine the feasibility and effectiveness of SBAR as a structured communication tool. The study will be conducted within a period of two months at the surgical wards using a pretest and a post-test approach. If you agree to participate, you will be required to sign the consent form, cooperate with the investigator during handover, implement the SBAR communication tool and answer questionnaires regarding the satisfactory use of the tool within the two months.

Benefits/Risk of the study

Possible benefits include making recommendations to the authorities for the possibility of adopting SBAR on the surgical ward and perhaps other institutions.

Confidentiality

No identifiable information about you will be collected during the study. The data collection measures will be devoid of your name and other identifying information such as staff number. However, each participant will be given special numbers for future reference and identification, and importantly for matching the pretest and post measures. Also, any publication from this study will not include any of your identifying information.

Compensation

There will be no specific compensation for your participation in this study. But the research will be of benefit to the nurses, midwives and patients when the SBAR is adopted and used.

Voluntary participation and Right to leave the Research

Your participation in this study is voluntary and you reserve the right to decide whether to participate or not. You may also withdraw from the study without any penalty. Withdrawing from this study at any time will not adversely affect you personally or your job as a nurse.

Termination of participation by the researcher

Your participation in the study will be terminated if you have not voluntarily signed the consent form. The researcher also reserves the right to terminate your participation in the study for several other reasons such as non-compliance with the study protocols without seeking your consent.

For Additional Information

If you need more clarification about this research or in case of any unforeseen mishap during your participation, you can contact me or my supervisors as follows:

Joyce Kumah (Researcher) C/O School of Nursing, University of Ghana, P. O. Box LG43

Legon Mobile: 0549146151

Email: blossomGH@yahoo.com

Dr. Samuel Adjorlolo (Supervisor), School of Nursing, University of Ghana, Legon.

Mobile: 0204197158

Email: sadjorlolo@ug.edu.gh

This research has been reviewed and approved by the 37 Military Hospital Institutional Review (37MH-IRB). If you have any questions about your rights as a research participant, you can contact the IRB office between the hours of 7:30am-3:00pm through the landline 0302769667 or IRB Office Administrator (Prince Yaw Ashitey-0243004247) or email address:

irb37milhosp@gmail.com

APPENDIX E: COLOUR CODING FRAMEWORK

Participants / **Sub-themes and categories**	P1	P2	P3	P4	P5	P6	P7	P8	P8	P9	P10	P11	P12	P13	P14	P15	P16	Total
Perception of SBAR																		
The SBAR is concise and accurate																		2
The SBAR is simple and quick																		2
The tool is well structured/organized																		2
Effective tool for communication																		5
Comparison of current Handing over method with SBAR handing over method																		
SBAR is easier to use and carry																		7
SBAR has more detailed information																		10
SBAR is more helpful																		1
SBAR saves time																		2
SBAR provides a common trend to follow																		1
SBAR enhances systemic assessment																		5
Helps to draft care plan																		1

How SBAR helps during Handing over																		
Important information are not skipped																		1
Organized handing over process																		3
Summerises handing over information																		2
Any nurse can handover																		2
Facilitate Cooperation																		1
Strength of the SBAR																		
Same as the perception																		14
Weakness of the SBAR																		
Missing needed ward information																		4
All aspects of patient care are not covered																		5
Takes time to handover																		1
Recommendations																		
Provide electronic copy																		6
Use SBAR with other documents																		1
Need more training																		1

APPENDIX F: ETHICAL CLEARANCE

Institutional Review Board
37 Military Hospital
Neghelli Barracks
ACCRA

Tel: 0302 769667
Email:irbmilhosp@gmail.com

04 February 2019

ETHICAL CLEARANCE

37MH-IRB IPN/261 /2018

On 22nd January 2019, the 37 Military Hospital (37MH) Institutional Review Board (IRB) at a Board Meeting reviewed and approved your protocol.

TITLE OF PROTOCOL: Improving Nurse-Nurse Communication using SBAR

PRINCIPAL INVESTIGATOR: Joyce Kumah

Please note that a final review report must be submitted to the Board at the completion of the study.

Please report all serious adverse events related to this study to 37MH-IRB within seven (7) days verbally and fourteen (14) days in writing.

This certificate is valid until 21st January 2020.

DR EDWARD ASUMANU
(37MH-IRB, Vice Chairman)

37 MILITARY HOSPITAL
INSTITUTIONAL REVIEW BOARD
DATE 04-02-19

Cc: Brig Gen MA Yeboah-Agyapong
Commander, 37 Military Hospital

Joyce Kumah

University of Ghana

School of Nursing and Midwifery

P. O. Box LG 3

Legon

37 Military Hospital

Neghelli Barracks

Accra

Dear Sir/Madam,

REQUEST TO CONDUCT A RESEARCH ON THE SURGICAL WARDS

I am a final year MPhil student of the University of Ghana Legon and I wish to inform you of my intention to conduct a research study on the topic 'Improving nurse-nurse communication using SBAR' on all the surgical wards.

The SBAR is a structured communication tool which has been approved by WHO as effective in minimizing communication errors among health care providers. The tool can be used to communicate among health workers and also used for nursing handover. This study will be assessing the feasibility of the tool during nursing handing over.

The SBAR will be designed to suit each ward in collaboration with the ward in-charges, interested participants will be educated on the use of the tool and samples collected.

I hope my request will be granted. Thank you.

Yours' faithfully

Joyce Kumah (0549146151)

ADMIN. OFFICE
SURGICAL DIVISION
37 MILITARY HOSPITAL
ACCRA

Approval has been granted by OIC Surgical Div for the named Student to undertake her studies on the Surgical wards.
This is after she has satisfy all requirements by 37MH-IRB