

**EFFECT OF COACHING ON NURSES' KNOWLEDGE, ATTITUDE AND
PRACTICES REGARDING THE USE OF A STANDARDIZED TOOL DURING
CLINICAL HANDOVER AT A RURAL HOSPITAL IN UGANDA**

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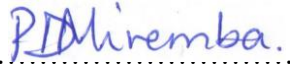
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Declaration

I hereby declare that this dissertation is my original work and has not been submitted or published by anyone for any other degree award in any other University or institution before.

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Dedication

This book is dedicated to my lovely children: Smith, Esther and Hannah for the patience and perseverance they showed during my time of study and away from them. May the Almighty God continue strengthening you all.

Acknowledgement

The completion of this research study and compilation of this book is indebted to a number of people without whom I would not have made it this far. Many contributed financially, socially, psychologically and spiritually.

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Operational Definitions of Key Terms

Attitude. A settled way of thinking, feeling, or behaving towards people, objects, or situations, often reflecting a positive or negative evaluation.

Change of shift. This is when one group of health care professionals arrive for work and another group that was working prepares to leave. It is at this point when the in-coming and out-going nurses meet to discuss information about patients to enhance continuity of care.

Clinical handover. An act or instance of passing on important information about the patient from one nurse to another at the end of the shift. Clinical handover is either written or verbal and always done at bedside.

Coaching. It is a structured, collaborative process designed to unlock a person's potential and achieve specific professional and personal goals.

Kadex System. A paper-based quick reference information system used by nursing staff to manage patients' care, primarily used for exchange of information.

Knowledge. It is the understanding, awareness, or familiarity acquired through experience, education or observation.

Practice. The repeated exercise of an activity to gain proficiency, the application of rules/methods, or the professional work of a nurse.

Sentinel Event. An unexpected occurrence in healthcare setting that results in patient death, permanent harm or severe temporary harm.

Standardized tool - ISBAR. A guiding document that nurses will use to give consistent and important information about a patients' care. The tool includes introduction (I), patients' current situation (S), patients' clinical background (B), system status assessment (A) and necessary recommendations (R).

Abstract

Background. Handover is essential for continuity of care and safety of patients. However, inconsistency practices and lack of standardized approaches often result in communication errors. The ISBAR (Identification, Situation, Background, Assessment and Recommendation) tool provides a structured framework, yet its use remains limited. This study assessed the effect of coaching on nurses' competences and compliance with ISBAR during bedside handover at Kisiizi Hospital, western Uganda.

Method. A one group pre and posttest cross-sectional quasi-experimental design was conducted among 58 nurses using consecutive sampling. Clinical coaching interventions were implemented, focusing on knowledge, attitude and practice of ISBAR. Data were collected through a structured, self-administered questionnaire and analyzed using with SPSS version 22.

Results. Of the 58 participants, 69% were females and 31% were males with 60% holding certificate level qualifications 28% diploma and 12% bachelor's degree. knowledge scores improved markedly with participants demonstrating very good knowledge rising from 39.7% at baseline to 91.4% post-intervention (paired t-test, $p = .001$). Attitude scores also improved significantly (Wilcoxon signed rank test), with mean scores increasing from 2.6, (SD = 0.19) and post-intervention scores 2.7(SD =0.14). Practice scores showed the strongest gains, rising a mean of 3.05 (SD = 0.33) to 3.69 (SD = 0.13) post intervention, ($p = .001$). Compliance with ISBAR increased across all domains, with nurses reporting greater confidence in structured communication, reduced omission and improved clarity during bedside handover.

Conclusion. Coaching interventions significantly enhanced nurses' competences and compliance with ISBAR tool. Real-time coaching, continuous training and supervision are effective strategies for improving knowledge, attitude and practices in clinical handover.

Continuous training and supervision are recommended to sustain these improvements and strengthen patient safety.

Key words: Knowledge, attitude, practice, clinical handover, ISBAR tool.

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List of Abbreviations

ISBAR – Identification, Situation, Background, Assessment, Recommendations

UHPAB – Uganda Health Professional Assessment Board.

UNMC – Uganda Nurses and Midwives Council.

Chapter One: Introduction

Handover is referred to as the practice of exchanging patients' clinical information with other health care professionals during shift rotation or a patient's transfer from one location to another. (Ferorelli, Giandola, Laterza, et al, 2017). Clinical handover is a long-standing practice among nurses that promotes safe care and gives information about patients including their disease diagnosis, hemodynamic status as well as a care plan, medication changes, and other patient related changes (Pakcheshm, Bagheri, & Kalani, et al, 2020).

Poor communication at change of shift is a leading cause of sentinel events because when nurses pass on incorrect or incomplete information, it endangers the continuous care of patients and increases the risk of adverse outcomes (Pakcheshm et al., 2020). In Uganda, observations showed that handover between nurses at shift changes were still often disorganized and ineffective.

There was currently no consistent system for transferring patient information or nurses' responsibilities during shift changes. Consequently, this study aimed at investigate how clinical coaching influenced nurses' knowledge, attitude and practices related to the use of a standardized clinical handover tool during shift changes at a rural hospital in Southwestern Uganda.

Background

Clinical handover is the process of transferring information, responsibility, and accountability between members of the healthcare team and is a vital aspect of patient care (Pakcheshm, et al., 2020). It is a multidisciplinary and collaborative activity that depends on clear communication, coordinated actions, and effective teamwork to maintain professional accountability. A thorough handover enables the review of nursing care activities and promotes a shared understanding of care expectations, ensuring that patient care is delivered seamlessly

and without interruption. It is a crucial aspect of nursing for patient safety and aimed at ensuring continuity of care. Formalized handover ensures that information exchange is standardized and comprehensive so that the receiving nurses can quickly move forward in providing individualized, high-quality, and safe patient care (Pakcheshm, et al., 2020). Clinical handover encompasses the exchange of patient information from one shift to another and it has been known for benefits such as being a platform for exchange of opinions amongst nurses, expression of feelings, teaching and learning.

Written handover documents provide a formalized structure for verbal communication. These communication scripts help teams prevent missing information and offer a clear structure so nurses know what information to expect and when (Talley, Dunlap, Silverman et al, 2019). Change-of-shift handover has been identified as an important source of cues (data) and information needed that is used by nurses to maintain patient safety. According to Abdellatif, Bagian, Barajas, et al., (2007); Australian Commission on Safety and Quality in Health Care, (2017), many organizations across the globe including the World Health Organization are focused on increasing attention on handover as a key component of patient safety (Rhudy, Johnson, Krecke, et al, 2019).

Clinical handover is a routine practice in healthcare, particularly shift changes, which typically occur two to three times a day. Four main types were identified: written handover, tape-recorded handover, verbal face-to-face handover conducted in a private setting, and face-to-face bedside handover (Fenton, 2006). Written handovers do not permit direct interaction between outgoing and incoming staff; however, they provide a documented record of the patient's medical history, current condition, treatment and care plan. Similarly, tape-recorded handovers do not allow direct communication between nurses. Although this method is

considered time-efficient, it has limitations, including the inability of nurses to seek clarification or ask questions about patient information.

Providing the verbal report in a private setting allows outgoing and incoming nurses to communicate face-to-face; however, it excludes patients and their families from the process. Additionally, this method is more time-consuming compared to other reporting approaches (Bradley & Mott, 2011). Face-to-face bedside handover is the only nursing handover method that actively includes patients, their family members, as well as both outgoing and incoming nurses. This form of nursing report takes place at the patient's bedside and can be carried out using various approaches (Brandley, & Mott. S, 2014).

Bedside handover variations involved preparation: patient allocation, updated handover sheet, keeping the informed and requesting visitors other than family members to leave, introduction which involves greeting the patient and the outgoing staff introduces the oncoming staff to the patient. There was also an exchange of information among nurses, which may include discussions about the patient's clinical condition, tests and procedures performed, discharge planning, questions from incoming staff, and recommendations for ongoing care. In addition, safety scanning was conducted, which ensured that communication equipment is within the patient's reach, verifying that the equipment was functioning properly, checking tubes and lines, and reviewing medications as well as bedside patient monitoring charts (Bradley & Mott, 2012).

Bedside clinical handover was widely regarded as a patient-centered practice that improves the quality of care and decreases adverse events within healthcare settings. Research has shown that implementing bedside handover can save time, lower the likelihood of errors and allow nurses to devote more time to their patients (Kerr, McKay, Klim, Kelly & McCann, 2014).

All types of clinical handover involved the exchange of important information such as patient's management, medications and discharge plans from one nurse to another (Roslan, & Lim, 2017). Clinical handover was a platform for nurses to clarify patients' information and plan of care. Clinical handover was also a time for the incoming nurses to query the outgoing nurses about things that are unclear (Roslan, & Lim, 2017). According to O'Connell, Kelly and MacDonald (2008), clinical handover was more commonly conducted at the nurses' station rather than at the bedside. The implementation of bedside handover faced several challenges related to both its frequency and quality. The authors further noted that many nurses had limited awareness of standardized bedside handover procedures and lack a clear understanding of its benefits.

It has been identified that nurses had inadequate knowledge and poor attitudes towards handover at change of shift (Abdel-Aal, & Ghallab, 2020). Around the globe, several interventions like coaching, providing educational sessions, and designing standardized tools and checklists were used to improve the process of handover by nurses at change of shift (Flanigan, Heilman, Johnson, & Yarris, 2015; Herawati, Nurmalia, Hartiti, & Dwiantoro, 2018; Talley, et al. 2019). Tasew, Mariye & Teklay (2019) highlight that ineffective communication among healthcare professionals is a contributing factor to medical errors. Additionally, evidence suggests that the quality of nursing handover was associated with patient mortality (Tasew, Mariye & Teklay, 2019). Although handover is a core professional responsibility in nursing, deficiencies in practice are evident among nurses worldwide (Tasew, Mariye, & Teklay, 2019). Furthermore, unclear and incomplete communication during clinical handovers can heighten the risk of adverse events. Such ambiguities often involved insufficient exchange of critical patient

information, including vital signs, initial diagnoses, ongoing treatments, and newly prescribed medications (Kilic, Ovayolu & Ozlem, 2017).

Pakcheshm et al. (2020) suggested that there was a need to develop a comprehensive and practical standard protocol for clinical handover and most nurses were in favor of a structured clinical handover. Kerr, (2002) reported that if there was a structured handover method the quality of care is promoted, and that Nurses would have a full understanding and knowledge about the patients. Clinical handover allowed nurses to plan and prioritize patient care and manage their workload effectively. The ISBAR (Introduction, Situation, Background, Assessment and Recommendations) was a structured tool that promotes effective communication about patient information to promote safety and improve continuity of care (Pakcheshm et al, 2020). Using a structured communication tool helped ensure patient information was shared effectively, reduced adverse events, enhanced patient safety and improved overall quality of care. It has also been shown to boost healthcare provider satisfaction (Shadid & Thomas, 2018), increase caregivers' confidence (Uhm, Ko & Kim, 2019), minimize nursing and technical errors and prevent the loss of critical information (Barry, 2014).

On close observation, the nursing handover process in Uganda varied on the shift and who is to hand over. It traditionally takes place in an office which is also used as the staff room for the nurses or the nurses' station, with people coming in and out causing disruptions, and at other times it is by the patient's bedside. However, in many of the settings, there is no structured or focused handover process between nurses, and nurses often miss the significant information they need to know about the patients they will be taking care of.

A study conducted from Mulago Hospital, Uganda by Kaye, Nakimuli, Kakaire, et al., (2015) indicated that clinical handovers were associated with patient dissatisfaction, particularly

the communication among nurses, the decision-making that followed handovers and the failure to communicate information to patients and their caretakers. Several barriers to adequate clinical handover were identified as poor communication skills among nurses, interruptions by patients asking questions during handover, busy schedules on the wards, lack of handover standardization, and negative perceptions by some nurses who think clinical handover consumes much of their time (Makkink, Stein, & Bruijns, 2021). Clinical handover is of high importance for the continuity of patient care and poor handover can lead to patient safety problems such as medication errors, delayed examination and even death (McMurray, Chaboyer, Wallis, Johnson, & Gehrke, 2011).

A review of research showed that using checklists led to the provision of comprehensive and structured information. There was also improved patient safety, improved collaboration and communication among nurses, increased confidence and health team dynamics. Increase in the ability of nurses to manage clinical handover, increase in the frequency and quality of the information provided, and reduction of the handover time was also noted (Pakcheshm, et al., 2020). Several other ways like coaching have been purposively introduced to improve handover and designed to build confidence, develop understanding and increase the ability to demonstrate the core attributes of practice (Flanigan, Heilman, Johnson, & Yarris, 2015; Kelton, 2014; Talley, et al., 2019).

Coaching is a developmental process that provides individuals with skills, knowledge and opportunities necessary to enhance professional growth and improve performance. It is one of several human resource development strategies that can assist nurses in addressing and improving sub optimal performance (Gravina & Siers, 2011). In the workplace, coaching plays a crucial role in supporting the development, scope and advancement of nursing practice. Nurses

benefit from environments that encourage coaching, as such settings promote the implementation of evidence-based practice and facilitate optimal practice outcomes (Plant, Fleet, Ness, & Moola, 2013). Roslan and Lim, (2017) noted that, to date, no studies have examined the impact of coaching on nurses' knowledge, attitude and practices related to patient handover during shift changes. Therefore, there is a need for a study to gain deeper understanding of Ugandan nurses' perspectives and practices regarding clinical handover.

The World Health Organization recognizes the need to improve the quality of handovers. It issued mandates requiring health care organizations to standardize their approach to handovers and to incorporate handover education into the training of employees to improve consistency and reduce the vulnerability to errors (Karimian, Kheirandish, Javidnikou, et al., 2018). Structured tools such as ISBAR appear to provide a solution to ineffective patient handover (Dawson, King, & Grantham, 2013). This study seeks to find out the effect of coaching on nurses' knowledge, attitudes and practices regarding the use of a standardized tool during bedside patients' handover at change of shifts in a Ugandan district hospital.

Problem Statement

Clinical handover is an important method of passing on essential information from one shift of nurses to the next for the continuity of care. Bedside clinical handover has been found to be the most effective. It helps nurses to plan and prioritize care and manage their patients effectively. When clinical handover is poorly done at change of shift it may lead to risky practices like incorrect treatment or medication errors. At Kisiizi Hospital, 1 in every 5 patients there is a medication error or an adverse event due to inadequate handover report (Kisiizi Hospital, audit report 2025). It has been noted that some nurses have not practiced appropriate clinical handover of patients during change of shifts and hence there has been a poor outcome of

care. It has been observed that nursing handover is often incomplete, lacks accuracy and is of poor quality. In the majority of Uganda's healthcare settings, there is no standardized tool used during handover of patients at the change of shifts. Some nurses are not aware of the standardized tool used during patients' handover. There are deficiencies like lack of adequate knowledge and a guiding protocol in the practice regarding clinical handover among nurses in Uganda. In other parts of the world, coaching has been demonstrated to be valuable as it supported improving skills and practice for nurses. No studies have explored the effects of coaching on nurses' knowledge, attitudes and practices regarding clinical handover at bedside during change of shifts in Uganda. Thus, the researcher seeks to describe the effect of coaching with use of a standardized tool on nurses' knowledge, attitudes and practices regarding clinical handover at bedside.

Purpose of the Study

The purpose of this study was to establish the effect of coaching on nurses' competences and compliance on the use of standardized tool during bedside clinical handover at Kisiizi hospitals in southwestern Uganda.

Research Question

What is the effect of coaching on nurses' competences and compliance on the use of a ISBAR tool during bedside clinical handover at Kisiizi hospital in southwestern Uganda?

Research Objectives

- To identify the effect of coaching on nurses' knowledge on the use of a standardized tool during bedside clinical handover at Kisiizi hospital.
- To determine the effect of coaching on nurses' attitudes on the use of a standardized tool during bedside clinical handover at Kisiizi hospital.

- To describe the effect of coaching on nurses' practice on the use of a standardized tool during bedside clinical handover at Kisiizi hospital.

Significance of the Study

This study may help to demonstrate that introduction of a structured ISBAR tool will enable nurses to give appropriate bedside clinical handovers. It may also demonstrate that coaching is an effective way to introduce new nursing care ideas. Nurse educators might find this an appropriate idea to introduce for use among students during their bedside clinical handover experiences. This may improve practice among newly qualified nurses. Nurse administrators may find that the use of a tool to guide handover is important to adopt in various clinical settings in Uganda. In addition, both nurse educators and administrators may see the benefit of coaching as a way to strengthen the learning culture of students and qualified nurses.

The findings of the study may help in improving continuity of care by nurses which promotes safety of the patient and patient satisfaction. This may also create rapport between the nursing staff and the patient by building a bond of trust. An effective clinical handover at the bedside in nursing brings numerous benefits such as keeping patients' care progressing smoothly. Patients may feel calmer and more confident in the healthcare service and this reduces moments of anxiety. Furthermore, patients will have the opportunity to ask and clarify content about their condition and plan of care.

The study findings may guide nurses to help caretakers feel empowered to play a more active role in the care being given to the patient. They may be updated on the condition of the patient, be involved in the care of the patient and this will create an environment for open interaction between the caretakers and the nursing team, hence improving the patient's health outcome.

Theoretical Framework

The Faithfull-Byrne et al. (2017, p. 404) Clinical Coach Framework (Figure 1) was developed and first used in Queensland, Australia to help enhance workplace learning and development for nurses and midwives. Faithfull-Byrne et al. (2017) borrowed concepts of coaching from sports to advance the learning for clinical teams at the point of care. It focuses on coaching for both the personal and professional development of clinical competencies of the entire team with the overall goal of improved patient care. The clinical coaching model has been used across a health service in Australia as a vehicle for supporting nurses to progress their learning in the clinical setting. Its concepts will be borrowed for this study as well.

Faithfull-Byrne, A., Thompson, Schafer, et al. (2017) defined coaching as “a thought-provoking and creative process that inspires individuals to maximize their personal and professional potential” as “a collaborative relationship formed between a coach and the coachee for the purposes of attaining personal development out-comes which are valued by the coachee” Spence & Grant, 2007 (as cited in Faithfull-Byrne, A., et al., 2017, p.405).

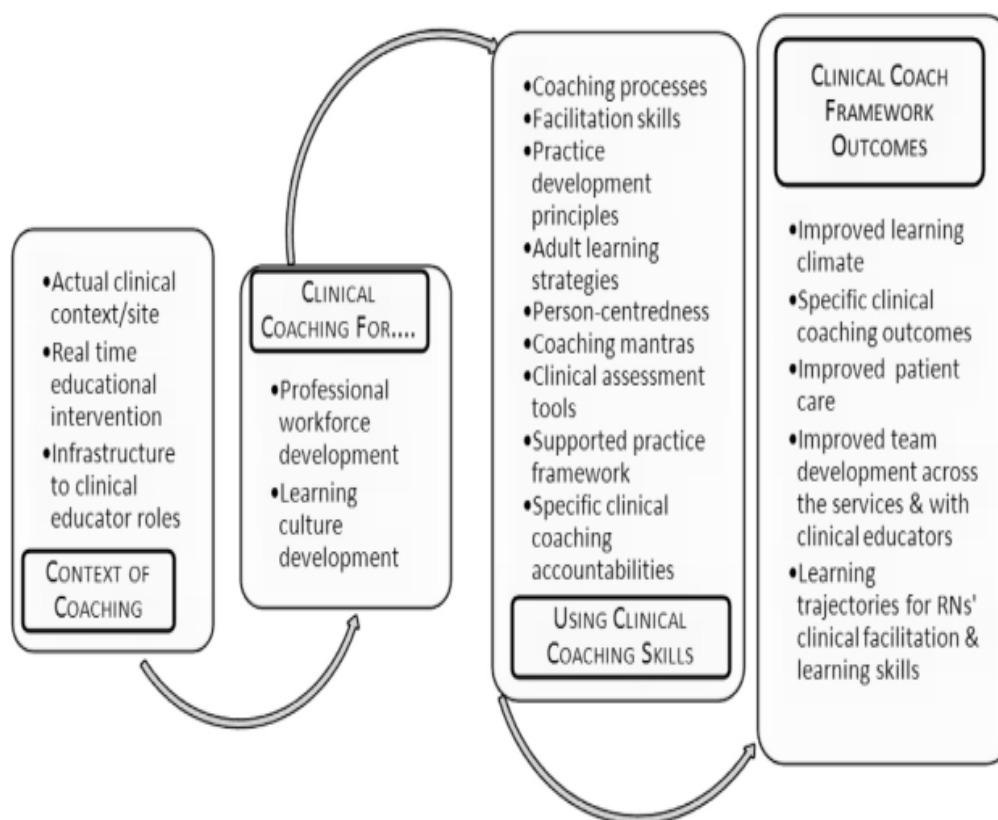


Figure 1: Clinical Coaching Framework (Faithfull-Byrne et al., 2017)

The Faithfull-Byrne, A., et al., (2017) model analyzed the effect of coaching under four constructs: the context of coaching, the reason for coaching, clinical coaching skills and clinical coaching framework outcomes. The analysis provided opportunities to examine the point of care model and the educational interventions to help achieve a modern professional nursing and midwifery workforce.

The context of coaching.

Within the context, Faithfull-Byrne, A., et al., (2017) considered the actual clinical site, the real time of intervention and the infrastructure to clinical educator roles. These can be described as follows:

Actual clinical site.

This is the environment that is considered to be conducive for coaching to take place. In the framework, it refers to the specific clinics where the nurses and midwives care for clients (Faithfull-Byrne, et al., 2017). Clinical coaching is performed in clinical settings within the health facility as opposed to classrooms or any other settings.

Real-time educational intervention.

The coaching is carried out as the nurses and midwives perform their normal daily duties. Specifically, this new coaching role is an innovative response designed to advance the learning of clinical teams at the point of care. The coach needs to structure the coaching activities in accordance to what the learners do. This is one way of building confidence among the coachees and it enables them to provide effective healthcare services in the natural environment where all the processes of care occur (Faithfull-Byrne, et al., 2017).

Infrastructure to clinical educator roles.

Infrastructure to clinical educator roles created the need to support evidence-based practice at the point of care which resulted in the evolvement of clinical coach roles for nurse educators. This also created an environment for the organization to support the new role of a coach and promote a learning culture for the nurses and midwives as a central stage. This helped in addressing the performance gaps (Faithfull-Byrne, et al., 2017).

Reason for coaching.

Coaching is specific to goals that guide the coachee and the coach. This is the main aim for the coaching intervention to occur. It focuses on the two major areas in this framework which include promoting professional workplace development of each nurse, and promoting learning culture development (Faithfull-Byrne, et al., 2017).

Professional workforce development.

Professional workforce development for nurses and midwives contributed to the proliferation of the clinical coaching concept. In response to the changing practices and professional demand for quality in healthcare provision, there is a need for the nurses and midwives to improve on how healthcare services are delivered. Professional work development is a formal way of training intended to help nurses improve their knowledge and practical skills and promotes nurses and midwives' performance and attitudes (Faithfull-Byrne, et al., 2017).

Learning culture development.

The framework aimed at encouraging the nurses and midwives to take up the lifelong learning culture with the guidance of clinical educators. Learning culture involves a group of nurses (like a unit) who collectively value learning and support others while they learn. When working in that environment, it is the 'normal' thing to do to be involved in learning new knowledge and skills. Nurses continuously seek and apply new knowledge and skills to improve their individual performances. Learning while at the point of care promotes acceptable practices and enhances learning for professional nurses and midwives in all aspects of care. This encourages timely interventions to prevent adverse events during service delivery, and enhances immediate learning and adoption of good practices for quality outcomes (Faithfull-Byrne, et al., 2017).

