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Clinical handover experience among nurses working in Ethiopia: phenomenological qualitative study

Gurmu Dumbala[1], Yeshitila Belay[2], Ebrahim Yimam[2] and Yonas Abebe[3*]

Abstract

Background A nurse's clinical handover is an important and complex form of communication in healthcare organizations that involves the exchange of patient-related information during shift change. Nurse-to-nurse clinical handover is frequently implemented