Clinical coaching skills.

Clinical coaching skills are ways clinical coaching is delivered to the intended participants to help them learn. Faithfull-Byrne, et al., (2017) identified and analyzed them when developing their coaching model. They named the nine coaching skills as coaching processes, facilitation skills, practice development principles, adult learning strategies, person centeredness,

coaching mantras, clinical assessment tools, supported practice framework and specific accountabilities. Each of the individual skills is described below.

Coaching processes.

Coaching processes are ways clinical teaching and learning are delivered in the clinical environment. Coaching processes involve assessing the learning environment and preparing the learners for the practical sessions. The coach needs to understand how the session will be delivered in relation to the goals set and the setting in which coaching will take place (Faithfull-Byrne, et al., (2017).

Facilitation skills.

Facilitation skills are technical ways in which the learner or the coachee is supported in order to achieve the learning goals. It involves the skills of empowering and preparing the learners to understand and embrace what is being learned. These skills include clear communication, active listening, asking potent questions, timekeeping, working collaboratively, setting goals, and maintaining motivation, monitoring progress towards goals, and promoting self-awareness. These are commonly applied when assisting individuals to overcome obstacles and reach their personal and professional goals (Faithfull-Byrne, et al., 2017).

Practice development principles.

New evidence and demand for change in practice will often challenge daily performance. In the conceptual framework, this skill builds the basis in which a coach can deliver clinical coaching to learners. It evaluates the performance gaps and then generates the areas for improvement. This can occur in accordance to standards and guidelines set by the institution, government or professional regulating bodies which will ensure that a coach remains within the performance and practice standards during the coaching process (Faithfull-Byrne, et al., 2017).

Adult learning strategies.

Adult learning strategies are ways in which individuals organize and use a particular set of skills in order to learn tasks more effectively. These include keeping the teaching relevant, focusing on experience, providing feedback in the moment of need and encouraging questions and answers. The principles of adult learning guide in a way that the learners know what they need to learn and how best they can learn it. The coach helps the participants to take their own roles in learning. This involves guiding their setting of goals, employing active listening, being collaborative, asking constructive questions, and giving constructive feedback with learners at the center. The coach can also encourage the learners to be independent, and be accountable for their learning (Faithfull-Byrne, et al., 2017).

Person-centeredness.

With person-centeredness, the coach identifies the values and individual uniqueness of every learner. This emphasizes the empowerment of the individual towards achieving personal goals within a facilitative interpersonal relationship with the coach. The learner is aware of their learning needs as an individual and addresses the areas where he or she feels incompetent. The coach recognizes that there is a unique way to help each individual learner. This puts the learner as the main focus during the coaching session. It implies that during coaching, the coachee must set his or her own goals and work towards achieving them as the coach gives due guidance as the need arises (Faithfull-Byrne, et al., 2017).

Coaching mantras.

The use of mantras results in the coachee being engaged in the learning process, thus empowering the individual on their learning journey. Mantras are statements used to aid concentration in meditation of something. According to Faithfull-Byrne, et al., (2017) they are proverbs used by the coach to the coachee to reinforce learning and skill development. Examples are, ‘be the guide on the side not the sage on the stage’; ‘do with, not for’; and the proverb “give a man a fish and he eats for a day, teach him to fish and he can feed his village for life”. These examples place the coach in a motivating and adjunctive position, rather than a central place (Faithfull-Byrne, et al., 2017).

Clinical assessment tools.

Clinical assessment tools contribute to the coaching skills as a guiding tool in achieving the learning objectives during the coaching session. Using a tool helps to facilitate learning by pointing out the key steps that must be followed by the learners. The tool framework empowers and supports ethical standards, and specific clinical coaching processes. The tool enables the learners to master the concepts within a short time and eliminates making unnecessary mistakes. Clinical assessment tools are also used for self-assessment and peer review for individual development. (Faithfull-Byrne, et al., 2017).

Supported practice framework.

Supported practice framework is used by clinical coaches and it involves a range of learning and performance development strategies. Standards and processes are drawn from professional regulations and organizational requirements. This helps staff to achieve and perform at levels appropriate to their role and appointment. “The supported practice framework is implemented when there is concern about an individual’s competence and performance”

(Faithfull-Byrne, et al., 2017, p. 407). This implies clinical coaches and others use a structured and supportive approach in the clinical setting to achieve a valid assessment of the coachee's performance where competence and safety standards have been established (Faithfull-Byrne, et al., 2017).

Specific accountabilities.

Areas of accountability are directly related to specific responsibilities of the clinical coach. Specific coaching interventions and accountabilities ensure that each workplace achieves clinical goals, clinical development strategies, training requirements and safe professional practices. The practical processes form a basis to realize the desired development in workplace learning through the clinical coach model. This encourages leaders to identify that there are multiple coaching outcomes to be achieved (Faithfull-Byrne, et al., 2017).

Clinical coaching framework outcomes.

The Clinical Coaching Framework by Faithfull-Byrne, et al., (2017) anticipated clinical coaching outcomes to have improved the learning climate and patient care. The framework also enhanced team development during service delivery with clinical educators and learning trajectories for registered nurses' clinical facilitation and learning skills for the organization.

Improved learning climate.

The clinical coaching framework indicates that the outcome was positive in a way that the learning culture enhanced personal growth and life building skills in the care of patients. Coaching empowers nurses by allowing them to take responsibility for their learning. The coaching model supports this aspect of the standard performance to help the learner identify solutions to practice evidence-based care in a safe environment (Faithfull-Byrne, et al., 2017).
Specific Clinical Coaching Outcomes.

The coach uses specific skills to achieve the learner's needs during the coaching session. This helps in advancing the skills for nurses in sensitive units like the emergency and trauma unit and the pediatric unit. These skills are identified earlier and act as a guide for the expected competencies for the organization and other professional parties (Faithfull-Byrne, et al., 2017).

Better quality patient care.

The major goal for clinical coaching is to improve patient care by nurses across the various clinical units. Patients need quality services which should be provided to meet their health demands. Better quality patient care encourages nurses to attain new knowledge and skills to practice acceptable competencies (Faithfull-Byrne, et al., 2017).

Enhanced team development across the healthcare services with clinical educators.

Enhanced team development across the healthcare services with clinical educators explains the need of developing more clinical educators with coaching roles to help improve the learning culture and provide a sustainable clinical improvement. Another area of focus is the spirit of team building based on the organization's set indicators with the goal of performance improvement across all service points in an organization (Faithfull-Byrne, et al., 2017).

Learning trajectories for clinical facilitation and learning skills.

The improved learning environment encouraged nurses to take over the role of clinical educators with a positive attitude and influenced their career path to become clinical educators. This also strengthened their facilitation and learning skills which is key to professional development. (Faithfull-Byrne, et al., 2017).

Operationalization of the Model

Faithfull- Byrne, et al., (2017) explored various aspects of coaching. Selected aspects of this model were the primary focus of this study, and these included facilitation skills, presentation of the clinical assessment tools, adult learning strategies and person centeredness. Faithfull-Byrne, et al., (2017) clinical coaching model was adopted with permission to describe the effect of coaching on nurses' knowledge, attitudes and practices regarding the use of a standardized tool during patients' handover on change of shifts in a rural hospital located in Southwestern Uganda. Each concept was described in relation to the use of the standardized tool during handover by nurses at the point of care and helped to determine the outcome of coaching. The four components of the framework were utilized which included: context of coaching, purpose for clinical coaching, clinical coaching skills, and clinical coach framework outcomes.

Context of coaching.

The setting.

For this study, a hospital was considered as a study setting. The researcher ensured all participants studied and utilized the standardized tool (ISBAR) during clinical handover. Coaching took place across all nursing departments in the district hospital.

Real time intervention.

In this context, the researcher delivered the coaching sessions during working hours as the nurses perform their daily routine activities. This enabled them practice and learn how to use the tool (ISBAR) in a non-threatening environment since they were already familiar with the settings. This was to enable the nurses and midwives to improve their skills and knowledge at the point-of-care, and in real time. This occurred in groups of 2 to 5 nurses during working hours, and it targeted all nurses working different shifts.

Reason for coaching.

Coaching was specific to the set goals that guided the coachee and the coach. It focused on two major areas in the framework. These was promoting professional workplace development of each nurse and promoting learning culture development. Coaching involved giving knowledge about the ISBAR tool, identifying the ISBAR tool and guided the nurses on how to use the ISBAR tool. The coach collaborated with the coachee in order to achieve adequate knowledge and a higher level of performance practices during clinical handover using the ISBAR standardized tool. Coaching as an intervention involved sharing knowledge and skills which improved clinical handover among nurses.

Professional workforce development.

Clinical coaching focused on professional workforce development. This involved the use of a standardized tool during handover at the change of shift. The coaching process was face-to-face session. The face-to-face session involved physical interaction about the use of the handover tool between the coach and the coachee. This influenced the coach and the coachee to work together and aimed at achieving improved knowledge, attitudes and practices while handing over patients at change of shift. This also inspired them to promote their own learning, and it was embraced by every nurse or midwife as part of their career development.

Learning culture development.

The framework aimed at challenging the nurses and midwives to take up the attitudes for lifelong learning with the guidance of clinical educators. This was meant to challenge the team to look for current information that supports the overall acceptable practices that are critical.

Clinical coaching skills.

The coach ensured successful learning of the coachee. Utilizing good communication skills helped achieve learning by the coachee. This helped the coachee to understand the ISBAR tool and how to use it during clinical handover. Coaching skills were ways that clinical coaching was delivered to the intended participants to enable them to learn. Some of the skills that were adopted from the clinical coach framework to support the coaching sessions were facilitation skills, adult learning strategies and person-centeredness.

Problem Statement: Handover is an important method of passing on essential information from one shift to another. When clinical handover is poorly done, it leads to risky practices like incorrect treatment or medication errors. It has been noted that some nurses have not practiced appropriate handover of patients during change of shifts and hence poor outcome of care. In Uganda, there is no standardized tool used to handover patients on change of shifts, and some nurses lack a positive attitude towards patients' handover. Furthermore, there has been no coaching on patient handover.

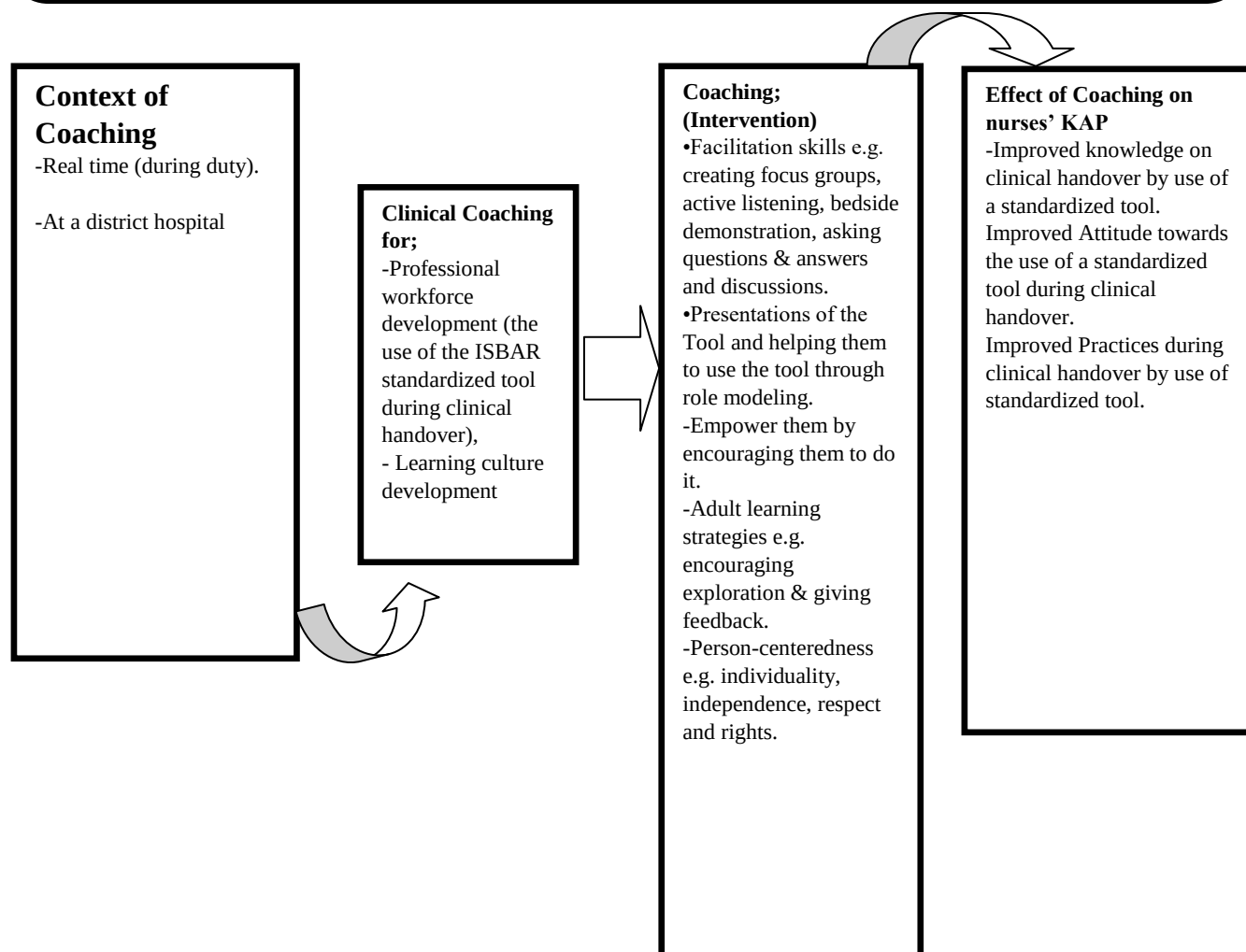


Figure 2: A model for Clinical Coach Framework: (adapted from Faithful-Byrne et al., 2017, p. 405).

Facilitation skills.

The coach was able to empower the learners so that they were engaged and motivated to learn. In relation to this study, I planned to present myself confidently, showed a sense of humor, employed good communication skills and created real life scenarios which was explored. I observed their emotions and was sensitive to each participant as an individual while interacting with them during the learning process. I gave clarification in areas that were not clear to them and ensured they understood. During facilitation, the coachee and coach set goals about the learning needs on how to use the ISBAR tool during bedside clinical handover. I gave timely and constructive feedback to support one another. The coachee was encouraged to take over the role in meeting their learning needs. As the coach, I encouraged the learners to share their thoughts and feelings about the content. I used an organized interaction with the learners guided by a learning script (Appendix F). These skills equipped the coachee with expertise in clinical handover which led them to achieve the desired outcome of care for patients.

Presentation of the clinical assessment tools.

The ISBAR tool was presented to the participants. Each area in the tool was explained to the participants so that they understood every content in the tool and what was required of them to use it. The handover tool comprised of sections on identification of the patient, the situation of the patient, the background, assessment done on the patient and the recommendation of care. The participants were given guidance on how to use the tool which was distributed to them to follow, and given the advantages and benefits of using the standardized ISBAR tool during handover of patients. The coach helped them to use it through role modeling, empowering them by encouraging them to do it themselves, and supporting them. The ISBAR tool was then made

available to the participants in their working areas so that they could use it during handover. This enhanced communication among the nurses and midwives during patient care.

Adult learning strategies.

The coach engaged with every participant and helped them identify their own learning needs and encouraged them to work towards achieving their goals. Prior to the coaching session, knowledge, attitude and practices regarding clinical handover were evaluated through a structured questionnaire. This helped the coach to understand their emotions, feelings and prior experiences about clinical handover at change of shift and the gaps identified were easily addressed. The participants were put in groups at the beginning so they could learn from one another and later the coaching sessions were followed identifying their learning needs.

Demonstrations on site was performed for the participants to reflect a positive attitude. This was done through role playing among the participants and by creating real case scenarios. Throughout the demonstration, the standardized tool was utilized. Effective communication was used during the demonstration like setting goals, asking questions, and giving feedback for each participant. Participants were also asked to share their experiences, feelings, emotions, values and beliefs regarding the use of a standardized tool during handover. This built the basis of their own learning with the help of the coach.

Person-centeredness.

The coach worked with each participant as an individual to explore their values and empowered them to learn to utilize the standardized tool (ISBAR) during clinical handover. Individuals learned differently and so as a coach I needed to identify these differences because each learner needed a different approach to understand the content. They needed to challenge the learners' thinking about clinical handover and use of the standardized tool (ISBAR) during

handover. For this study, started with a bigger group of nurses and midwives about handover and the utilization of the standardized tool during handover. This was followed by one-on-one or group sessions as they learned to utilize the standardized tool while on duty. The coach was available for further explanations as the need raised.

Coaching on nurses' knowledge attitude and practice.

Coaching aimed at causing an effect in the three areas of nurses' knowledge, attitudes and practices. The nurses and midwives were expected to portray the ability to utilize the standardized tool during clinical handover to bring out quality of care to the patients. The evaluation of a coaching intervention in the use of the standardized tool during clinical handover helped measure a change in knowledge, attitudes, and practices for a specified period of time. During the process of clinical coaching, 30-45 minutes were set to do the coaching session about the use of the tool during handover and reasonable gaps worked upon immediately by the coach for better understanding. The effect of coaching on the use of a standardized tool was anticipated to improve the clinical handover process. Three areas of interest were described by the researcher and included: positive gain in knowledge, positive attitudes perceived and improvement in current practices in clinical handover. This implied that the nurses' knowledge on handover was improved, their attitude towards handover was positive and the practice of handover improved through using the ISBAR tool with the implementation of coaching.

Knowledge.

The focus was on knowledge on clinical handover and the utilization of a standardized tool during clinical handover. The changes in knowledge were understanding the critical areas of the standardized tool and how to use it during clinical handover. Nurses and midwives were able to interpret the content in the tool and utilize it to improve care for patients. The

introduction of the standardized tool during clinical handover provided specific skills on identifying the critical information that should have been reported on during clinical handover. Nurses attained knowledge needed to handover adequately which resulted in understanding the use of the standardized tool. Introduction of the standardized handover tool provided specific skills on how to give a handover report on specific and critical areas of care for a particular patient.

Attitude.

Attitude is a settled way of thinking or feeling about something. The researcher expected to observe positive attitudes among nurses towards the use of a standardized handover tool. The attitudes were either be verbal or non-verbal as expected by the researcher. However, the researcher asserted that positive attitude would be portrayed and strengthened after the coaching intervention. Nurses ensured that the standardized tool was readily available on each department at the time of handover. The researcher anticipated that the nurses and midwives committed themselves to embracing the use of a standardized tool during clinical handover. They also helped other nurses who could have missed the coaching session to ensure they use the standardized tool during handover.

Practice.

Practice is the way in which clinical handover knowledge and skills are applied during health care delivery. Improvement in practice was observed through the increased use of the standardized tool by nurses and by ensuring the availability of the tools on all departments for easy accessibility. Nurses were seen helping one another to understand and embrace the use of a standardized tool for clinical handover.

Summary

Chapter One explored clinical handover under the introduction, the background, the problem statement, the purpose of the study, the research questions and objectives of the study, and the significance of the study. The conceptual framework on coaching was also presented and described. Finally, the study variables were defined. Chapter Two presented the review of literature related to the topic under study. Chapter Three comprehensively described the methodology to be used in the study.

Chapter Two: Literature Review

This chapter will analyze the array of research literature focusing on handover by nurses at change of shifts. I will first review the literature on how patient handover is critical for quality care, followed by the challenges in nurses' knowledge, attitudes and practice in patient handover. Interventions, including coaching, that have been shown to improve patient handover by nurses will be discussed. Finally, the literature will describe whether coaching on the use of a standardized handover tool would have an effect on nurses' knowledge, attitudes and practices (KAP) regarding handover.

Clinical Handover is Critical for Quality Care

Clinical handover refers to the exchange of essential information, responsibility and accountability among members of the healthcare team, serving as a vital component of patient care (Pakcheshm, et al, 2020). This process enables nurses to understand patient details effectively and organize appropriate plans of care.

Clinical handovers are recognized as opportunities for nurses to gather and use essential data and information that support patient safety. Globally, numerous organizations, including the World Health Organization (Abdellatif, et al. 2007), and Australian Commission on Safety and Quality in Health Care, (2017), have emphasized the importance of effective handovers as a critical element of ensuring patient safety.

Patient safety has emerged as a critical concern at both global and national levels due to the rising incidences of medical errors in many countries. The institute of medicine (IOM) reported adverse event data from hospitals in the United States, estimating that approximately 1.5 million patients are injured each year as a result of treatment errors, with about 7,000 resulting deaths (Khushf, 2013; Long, 2003). Given that patient safety has become a significant

public expectation, implementation of hospital safety programs aligned with patient safety goals is essential. The patients' safety goals include identifying patients correctly, improving effective communication, improving the safety of high alert medications, ensuring safe surgery, reducing the risk of health care associated infections and reducing the risk of patient harm resulting from falls. However, effective communication (such as a clear handover) is the most important element of care to patients (Herawati, et al, 2018). Employing a standardized format helps staff document and recall information more precisely, strengthening their ability to plan suitable patient care. It also acts as a reminder for essential details that might otherwise be missed during busy handovers between shifts or units (Shalini, Castelino & Latha, 2015).

Handover should be conducted as effectively as possible by providing brief, clear and comprehensive information about the nurses' independent and collaborative interventions, whether completed or pending, as well as the patient's current condition and progress. The information shared must be accurate to ensure continuity of nursing care (Herawati, et al., 2018).

Clinical handover has provided improved nursing care including enhanced patient care prioritization, increased transmission of patients' information to nurses, increased documentation, reduced overtime, decreased misunderstandings, and increased productivity and group work (Pakcheshm, et al., 2020). A comprehensive handover allows for review of events and development of a shared understanding about expectations during the delivery of care and activities that promote a seamless and safe transition in care.

In healthcare settings, handover occurs in a variety of situations, including nursing shift changes, temporary relief or patient coverage, nurse-physician handovers in emergency departments, information transfers within inpatient units, and transitions to other hospitals or nursing homes (Shalini, Castelino & Latha, 2015). Clinical handover during nursing shifts also

differs across wards and hospital setting. Various handover models exist, each with distinct characteristics. Handovers may be delivered verbally, tape recorded, conducted at the bedside, or documented in writing. Written handover tools offer a structured framework to guide verbal communication. These scripted formats help teams prevent omissions and give nurses a clear expectation of when specific information should be communicated (Talley, et al., 2019). The tape-recorded handover can be left at the nurses' station, but it does not allow nurses to ask questions for clarification. The verbal handover report can be done at the nurses' station.

Bedside handover is very important because this will allow the patient to be involved. As it is already known, bedside handovers have multifaceted benefits which promote patients' safety and medication review and promote a patient centered dimension of handovers. Patients participate by giving key essential information to nurses and have the opportunity to participate actively in the process of their care. Their relatives (if present) may be able to clarify aspects of patients' care or their health history. Nursing shift handovers used to take place in a room/office/nurses' station away from the bedside. However, in earlier years in nursing, literature identified various studies that have focused on the exploration of bedside handovers' issues (Athanasakis, 2013).

There is a range of recording types combined with handover at the bedside. However, nurses recognize the need for oral transmission of patient information. It is either done in the nurses' room or at the patient's bedside. Similarly, bedside handover is considered to be the best way to conduct nursing handover (Režić, 2019). Bedside handover is more advantageous because it reduces distraction by other nurses, and it enhances patients' involvement. But in many clinical areas, handover at the bedside is also used along with written handover (Smeulders, Lucas, & Vermeulen, 2014). Thus, the patient is involved in his own care, he/she gets

information about his/her condition, knows who provides his/her care and what is planned.

Patient satisfaction is greater when handover at the patient's bedside is used (Režić, 2019).

In Toronto, three handover styles were used, and the amount of data loss noticed for each type. A purely verbal handover style resulted in the loss of all data. A note-taking style (the traditional style used in most hospital wards) resulted in only 31% of data being transferred correctly. When a written document accompanied the verbal handover, information loss was minimal. In contrast, existing handover practices may lead to substantial loss of critical information, potentially affecting patient care. Consequently, it has been recommended that a standardized handover sheet be prepared prior to handover and included as part of handover process (Pothier, Monteiro, Mooktiar, & Shaw, 2013). However, there is currently insufficient literature to determine the most effective handover style, highlighting the need for further research in this area.

Effective communication between nurses and patients is crucial for achieving positive outcomes in individualized nursing care. It plays a fundamental role across all areas of nursing practice, including prevention, treatment, therapy, rehabilitation, education, and health promotion. Communication is a dynamic, ongoing and multidimensional process through which information is exchanged in line with established standards or policies (Abdel-Aal, & Ghallab, 2020).

Herawati, et al. (2018) further emphasized that communication of information provided by nurses in shift exchanges or the process of passing on information about patients is helpful inpatient care. A well-done handover can help identify errors and facilitate the continuity of patient care by nurses. Communication on shift handover has a very important relationship in ensuring continuity, quality and safety in health service. Communication in handover if not

done right can cause problems, including delays in medical diagnoses and increased possible side effects of treatment, as well as higher costs of health care, and dissatisfaction for the nurses and the patient.

Clinical handover is a vital stage in a patient's care journey and when conducted effectively, it helps minimize breaks in continuity of care, errors, and patient harm in both hospital and community settings. Its primary aim is to support nurses receiving the handover to provide safe and effective care. Despite its importance, handover is often poorly executed, posing significant risks to patient safety. An Australian study reported that essential information is frequently omitted during handover, while some of the details communicated may be unnecessary (Australian Commission on Safety and Quality in Health Care, 2017).

Consequently, numerous initiatives aimed at improving handover have been undertaken including formulating checklists, standardized ISBAR tools, shifting handover to the bedside and identifying best practices such as defining criteria for inclusion in handover (Rhudy, et al., 2019). Research indicates that using a structured standardized handover framework enhances the transfer of information and leads to better patient outcomes. To support more effective handovers, several formal handovers have been created. Among these, one of the most widely adopted and extensively studied is the ISBAR framework (Moore, Mercado, Artigues, & Lawrie, 2017). ISBAR (Introduction, Situation, Background, Assessment, and Recommendation) is based on a system developed by the United States Navy to ensure clear, precise communications. The ISBAR framework, endorsed by the World Health Organization provides a standardized approach to communication which can be used in a wide range of clinical contexts, such as shift changeover, patient transfer for a test or an appointment, inter-hospital transfers and the poor progress of a deteriorating patient (Burgess, Van Diggele, Roberts & Mellis, 2020).

Handover communication protocols like the use of ISBARQ (Introduction, Situation, Background, Assessment, Recommendation and Question and answer) has gained popularity worldwide in assisting nurses with structuring handover communication in an organized format. Protocols have been designed to help nursing staff to structure their handover communication and present patients' information in a logical and coherent manner, with the aim of reducing the possibility of miscommunication or misunderstanding between the nursing professionals. The information in the handover tool introduces who the patient is, the current situation of the patient, the background of the illness the patient is experiencing, the assessment done and the findings and finally the recommendations of care. It guides nurses to deliver information regarding patients' conditions in a structured and effective manner, as well as promoting seamless exchange and complete understanding of a patient's condition and care plan. Moreover, a handover communication structure allows the facilitation of interdisciplinary clinical teams and hospital staff at different levels of hierarchy to work together (Pun, 2021).

A study conducted in a south Korean hospital found that clinical handover also provides an opportunity for incoming nurses to ask outgoing nurses about any unclear issues (Roslan & Lim, 2017). Handover supports nurses in planning and prioritizing patient care, managing their workload and ensuring a smooth transfer of patient information between shifts. It is also recognized for its additional benefits, such as facilitating the exchange of opinions, sharing of feelings, and creating opportunities for teaching and learning among nurses (Roslan & Lim, 2017).

Clinical handover is critical for quality care. It helps nurses to process and plan care. Clinical handovers are sources of information that nurses use to maintain patient safety. A comprehensive handover allows for review of events during delivery of care. Good

communication between nurses and use of communication tools is essential for the successful outcome of individualized nursing care of each patient.

There are Challenges in Clinical Handover

Nurses are expected to provide safe and competent care so that harm (physical, psychological or material) to the patients is prevented. This role carries several legal implications. Inadequate clinical handover can result in nursing errors that may be considered negligence. It is essential to adhere to quality care standards and report any errors promptly to implement soft measures and prevent adverse outcomes. Failure to perform proper handovers may have legal consequences if it leads to disruptions in continuity of care. Ensuring patient safety at all stages of healthcare delivery is paramount (The Australian Commission on Safety and Quality in Health Care, 2017).

Despite clinical handover being recognized as a valuable aspect of patient care, little is known on how to improve its quality. According to Losfeld, Istas, Schoonvaere, et al. (2021) a systematic review of the literature on nursing handover, inadequate handover's negative consequences are well known. This presents a critical gap in research and practice; handover is recognized as a determining aspect of care.

Globally, adverse events (AEs), also called sentinel events, have become one of the most serious threats for patient safety and quality of care in hospitals (Kakemam, Gharaee, Rajabi, et al., 2021). A sentinel event is a patient safety event that results in death, permanent harm or severe temporary harm (Slawomirski, Auraen, & Klazinga, 2017). Sentinel events are debilitating to both patients and health care providers involved in the events.

Poor communication between nurses is one factor for nursing care errors (Tasew, Mariye & Teklay, 2019). Communication problems are the number one cause of sentinel events because

nurses' handover information about patients so often. Nurses may not realize that communication among them is a high-risk process. If nurses do not devote sufficient time to handovers, some may fail to gain a full understanding of a patients' condition, leading to missing critical information and increasing the risk of errors. Inadequate communication during clinical handovers has been recognized as a major contributor to reduced patient safety, lower quality of care, and patient dissatisfaction. According to Pakcheshm et al., (2020), communication failures account for 80% of serious medical errors and 20% of adverse patient complications.

Incomplete handover can heighten the risk of adverse complications because critical patient information, such as initial diagnosis, current treatment, and newly prescribed medications, is not adequately communicated. Ineffective communication during clinical handover may result in additional hospital complications, particularly in intensive care units where patients are highly vulnerable (Pakcheshm, et al., 2020).

The World Health Organization defines sentinel events as errors that occur during nursing care, which cause measurable injury or damage to patients, and this is not related to the underlying disease. Such events may involve errors of medication or equipment, delays in making therapeutic choices, misdiagnosis, infection, and others which could have a negative impact on patients' safety and quality of care. Makary and Daniel (2016) indicated that in the US, medical error has ranked as the third most common cause of death. Furthermore, these issues contribute to disability, injury and even death among patients worldwide, while also increasing medical and hospitalization costs in both developing and developed nations. Despite significant advancements in medical treatment and diagnosis, adverse events remain a major challenge for both healthcare staff and patients. This is largely because modern treatment and diagnostics procedures are highly complex and vulnerable to a range of factors, including human

error and systemic problems within healthcare organizations (Kakemam, Gharaee, Rajabi, et al., 2021).

A growing body of literature has examined the incidence of adverse events (AEs) across different countries. For example, a recent systemic review by Kakemam, Gharaee, Rajabi et al., (2021) reported that 2.9% to 21.9% of patients experienced AEs. Kang, Sim and Lee, (2016) found that 36-57% of nurses reported encountering at least one AE within the past 12 months. In a study conducted in China, 47.8-75.6% of nurses indicated that AEs had occurred in the previous year (Wang, Liu, You, et al., 2014). Similarly, a national study in Iran reported that 29.1% of nurses experienced AEs in past six months (Kakeman et al., 2019). A systematic review by Vaziri, Fakouri, Mirzaei, et al. (2019) revealed that the prevalence of AEs in Iran ranged from 10% to 80%. Additionally, a systematic review of 48 studies using the Global Trigger Tool found that AE occurrence varied between 7% and 40% (Hibbert, Molloy, Hooper, et al., 2016).

In Indonesia, information on unexpected incidents, particularly near miss events, remain limited. At the same time, however, reports of alleged “malpractice” are increasing, even though these claims do not always align with final verification results (Herawati et al., 2018). As a result, patient safety has become a growing public expectation. Implementing hospital patient safety programs is essential to achieving patient safety goals (Herawati, et al., 2018). Additionally, research shows that nursing handover practices are linked to patient mortality (Tasew, Mariye & Teklay, 2019). Although nursing is a fundamental responsibility of the nursing profession, deficiencies in its practice are observed among nurses worldwide. Effective handovers can also safeguard nurses from legal repercussions associated with poor patient

outcomes. Nursing handovers are often incomplete, inaccurate and of low quality (Tasew, Mariye & Teklay, 2019).

In the field of nursing, using coaching as an effort to increase the professionalism of nurses is still rare in Ugandan healthcare settings. Training is still done through seminars and workshops as well as traditional learning processes which emphasize assessment of what has been learned. There are several challenges faced by nurses during delivery of care to patients, and especially during the handover process. For this study the challenges will be discussed under knowledge, attitude and practices of nurses.

Knowledge.

Abdel-Aal and Ghallab, (2020) stated that in relation to knowledge about communication during clinical handover, staff nurses have deficient knowledge in the communication process. They lack clear definition, an understanding of the characteristics of effective communication, guiding principles and goals, and most nurses have limited knowledge or proper communication processes. Many adverse events and sentinel events stem directly from poor communication, whether between healthcare providers or between providers and patients' families (Abdel-Aal, & Ghallab, 2020; Pakcheshm, et al., 2020; Shalini, Castelino, & Latha, 2015).

In Iranian hospitals, Kakemam, et al., (2021) indicate that the lack of an active, systematic and national error reporting mechanism is a major problem causing sentinel events. Yet health care workers report errors passively and voluntarily through the manual reporting forms. In addition, to reduce adverse events the strategy of analysis of the cause is implemented by *Hospitals of Iran Error* (Farokhzadian, Nayeri, & Borhani, 2018, pg. 2) by nurses. For some severe errors the offender may be blamed or punished by managers in many Iranian hospitals, without considering the reasons for such errors. Although hospitals offer training courses on

patient safety, Iranian universities still lack a structured and cohesive patient safety curriculum within nursing education (Farokhzadian, Nayeri, & Borhani, 2018).

The recognition of patient safety as a distinct body of knowledge is relatively recent. There is a clear need to incorporate clinical handover training into nursing education, as many nurses demonstrate limited understanding of effective communication processes. A substantive number of sentinel events in healthcare settings could be prevented through the application for strong communication strategies during clinical handover (Bahadori, Ravanguard, Yaghoubi, & Alimohammadzadeh, 2014). This is consistent with the findings of Khalaf (2015), whose study in Egypt revealed that nurses possessed inadequate knowledge regarding shift clinical handover. Similarly, Elsayed, (2013), reported that most nurses in Egypt were unfamiliar with the concept of shift clinical handover.

Attitude.

Attitude describes an individual's perceptions and evaluations of an object or person influencing their feelings towards it and guiding subsequent behavior (Oxford Dictionary). Within the theoretical framework of perceived communication, attitudes of both the sender (speaker) and the receiver (listener) play a critical role in determining the clarity and accuracy of communication. Positive or negative attitudes towards the message can affect how effectively it is conveyed and interpreted. Consequently, attitudes may significantly influence the safety and effectiveness of communication during clinical handover (Santos, Barros, & Silva, 2020). Establishing a strong patient safety culture across all healthcare settings is widely recognized as essential for enhancing patient safety and reducing errors. Nurses' perceptions of the prevailing safety culture have been shown to be associated with the occurrence of adverse events (Kakemam, et al., 2021), indicating that improvements in patient safety cultures are associated

with fewer adverse events. Similarly, Hwang and Hwang (2011) reported that stronger patient safety cultures are associated with fewer adverse events. Additionally, previous studies have demonstrated that promoting a positive, non-punitive patient safety culture encourages healthcare professionals to voluntarily report near misses and errors (Burlison, Quillivan, Kath, et al, 2020; Hessels, Paliwal, Weaver, et al., 2019). Kilic, Ovayolu, & Ozlem, (2017) revealed that if the nonverbal communication is negative and the person receiving the communication misinterprets that behavior (takes it as a personal affront), they may not be able to listen either. Meissner, Hasselhorn, Estry-Behar, et al (2007) reported that 53% of Italian nurses were unsatisfied with handover.

A qualitative study by Welsh, Flanagan, and Ebright, (2010) conducted in a mental health rehabilitation unit in south Wales, Australia, explored nurses' attitudes towards clinical handover. The study found that nurses often viewed handover primarily as a means of transferring responsibility to the incoming staff, rather than involving the patients. Additionally, some nurses felt that bedside handovers could confuse patients due to the use of medical jargon and that often patients felt excluded, perceiving the interaction as occurring solely among nurses without their participation.

A quantitative descriptive study by Thakore and Morrison (2001) identified negative outcomes associated with bedside clinical handovers in an Emergency department at Ninewells Hospital, Scotland. Participants reported that patient treatment was often delayed because handovers were frequently interrupted by other emergencies on the unit, as well as by the need to respond to questions from worried and anxious family members.

Fostering a positive patient safety culture enhances the quality of clinical handovers. However, bedside handovers can sometimes delay the delivery of essential care due to frequent

interruptions. Therefore, a deeper understanding of nurses' perspectives is still needed to improve future bedside handover practices (Rhudy, & Androwich, 2013).

Flanigan et al. (2015) identified three categories that hinder the development of a shared conceptual understanding during clinical handovers: ontological frameworks, cultural expectations, and environmental factors. Building on these categories, nurses' perceptions of clinical handover heightened four dominant themes: culture, referring to the capacity of new educational processes to alter established norms and expectations or to be effectively implemented despite them; time, reflecting a collective preference for brief yet efficient processes and a general reluctance towards procedures that extend formal handover duration; environment, relating to how the physical setting of handover influences nurses' learning experiences and the nurse-patient relationship; and process, which concerns the flow of information and shared understanding.

Practice.

Globally, clinical handover normally occurs between shifts or during transfer of the patients from a ward to a diagnostic room, between wards in hospitals, and between hospitals (Ballantyne, 2017). Clinical handovers are conducted through various methods, including verbal reports, face-to-face discussions, written notes, mobile phones, voice recordings, electronic reports, printouts and specialized forms. Using a structured communication tool can enhance the effectiveness of patient information transfer, reduce adverse events, promote patient safety, improve care quality, and increase healthcare provider satisfaction (Shadid & Thomas, 2018). Additionally, it can boost caregivers' confidence (Uhm, Ko, & Kim, 2019), minimize technical and medical errors, and help prevent loss of critical information (Barry, 2014). Some nurses found bedside clinical handover to be time consuming and involved frequent interruptions by

patients, family members, other healthcare providers and the environment (Poh, Parasuram, & Kannusamy, 2013).

Clinical handovers are essential across the patient care continuum and have a direct impact on patient safety and clinical risk management. Despite their importance, the literature consistently identifies significant communication shortcomings, including the inadequate transfer of critical patient information such as vital signs, provisional diagnoses, ongoing treatments, and newly prescribed medications (McCabe, 2004; Siyambalapitiya, et al. 2007; Meissner, et al. 2007; Ellison, 2015; Manias, et al. 2016). Studies also report multiple challenges during handovers, including inaccurate or incomplete information, limited opportunities for clarification, frequent interruptions (Riesenberg, et al. 2009; Welsh, et al. 2010; Calleja, et al. 2011) and insufficient time to conduct comprehensive handovers without negatively affecting patient care (Meissner, et al. 2007; O'Conelle, et al. 2008; Thakore, et al. 2022). Thakore and Morrison (2001) further noted that clinical handovers further contributed to delays in transferring patients to resuscitation room trolleys. Such issues increase the risk of errors, including omissions, misinterpretation and treatment delays (Pothier, et al. 2005; Sharit, et al. 2008).

Meissner, et al. (2007) reported that 53% of Italian nurses indicated that the lack of designated rooms in hospitals adversely affects the quality of information exchange. When handovers take place in noisy, overcrowded settings, often due to absence of dedicated spaces, the risk of miscommunication and errors is significantly heightened. The literature recommends the adoption methodological framework for nursing handovers, such as SBAR (situation, background, assessment, recommendations), to address and reduce these challenges (Bulfone, Sumathy, Grubissa, & Palese, 2012; Porteous, Stewart-Wynne, Connolly, & Crommelin, 2009; Quattrin, Calligaris, & Londero, 2014; Toccafondi, Albolino, & Tartaglia, 2012; Yee, Wong, &

Turner, 2013). Enhancing communication skills can improve the effectiveness of handovers and reduce the risk of adverse events (Finke, Light, & Kitko, 2008; Keller et al., 2013; Moore, et., 2013; Kourkouta & Papathanasiou, 2014).

As an observation in Uganda, a handover report contains a record of events on the ward during a shift. It may be written in a counter book where nurses ensure each patient is reported on. There is also a kardex which records all the nursing care details and observations of patients. On change of shift, verbal report is followed by written report and the nurse in charge decides on who should give the report. In Ugandan hospitals, a bedside handover report contains a record of ward events and changes that took place during a shift on a particular patient. This may be written in a counter book in which nurses ensure each patient is reported on, for all shift handover reports. The report can be a printed book with designed columns where nurses can document information about each patient, and spaces for nurses on different shifts are provided for signing.

The Kadex system is also utilized for patient reporting as required (St. Francis Nsambya Hospital, n.d.). It is a centralized ward-based nursing record that documents all nursing care details and patient observations recorded during a particular shift. Written handover reports primarily address critically ill patients, those who have undergone or are scheduled for surgery, newly admitted patients, individuals receiving specialized treatments, as well as discharges, transfers and deaths. Patients who are less acutely ill are handed over verbally. Proper patient identification must be ensured and includes details such as gender, age, bed number, name, current treatments and medications (including time of last dose and the next scheduled dose), vital signs (temperature, pulse, respirations and blood pressure), nutritional status, intravenous

infusions, and elimination status related to bowel and bladder function (St. Francis Nsambya Hospital, n.d.).

The nurses' procedure manual further states that during a change of duty, a verbal handover should be followed by a written report, along with the formal transfer of drugs and equipment. The nurse in charge of the shift determines who is responsible for completing the written report. The report must always include the date at the top and conclude with a clear, legible signature. It should be written in pen rather than pencil and presented in a concise, clear and systematic manner (St. Francis Nsambya Hospital, n.d.).

The formal recognition of patient safety as a distinct body of knowledge is relatively recent, making it a fairly new discipline. However, concerns remain that patient safety principles are not widely adopted and are often poorly implemented by healthcare professionals (Wake, Tuji, Gonfa, et al., 2021). Although training in clinical handover skills shows promise for improving handover quality, the need for such training within nursing education has not clearly been clearly defined, and existing training methods lack validation. Moreover, despite the availability of various handover tools in healthcare settings, evidence supporting effective handover training programs remains limited. (Stangle, 2021).

Roslan and Lim, (2017) indicate that research has shown mixed views of nurses towards bedside clinical handover. The majority of studies were carried out in western countries and none have explored the effects of coaching on nurses' knowledge, attitudes and practices regarding patients' handover on change of shifts. Hence, a study is much needed to gain an in-depth understanding of the nurses in this regard to lay a foundation to improve future bedside clinical handover processes.

Educational Interventions Improve Patient Handover

Nurse-to-nurse handover also provides an important opportunity for teaching and clinical review. Effective, clear and accurate communication among healthcare teams is essential to maintaining patient safety. Evidence shows that standardized, checklist-based handover approaches improve the quality of information exchange and help reduce unnecessary diagnostic tests and procedures (Dixon, et al. 2015). In response to these communication challenges, the Joint Commission introduced the “Targeted Solution Tool for Hand-off Communications” referred to as SHARE. Because the acronym aids recall, each letter represents the initial word of a handover guideline. This tool provides clear, structured guidance designed to streamline the handover process and improve the exchange of information, thereby reducing delays in patient care. Developed by leading hospitals, these guidelines highlight that effective handovers should focus on standardizing critical content, integrating structured tools into hospital electronic systems, allowing time for questions and clarification, reinforcing quality through clinical governance and audit processes, and supporting staff with ongoing education and coaching (Pucher, et al., 2015).

Among the recommended communication methods, ISBAR offers a structured approach for effectively briefing incoming team members, helping everyone quickly align and work together efficiently. ISBAR provides a concise format for presenting a patient’s information, physician typically rely on brief, action focused statements. The ISBAR can help to bridge this interdisciplinary gap, facilitate more mutually satisfying communication, and most importantly, assure that the other provider hears critical information. In urgent or potentially critical situations, this straightforward framework improves both the clarity and efficiency of

communication among team members, ensuring that everyone involved understands the situation when they arrive to provide assistance (Shalini, Castelino, & Latha, 2015).

At Singapore General Hospital (SGH), nurses perform clinical handovers three times daily, at 07:00, 13:00, and 21:00, in the inpatient wards. The bedside clinical handover is a recently implemented system at SGH. Nurses follow a structured approach using the acronym RIMMS, which stands for Respect, Introduction, Medications, Management and Safety. During a typical handover, essential information, including the patient's management plan, medications, and discharge arrangements, is communicated from one nurse to the next (Roslan & Lim, 2017).

Understanding the operational aspects that make handovers unique is important, but this knowledge alone does not identify the most effective methods for teaching or assessing handover practices. Educational interventions must extend beyond merely presenting core content; to drive meaningful improvements in performance, learners need to actively engage with the training and be able to apply both the concepts and procedures in their real-world practice (Flanigan, et al., 2015).

In order to address medical errors made during transitions of care, multiple regulatory agencies, including the Accreditation Council for Graduate Medical Education and the Joint Commission on Accreditation of Healthcare Organizations, have called for guidelines to ensure nursing competences in performing safe, effective handovers (The Joint Commission, 2017). Successful implementation of a standardized educational intervention to improve handovers has recently been shown to reduce medical errors in the inpatient pediatric setting (Starmer, A. J, et al, 2013).

Inadequate clinical handover may lead to nursing care errors which may later be rated as negligence of care. Inadequate handover's consequences are well known, inadequate

communication, lack of adequate knowledge on handover, poor attitude towards clinical handover and poor practices of handover. Other challenges may be lacking rooms that are quiet for giving a handover report, inadequate time and ward interruptions. There is lack of clear policies for guiding on clinical handover.

Coaching has an Effect on the Use of a Standardized Tool to Handover

Understanding effective training strategies can inform the development of programs aimed at strengthening handover skills. However, training alone is insufficient to improve handovers. A supportive work environment is also crucial to ensure that newly acquired skills are applied in practice and that improvements are maintained over time. Therefore, an effective approach to enhancing handovers requires a combination of practical tools, protocols and methods (such as checklists for standardized steps); interventions to shift the culture surrounding patient handovers (for example, role-playing and simulation); and a supportive environment that facilitates the transfer of training into everyday practice (such as microsystem-based training and coaching). This integrated framework should guide efforts to improve handover practices (Flanigan, et al, 2015; Desmedt, et al., 2021).

Coaching is a developmental approach used with individuals at all levels for various purposes. Through this process, a coach supports someone in enhancing their effectiveness by engaging in dialogue that promotes insight and prompts action (Fowler, 2014). Recently, the role of nurse coaches to support individual health and wellness behaviors has been explicated. Managerial coaching to improve job performance is a common practice, and executive coaching often is used for nurses aspiring to or already holding upper-level management positions. Peer coaching offers an opportunity for new and experienced nurses to learn from one another. Regardless of its specific goals, effective coaching relies on a supportive interpersonal

relationship and is intentionally structured to help the coachee clarify and achieve their objectives. In nursing, the professional growth of both bedside nurses and those in leadership roles is essential in enhancing patient outcomes, and career coaching serves as an important tool for fostering ongoing personal and professional development (Fowler, 2014). Regular staff development activities help to update nurses' knowledge, skills and abilities and providing guidance and feedback related to documentation (Abdel-Aal, & Ghallab, 2020). In recent decades, various strategies have been implemented to enhance communication during clinical handovers. The ISBAR tool is one of the standardized methods recommended by the WHO for ensuring effective and comprehensive handover (Pakcheshm, Bagheri, & Kalani, 2020).

The coaching guidance method is designed to help individuals and organizations achieve optimal performance by maximizing existing capabilities. Rather than teaching new skills or knowledge, it focuses on guiding individuals to apply the knowledge and skills they have already acquired to achieve their best performance. A previous study at Hajj Hospital in Jakarta found that 60% of head nurses still demonstrated insufficient coaching abilities (Herawati, et al., 2018).

Summary

Chapter Two reviewed and explored the literature related to the study. Literature was reviewed under several premises: clinical handover is a critical for quality care; challenges in clinical handover under subheadings of knowledge, attitude and practice; education interventions to improve clinical handover and whether coaching on the use of a standardized tool during clinical handover would cause an effect on handover. Chapter Three will comprehensively describe the methodology to be used in the study.

Chapter Three: Methodology

Chapter three addressed the methodology used in this study. It included method and design, study population, the setting where the study took place, and the sample selection of the study. It also described how data collection was carried out, the intervention, the description of the tool that was used, how the data analysis was done and the ethical considerations observed during data collection.

Method and Design

This study employed a quantitative approach. A quasi-experimental design was applied with a one group pretest and posttest after an intervention using coaching. The focus of coaching was on clinical handover by nurses at change of shift. The study design provided an opportunity to collect data from many participants within a short period, perform an intervention and then collect the second set of data to evaluate the effect of change among the same group of participants under study (Polit & Beck, 2012).

Study Population

The target population for this study was all the nurses and midwives working in hospital settings located in Uganda. The accessible population was drawn from a district hospital located in Southwestern Uganda. The accessible population was all nurses and midwives regardless of cadre and years of experience. The nurses and midwives were distributed across the hospital in all departments. They were accessed according to their convenience at the workplace since they work different shifts.

Study Setting

The setting was Kisiizi hospital which is located in the southwestern region of Uganda. It is a private, not-for-profit, faith-based hospital and located in the rural region. This was chosen

because it was representative of the setting where the entire nurses' population in which the researcher was interested and had the characteristics that supported the study. The hospital had a bed capacity of 280 beds and runs a variety of services with inpatient, outpatient and referral services. The hospital receives about 3,640 outpatients per month, 580 admissions per month and an average of 134 deliveries per month (P. Mirembe, personal communication, August 20, 2023). It was also considered a teaching hospital since it had a training school for nurses and midwives, and also an internship center for nurses, midwives and doctors who were deployed for study practices. The hospital attracts a number of patients who seek specialized care in medical-surgical, pediatrics, obstetrics and gynecology services and mental health care. The chosen setting was good place to sample the study population because of the reasonable number of nurses and the fact that they were readily available. So, there were higher chances that the majority would be available at the time of collecting data.

Sample

The sample of participants in the study included all nurses working within the study site. These were nurses of different cadres: bachelors, diploma and certificate qualifications. The sample was recruited using consecutive sampling which allowed everyone who met the criteria to participate in the study and the sample was representative of all nurses in Uganda.

Sampling plan.

The sampling frame comprised of all qualified nurses and midwives who provided care to patients that come to the selected study setting. Consecutive sampling of participants was applied to various clinical departments in the hospital and all the three shifts were considered for data collection. This sampling procedure allowed everyone who was willing to participate in the study to do so as long as he or she met the eligibility criteria. The sampling procedure gave

equal opportunity to be in contact with all the participants working different shifts of duty and met the criteria to be in the study. It took about 1 week to complete data collection during the pre-testing, the coaching intervention took about four weeks and the post-test data collection took one week.

Sample size.

The hospital had about 400 staff members of which about 90 of them comprised of nurses and midwives with different qualifications. For this study, the desired sample size was determined using sample size estimation formula by Krejcie and Morgan, (1970). The formula recommended a minimum number of 60 participants to be drawn from the larger population of about 90 nurses and midwives. However, every participant who was eligible and given consent was included in the study. The formula is expressed as follows:

$$S = X^2NP(1-P)/d^2 (N-1) + X^2P(1-P) \text{ where}$$

S – is the required sample size or number of participants.

X^2 – is the table value of chi-square for 1 degree of freedom at the desired confidence level of 3.841.

N – is the number of accessible participants or population size.

P – is the population proportion assumed to be 0.5 since it would provide the maximum sample size.

D – is the degree of accuracy expressed as a proportion of 0.05.

Using available minimum sample of 60 nurses,

$$S = (3.841) * 60 * 0.5(1-0.5) / 0.05^2 * (60-1) + 3.841 * 0.5(1-0.5)$$

$$57.615 / 1.10775$$

$$S = 52.01$$

Sixty accessible participants provided a minimum sample of 52. However, there was room for more participants to enroll for the study if they were willing to participate.

Sample Power Analysis

$$SE0 = \sqrt{[P0 (1-P0)/n]} \quad Z - \text{value for } \alpha = 0.05 \text{ (two tailed)}$$

$$\sqrt{0.5 \times 0.5 / 52} \quad Z_{\alpha/2} = 1.96$$

$$\sqrt{0.25/52} \quad Z = (P1 - P0)/SE0$$

$$\sqrt{0.00481} \quad = (0.65 - 0.50)/0.0693$$

$$= 0.0693 \quad = 0.15 / 0.0693$$

$$= 2.16$$

$$\text{Power} = P(Z > 1.96 - 2.16)$$

$$= P(Z > -0.20)$$

= 0.5793 (from Z-table), Power is approx. = 0.58 (58%). A post hoc power analysis showed that the sample size of 52 participants, the study had approximately 58% power to detect a 15% difference in proportions at 5% level of significance. Higher power (equal or above 80%) would only be achieved for larger effect sizes (equal to or above 20%).

Inclusion criteria.

All nurses and midwives who were working in hospital settings at the time of the study and willing to give consent were given opportunity to participate in the study. There are no exclusion criteria.

Data Collection Tool

A structured questionnaire (Appendix B) was used to gather information from the nurses and midwives working in a rural hospital in Uganda. The questionnaire was administered twice, and another section was added for posttest only. The questionnaire consisted of four sections,

and these included: the demographic data, knowledge, attitude, and practice of nurses regarding utilization of a standardized tool during clinical handover at change of shift. The questionnaire comprised of multiple-choice questions and Likert scale items where the participants were required to circle the most correct answers. The four sections are described below. During the posttest, there were additional questions to evaluate the effectiveness of using the ISBAR tool during clinical handover. This section comprised of 12 item statements.

Item Analysis.

A structured questionnaire was used to gather data from the participants. Item analysis was done on all the sections of the questionnaire. The questionnaire has a total of 56 questions altogether and is comprised of five sections and these are: the demographic characteristics, knowledge, attitude and practice of study participants. The fifth section was filled during posttest only.

The demographic data addressed participants' characteristics and consisted of five items (1-5) that included age in years, gender, highest level of education, cadre, and years of experience. These characteristics were used to describe the participants in the study.

The knowledge section assessed the knowledge of nurses regarding the use of a ISBAR tool during clinical handover. The section had 14 multiple choice questions (6-19) assessing knowledge about clinical handover. The questions focused on whether they had heard about clinical handover, training on clinical handover, use of a ISBAR tool during clinical handover, when and who does the clinical handover, several types of clinical handover, the goal and importance of handover and the content of a good clinical handover. The participants were expected to respond by circling the best answer from the options given in the questionnaire. A correct answer scored 1 and the wrong answer scored 0. The scores were then totaled and

converted to percentages. Adequate knowledge was given a score of 80% and above, while inadequate knowledge was given a score of 79% and below (Olum et al., 2020).

The attitude section determined the effect of coaching towards the nurses' attitude regarding the use of ISBAR tool during clinical handover at change of shift. The section comprised of 10 questions (20-29) related to the use of the tool. Some questions were turned around so they could reflect the attitude positively or negatively. The attitudes of the participants were measured using a Likert scale with the choices of *strongly disagree*, *disagree*, *agree*, *strongly agree*. This helped the researcher to be able to determine their level of agreement or disagreement. The questions were graded on a Likert scale as 1 for *strongly disagree* to 4 for *strongly agree* for statements that were formulated positively (Polit & Beck, 2012). Answer options were added together and divided by the total scores to obtain the mean. A score of 3.50 to 4.00 indicated a strongly positive attitude, 2.50 to 3.49 indicated moderately positive attitude, 1.50 to 2.49 indicates poor attitude and 1.00 to 1.49 indicates very poor attitude among nurses regarding the use of ISBAR tool during clinical handover (Toomnan & Putsyainunt, 2022).

The practice section established the self-reported practice of nurses regarding use of ISBAR tool during clinical handover at change of shift. The questions comprised of 15 questions (30-44) which were measured with a Likert scale and required participants to indicate a tick at either *never*, *rarely*, *sometimes*, *often* or *always*. They ranged from a score of 1 for *never* to a score of 5 for *always*. A mean calculation was done. A score of 4.51 to 5.00 indicated excellent practice, 3.51 to 4.50 indicated very good practice, 2.51 to 3.50 indicated moderately good practice, 1.51 to 2.50 indicated fair practice and 1.00 to 1.50 indicated poor practice among nurses regarding the use of ISBAR tool during clinical handover (Toomnan & Putsyainunt, 2022).

The effectiveness of the ISBAR tool during clinical handover was evaluated during posttest only. Twelve test items were measured using a Likert scale with choices of *strongly agree, agree, disagree, and strongly disagree*. This helped the researcher to be able to determine their level of agreement or disagreement. The questions were graded on a Likert scale as 1 for *strongly disagree* to 4 for *strongly agree* for statements that were formulated positively (Polit & Beck, 2012). Answer options were added together and divided by the total scores to obtain the mean. A score of 3.50 to 4.00 indicated a strongly positive attitude, 2.50 to 3.49 indicated moderately positive attitude, 1.50 to 2.49 indicated poor attitude and 1.00 to 1.49 indicated very poor attitude among nurses regarding the use of ISBAR tool during clinical handover (Toomnan & Putsyainunt, 2022).

Pilot Plan.

Before the questionnaire was administered to the study participants, a pilot study was carried out and this helped in getting feedback on clarity, readability, and the length of time required to complete the questionnaire. The questionnaire was pre-tested on a similar population, 10 nurses, but in a different setting which was also a hospital with a capacity of 200 beds. After completing the questionnaire, the participants were asked to stay for a discussion to give their feedback.

After getting feedback from the group the questionnaire was edited. The codebook was created by putting the pilot data into the software and testing data analysis. This helped point out other areas that needed adjustment. After adjusting the questionnaire, it was submitted to the supervisors for approval.

Validity

The content in the questionnaire (Appendix B) was generated from my detailed literature review of this study with the guidance of the faculty who were the research supervisors. Content validity of the questionnaire was reviewed by a team of two content experts who were nurses with a master's degree in nursing and had knowledge and experience in the clinical area regarding clinical handover. They assessed the items in the questionnaire under each section and evaluated if they related to the study objectives, were comprehensive, and balanced. Adjustments were made and approved by my supervisors

Reliability

The results of the pilot study were used to determine reliability of the tool. Cronbach's alpha was used to score the reliability of the questionnaire before the final administration of the questionnaire. "Internal consistency of the questionnaire was computed using Cronbach's Alpha to estimate the extent to which different sections of the questionnaire (items) were reliably measuring the critical attributes" (Polit & Beck, 2017, pg. 308). A score of 0.80 or more was desirable.

Data Collection

After obtaining permission from the Research Ethics and Education Committee and administration at the study site, the principal investigator mobilized participants through their immediate departmental supervisors. The supervisors helped gather all the nurses in one convenient and quiet place and a clear explanation of general information about the study was given by the principal investigator. The orientation meeting took an hour and a half. Participants were given the opportunity to have more information concerning the consent form and were

allowed to ask questions for clarification. The principal investigator, who was also their supervisor, left the room but indirectly oversaw the processes of data collection.

The research assistant then went through voluntary signing of the consent forms (Appendix A). The questionnaires (Appendix B) were then distributed for filling. Participants were given identification (ID) number each, which was written on the questionnaire. The research assistant took record of the identification numbers against the participants' name; kept the record paper in a sealed envelope which was retrieved during the posttest collection of data. The sealed envelope was safely kept by the research assistant in a lockable cupboard. After collecting all the questionnaires, the research assistant organized them, put them in a folder, and gave them to the principal investigator.

After the intervention, the principal investigator oversaw indirectly the research assistant who gathered participants at a convenient time to complete the posttest questionnaires. Posttest data was collected in a period of two weeks so all participants who did the pretest filled the posttest questionnaire. It was at this time that the research assistant redistributed the code numbers that each participant used on pretest. The research assistant ensured every participant who filled the pretest questionnaire filled the posttest one too, by cross checking the list with the participants' names against the codes and distributing the codes. The posttest filled questionnaires were collected from the participants by the research assistant, put in a folder and handed over to the principal researcher to be kept in a lockable cupboard under her possession only. After collecting posttest data, the lists of codes with the participants' names were destroyed.

Intervention

This took place in phases; the group presentation phase and the clinical coaching phase. The entire process lasted for six weeks, week one for training the research assistant and preparing the participants, four weeks for coaching, and the final week for collecting the posttest data. The researcher introduced the necessary documents (ISBAR tool) to participants and gave a clear explanation on how the document was used in the group presentation phase. After the participants understood how to use the ISBAR tool, the clinical coaching phase followed.

Group presentation phase.

All staff were required to attend the group presentation where the researcher will introduce the concepts of clinical handover using a prepared power point presentation (Appendix C) and the ISBAR tool (Appendix F). After the presentation the participants were given a copy of the ISBAR tool to use in the clinical area during handover. A demonstration on how to use ISBAR tool with selected case scenarios (embedded in the power point presentation) were presented to groups of 3-5 for discussion. The participants were asked to give comments on how the scenarios went and immediate feedback were given to the group. A role play on how to perform the clinical handover will complement the presentation. This helped them understand the concepts of clinical handover clearly.

After this, each participant was expected to generate individual learning goals related to using the ISBAR tool which they will share with the researcher. Then they were encouraged to start implementing them at their workstations. The participants also were invited to a coaching session.

Clinical coaching phase.

The clinical coaching phase was designed to ensure the researcher interacted with all participants but also ensured it was done at the right time which was at change of shift to avoid compromising service delivery at the department. The participants were invited in groups of 3 to 5 for the coaching session and they were asked to set goals about the learning needs on use of ISBAR tool (Appendix G) during bedside clinical handover. This was guided by the learning script (Appendix F). Clinical coaching took place at points of care delivery such as in the nurses' room, at bedside or nurses' workstation guided by the rotation timetable (Appendix E). The researcher observed individuals and groups of participants on how they were progressing, continue encouraging them and provided technical support to those in needed of it. All three shifts were utilized so that all participants got equal time for coaching and the researcher ensured all participants are coached. The researcher continued to perform demonstrations for specific skills and asked participants to do return demonstrations and then gave them immediate feedback.

The participants continued setting weekly goals and asked constructive questions where support and feedback were given. Participants were given the ISBAR tool to use for guidance. The coaching sessions took place during working hours depending on individual or departmental preferences. Discussion of the ISBAR tool was continuously done through role modeling and empowering the participants. The researcher also attended to individual participants and helped them explore their values and empowered them to utilize the tool. Individual participants were attended to using different approaches to help them understand the content. The ISBAR tool focuses on the key sections, Identification, Situation, Background, Assessment and Recommendations. The advantages and benefits of using ISBAR were also be emphasized.

Data Analysis

After data collection, data were analyzed using IBM SPSS Statistics (version 24) which were protected by a password so that no one could access them. Before data entry, questionnaires were checked for any missing data, and after entry, data were checked for double entries. If there were errors of double entries or missing data identified, these were deleted and discarded.

Demographics.

I used descriptive methods to describe the participants based on specific categories. I used frequencies and percentages to analyze the characteristics of age, gender, years of experience, any prior training on filling and using a specific handover template or tool especially for change at shift (Polit, & Beck, 2012). Demographic data were analyzed to describe the distribution in the study population, and they were reported in form of tables.

Knowledge.

Each person's total score was determined by computing the resultant percentage and assigning a category. This was done for both the pretest and posttest data. In addition, I computed the mean percent for the group and examined the distribution within each category to get an overall group score. In order to determine the impact of the intervention, I compared the pre-test and post-test data and gave my findings in a tabular style. I evaluated each question's performance on the pre- and post-tests. I examined the proportion of participants who answered each question correctly and the proportion who answered it incorrectly. A correct answer scored 1 and the wrong answer scored 0. The scores were then totaled and converted to percentages. Very good knowledge was given a score of 80% and above, good knowledge was scored 60% - 79% and poor knowledge was scored 59% and below (Olum, Chekwech, Wekha, Nassozi, &

Bongomin, 2020). The impact of the intervention on knowledge was examined using a paired t-test for statistical significance, and a p-value of less than 0.05 was used.

Attitude.

Each person's total attitude score was determined by calculating the mean and assigning a category. In addition, the overall group mean, the distribution within categories, and the mean for each using the pre and posttest responses was examined. In order to determine the impact of the intervention, I compared the pre-test and post-test data and gave my findings in a tabular style. I evaluated each question's performance on the pre- and post-tests. A more pessimistic mentality was shown by the *strongly disagree* response, whereas a more positive attitude was shown in the *strongly agreed* response. Three of the questionnaire's items were phrased negatively, and their scores were reversed. Answer options were added together and divided by the total scores to obtain the mean. A score of 3.50 to 4.00 indicated a strongly positive attitude, 2.50 to 3.49 indicated moderately positive attitude, 1.50 to 2.49 indicated poor attitude and 1.00 to 1.49 indicated very poor attitude among nurses regarding the use of ISBAR tool during clinical handover (Toomnan, & Putsyainunt, 2022). The Wilcoxon signed-rank test was used as a comparison statistic to examine the impact of the intervention on attitude, with a p-value of less than 0.05 designated as having statistical significance.

Practice.

Each person's total practice score was determined by calculating the mean and allocating a category. In addition, the overall mean, the distribution within categories, and the mean for each using the pre and posttest responses was examined. In order to determine the impact of the intervention, I compared the pre-test and post-test data and reported my findings in a tabular style. I evaluated each question's performance on the pre- and post-tests. A *never* response

denoted a bad practice, whereas an *always* response represented outstanding practice. A score of 4.51 to 5.00 indicated excellent practice, 3.51 to 4.50 indicated very good practice, 2.51 to 3.50 indicated moderately good practice, 1.51 to 2.50 indicated fair practice and 1.00 to 1.50 indicated poor practice among nurses regarding the use of ISBAR tool during clinical handover (Toomnan, & Putsyainunt, 2022). The Wilcoxon signed-rank test was used as a comparison statistic to examine the impact of the intervention on practice, with a p-value of less than 0.05 designated as providing statistical significance.

Ethical Considerations

For this study, this section presented the ethical approval process, informed consent, privacy and confidentiality. The study benefits, risks, social or cultural issues and conflict of interest was also described.

Ethical approval.

The principal researcher sought administrative clearance before submitting to the Research Ethics Committee (REC) at Uganda Christian University for approval of the study. Once approved by the REC the researcher took the document to the appropriate person at the data collection site. The researcher first met with the hospital director and present the introductory letter. The letter was then forwarded to the Research Ethics and Education Committee of the study setting through the chairperson for final permission to carry out the study.

Informed consent.

The researcher explained the research study and then invited nurses to the study. Given that the researcher was an immediate supervisor to study participants, the research assistant helped willing participants sign a consent form if they agree to be in the study (Appendix A).

This helped them understand and participate willingly in the study. All the nurses working in the study site were given equal opportunity to understand and participate in the study.

Privacy.

Personal identifiers were omitted in the questionnaires. Only codes were used and the master copy was kept by the research assistant under lock and key. The research assistant was to ensure that the participants had the same code from the master copy for the pretest and the post test. The research assistant was responsible for collecting pre and post test data by distributing the questionnaires to the participants. After collecting the questionnaires, the research assistant sealed them in an envelope and handed them over to the principal researcher and who secured them in a locked cupboard so that data was not accessible to anyone. The pre and posttest questionnaires were sealed in envelopes and locked up in a cupboard until the study would be published. Then they would be destroyed by burning.

Confidentiality.

Data were reported in aggregate form as opposed to an individual basis. All the data files and the code book containing data were given a password for protection and access restricted to the researcher, statistician and supervisor during the data analysis phase. After data entry, the questionnaires were kept under lock and key until the study is published. After publication of the study, all data that was collected were destroyed.

Benefits to participants.

Participating in this study may provide the knowledge and skill to use the ISBAR tool during clinical handover. The coaching sessions guided the participants on how to use the tool and they gained confidence. The participants were assured of providing safe and quality health care.

Risks.

The study participants were not anticipated to encounter any risks for participating in the study.

Incentives.

There were no major incentives in this study. However, a minimum remuneration of Uganda shillings of 10,000/= was given to the participants to appreciate the time they will have given to participate in the study. This was given after completion of a posttest filling of the questionnaire.

Social-cultural issues.

The principal investigator is the immediate supervisor for the participants and this may cause anxiety when they are completing the questionnaires. Since all staff were asked to attend the group presentation whether or not they chose to be in the study, the participants may have felt insecure to fill the questionnaires because they may have thought I would use the results to rate their performance as nurses in the hospital.

Conflict of interest.

The principal investigator does not anticipate conflict of interest during the course of the study. This is because there is no financial gain in the study and the researcher did not receive any financial support to carry out the study. The study is being done in fulfilment of a master's course requirement.

Summary

Chapter three described the methodology that was used to conduct the study. This included the study design, study population, study setting, sample, sampling plan, sample size, and the inclusion criteria. The chapter also described the intervention, data collection tool which

involved; item analysis, pilot plan, validity and reliability of the tool to be used in the study. Finally, the chapter described the data collection process, data analysis and also lays out the ethical considerations.

Chapter Four: Results of Study

This chapter presents the study findings about the effect of clinical coaching on nurses' knowledge, attitude and practices regarding the use of a standardized tool during clinical handover at a district hospital. The data included the socio-demographic characteristics and the three specific objectives. The first objective was to identify the effect of coaching on knowledge of nurses regarding the use of the ISBAR clinical handover tool. The second was to determine the effect of coaching on nurses' attitude regarding the use of a clinical handover tool and lastly, the third one was to describe the effect of clinical coaching on nurses' practice regarding the use of ISBAR tool during clinical handover. In addition, nurses were asked to rate their view of the effectiveness of the tool for use in handover. Data analysis was done using IBM SPSS Statistics (Version 24) for data collected both pre-intervention and post intervention.

Demographic Characteristics of Participants

The demographic data displayed the nature and composition of the study population. This section presents findings regarding gender, age, highest level of qualification professional, cadre, and years of experience, trained on handover and place of training by each participant. The scores were summarized in tabular form and each category was expressed as frequency and the percentage of the total sample participants. The demographics in Table 1 showed that the sample consisted of 69% female nurses. Forty-five percent were aged between 20-29 years old. Sixty percent of the participants were qualified at certificate level and 50% had less or equal to 5 years of experience. Eighty-five percent indicated to have had training on a handover tool with 35% indicating to have had training from school.

Table 1: *Demographic Characteristics of Study Participants on Clinical Handover (n = 58)*

Variable	Frequency(f)	Percentage (%)
Gender		
Male	18	31
Female	40	69
Age		
20-29	26	45
30-39	20	35
40-49	6	10
50-59	2	3
Not indicated	4	7
Highest Level of Qualification		
Certificate	35	60
Diploma	23	40
Cadre		
Nurse	44	76
Midwife	14	24
Years of Experiences		
Less or equal to 5years	29	50
6-10 years	21	36
11-15 years	4	7
16 or more years	4	7
Trained on Handover Tool		
No	9	16
Yes	49	85
Place of Training		
School	20	35
Workshop	6	10
Discussion	11	19
Workplace	21	36

Effect of Coaching on Nurses' Knowledge Regarding the Use of Clinical Handover Tool

This section presented the study findings on effect of clinical coaching on nurses' knowledge regarding the use of a standardized tool during clinical handover. The findings were presented in the following categories: descriptive, inferential and performance on individual question about nurses' knowledge.

Descriptive findings on nurses' knowledge.

This section presents the findings in relation to the first objective which was to identify the effect of coaching on nurses' knowledge regarding the use of a standardized tool during bedside clinical handover at change of shift at a district hospital in Uganda. This study being interventional, both pre and post intervention findings were presented in the form of raw scores and categories.

Comparison of nurses' knowledge by raw scores.

An analysis of each individual score for both pre- and post-intervention on knowledge was calculated. Details of the analysis are attached in Appendix J and K respectively. The overall mean knowledge score was 77% for pre-intervention. After intervention the overall mean score on knowledge of the participants increased to 95%. The mean change score attained on knowledge was 18%.

Comparison of nurses' knowledge by category.

Comparison of nurses' knowledge in category was done by categorizing the knowledge scores into different levels. These levels were indicated as very good, good and poor level of knowledge as shown in Table 2.

Table 2: *Comparison of Nurses Knowledge Category Before and After Intervention (N=58)*

Knowledge Scores	Pre-test		Post test	
	f	%	F	%
Very good ($\geq 80\%$)	23	40	53	91
Good (60% -79%)	28	48	5	9
Poor ($\leq 59\%$)	7	12	0	0

Table 2 shows the comparison of nurses' knowledge levels before the coaching intervention, 40% of the participants portrayed to have very good knowledge on use of a clinical handover ISBAR tool. Following the coaching intervention there was a subsequent improvement to 91% in knowledge acquisition. Prior to intervention 48% had good level of knowledge which showed a reduction to 9% post intervention. And finally, at pre intervention 12% had poor knowledge which later showed that none of the participants had poor knowledge after intervention.

Inferential findings on nurses' knowledge.

The inferential findings analysis was done using the paired t-test in order to establish any statistically significant differences in nurses' levels of knowledge as a result of the coaching intervention. A significant change was indicated by a P-value of less than 0.05 as shown in Table 3.

Table 3: Comparing mean of knowledge before and after the intervention using a paired t-test (N=58)

	Mean (%)	SD	P-value
Pre-Intervention	70	14.2	
Post-Intervention	95	6.8	0.001

Table 3 compares the mean difference in knowledge for both pre and post intervention on nurses' knowledge on use of a standardized tool during clinical handover. Prior to the intervention, the mean score was 70% (good knowledge). Following the coaching intervention, the mean score increased to 95% (very good knowledge). This substantial increase shows a significant level of improvement in knowledge as indicated by a P- value of 0.001 which is less than 0.05 proposed in the methodology.

Performance on knowledge questions.

In this section each item in the questionnaire was analyzed to establish its performance to help in identifying areas of strengths and weakness. Pre-intervention 7 items scored with 80% and above indicating areas of strengths. This was observed in areas of communication as being very important, knowing that all nurses are eligible to give a handover report about all patients, the content in a handover report which should be both verbal and written and finally, knowing that all nurses on shift are responsible for writing a handover report (Appendix J). The items that scored below 60% in pre intervention included the best description of clinical handover and knowing any standardized way in which a handover can be done. However, after the intervention, all 14 items scored above 80% (Appendix K).

The Effect of Coaching on Attitude of Nurses Regarding Clinical Handover.

This section presented the study findings on the effects of clinical coaching on nurses' attitude regarding the use of a standardized tool during clinical handover. The study findings were presented in different categories of descriptive, inferential, and performance of individual questions.

Descriptive findings on nurses' attitude.

The descriptive findings were presented on the effects of clinical coaching on nurses' attitude regarding the use of a standardized tool during bedside clinical handover at change of shifts at a district hospital. The findings were presented by comparison of raw scores and categories.

Comparison of nurses' attitude by raw scores. An analysis was done on each individual's overall score for both pre-intervention and post-intervention. This was calculated using the mean score. At pre intervention the overall mean score of nurses on attitude regarding use of a standardized tool was approximately 2.6. After intervention the mean score slightly increased to approximately 2.7.

Comparison of nurses' attitude by category. This section presented the analysis of attitude scores regarding the use of the standardized tool. The attitude was categorized in different levels as *strongly positive*, *moderately positive*, *poor* and *very poor* as summarized in Table 4.

Table 4: *Categories of Nurses' Attitude Before and After Intervention (n=58)*

Category	Pre-test		Posttest		%
	F	%	f	%	Change
Strongly Positive (3.50- 4.00)	0	0	58	100	28
Moderately Positive (2.50- 3.49)	42	72	0	0	0
Poor (1.50-2.49)	16	28	0	0	-28
Very poor (1.00-1.49)	0	0	0	0	0

Table 4 displays the results about nurses' attitude regarding the use of a standardized tool during clinical handover before and after the intervention of coaching. Pre intervention, the majority of the participants (72%) had a moderately positive attitude towards the use of a standardized tool during handover. Twenty-eight percent had a poor attitude. Following the real time coaching intervention, 100% of the participants had a strongly positive attitude towards the use of a standardized tool during handover. A 28% change was noticed in nurses' attitude towards the use of standardized tool.

Inferential findings on nurses' attitude.

The inferential findings were done using the Wilcoxon signed rank- test in order to establish statistically significant differences in nurses' attitude as a result of coaching intervention. A p-value was equal to 0.001 as shown in table 5.

Performance on attitude questions.

Each item under assessment of attitude was analyzed to establish its performance to help in identifying areas of strengths and weaknesses. During pre-intervention, nurses' strengths were observed in 3 items where they believed that the use of a standardized tool is time efficient, had confidence in accepting responsibility for patient care and that nurses had poor communication

amongst themselves (Appendix P). However, post-intervention, all responses signified a moderately positive attitude (Appendix Q).

Table 5: *Comparing Mean Attitude Before and After Intervention Using a Wilcoxon Signed-Rank Test*

	Mean%	SD	P-value
Pre-Intervention	2.6	0.19	
Post-Intervention	2.7	0.14	0.001

Table 5 indicates that prior to the intervention, the mean attitude score was 2.6% (moderately positive attitude). Following the intervention, the mean score slightly increased to 2.7% (which is still a moderately positive attitude).

The Effect of Coaching on Practice of Nurses Regarding Clinical Handover

This section presented the study findings on the effect of clinical coaching on nurses' practice regarding the use of a standardized tool during clinical handover. The study findings were presented in different categories of descriptive, inferential, and performance on individual questions.

Descriptive findings on nurses' practice.

The descriptive findings present the study findings on the effects of clinical coaching on nurses' practice regarding the use of a standardized tool during clinical handover. The findings were presented by comparison of raw scores and categories.

Comparison of nurses' practice by raw scores.

An analysis of each individual's overall score for pre- and post-intervention was done. This was calculated using the mean score. Before the intervention, the overall mean practice score of the study participants was 3.1(Appendix T). After the intervention, the overall mean practice score was 3.6 (Appendix U).

Comparison of nurses' practice by category.

This section presents the analysis of practice scores regarding the use of a standardized tool categorized into levels. The scores were computed by summing up the individual responses and divided them by the total number of statements. Scores were categorized as *excellent*, *very good*, *moderately good practice* and *poor practice*. This was summarized as shown in Table 6.

Table 6: *Categories of Nurses Practice Before and After Intervention (n=58)*

Category	Pre-test		Post test	
	F	%	f	%
Excellent (4.51 -5.00)	0	0	0	0
Very good (3.51 -4.50)	0	0	55	95
Moderately good (2.51 -3.50)	12	21	3	5
Poor (1.00 – 2.50)	46	79	0	0

Table 6 indicates that pre-intervention, 21% of the participants had moderately good practice and 79% had poor practice. However, post-intervention the results showed an improvement with the majority (95%) having very good practice.

Inferential findings on nurses' practice.

The inferential findings analysis was done using the Wilcoxon signed rank test in order to establish the statistically significant differences in the nurses' practice as a result of the coaching intervention. A significant change was indicated by a P-value of 0.001 as shown in Table 7.

Table 1: *Comparing Mean Practice Before and After Intervention Using Wilcoxon Signed Rank Test*

	Mean	SD	P-value
Pre-Intervention	3.05	0.33	
Post-Intervention	3.69	0.13	0.001

Table 7 compares the mean difference in practice for the pre and posttest following the coaching intervention. Prior to the intervention, the mean practice score was 3.0 (moderately good practice). Following the intervention, the mean score increased to 3.6 (very good practice). The results suggested a statistical significance of a P-value of 0.001.

Performance on practice questions.

Each question was analyzed to establish its performance in order to help identify areas of strengths and weaknesses. Pre-intervention, areas of nurses' strengths were in compliance with a standardized clinical handover system, observing time for clinical handover and handing over all patients on the ward at change of shift (Appendix R). However, after intervention, weaknesses were still significant in areas of supervision by head of department and trainings on clinical handover (Appendix S)

The Effectiveness of the ISBAR Tool

After completing the questionnaire assessing nurses' knowledge, attitude and practice regarding the use of a standardized tool during clinical handover, participants were asked their opinion of the ISBAR tool's effectiveness. This was rated on a 4-point Likert scale categorized as *strongly disagree*, *disagree*, *agree* and *strongly agree*. Table 8 shows the result of participants' opinions. All (n=58) the participants agree that the use of a standardized tool is very effective.

Table 2: Effectiveness of ISBAR Tool

Category	f	%
Strongly Agree (3.50- 4.00)	0	0
Agree (2.50- 3.49)	58	100
Disagree (1.50-2.49)	0	0
Strongly Disagree (1.00-1.49)	0	0

Table 8 indicates that the effectiveness of the use of a standardized tool during clinical handover. A hundred percent (100%) agreed with the new system of clinical handover. They disagreed with all the negative statements about the use of ISBAR during clinical handover.

Performance on effectiveness of ISBAR tool questions.

Each question was analyzed to establish its performance in order to identify areas of strengths and weaknesses. Post-intervention, areas of nurses' strengths were observed in *all participants agreeing that the implementation of ISBAR protocol improved handover, the system was efficient for handover, it was time efficient, the new handover system was consistent for each patient, the amount of information handed over was sufficient to meet the patients' needs and no critical information was often omitted.* Further strengths were observed in *all participants agreeing that the patient information on ISBAR was well structured during handover, nurses were consistently informed about which patients were unstable and required attention, they all had the confidence in accepting responsibility for patient care, and all participants agreed that coaching and ISBAR improved handover practice, patient care and safety.* There were no areas of weaknesses observed post-intervention.

Summary

Chapter Four presented the findings for the demographic characteristics of the participants and the three study objectives considering the effect of clinical coaching on nurses' knowledge, attitude and practice regarding the use of a standardized tool during clinical handover. The effectiveness of the ISBAR tool was also analyzed post-intervention. Chapter Five will provide a discussion of the study findings as well as the limitations, recommendations and the conclusion.

Chapter Five: Discussion and Recommendations

Chapter Five discusses the results that were obtained in the study following each of the objectives. The first objective was to identify the effect of coaching on nurses' knowledge regarding the use of a standardized tool during bedside clinical handover at change of shifts. The second objective was to determine the effect of coaching on nurses' attitudes regarding the use of a standardized tool during bedside clinical handover at change of shifts. The last objective was to describe the effect of coaching on nurses' practice regarding use of a standardized tool during bedside clinical handover at change of shifts at district hospitals in Uganda. The chapter also presents a discussion of the theoretical framework, the recommendations, limitations, areas for further study, dissemination of findings and finally the conclusion.

Participants' Demographics

The study involved 58 participants of whom 76% were nurses and 24% were nurse midwives. The female participants dominated the study with 69% reflecting the gender distribution commonly seen in the nursing profession in Uganda. A similar observation was made about gender distribution in a study by Nabirye, et al., (2020).

Fifty-seven percent of them held certificates in nursing and midwifery. In Uganda, certificate level nurses form the foundation of frontline healthcare, often being the first contact for patients and communities (Okuongzi et al., 2023). According to the Human Resource Strategic Plan 2020-2030, there are over 11,000 practicing certificate level nurses and more than 10,000 enrolled midwives nationwide, underscoring their central role in primary healthcare delivery (Ministry of Health, Uganda, 2021). Nurses with this qualification are commonly given employment opportunities due to their availability and the relatively low cost of hiring them. However, even though they are the majority, their knowledge and skills still have limitations at

their level of qualification. A related study by Nabirye et al., (2020) revealed that while certificate level nurses and midwives constitute the largest proportion of health workforce, many face limitations in clinical decision-making, emergency response and management and complex cases. Similarly, Kyaddondo and Whyte, (2020) observed that Uganda's dependence on certificate level nurses and midwives reflects both economic and systemic factors, such as cost-effectiveness of employing lower cadre health workers and the shortage of higher qualified personnel, especially in district and community health facilities. Additionally, the Ministry of Health Annual Sector Performance Report (2020/2021) noted that although enrolled nurses and midwives play a critical role in sustaining primary health care, especially in rural and hard-to-reach areas, their scope of practice is often limited by their level of training, resulting in variations in quality of care.

Sixty-two percent of the participants had a working experience of more than 2 years, whereas 38% were new to the field. Similar trends have been reported in Uganda by Kiiza, Nabirye, et al., (2021) who found that most nurses in public health facilities had between two and five years of experience, a period associated with growing confidence and competence in clinical tasks. The nurses that have more years of experience can then support the new entrants as they develop in the field. In Uganda, many newly qualified nurses and midwives report feeling unprepared for clinical practice, citing lack of orientation, supervision and mentorship (Kakyo et al., 2025).

When it came to using clinical handover templates, 84% of the participants said they had some form of instruction. Of these, 35% had training during school, 7% at a workshop, 7% through a discussion and 36% at the workplace. Although the majority reported some exposure, the training could have been done some time back, it may not have been consistent and not

focused on the use of structured clinical handover tools. Similarly, Tumwine, et al., (2015) found that handover processes were largely informal, unstructured and inadequately supervised. Additionally, in a Ugandan context, Nabirye, et al, (2020) noted that although nurses and midwives are central to patient management, many rely on ad hoc communication methods due to limited institutional support for structured handover systems.

The Effect of Coaching on Nurses' Knowledge Regarding the Use of a Standardized Tool

Following a close analysis of the study results about knowledge, before the coaching intervention, results demonstrated that 40% of the participants had very good knowledge about the standardized tool, 48% had good knowledge while 12% had poor knowledge. However, after the coaching intervention, there was a remarkable improvement in knowledge acquisition with 91% having very good knowledge, 9% with good knowledge and none with poor knowledge. This implies that the coaching intervention was highly effective in improving knowledge and understanding of the standardized handover tool. A similar improvement in knowledge after targeted training was observed in studies conducted among nurses at Mulago National Referral Hospital and Kawempe National Referral Hospital, which found out that midwives' knowledge scores significantly improved after clinical mentorship. The authors concluded that continuous coaching and on-site mentorship substantially improved knowledge retention (Nabirye, et al., 2022; Senjovu, et al., 2021).

Prior to the intervention, knowledge assessment regarding the standardized tool during clinical handover, showed some items scored above 80% indicating areas of strength. Identified areas of strength were *communication being very important, knowing that all nurses are eligible to give a handover report about all patients, content in a handover report to be both verbal and written, and knowing that all nurses are responsible for writing a handover report.*

The high score in the area of recognizing communication as a very important aspect of nursing care reflects an encouraging awareness among the participants of its centrality in quality healthcare delivery. Effective communication forms the basis for safe patient care and accountability. In Uganda, several studies have underscored the importance of communication competence among nurses. In related studies, Nabirye, et al., (2020); Nayiga, et al., (2014); Nikirungi, (2017) found that nurses who demonstrated strong communication skills were better able to coordinate patient care.

Participants' understanding that all nurses are eligible to provide handover reports indicates a good comprehension of collective responsibility in clinical care. This perspective aligns with Uganda's Ministry of Health Nursing and Midwifery Standards (2016), which emphasized shared accountability during patient transitions. In a related study in Uganda, Kiiza, Kasozi, et al., (2021) noted that awareness among participants highlighted a strong professional culture that values equality and shared duty in clinical communication.

The finding that nurses understood the need for both verbal and written handover demonstrates awareness of structured communication standards and documentation protocols. The dual-mode communication (verbal and written) ensures completeness, minimizes information loss and facilitates accountability. This relates with Uganda's Health Sector Quality Improvement Framework (2015-2020) which emphasized accurate record keeping and communication during patient transfers. Likewise, Nabirye and Brownie, (2021) reported that in many Ugandan hospitals, verbal reports alone often led to omissions especially during shift changes in busy wards. Therefore, the participants' recognition that both verbal and written handovers are necessary reflects a positive step towards improving the safety and reliability of patient clinical handovers.

Acknowledging that nurses on duty share responsibility for writing a handover report signifies a strong sense of professional ownership and accountability. The Uganda Nurses and Midwives' Council (UNMC, 2019) guidelines emphasized that documentation is a shared professional duty. Similarly, Kaseje and Sempebwa, (2020) found when nurses viewed documentation as a collective responsibility, the quality and completeness of records improved significantly. Awareness among participants represents an area of strength upon which future interventions in use of a standardized handover tool can be built to enhance accountability.

However, some areas of weakness were identified during the pre-intervention data collection which scored below 60%. These were *the best description of clinical handover*, and *if the participants knew any standardized way in which handover could be done*. The finding that participants had limited understanding of the best description of clinical handover indicated there were gaps in how nurses perceived the purpose and structure of handover communication. Many nurses associate handover merely with verbal reporting rather than viewing it as a structured, systematic transfer of professional responsibility and accountability for patient care. Similarly, Nabirye, et al., (2020) reported that a significant number of nurses in Uganda lacked clarity on the fundamental principles of clinical handover.

Furthermore, noting that most participants were not familiar with any standardized way in which handover could be done indicates a critical gap in awareness about the use of the ISBAR tool during clinical handover. In Uganda, awareness about the ISBAR tool remains limited. In a related study at Mulago National Referral Hospital, Nabirye and Brownie, (2021) reported that while nurses valued handover sessions, few used structured tools, instead handovers were conducted informally and often interrupted by competing demands. Likewise, Kaseje and Sempebwa, (2020) highlighted that without clear guidelines, nurses often rely on traditional

narrative reporting methods which vary between departments and shifts. This weakens the reliability of information transfer among nurses.

The Effect of Coaching on Nurses' Attitudes Regarding the Use of a Standardized Tool

Pre-intervention, 72% of the participants reported a moderately positive attitude towards the use of a standardized tool during clinical handover, whereas post intervention results showed that all participants (100%) exhibited a strongly positive attitude. The significant improvement suggests that coaching played a central role in enhancing staff perceptions, confidence and motivation to use the handover tool. In a related quasi-experimental at Atiak Health Center IV in northern Uganda found that clinical coaching significantly improved health workers' attitudes towards the PHQ-9 depression screening tool (Okello, 2023). The transition from a moderately positive to a strongly positive attitude among all participants suggests that experiential learning and guided practice enhanced the nurses' appreciation of structured communication in clinical settings.

Additionally, the shift in attitudes may be attributed to the clarity and consistency provided through the coaching process. Ahimbisibwe and Kalukusu, (2024) reported a comparable study at Mulago National Referral Hospital, where nurses demonstrated positive attitudes towards documentation after acquiring knowledge and skills related to standardized nursing processes. This aligns with the present findings where training and exposure to a structured handover format appeared to reduce uncertainty and foster acceptance.

During pre-intervention, one of the nurses' strengths observed was *their belief that the use of the standardized tool was time efficient*. The use of the standardized tool has shown improvement in patient management. A study by Kalyango, et al., (2012) demonstrated that structured decision-support tools helped nurses manage patient loads more effectively and

enhanced consistency in documentation. This supports the notion that standardized tools promote time efficiency by reducing ambiguity and providing clear guidance for practice. Therefore, nurses' perception of improved time efficiency reflects a realistic advantage of standardized clinical tools in streamlining care delivery in Ugandan settings.

The second strength identified among the nurses was *their confidence in accepting responsibility for patient care*. This aligns with national evidence showing that Ugandan nurses are increasing taking on expanded roles that require higher levels of accountability and professional judgement. A related Ugandan study by Kiwanuka, Muwonge and Luyirika (2020) found that nurses had successfully taken over roles of caring for HIV patients which enhanced their confidence and professional autonomy. This finding is consistent with the pre-intervention observation where nurses showed a high degree of professional confidence and readiness to assume patient care responsibilities. Such self-efficacy provides a solid foundation for adopting standardized tools, as confident nurses are more likely to take ownership of implementation and ensure adherence to established clinical standards (Senjovu, et al., 2021).

While several strengths were identified, *poor communication* emerged as a major challenge among nurses. Effective communication is essential for safe and coordinated care. In Uganda communication barriers have been widely reported. Kiiza, Kasozi and Mugerwa, (2021) identified poor communication among nursing staff as significant barrier to continuity of care. Addressing poor communication therefore requires a multifaceted approach of integrating structured communication tools like the standardized clinical handover tool to strengthen interpersonal communication competences. From a theoretical perspective, a nurse's attitude towards the handover process can shape both the mode of communication (verbal or written, structured or informal) and the content conveyed (completeness, clarity and relevance). Suharto

and Kristanto (2023) found that the attitude and behavior of a nurse was a significant factor for influencing handover implementation. Consequently, a positive or negative attitude towards the use of the standardized clinical handover tool can directly impact the quality and continuity of patient care. Negative attitudes can lead to misinterpretation and breakdown of information transfer (Kilic et al., 2017).

The Effect of Coaching on Nurses' Practices Regarding the Use of a Standardized Tool

Before the coaching intervention, 79% of the participants reported poor practice in the use of the standardized tool. After the intervention, 95% of the participants reported very good practice, with only 5% indicating a moderately positive practice. The participants not only learned how to use the standardized tool but also internalized and applied it during clinical handover. Following the introduction of a standardized handover tool (ISBAR), nurses demonstrated a significant improvement in their clinical handover practices. Similar results were reported in Uganda by Kaye et al., (2015) who observed that lack of structured handover practices in Mulago Hospital compromised communication and continuity of care, and recommended training and standardization. Furthermore, Nakimuli, et al., (2021) found that coaching significantly improved and sustained clinical competence among Ugandan mid-level healthcare providers. This study further illustrates that empowering nurses through targeted training, particularly decision-making, and supportive supervision brings about professional confidence and accountability. Basing on this, there is improved nursing practice, accuracy, consistency and adherence to evidence-based standards of clinical handover. In Uganda, studies have shown that nurses who undergo clinical coaching demonstrate higher levels of competence and accountability in patient management and this promotes adherence to standard operating procedures (Kiiza, Kasozi & Mugerwa, 2021; Namubiru, Ssengoba & Nanyonga, 2016).

Similarly, Mannix, Parry and Roderick, (2017) found that a coaching approach with the nurses participating resulted in statistically significant improvement in clinical handover performance. The ISBAR tool provides a framework to briefly present the patient's clinical situation (Shalini, Castelino, & Latha, 2015).

Before the intervention, areas of strengths were observed in *compliance with a standardized clinical handover system, observing time for clinical handover and handing over all patients at change of shift*. However, after the intervention, participants demonstrated strengths in all areas of handover practice. In the Ugandan context, previous research has shown that handover processes are inconsistent and lack formal structure. For instance, Kaye, et al. (2015) found that duty-shift handovers in the labor ward at Mulago National Referral Hospital (Uganda) were largely unstructured and varied widely in how information was transferred which contributed to gaps in continuity of care. Namubiru, et al. (2016) emphasized that when standardized tools and documentation system are used consistently, nursing communication and patient outcomes improve significantly. Therefore, the observed improvement with the standardized handover system in the present study demonstrates adherence to evidence-based handover practices which contribute to more coordinated patient care.

Another observed strength was adherence to the designated times for clinical handover. Protecting the specific time for handover, ensures that the exchange for information occurs without interruptions and minimizes the likelihood of omissions or errors. Research in health care facilities has shown that irregular or rushed handovers have compromised care quality (Riesenberg, Leitzsch, & Cunningham (2010). Similarly, Kaye, et al. (2015) reported that handovers at Mulago Hospital varied greatly in duration, with some being very brief and others prolonged, leading to inefficiencies and incomplete communication. In contrast, the nurses in

this study demonstrated awareness of time management during handovers. This aligns with Kiiza, Kasozi and Mugerwa (2021) who stated that disciplined time management during clinical activities is associated with improved workflow among Ugandan nurses. This pre-intervention strength was also present after coaching. Therefore, maintaining scheduled time for handover represents a vital strength that supports the effective exchange of patient information and the smooth transition of responsibilities between nursing staff.

A further strength identified before the intervention was the consistent practice of handing over all patients at change of shift. The finding that all patients were handed over in the current study indicated a strong sense of accountability and team culture that prioritizes continuity of care. Kaye, et al. (2015) found out that many patients in the Mulago Hospital labor ward reported uncertainty about their care after shift changes as the incoming nursing staff often lacked full information. This practice aligns with the international and national standards recommending comprehensive patient centered handover protocols to ensure that each patient's care needs are fully communicated at every shift transition (Kaye et al. 2015; World Health Organization, 2007).

Although the coaching intervention aimed to strengthen clinical handover practices, two areas of weakness remained evident: *insufficient supervision by heads of department* and *limited training on clinical handover*. These weaknesses have important implications for the sustainability and effectiveness of standardized handover systems in nursing practice.

Effective supervision is a key determinant for successful implementation for clinical handover protocols. Post intervention observations revealed that supervision by heads of department was inconsistent and insufficient, which may have hindered full adherence to the standardized handover procedures. Namubiru et al. (2016) states that supervision provides

oversight, reinforces accountability, and offers real-time feedback to ensure that nurses adhere to established handover guidelines. In the Ugandan context, weak supervision structures are a well-documented challenge. Kiiza, Kasozi, et al. (2021) found that inadequate managerial follow-up and lack of supportive supervision contributed to inconsistencies performance and low compliance with standard operating procedures. Similarly, Nabirye, et al. (2011) reported that limited engagement by nursing leaders affected staff motivation and the quality of patient care. Without active supervision staff may revert to informal handover practices, leading to information gaps and reduced continuity of care. As highlighted by Kaye, et al. (2015), weak managerial oversight was one of the factors contributing to unstructured and inefficient handovers in Ugandan Hospitals. Continuous and supportive supervision by heads of department is essential to sustain improvements in clinical handover.

After the intervention, the participants still reported insufficient training for nurses on standardized clinical handover. This may be so because the time given for coaching onsite was not enough to increase their confidence to provide excellent practice in the use of clinical handover tool. Continuous coaching and hands-on training are vital to ensuring that all staff understand and competently apply the principles of structured handover (WHO, 2007). In Uganda, studies have underscored the need for regular in-service training to strengthen nurses' skills (Kiwanuka et al. 2020; Namubiru et al. 2016).

Effectiveness of ISBAR Tool and Real-Time Coaching During Clinical Handover

The post-intervention findings revealed positive feedback from the participants, with all nurses agreeing that the implementation of ISBAR protocol improved the quality and efficiency of clinical handover by providing sufficient time for clear communication and better workflow organization. Additionally, the coaching intervention reinforced staff confidence and

consistency in using the protocol, ensuring that the best practices were applied reliably during each handover. Similar results have been reported in related studies, where the ISBAR framework was associated with improved information accuracy, reduced miscommunication, and enhanced patient safety (Muller, et al., 2018; Munday et al., 2020).

Posttest results showed that participants responded overwhelmingly positively to the combination of the ISBAR tool and coaching. All participants agreed with the notion that the new handover system was consistent for each patient. This indicates a universal confidence in ISBAR's capacity to standardize the handover process. The coaching intervention further strengthened this confidence by guiding nurses in applying the protocol uniformly and effectively. Structured handover tools, such as ISBAR, ensure that patient information is communicated in a clear, organized, and systematic manner (Remie, et al., 2024).

Data also shows that all nurses agreed that the amount of information handed over was sufficient to meet patient needs, and they all disagreed that critical information was often omitted. This suggests that the coaching intervention that introduced ISBAR improved both the completeness and accuracy of communication during handover. In essence, the nurses felt confident that essential patient details were consistently conveyed, reducing the risk of misunderstanding, errors or gaps in care. Although not conducted in Uganda, one study found that the use of ISBAR in an ICU-to-ward handover improved the structure of communication, and helped ensure essential items are included (Remie et al., 2024).

Regarding a structured handover, all participants agreed that patient information was often well-structured during handover. This further underscores that the ISBAR reinforced a logical and predictable flow of information, consistent with its design (Identification, Situation, Background, Assessment, Recommendations). The tool's structured format appears to have

embedded itself in participants' mental models, possibly due to repeated practice and coaching. The research of Reime, et al. (2024) also demonstrated the benefit of a structured tool in organizing handover information.

Another compelling finding is that all participants agreed that they were consistently informed during handovers about which patients were unstable and required urgent attention. This demonstrates that ISBAR may have improved prioritization, helping nurses to identify and flag patients who needed immediate follow up. When combined with the coaching intervention, these improvements were further reinforced, as guided practice helped nurses apply the framework more consistently and confidently in real clinical situations. This aligns with the study by Jaibunnisha, et al., (2024) who stated that prioritization is a known challenge in handover, and structured tools can help foreground critical information.

Regarding confidence, all participants agreed that they had confidence in accepting responsibility for patient care with ISBAR handover. This is a strong signal that the use of the structured communication, not only made the tool usable, but also empowered nurses to take accountability. Confidence in accepting responsibility for handover is a key component for safe transitions. In a related study, Nkhoma et al., (2025) found that hands-on coaching improved clinicians' self-efficacy and competencies.

Regarding the perceived impact of the intervention, all participants agreed that coaching and the ISBAR tool improved handover practice, patient care or safety. In other words, the entire group believed that both components positively influenced the quality of handover and contributed to safer, more effective patient management. Participants also consistently expressed confidence in the sustainability of the new system and affirmed that ISBAR had led to noticeable improvements in the handover process. Collectively, these perceptions indicate strong

acceptance of the intervention and suggest that it produced meaningful, lasting benefits in clinical communication and workflow. A related study in Uganda by Kaye et al. (2015) explored patients' perceptions of handover practices in labor ward at Mulago Hospital. The study highlighted significant gaps in continuity of care, with many patients reporting that handovers were often poorly communicated, leading to dissatisfaction and concerns about quality care. These findings align with the current study, emphasizing the importance of structured handover processes, such as ISBAR combined with coaching interventions, to enhance communication, ensure completeness of information, and improve patient safety and satisfaction.

Finally, all participants believed that coaching improved their confidence and skills in clinical handover. This finding underscores that the coaching component was instrumental in driving the positive outcomes. It is not merely the presence of the structured tool, but the combination of the structured tool with the guided practice that appears to have had the greatest impact (Zhang, et al., 2022).

Theoretical Framework

The effect of clinical coaching on knowledge, attitude and practice was guided by Faithfull-Byrne et al. (2017) framework. This was chosen because it was effective to bring out real time interventions in clinical settings as well as addressing the patients' needs and the nurses' needs. Faithfull-Byrne et al (2017) clinical coaching framework was the guiding approach to the coaching intervention for nurses on the use of standardized clinical handover tool.

Through clinical coaching, nurses' knowledge was enhanced as they engaged in hands-on learning and received immediate feedback on their use of the handover tool. This real-time

guidance deepened their understanding of the standardized communication principles and reinforced the importance of accurate information transfer in promoting patient safety.

Regarding attitude, the supportive, non-judgmental coaching environment fostered openness to change, increased confidence, and a positive perception of structured handovers as vital to effective and safe care delivery. Reflection and dialogue encouraged nurses to recognize the impact of standardized communication on teamwork and patient outcomes.

In terms of practice, continuous observation, feedback, and modeling of best practices helped bridge the gap between theoretical knowledge and its practical application. Nurses demonstrated improved consistency, clarity and efficiency during handovers, reflecting sustainable behavior change.

Study Recommendations

Based on the study findings, identified strengths and weaknesses in knowledge, attitude and practices regarding the use of the standardized clinical handover tool, several recommendations were developed. These recommendations are designed for healthcare administrators, nurse educators, and clinical staff, with the goal of strengthening competencies, encouraging consistent application of the tool, and improving overall patient safety and quality of care.

Strengthening continuous coaching.

The substantial improvement in nurses' knowledge, attitudes and practices following coaching intervention highlights the necessity of sustaining such capacity building efforts. Coaching should not remain a one-time event but be integrated into routine clinical practice. Continuous coaching ensures that nurses reinforce what they have learned and prevents regression into informal and inconsistent handover methods. Establishing regular ward coaching

based sessions and periodic refresher trainings would support long-term improvement in clinical handover competence.

Institutionalizing the use of a standardized handover tool.

The study identified limited pre-intervention awareness of standardized handover formats, indicating the need for formal adoption of tools such as ISBAR. Institutionalizing the use of a standardized handover tool would promote consistency, reduce information gaps, and enhance communication accuracy. To achieve this, the facility should make ISBAR a mandatory part of clinical handover, supported by practical aids such as wall charts, pocket cards and standardized handover templates. Integrating the tool into staff induction and continuous professional development programs would further reinforce its routine use.

Enhancing training on the purpose and structure of clinical handover.

Despite improvements after coaching, the initial gaps indicated that nurses lacked a comprehensive understanding of what clinical handover entails. Strengthening training on the purpose, structure and essential elements of handover is therefore necessary. Training approaches that incorporate simulations, case scenarios, and role plays can help nurses internalize systematic communication and understand its influence on patient safety. By providing clear and practical demonstrations of effective handover, such training would address misconceptions and reinforce structured communication as a professional standard.

Improving nurses' communication competence.

While nurses acknowledge communication as important, communication challenges remained evident, suggesting the need for targeted interventions. Effective communication is central to safe handover and continuity of care; thus, regular communication skills development

should be prioritized. Training that focuses on clarity, accuracy, active listening and structured communication techniques can enhance nurses' interpersonal communication.

Promoting shared responsibilities, reflecting strong professional values, health facilities should reinforce collective accountability through team-based approaches to handover. Building on this foundation, health facilities should reinforce collective accountability through team based approaches to handover. Nurse leaders should model these behaviors and create systems where responsibility for handover is clearly defined and distributed. Encouraging shared ownership improves compliance with handover standards and strengthens the culture of accountability within the nursing team.

Strengthening written documentation practices.

The dual requirement for verbal and written communication in clinical handover was well understood, yet written documentation practices remain inconsistent. Strengthening both aspects is essential to ensuring completeness and traceability of patient information. Providing adequate documentation tools, standard forms, clear templates can support nurses in maintaining accurate written records. Reinforcing the expectation of dual-mode handover through training and supervision will help minimize omissions and ensure alignment with national standards.

Improving supervision and managerial support.

Weak and inconsistent supervision emerged as a persistent limitation even after coaching. Effective managerial oversight is crucial for sustaining structured handover practices. Strengthening supervision by department heads would ensure that staff adhere to standardized procedures and receive timely feedback. Regular monitoring, supportive supervision and active involvement of nursing leaders would help bridge practice gaps and reinforce accountability. Enhanced supervision is also likely to boost motivation and improve overall performance.

Protecting designated time for clinical handover.

The study underscored the importance of maintaining scheduled handover time and minimizing interruptions. Ensuring that handovers are conducted within designated periods promotes accuracy, reduces the likelihood of errors, and enhances continuity of care. Facilities should reinforce strict adherence to protected handover time, establish clear guidelines to prevent disruptions, and ensure adequate staffing to support timely transitions. Protecting time for handover is a simple yet powerful strategy for improving safety and efficiency.

Developing and implementing clear institutional handover guidelines.

Finally, the variations in practice observed before the coaching intervention point to the need for all comprehensive institutional guidelines. Developing or updating formal policies on clinical handover, including roles, responsibilities and standardized procedures, would create a consistent framework for all nursing staff. The responsibility for establishing and maintaining these policies typically lies with nursing leadership, clinical governance committees, and hospital administration, who must ensure policies are evidence-based and reflect best practice. Disseminating these guidelines widely and orienting all staff to them is essential. Regular audits and quality improvement initiatives should accompany these guidelines to ensure compliance and identify areas requiring further support.

Study Limitations

For this study it is important to consider the possible limitations encountered. The study started with 65 participants but only 58 of them were able to participate until the end. Losing 11% of the participants along the way could have affected the results. The sample size involved in the study was small. It anticipated that a larger sample size and a longer period of the study would yield better results for generalizability. This being a quasi-experimental study without

randomization, being carried out in a single and private setting, the results should be interpreted with caution.

The time allocated for nurses to practice and consistently apply the ISBAR tool during clinical handover was insufficient to yield optimal results. Nurses worked six-hour shifts and the limited duration, combined with busy ward schedules and high patient workloads, often constrained their ability to fully utilize the ISBAR tool at change of shift. A longer implementation period may have provided more opportunities for practice, leading to better mastery and more consistent use of the tool.

The study also relied partly on self-reported data to assess nurses' attitudes and practices which may be subject to social desirability bias. Participants may have overstated positive behaviors or minimized challenges in using the standardized tool, affecting the accuracy of the reported results.

One notable limitation of this study is the short duration of the follow-up period, which limits ability to ascertain whether the observed improvements in nurses' knowledge, attitudes and practices regarding the use of a standardized handover tool were maintained over time.

Areas for Further Study

Although this research contributes to understanding the use of ISBAR tool framework among nurses during clinical handover, several areas warrant further investigations. Future research could explore long term impact of ISBAR training on communication competence and patient outcomes, particularly diverse settings such as emergency departments, intensive care units and primary care facilities. Additionally, comparative studies examining the effectiveness of ISBAR against other structured communication tools like the I-PASS tool, could provide

insight into which framework best enhances the clarity, accuracy and efficiency of information transfer.

Further studies could also focus on the influence of organizational culture, leadership support and workload on nurses' adherence to ISBAR protocols. Understanding these contextual factors would help identify barriers and facilitators to consistent ISBAR use in real world practice. Qualitative research would also explore nurses' experiences, perceptions and attitudes towards ISBAR and could offer deeper insights into behavioral and attitudinal factors that affect its implementation.

Another area for study is the integration of technology such as electronic handover tools and digital ISBAR templates into clinical communication processes. Evaluating the effectiveness of such innovations could inform strategies for improving handover efficiency and reducing communication errors.

Future studies could be conducted in similar settings with a larger sample size and over an extended period to provide more comprehensive insights into clinical handover practices and use of the ISBAR tool. Exploring other standardized handover checklists may help determine their relative effectiveness in improving communication and patient safety. Additionally, qualitative research could be valuable in deepening the understanding of nurses' perspectives on how coaching influences their use of the ISBAR tool during clinical handover, thereby enriching the body of nursing knowledge.

Dissemination of Findings

The dissemination of study findings will be undertaken through several channels to ensure that the results are shared with relevant stakeholders and contribute to clinical practice and knowledge. First, the results will be presented during a viva examination as part of the

academic requirement for completion of the study. This presentation will provide an opportunity to defend the research process, highlight key outcomes and receive scholarly feedback.

Secondly, the study findings will be presented to the management committee and nursing staff at the study site. This will allow for discussion on the implications of the results for clinical handover practices within the facility.

In addition, the researcher plans to present the findings at relevant professional and academic conferences. Such presentations will provide a platform for engaging with other researchers, educators and practitioners in the field of nursing, allowing for knowledge exchange and the identification of potential areas for collaborative research on clinical communication and patient safety.

Finally, the study will be prepared for publication in a peer-reviewed nursing or healthcare journal. Publishing the results will ensure a wider dissemination of the research outcomes to the national and international nursing community, contributing to the existing body of evidence on the use of ISBAR during clinical handover and supporting evidence-based practice improvements.

Conclusion

The findings of the study demonstrate that clinical coaching is an effective strategy for enhancing nurses' communication competence through the use of ISBAR tool during clinical handover. The intervention led to significant improvements in nurses' knowledge, attitude and practices regarding standardized communication.

Notably, this study presents the first documented effort in Uganda to introduce and utilize the ISBAR tool in clinical handover, thereby contributing valuable evidence to the growing body

of literature supporting structured communication in healthcare. The results underscore the potential of clinical coaching as a practical approach to improving the quality of nursing handovers. This approach is adaptable and can be effectively implemented in diverse clinical settings, including those with limited resources.

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Appendix A: Consent Form

Study Title: The Effect of Coaching on Nurses' Knowledge, Attitude and Practices Regarding the Use of a Standardized Tool During Patients' Handover on Change of Shifts at a District Hospital in Uganda.

Principal Investigator: Mirembe Pamela Daisy who is a Master of Nursing Science student at Uganda Christian University (UCU) Mukono. For any questions and concerns related to this study, please contact the investigator through email: miremba.daisy1@gmail.com or Phone: +256 779299616 or Professor Karen Drake on email: drakar@bethel.edu or reach her on WhatsApp +17632425695. Also you can contact my second supervisor Dr. Sebuliba Faith on email: sebulibafaith@gmail.com **or Phone: +256 779399797.**

Purpose of the Study: This study aims to establish the effect of coaching on nurses' knowledge attitude and practice regarding use of a standardized tool during patients' handover at change of shift. You have been selected to participate in this study because of the role hold in ensuring patient safety and continuity of quality care.

Procedure for the Study: Church of Uganda Kisiizi Hospital is implementing the use of a new clinical handover tool for all nursing staff. All staff will be required to adopt the tool and participate in the 4 weeks of the coaching strategy for its implementation. Those who choose to participate in the study will be asked to complete a questionnaire twice. The first time is before the implementation and coaching process begins. The second time will be after the coaching has been completed in 4 weeks.

Benefits of the Study: Participating in this study will provide the knowledge and skill to use a standardized tool during clinical handover. You will undergo coaching sessions to guide you on how to use the tool and gain confidence. Following the coaching, the nurses will be able to improve the clinical handover skill and ensure safety and continuity of quality care. However, there is no financial reward for participating in this study but participants will be given an incentive equivalent to ush. 10,000/= each to appreciate their time given to participate in the study.

Study Risks: This study does not have any risks from your participation.

Participant's Statement: I understand that my participation in this study is purely voluntary, and I may withdraw from the study anytime I wish to until I have submitted the second questionnaire. After that it will be impossible to identify your contributions and remove them. I understand that all the data that is collected will be kept confidential and available only to the researcher, her statistician and supervisors. The information may be used in journal publications or conferences and but will be reported in an aggregate form.

Since the study has been explained to me, I have read and understood this consent form and I agree to participate.

.....
Participant's Signature

.....
Date.

.....
Investigator's Signature

.....
Date.

Appendix B: Questionnaire for Clinical Handover

The Effect of Coaching On Nurses' Knowledge, Attitude and Practices Regarding the Use of a Standardized Tool During Patients' Handover On Change of Shifts at a District Hospital in Uganda.

Section A. Demographic data. **Instructions:** Fill in or circle the correct response.

1. Current Age?
2. Gender?
3. Years of experience?
4. Cadre? A) Nurse B) Midwife
5. Highest level of qualification?
 - a) Certificate b) Diploma c) Bachelors d) Masters.
6. **Have you had some training on filling and using a specific handover template or tool especially for change at shift?..... If yes, from where?**
 - (a) School of training,
 - (b) At a workshop.
 - (c) Through a discussion.
 - (d) At the workplace.

Section B: Knowledge of nurses regarding clinical handover. **Instructions:** For this section indicate the most appropriate answer by putting a circle around the letter against the chosen answer.

7. **Which of the following statements best describe clinical handover?**
 - a. Clinical handover is the process of transmitting information, responsibility, and accountability among healthcare workers.
 - b. Clinical handover is basically passing responsibility of patient care from one nurse to another at change of shift.
 - c. Clinical handover is the exchange of shifts among nurses in the clinical area.
 - d. Clinical handover is the communication among nurses regarding hospital work.
8. **Which of the following statement best describes communication during clinical handover?**
 - a. Good communication between nurses and patients is essential for their comfort at the work place.
 - b. Good communication on shift handover is a very important aspect that creates close relationship among nurses which promotes quality and continuity of care.
 - c. Good communication does not require good listening skills and it happens when messages are sent.

d. Communication solves all problems and is one factor for minimal medical errors.

9. An adequate handover at change of shift is done using:

- a. A standardized tool framework
- b. A verbal report at bedside.
- c. A phone call from one nurse to another
- d. A recording which can be listened to with the patient on the ward.

10. While giving a report about the patients' background, the nurse is expected to:

- a. Give information about the patients' expectations of care.
- b. Report about the issues that led up to the presenting situation and underlying illness.
- c. Report about the recommendations for patient care.
- d. Report what the patient complained of during the shift.

11. When recommending care of the patient, the best nursing action is to:

- a. Report what should be done to correct the situation.
- b. Report what the patient is not aware of.
- c. Report what the patient asked to be done on him or her.
- d. Only what you didn't accomplish during your shift.

12. Who is eligible to give a handover at change of shift?

- a. All nurses at any point care.
- b. Nurses working in ICU only.
- c. Nurses working in Emergency and Accident Department only.
- d. Nurses in the inpatient department only

13. A handover report is about;

- a. The critically ill patients.
- b. All patients in the department.
- c. All patients who were referred in and out of hospital.
- d. Only patients who passed on.

14. What are the contents of a good handover report?

- a. Only the current condition of the patient
- b. Continuous care of the patient
- c. Identification, Situation, background, assessment and recommendations
- d. Key information concerning treatment

15. What is the most correct goal or importance of handover in patient care?

- a. To understand the patient as an individual
- b. To enhance communication among the nurses while on duty
- c. To improve care for patients by nurses
- d. To enhance continuity of quality care for patients.

16. Which is the most recommended type of handover report:

- a. Tape recorded handover report only
- b. Verbal and Written handover report
- c. Oral handover report only
- d. Written handover report only

17. Where can nursing handover be best done?

- a. Office where there are no interruptions
- b. Bedside to include patient

c. Nurses station and then at bedside.

d. Anywhere the nurses can meet together.

18. Who should write the handover report on the ward?

a. Nursing officer.

b. Medical officer on duty.

c. Nurses caring for the patients during the shift.

d. Not sure who should write.

19. (I) Do you know of any standardized way in which a handover can be done?

a. Yes

b. No

c. Not sure

(ii). If yes from 19 above, which one?

a) A black book where it is written

b) A white board where critical cases are highlighted to remind the nurses.

c) An ISBAR check list.

d) A Kardex report book.

Section C: Attitude of Nurses regarding clinical handover. Instructions: For this section indicate strongly agree, agree, disagree, or strongly disagree by putting a tick (✓) in the respective column.

	Affective Assessment Perceptions on the Current Handover on Your Ward?	Strongly disagree	Disagree	Agree	Strongly agree
20	In my opinion the current handover system is time efficient.				
21	I believe the current handover system is not consistent for each patient.				
22	Usually, the amount of information about each patient handed over to me is sufficient to meet my needs (neither too little nor too much).				
23	I think that critical patient information is often omitted at handover.				
24	I believe patient information is often structured poorly during handover.				
25	My understanding of a patient's clinical picture is not adversely affected by a poorly structured handover (even if all relevant information is included).				
26	During most handovers, I am not informed which patients are unstable or require more urgent attention.				
27	Overall, I have confidence in accepting responsibility for patients' care under the current handover system.				
28	I believe nurses have a very low or negative attitude towards handover.				
29	I think nurses have poor communication skills amongst themselves.				

Section D: Clinical Practice Assessment of nurses regarding clinical handover. Instruction:

For this section indicate 'never', 'rarely', 'sometimes', 'often', or 'always' by putting a tick (✓) in the respective column.

	Statement	Never	Rarely	Sometimes	Often	Always
30.	I have practiced clinical handover at change of shift.					
31.	Nurses are compliant with a standardized system of clinical handover.					
32.	Nurses observe time for clinical handover at change of shift.					
33.	All patients on the ward are handed over to the incoming shift of nurses.					
34.	Only a written clinical handover is given at change of shift.					
35.	Only a verbal clinical handover is given at change of shift.					
36.	Both verbal and written clinical handover is done at change of shift.					
37.	Only a recorded clinical handover is left at the nurses' station for the incoming shift.					
38.	A handover checklist is used during clinical handover at change of shift.					
39.	All nurses are involved in the clinical handover process.					
40.	All departments follow a guideline during clinical handover which is on the noticeboard.					
41.	An adequate clinical handover is given for continuity of quality care.					
42.	Only critically ill patients are handed over at change of shift.					

	Statement	Never	Rarely	Sometimes	Often	Always
43.	Close supervision by the head of department is ensured during clinical handover at change of shift.					
44.	Quality improvement trainings are carried out to improve clinical handover among nurses.					

Effectiveness of Using ISBAR Tool (For Posttest Only)

	Item statement	Strongly Disagree	Disagree	Agree	Strongly Agree
1.	The new handover system is time efficient				
2.	The new handover system is not consistent for each patient				
3.	The amount of information about each patient handed over to me is sufficient to meet my needs (neither too little nor too much)				
4.	Critical patient information is often omitted at handover				
5.	Patient information is often structured poorly during handover				
6.	During most handovers, I am informed which patients are unstable or require more urgent attention				
7.	Overall, I have confidence in accepting responsibility for patients' care with the ISBAR handover system				
8.	Overall, ISBAR and the education/coaching programme have not improved handover.				
9.	In my opinion, the new ISBAR system does not improves patient care and safety.				

	Item statement	Strongly Disagree	Disagree	Agree	Strongly Agree
10.	The new ISBAR system is sustainable				
11.	ISBAR has improved handover.				
12.	Coaching improved my confidence and skills in clinical handover.				

Appendix C: PowerPoint Presentation

12/20/2024

CLINICAL HANDOVER USING ISBAR

Presentation by:
Miremba Pamela Daisy
MNS 9

Clinical Handover Overview

- It is a critical component of health care communication and is essential for ensuring patient safety and continuity of care.
- Critical information regarding the patient's health is notified to the receiving provider.
- The process of transferring information about a patient's care from one nurse to another.
- It is done at change of shift, between departments, during patient transfer, during diagnostics and pre/post surgery.

Benefits of clinical Handover

- Essential for ensuring patient safety and continuum of care.
- Making informed decisions about the care of a patient since is worked on by multidisciplinary health care workers.
- Preventing medical errors and adverse drug events (medical errors, missed diagnosis).
- Improving overall quality of care (identifies opportunities for improvement and ensure that patients receive the best possible care).

Components of a Clinical Handover Report

- Identification
- Situation
- Background
- Assessment
- Recommendations

Demonstration of clinical Handover

- <https://www.youtube.com/watch?v=LFEn3IPv38Q>

What is ISBAR?

- It is a tool that is commonly used in health care communication to facilitate effective and efficient communication between health care professionals- the acronym stands for;
- I-Identification-self and your role in the care of the patient.
- S-Situation- provide a brief summary of the patient's current situation including their condition and any relevant medical history.

12/20/2024

Cont'd;

- B-Background –provide more detailed information about the patient's medical history, any relevant lab results or diagnostic studies.
- A-Assessment-present your own assessment of the patient's condition based on your (subjective and objective findings).
- R-Recommendation- provide your recommendations for further evaluation or treatment and solicit feedback from the receiving healthcare professional.

Benefits of Using ISBAR

- Clear communication(most important)- clear, concise, with appropriate terminologies while avoiding jargons, free from distractions and interruptions.
- Standardized approach- using a structured handover template or checklist or guideline.

Cont'd;

- Emphasizes good preparation-with all the necessary information at hand like the patient's medical history, current diagnosis, treatment plan.
- Encourages active listening by the person receiving the handover report.
- It also encourages asking questions if at all anything is unclear.

Cont'd;

- A good handover should involve all nurses who are involved the patient's care.
- Encourages clear documentation of the patient's medical records including any changes if any to treatment plan or medication orders.
- Respect and professionalism- with focus on patient's needs and well-being.

12/20/2024

• Scenario 2.

- Nurse A, this is Ayebare Shallon on bed no. 5. She has been admitted to us with fracture the knee post mechanical falls at home. She has a history of atriofibrillation on warfarn, and dementia. She is a high falls risk and has a documented allergy to morphine which causes hallucinations. Her pain has been well controlled with the femoral nerve block from this morning and regular analgesia as per medication chart. Her vital signs have been within normal limits throughout the shift. Shallon is currently fasting for theater this evening, consent has not yet been done. The treating team is waiting for her next of kin meet with them. She has a bottle of normal saline running. She will need a catheter inserted and a theater pack completed prior to going to theater.
- Do you have any questions in regards to shallon's care?

Thank you for Listening ??

Appendix D: Coaching/Intervention Schedule

SN	Schedule for Activity	Duration
1	Pre coaching/intervention - Train the research assistant how the study will be done. - Give clear explanation about the objectives of the study. - Mobilize participants for the study.	5 days
2	Consent signing and pre-testing - Self-introduction (principal investigator and the research assistant) to the participants. - Study topic and objectives explained to the participants. - Consent form read to the participants and signed voluntarily. - Questionnaire for pretest distributed, filled by participants and collected back and sealed in an envelope.	1 hour
3	Intervention - ISBAR tool distributed to participants and a PowerPoint presentation about the use of the tool given. - Demonstration using a video imbedded in the PowerPoint will be projected. - Case scenarios will be discussed in groups to strengthen participants' understanding on use of ISBAR tool during handover.	1 hour & 30minutes.
4	Coaching for the four (4) weeks - Use of ISBAR tool during handover on different departments at change of shift. - Allocate a day for each department per week and target all the 3 shifts (Appendix F). - Focus group discussions (2-5 people) at point of care and individual attention targeting the three shifts of work - Questions and answers about the use of ISBAR tool - Give feedback to groups and individuals. - Give guidance and clarification. - Make follow ups.	4 weeks
5	Post Coaching/intervention; - Re-train the research assistant about how to handle posttest. - The research assistant will mobilize participants for posttest. - The research assistant will distribute posttest questionnaires to be filled and handed back and - Ensure all participants who did the pre-test questionnaire fills the posttest questionnaire. - Collect all filled questionnaires and seal them in an envelope.	5 days

Appendix F: Clinical Coaching Script

Investigator & participant interaction area	Constructive questions or possible statements to engage participants during coaching.
Initial Goal setting	What are you working on today? What do you want me to pay special attention to when I attend to you? What is the goal you would like to accomplish? What else? How is it meaningful to you? What does success look and feel like for you? How will you know you succeeded?
Reflection	How did you think that handover went? What did you do well? What do you wish you could have done differently? What else have you tried that has worked? Describe a time that you have been successful in a similar circumstance. How can you build off that? What ideas do you have that would lead to positive breakthroughs? What else? What other lessons learned should be considered? What barriers stand in your way in performing this? In addition to your own strengths, what additional resources or skills do you need? How can you get these resources or skills needed to achieve the goal?
Ongoing goal-setting	What new or continuing goals will you be working

	towards? How can I help support you in attaining these goals? What is the timeline for reaching your goal? What first steps will you take? What can you do today? What was most helpful to you? What did we not cover enough of? When can we meet again to discuss progress?
--	---

Coaching scrip adapted from: Rassbach et al. 2018 pg. 3

Appendix G: ISBAR Tool

Table 1. ISBAR – structured communication

I identify	Specify • Who are you? • Where are you? • Patient's name, age, gender and department
S situation	What is the problem/reason for contact? • I'm calling because... (describe) • I have observed major changes... (ABCDE) • I have measured the following values... (RR*, SpO₂%, pulse/heart rhythm, BP[^], capillary refill time, tp.#) • I have received test results...
B background	If it's urgent and/or you are concerned – speak up. Brief and relevant case history • Admission diagnosis and date • Previous illnesses of significance • Relevant problems and treatment/interventions to date • Allergies
A assessment	Assessment (of the situation and background) • I think the problem/reason for the patient's condition is related to (respiration, circulation, neurology). • I don't know what the problem is but the patient's condition has deteriorated. • The patient is unstable, we need to do something. • I am concerned.
R recommendation	Request specific advice and interventions, and clarify expectations • I suggest.../What interventions do you recommend? ◦ Immediate intervention ◦ Investigation/treatment ◦ How often should I... • When should I next make contact? When will you be here? • Confirm messages and interventions with a closed loop.

The table is an adapted version of ISBAR, based on various national and international models.

It is used in the master's degree programme in specialist nursing.

*RR = respiratory rate

αSpO₂ = peripheral capillary oxygen saturation

[^]BT = blood pressure

#tp. = temperature

Appendix H: Permission to Use Model

Request for Permission

Inbox

Search for all messages with label Inbox

Remove label Inbox from this conversation



Daisy Miremba <miremba.daisy1@googlemail.com>

Mon, Aug
28, 2023,
6:51 PM

to annette.faithfull-byrne, lorraine.thompson2, Keppel.Schafer, Michelle.Elks, jenny.jaspers, a.welch, n

Greetings to you all. I am called Miremba Pamela Daisy. Am a student nurse pursuing a masters degree in nursing at Uganda Christian University, Mukono.

I am currently writing my research paper and my topic of study is "The effect of coaching on nurses' knowledge, attitude and practices regarding the use of a standardized tool during clinical handover at change of shift."

Therefore, I request for your permission to use the Clinical Coaching Framework you designed in your study entitled "Clinical coaches in nursing and midwifery practice: Facilitating point of care workplace learning and development".

I will be grateful to hear from you.

Regards,

Pamela.



Mail
Deli
very
Sub
syst
em

Mon, Aug
28, 2023,
6:51 PM

Address not found Your message wasn't delivered to wendy.cross@monash.edu because the address



Lorraine Thompson <Lorraine.Thompson2@health.qld.gov.au>

Mon, Aug
28, 2023,
11:28 PM

to Annette, Keppel, Michelle, Jenny, a.welch@cqu.edu.au, m.williamson@cqu.edu.au, wendy.cross@

Good morning Daisy, Thank you for your email. Yes, you have permission to use the Clinical Coaching Framework. Go well with your studies.

Kind regards

Lorraine

Dr Lorraine Thompson

Nurse Educator

Practice Development | Sunshine Coast Health

Facility: SCUH

Working hours: Mondays and Tuesdays

P: [Desk: 5202 2948](tel:52022948) | [Mobile: 0428 402 298](tel:0428402298)

E: lorraine.thompson2@health.qld.gov.au

W: sunshinecoast.health.qld.gov.au

Appendix I: REC Letter



**UGANDA CHRISTIAN
UNIVERSITY**

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Office of the Vice Chancellor
Research Ethics Committee UG-026

MIREMBA PAMELA DAISY
Uganda Christian University
+256 779 299616,
Email: miremba.daisy1@gmail.com

**Kisiizi Hospital
Chairman Education
& Ethics Committee**



27th January, 2025

*Ethical permission to
collect data has been
granted.*

Harungu 31st January 2025

UG-REC-026 APPROVAL NOTICE

To: Miremba Pamela Daisy, Principal Investigator

Re: UCU-REC Application titled: *Effect of Coaching on Nurses' Knowledge, Attitude and Practices Regarding the Use of a Standardized Tool During Bedside Clinical Handover on Change of Shifts at a District Hospital in Uganda*

Application Number: UCUREC-2024-1147-3

Version: 4.1

Type: ☐ INITIAL REVIEW
☐ Protocol Amendment
☐ Letter of Amendment (Loa)
☐ Continuing Review
☐ Material Transfer Agreement
☐ Other, Specify:



I am pleased to inform you that the UG-REC-026; UCUREC approved the above referenced application.

Approval of the research is for the period from 27th January, 2025, to 27th January, 2026

This research is considered minimal risk category.

As Principal Investigator of the research, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and additions to the protocol or the consent form must be submitted to the REC for re-review and approval prior to the activation of the changes. The REC application number assigned to the research should be cited in any correspondence.

1 of 3

Research and Ethics

P.O. Box 4, Mukono, Uganda, Plot 67-173, Bishop Tucker Road, Mukono Hill
Tel: +256 (0) 312 350 885 Fax: +256 (0) 4142 90 800 Email: rec@ucu.ac.ug Web: www.ucu.ac.ug
UCUREC is accredited by Uganda National Council for Science & Technology, FDA, and National Institutes for Health of the United States of America



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Office of the Vice Chancellor
Research Ethics Committee UG-026



4. Only approved consent forms are to be used in the enrollment of participants. All consent forms signed by subjects and/or witnesses should be retained on file. The REC may conduct audits of all study records, and consent documentation may be part of such audits.
5. Regulations require review of an approved study not less than once per 12-month period. Therefore, a continuing review application must be submitted to the REC eight weeks prior to the above expiration date of 27th January, 2026 in order to continue the study beyond the approved period. Failure to submit a continuing review application in a timely fashion may result in suspension or termination of the study, at which point new participants may not be enrolled and currently enrolled participants must be taken off the study.
6. The REC application number assigned to the research should be cited in any correspondence with the REC of record.
7. Your research details have been shared with the Executive secretary of Uganda National Council for Science and Technology (UNCST) and you are not required to get clearance since you are a Master's Degree research. Refer to UNCST Research registration and clearance Policy and guidelines (July 2016) in Uganda section 6(e).

The following is the list of all documents approved in this application by UG-REC _026:

	Document Title	Language	Version	Version Date
1.	Protocol	English	1.0	2025-01-20
2	Questionnaire	English	1.0	2025-01-20
3	Intervention schedule	English	1.0	2025-01-20
4	Clinical Coaching Script	English	1.0	2025-01-20
5	Informed consent form	English	1.0	2025-01-20

Signed and Stamped

Prof. Peter Waiswa,
UCUREC Chairperson,
pwaiswa@musph.ac.ug



2 of 2

Research and Ethics

P.O. Box 4, Mukono, Uganda, Plot 67-173, Bishop Tucker Road, Mukono Hill
Tel: +256 (0) 312 350 885 Fax: +256 (0) 4142 90 800 Email: rec@ucc.ac.ug Web: www.ucc.ac.ug
UCUREC is accredited by Uganda National Council for Science & Technology, FDA, and National Institutes for Health of the United States of America

[illegible]

56	0	1	0	1	1	1	1	0	1	1	1	1	0	1	10	71%
57	1	0	1	0	0	0	0	1	0	0	0	1	1	1	6	43%
58	1	0	1	0	0	1	0	1	0	1	1	0	1	0	7	50%
Total	29	38	41	42	45	49	53	50	46	49	48	57	44	34		
Mean %	50%	66%	71%	72%	78%	84%	91%	86%	79%	84%	83%	98%	76%	59%		77%

Appendix K: Post- Intervention Scores

Effect of coaching on nurses' Knowledge regarding clinical handover post-intervention

[illegible]

31	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
32	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
33	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
34	0	0	1	1	1	1	1	1	1	1	1	1	1	1	12	86
35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
36	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
37	1	1	1	0	1	1	1	1	1	1	1	1	1	1	13	93
38	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
39	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
40	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
41	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
42	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
43	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
44	0	0	1	1	0	0	1	1	1	1	1	1	1	1	10	71
45	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
46	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
47	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
48	1	1	1	0	1	0	1	1	1	1	1	1	1	1	12	86
49	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
51	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
52	1	1	1	1	1	1	1	1	1	1	1	0	1	1	13	93
53	0	0	1	1	1	1	1	1	1	1	1	0	1	1	11	79
54	1	1	1	1	1	1	1	1	1	1	1	0	1	1	13	93
55	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
56	1	1	1	1	1	1	1	1	1	1	1	0	1	1	13	93
57	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
58	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	100
Total	52	52	58	54	55	55	50	58	58	58	52	49	58	58		
Mean %	90	90	100	93	95	95	86	100	100	100	90	84	100	100	100	95

**Appendix L: Effect of Coaching on Nurses Knowledge Regarding Use of a Standardized
Tool**

S/N	Pre-Intervention		Raw Score	Post Intervention	
	Raw Score	Percentage		Percentage	% Change
7	16	28	53	91	63
8	47	81	55	95	14
9	38	66	53	91	25
10	37	63	52	90	27
11	40	68	50	86	18
12	54	93	58	100	7
13	56	97	58	100	3
14	50	86	57	98	12
15	46	79	54	93	14
16	55	95	58	100	5
17	51	88	55	95	7
18	58	100	58	100	0
19	43	74	58	100	26
19(a)	15	26	0	0	-26
19(b)	9	16	0	0	-16
19©	19	33	58	100	67
Total%		1093		1339	81.62
Mean %	49.6		60.8		11.1

Appendix M Performance Against Each Question by Category

Question	Pre -intervention		Category	Post Intervention		Category	% Change
	Correct n(%)	Wrong n(%)		Correct n(%)	Wrong n(%)		
K 7	16(28)	42(72)	Poor	53(91)	5(9)	Very good	63
K8	47(81)	11(19)	Very good	55(95)	3(5)	Very good	14
K9	38(66)	20(34)	Good	53(91)	5(9)	Very good	25
K10	37(63)	21(36)	Good	52(90)	6(10)	Very good	27
K11	40(68)	18(31)	Good	50(86)	8(14)	Very good	18
K12	54(93)	04(7)	Very good	58(100)	00(0)	Very good	7
K13	56(97)	02(3)	Very good	58(100)	00(0)	Very good	3
K14	50(86)	08(14)	Very good	57(98)	1(2)	Very good	12
K15	46(79)	12(21)	Good	54(93)	4(7)	Very good	14
K16	55(95)	03(5)	Very good	58(100)	00(0)	Very good	5
K17	51(88)	07(12)	Very good	55(95)	3(5)	Very good	7
K18	58(100)	00(0)	Very good	58(100)	00(0)	Very good	0
K19	43(74)	15(26)	Good	58(100)	00(0)	Very good	26
K19(a)	15(26)	43(74)	Poor	00(0)	00(0)		-26
K19(b)	09(16)	49(84)	Poor	00(0)	00(0)		-16
K19©	19(33)	39(72)	Poor	58(100)	00(0)	Very good	67

Appendix N: Pre-Attitude Questions

Attitude Questions	SD		D		A		SA	
	Frequenc y	(%age)	Frequenc y	(%age)	Frequenc y	(%age)	Frequenc y	(%age)
In my opinion the current handover system is time efficient.	4	6.9	18	31	33	56.9	3	5.2
I believe the current handover system is not consistent for each patient.	1	1.7	21	36.2	36	62.1	0	0
Usually, the amount of information about each patient handed over to me is sufficient to meet my needs (neither too little nor too much).	0	0	25	43.1	33	56.9	0	0
I think that critical patient information is often omitted at handover.	0	0	38	65.5	20	34.5	0	0
I believe patient information is often structured poorly during handover.	0	0	37	63.8	21	36.2	0	0
My understanding of a patient's clinical picture is not adversely affected by a poorly structured handover (even if all relevant information is included).	0	0	43	74.1	15	25.9	0	0
During most handovers, I am not informed which patients are unstable or require more urgent attention.	10	17.2	48	82.8	0	0	0	0
Overall, I have confidence in	0	0	3	5.2	47	81	8	13.8

accepting responsibility for patients' care under the current handover system.									
I believe nurses have a very low or negative attitude towards handover.	3	5.2	10	17.2	35	60.3	10	17.2	
I think nurses have poor communication skills amongst themselves.	0	0	3	5.2	47	81	8	13.8	

Appendix O: Post Attitude

Attitude Questions	SD		D		A		SA	
	Frequenc y	(%age)	Frequenc y	(%age)	Frequenc y	(%age)	Frequenc y	(%age)
The new handover system is time efficient	0	0	0	0	33	56.9	25	43.1
The new handover system is not consistent for each patient	11	19	47	81	0	0	0	0
The amount of information about each patient handed over to me is sufficient to meet my needs (neither too little nor too much)	0	0	0	0	35	60.3	23	39.7
Critical patient information is often omitted at handover	0	0	58	100	0	0	0	0
Patient information is often structured poorly during handover	3	5.2	55	94.8	0	0	0	0
During most handovers, I am informed which patients are unstable or require more urgent attention	0	0	0	0	33	56.9	25	43.1
Overall, I have confidence in accepting responsibility for patients' care with the ISBAR handover system	0	0	0	0	32	55.2	26	44.8
Overall, ISBAR and the education programme have not improved handover.	31	53.4	27	46.6	0	0	0	0
In my opinion, the new ISBAR system does not improves	30	51.7	28	48.3	0	0	0	0

patient care and safety.									
The new ISBAR system is sustainable	0	0	0	0	33	56.9	25	43.1	
ISBAR has improved handover.	0	0	0	0	29	50	29	50	
Coaching improved my confidence and skills in clinical handover.	0	0	0	0	19	32.8	39	67.2	

Appendix P: Nurses' Attitude Before the Coaching Intervention

Participant	Q 20	Q 21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Total Score	Mean	Category
1	4	2	3	2	2	4	1	2	3	1	24	2.4	Poor
2	3	2	3	2	2	1	2	3	2	2	22	2.2	Poor
3	4	2	3	2	2	3	2	3	2	2	25	2.5	Moderately Positive
4	4	2	3	2	2	3	1	2	1	2	22	2.2	Poor
5	4	2	3	4	2	3	2	3	2	2	27	2.7	Moderately Positive
6	4	2	3	2	2	3	2	3	2	2	25	2.5	Moderately Positive
7	2	1	3	2	2	3	2	1	2	2	20	2.0	Poor
8	4	2	3	2	2	3	2	2	4	1	25	2.5	Moderately Positive
9	4	2	3	2	2	3	2	2	2	2	24	2.4	Poor
10	4	2	3	2	2	3	1	3	2	3	25	2.5	Moderately Positive
11	4	2	3	2	2	3	1	3	2	4	26	2.6	Moderately Positive
12	4	2	3	2	2	3	1	3	2	2	24	2.4	Poor
13	4	2	4	3	3	3	1	3	2	1	26	2.6	Moderately Positive
14	4	2	3	2	2	3	2	3	2	1	24	2.4	Poor
15	4	2	3	2	2	3	2	1	1	2	22	2.2	Poor
16	4	2	3	2	2	1	1	3	3	3	24	2.4	Poor
17	4	2	3	2	2	3	1	1	2	2	22	2.2	Poor
18	4	2	3	2	2	3	1	4	2	2	25	2.5	Moderately Positive
19	4	2	3	2	2	3	2	3	2	2	25	2.5	Moderately Positive
20	3	1	3	2	2	3	2	3	2	2	23	2.3	Poor
21	4	2	3	2	2	3	1	3	2	4	26	2.6	Moderately Positive
22	4	2	3	2	2	3	2	3	2	2	25	2.5	Moderately Positive
23	4	2	3	2	2	3	2	1	2	3	24	2.4	Poor
24	4	2	3	2	2	3	1	1	2	1	21	2.1	Poor
25	4	2	3	4	2	3	2	3	4	1	28	2.8	Moderately Positive
26	4	2	3	2	2	1	1	3	2	2	22	2.2	Poor
27	4	2	3	2	2	3	1	2	3	2	24	2.4	Poor
28	4	2	3	2	2	3	1	3	2	2	24	2.4	Poor
29	4	2	3	2	2	3	2	3	2	2	25	2.5	Moderately Positive
30	3	2	3	2	2	3	2	1	1	2	21	2.1	Poor
31	4	2	3	2	2	3	1	3	1	2	23	2.3	Poor
32	4	2	3	2	2	3	2	3	2	1	24	2.4	Poor
33	4	2	3	2	2	3	2	3	2	2	25	2.5	Moderately Positive
34	4	2	3	2	2	3	2	2	3	4	27	2.7	Moderately Positive
35	4	2	3	2	3	3	1	3	2	2	25	2.5	Moderately Positive

36	4	2	3	2	2	3	1	3	2	2	24	2.4	Poor
27	4	2	4	2	2	3	1	3	2	2	25	2.5	Moderately Positive
38	4	2	3	2	2	3	2	3	1	2	24	2.4	Poor
39	4	2	3	4	2	1	1	3	4	2	26	2.6	Moderately Positive
40	4	2	3	3	2	3	2	1	2	3	25	2.5	Moderately Positive
41	4	2	3	2	2	3	2	2	3	2	25	2.5	Moderately Positive
42	4	1	3	2	2	3	1	3	2	2	23	2.3	Poor
43	4	2	3	2	2	2	1	3	2	2	23	2.3	Poor
44	4	2	3	2	2	3	2	3	2	1	24	2.4	Poor
45	4	2	3	2	2	3	2	3	2	2	25	2.5	Moderately Positive
46	4	2	3	2	2	3	1	4	1	2	24	2.4	Poor
47	4	2	3	2	2	3	1	3	2	2	24	2.4	Poor
48	4	2	3	2	2	3	1	3	2	2	24	2.4	Poor
49	4	2	3	2	2	3	2	2	2	2	24	2.4	Poor
50	4	2	3	2	3	3	1	3	2	2	25	2.5	Moderately Positive
51	4	2	3	2	2	3	1	3	2	2	24	2.4	Poor
52	4	2	3	3	2	3	2	2	1	2	24	2.4	Poor
53	4	2	3	2	2	3	2	3	2	2	25	2.5	Moderately Positive
54	4	2	3	2	2	3	2	3	2	2	25	2.5	Moderately Positive
55	4	2	3	2	2	3	1	3	2	2	24	2.4	Poor
56	4	2	3	2	2	3	1	3	2	2	24	2.4	Poor
57	4	2	3	2	2	3	2	3	2	2	25	2.5	Moderately Positive
58	4	2	3	2	2	3	2	3	2	2	25	2.5	Moderately Positive
Raw Score	227	113	176	125	119	166	88	153	120	118			
Mean	3.9	1.9	3.03	2.15	2.05	2.86	1.51	2.63	2.06	2.03	2.412	2.4	Poor

Appendix Q: Questions Used to Assess Pre - Practice

Question	Never	Rarely	Sometimes	Often	Always
I have practiced clinical handover at change of shift.			14(24.1%)	33 (56.9%)	11 (19.0%)
Nurses are compliant with a standardized system of clinical handover.	49 (84.5%)	8 (13.8%)	1 (1.7%)		
Nurses observe time for clinical handover at change of shift.			29 (50.0%)	21 (36.2%)	8 (13.8%)
All patients on the ward are handed over to the incoming shift of nurses.			40 (69.0%)	18 (31.0%)	
Only a written clinical handover is given at change of shift.		7 (12.1%)	42 (72.4%)	9 (15.5%)	
Only a verbal clinical handover is given at change of shift.		2 (3.4%)	44 (75.9%)	12 (20.7%)	
Both verbal and written clinical handover is done at change of shift.			36 (62.1%)	15 (25.9%)	7 (12.1%)
Only a recorded clinical handover is left at the nurses' station for the incoming shift.	58 (100%)				
A handover checklist is used during clinical handover at change of shift.	55 (94.8%)	3 (5.2%)			
All nurses are involved in the clinical handover process.		10 (17.2%)	42 (72.4%)	5 (8.6%)	1 (1.7%)
All departments follow a guideline during clinical handover which is on the noticeboard.	38 (65.5%)	12 (20.7%)	7 (12.1%)	1 (1.7%)	
An adequate clinical handover is given for continuity of quality care.	4 (6.9%)	18 (31.0%)	36 (62.1%)		
Only critically ill patients are handed over at change of shift.		5 (8.6%)	53 (91.4%)		
Close supervision by the head of department is ensured during clinical handover at change of shift.	27 (46.6%)	22 (37.9%)	9 (15.5%)		
Quality improvement trainings are carried out to improve clinical handover among nurses.	28 (48.3%)	29 (50.0%)	1 (1.7%)		

Appendix R: Questions Used to Assess Post-Practice

Question	Never	Rarely	Sometimes	Often	Always
I have practiced clinical handover at change of shift.	0	0	13 (22.4)	0	45 (77.6)
Nurses are compliant with a standardized system of clinical handover.	0	0	5 (8.6)	4 (6.9)	49 (84.5)
Nurses observe time for clinical handover at change of shift.	0	0	3 (5.2)	6 (10.3)	49 (84.5)
All patients on the ward are handed over to the incoming shift of nurses.	0	0	1 (1.7)	2 (3.4)	55 (94.8)
Only a written clinical handover is given at change of shift.	56 (96.5)	2 (3.4)		0	0
Only a verbal clinical handover is given at change of shift.	54 (93.1)	4 (6.9)		0	0
Both verbal and written clinical handover is done at change of shift.	0	0		0 2 (3.4)	56 (96.5)
Only a recorded clinical handover is left at the nurses' station for the incoming shift.	58 (100)	0		0	0
A handover checklist is used during clinical handover at change of shift.	0	0		0	58 (100)
All nurses are involved in the clinical handover process.	0	0		0 2 (3.4)	56 (96.5)
All departments follow a guideline during clinical handover which is on the noticeboard.	0	0		0	58 (100)
An adequate clinical handover is given for continuity of quality care.	0	0		0 8 (13.8)	50 (86.2)
Only critically ill patients are handed over at change of shift.	29 (50.0)	11 (18.9)	6 (10.3)	12 (20.7)	0
Close supervision by the head of department is ensured during clinical handover at change of shift.	0	0	46 (79.3)	4 (6.9)	8 (13.8)
Quality improvement trainings are carried out to improve clinical handover among nurses.	0	0	56 (96.5)	12 (20.7)	0

Appendix S: Effectiveness of Using ISBAR Tool (For Posttest Only)

Item statement	SD		D		A		SA	
	Frequenc y	(%age)	Frequenc y	(%age)	Frequenc y	(%age)	Frequenc y	(%age)
The new handover system is time efficient	0	0	0	0	33	56.9	25	43.1
The new handover system is not consistent for each patient	11	19	47	81	0	0	0	0
The amount of information about each patient handed over to me is sufficient to meet my needs (neither too little nor too much)	0	0	0	0	35	60.3	23	39.7
Critical patient information is often omitted at handover	0	0	58	100	0	0	0	0
Patient information is often structured poorly during handover	3	5.2	55	94.8	0	0	0	0
During most handovers, I am informed which patients are unstable or require more urgent attention	0	0	0	0	33	56.9	25	43.1
Overall, I have confidence in accepting responsibility for patients' care with the ISBAR handover system	0	0	0	0	32	55.2	26	44.8
Overall, ISBAR and the education programme have not improved handover.	31	53.4	27	46.6	0	0	0	0
In my opinion, the new ISBAR system	30	51.7	28	48.3	0	0	0	0

does not improves patient care and safety.									
The new ISBAR system is sustainable	0	0	0	0	33	56.9	25	43.1	

Appendix T: Pre-Intervention Practice

Participant	Q3 0	Q3 1	Q3 2	Q3 3	Q3 4	Q3 5	Q3 6	Q3 7	Q3 8	Q3 9	Q4 0	Q4 1	Q4 2	Q4 3	Q4 4	Total	Mean	Category
1	5	3	5	5	1	2	4	1	4	3	3	5	5	2	2	50	3.3	Moderately good
2	5	2	4	3	1	5	5	1	1	5	2	5	1	1	2	43	2.9	Moderately good
3	5	4	3	4	1	1	5	1	1	5	1	5	1	3	2	42	2.8	Moderately good
4	5	3	5	3	1	3	5	1	1	5	3	3	1	2	2	43	2.9	Moderately good
5	5	4	4	5	1	1	5	5	2	5	2	3	1	4	2	49	3.3	Moderately good
6	5	3	5	5	1	1	4	3	1	4	5	5	1	4	2	49	3.3	Moderately good
7	5	2	3	5	1	1	4	1	1	3	1	3	3	3	3	39	2.6	Moderately good
8	5	1	2	3	2	1	5	1	1	5	1	5	1	2	2	37	2.5	Poor
9	5	5	4	5	3	5	5	1	1	5	2	4	4	3	1	53	3.5	Moderately good
10	5	4	5	1	1	1	2	2	2	5	1	5	1	1	2	38	2.5	Poor
11	5	3	5	5	2	1	5	5	4	3	3	5	2	2	1	51	3.4	Moderately good
12	5	3	3	5	1	1	5	1	5	5	5	5	1	3	3	51	3.4	Moderately good
13	5	2	4	5	3	1	3	1	1	4	3	3	3	2	2	42	2.8	Moderately good
14	5	4	5	5	5	2	5	3	1	5	2	5	5	4	1	57	3.8	Very good
15	4	5	4	5	1	1	5	3	2	5	1	4	2	2	1	45	3.0	Moderately good
16	5	1	3	2	1	1	5	1	1	4	3	3	1	5	2	38	2.5	Poor
17	1	5	5	5	3	5	4	1	1	5	5	5	1	3	3	52	3.5	Very good
18	5	3	5	3	1	1	5	1	2	5	2	5	2	2	1	43	2.9	Moderately good
19	5	5	4	5	4	1	5	2	1	5	2	4	4	4	4	55	3.7	Very good
20	5	4	3	5	3	1	5	1	3	3	1	1	1	1	1	38	2.5	Poor
21	5	3	5	5	2	4	5	1	2	4	3	3	3	3	3	51	3.4	Moderately good
22	5	2	4	4	1	1	3	1	1	5	5	5	5	5	5	52	3.5	Moderately good
23	4	5	3	5	1	3	5	5	2	2	2	2	2	3	2	46	3.1	Very good
24	5	4	3	3	1	3	4	1	1	4	1	4	1	5	1	41	2.7	Moderately good
25	5	5	1	5	3	1	4	1	1	3	3	3	3	4	4	46	3.1	Moderately good
26	5	3	5	5	2	3	3	1	2	5	2	5	5	2	2	50	3.3	Moderately good
27	4	4	4	5	5	1	5	1	5	5	3	3	1	3	3	52	3.5	Moderately good
28	5	4	5	5	1	2	5	1	1	4	1	1	1	5	1	42	2.8	Moderately good
29	5	5	2	5	1	1	4	4	4	5	1	5	1	5	1	49	3.5	Moderately good
30	5	2	4	5	1	3	5	1	2	5	5	5	1	3	3	50	3.3	Moderately good
31	5	2	5	5	2	3	5	1	2	2	1	5	1	3	1	43	2.9	Moderately good
32	4	3	3	1	1	1	4	1	5	4	2	2	2	2	2	37	2.5	Poor
33	5	4	4	5	3	1	3	3	1	5	1	5	1	1	1	43	2.9	Moderately good
34	3	5	4	5	3	1	5	1	3	5	1	4	1	3	3	47	3.1	Moderate

																		ly good
35	5	3	3	4	1	2	5	5	5	5	3	3	3	4	4	55	3.7	Very good
36	5	4	5	5	1	1	5	1	1	4	1	5	1	1	1	41	2.7	Moderate ly good
37	5	4	4	3	1	1	4	1	1	5	5	4	1	1	1	41	2.7	Moderate ly good
38	4	1	4	5	2	4	5	1	1	5	1	3	3	3	2	44	2.9	Moderate ly good
39	5	2	5	5	1	3	5	3	5	5	1	5	1	2	1	49	3.3	Moderate ly good
40	5	5	4	3	3	1	5	2	2	3	2	5	1	5	2	48	3.2	Moderate ly good
41	5	3	4	5	3	1	4	1	2	2	1	1	1	3	3	39	2.6	Moderate ly good
42	4	4	4	5	1	3	5	1	1	4	1	4	1	5	5	48	3.2	Moderate ly good
43	5	4	2	5	1	1	5	1	1	5	1	5	1	5	2	44	2.9	Moderate ly good
44	5	5	3	3	1	1	5	3	1	4	2	4	2	2	2	43	2.9	Moderate ly good
45	4	3	3	5	3	2	5	1	5	3	3	5	1	1	1	45	3,0	Moderate ly good
46	5	1	4	5	1	1	2	1	1	5	1	5	1	5	2	40	2.7	Moderate ly good
47	5	5	3	5	1	3	3	1	1	5	1	4	1	4	2	44	2.9	Moderate ly good
48	5	4	3	5	3	1	4	1	2	5	5	5	1	3	3	50	3.3	Moderate ly good
49	5	5	3	5	2	1	5	1	2	5	2	1	1	5	2	45	3.0	Moderate ly good
50	4	2	5	5	1	3	5	1	1	4	1	5	1	5	2	45	3.0	Moderate ly good
51	5	4	2	3	1	3	5	1	1	3	2	5	1	5	1	42	2.8	Moderate ly good
52	5	3	3	5	1	4	5	1	5	5	1	5	1	3	3	50	3.3	Moderate ly good
53	5	5	3	5	1	1	5	1	1	5	2	5	2	5	2	48	3.2	Moderate ly good
54	5	4	3	5	1	3	5	1	2	5	5	4	1	4	4	52	3.5	Moderate ly good
55	5	5	3	5	1	1	5	1	1	5	1	1	1	5	2	42	2.8	Moderate ly good
56	5	5	3	3	1	3	5	1	1	5	2	5	1	5	2	47	3.1	Moderate ly good
57	5	5	3	5	1	1	5	1	1	5	1	3	1	5	2	44	2.9	Moderate ly good
58	5	5	3	5	1	3	5	1	2	5	1	5	1	4	2	48	3.2	Moderate ly good
Raw Score	276	208	215	256	98	112	263	92	114	254	125	232	99	190	124	2658		
Mean	4.7	3.6	3.7	4.4	1.7	1.9	4.5	1.6	1.9	4.3	2.2	4.0	1.7	3.3	2.1		3.1	Moderate ly good

Appendix U: Post-Interventional Practice

Participant	Q3 0	Q3 1	Q3 2	Q3 3	Q3 4	Q3 5	Q3 6	Q3 7	Q3 8	Q3 9	Q4 0	Q4 1	Q4 2	Q4 3	Q4 4	Total	Mean	Category
1	3	5	5	5	1	2	5	1	5	5	5	4	2	5	3	56	3.7	Very good
2	5	5	5	5	1	1	5	1	5	5	5	5	4	3	3	58	3.9	Very good
3	5	5	5	5	1	1	5	1	5	5	5	5	1	3	3	55	3.7	Very good
4	5	5	4	5	1	1	4	1	5	5	5	5	4	3	3	56	3.7	Very good
5	5	5	5	5	1	1	5	1	5	5	5	5	2	3	3	56	3.7	Very good
6	5	5	5	5	1	1	5	1	5	5	5	5	2	3	3	56	3.7	Very good
7	5	5	5	5	1	1	5	1	5	5	5	5	4	3	3	58	3.9	Very good
8	5	5	4	5	1	1	5	1	5	5	5	5	1	3	3	54	3.6	Very good
9	5	5	5	5	1	1	5	1	5	5	5	5	4	5	3	60	4.0	Excellent
10	3	3	5	5	1	1	5	1	5	5	5	5	4	3	3	54	3.6	Very good
11	5	5	3	3	1	1	5	1	5	5	5	5	1	3	3	51	3.4	Very good
12	5	3	5	5	1	1	5	1	5	5	5	5	1	3	3	53	3.5	Very good
13	3	5	5	5	2	1	5	1	5	5	5	5	4	3	3	57	3.8	Very good
14	5	5	5	5	1	1	5	1	5	5	5	5	2	3	3	56	3.7	Very good
15	5	5	5	5	1	2	5	1	5	5	5	4	1	3	3	55	3.7	Very good
16	5	5	5	5	1	1	5	1	5	5	5	5	1	3	3	55	3.7	Very good
17	3	5	5	5	1	1	5	1	5	5	5	5	4	3	3	56	3.7	Very good
18	5	5	4	5	1	1	5	1	5	5	5	5	3	4	3	57	3.8	Very good
19	5	5	5	5	1	1	5	1	5	5	5	5	1	3	3	55	3.7	Very good
20	5	5	5	5	1	1	5	1	5	4	5	5	1	3	3	54	3.6	Very good
21	5	3	5	5	1	1	4	1	5	5	5	5	1	3	3	52	3.5	Very good
22	3	5	5	5	1	1	5	1	5	5	5	5	2	3	3	54	3.6	Very good
23	3	4	4	4	1	1	5	1	5	5	5	4	4	3	3	52	3.5	Very good
24	3	5	5	5	1	1	5	1	5	5	5	4	4	3	3	55	3.7	Very good
25	5	5	5	5	1	1	5	1	5	5	5	5	1	3	3	55	3.7	Very good
26	5	5	3	5	1	1	5	1	5	5	5	5	1	4	3	54	3.6	Very good
27	5	5	5	5	1	1	5	1	5	5	5	5	1	3	3	55	3.7	Very good
28	3	5	5	5	1	2	5	1	5	5	5	5	3	3	3	56	3.7	Very good
29	5	5	5	5	1	1	5	1	5	5	5	5	1	3	3	55	3.7	Very good
30	5	5	5	5	1	1	5	1	5	5	5	5	4	5	3	60	4.0	Excellent

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31	5	5	5	5	1	1	5	1	5	5	5	5	3	3	4	58	3.9	Very good
32	5	4	5	5	1	1	5	1	5	5	5	5	4	3	3	57	3.8	Very good
33	5	5	5	5	1	1	5	1	5	5	5	5	3	4	3	58	3.9	Very good
34	5	5	5	5	1	1	5	1	5	5	5	5	2	3	3	56	3.7	Very good
35	3	3	4	4	1	1	5	1	5	5	5	5	1	3	3	49	3.3	Very good
36	3	5	5	5	1	1	5	1	5	5	5	5	3	3	3	55	3.7	Very good
37	5	5	5	5	1	1	5	1	5	5	5	4	2	3	3	55	3.7	Very good
38	5	5	5	5	1	1	5	1	5	4	5	4	1	3	4	54	3.6	Very good
39	5	5	5	5	1	1	5	1	5	5	5	5	1	3	3	55	3.7	Very good
40	5	5	5	5	1	1	5	1	5	5	5	5	1	5	3	57	3.8	Very good
41	5	5	5	5	1	1	5	1	5	5	5	5	1	5	3	57	3.8	Very good
42	5	5	3	5	2	1	5	1	5	5	5	5	1	3	3	54	3.6	Very good
43	5	5	5	5	1	1	5	1	5	5	5	5	4	3	3	58	3.9	Very good
44	5	5	4	5	1	1	5	1	5	5	5	5	1	3	3	54	3.6	Very good
45	3	3	5	5	1	2	5	1	5	5	5	5	1	3	3	52	3.5	Very good
46	5	5	5	5	1	1	5	1	5	5	5	5	1	3	3	55	3.7	Very good
47	5	4	5	5	1	1	5	1	5	5	5	5	2	3	3	55	3.7	Very good
48	5	5	5	5	1	1	5	1	5	5	5	5	1	5	3	57	3.8	Very good
49	5	5	5	5	1	1	5	1	5	5	5	5	3	3	3	57	3.8	Very good
50	3	5	5	5	1	1	5	1	5	5	5	4	2	3	3	53	3.5	Very good
51	5	5	5	5	1	1	5	1	5	5	5	5	1	3	3	55	3.7	Very good
52	3	5	5	5	1	1	5	1	5	5	5	5	1	5	3	55	3.7	Very good
53	5	5	5	5	1	1	5	1	5	5	5	5	1	3	3	55	3.7	Very good
54	5	4	5	5	1	1	5	1	5	5	5	5	2	3	3	55	3.7	Very good
55	5	5	5	5	1	1	5	1	5	5	5	5	1	3	3	55	3.7	Very good
56	5	5	5	5	1	1	5	1	5	5	5	5	1	3	3	55	3.7	Very good
57	5	5	5	5	1	1	5	1	5	5	5	5	1	4	3	56	3.7	Very good
58	5	5	5	5	1	1	5	1	5	5	5	4	2	5	3	57	3.8	Very good
Raw Score	264	276	278	286	60	62	288	58	290	288	290	282	117	194	176		213.9	
Mean	4.6	4.7	4.8	4.9	1.0	1.0	4.9	1	5	4.9	5	4.9	2.0	3.3	3.0		3.6	Very good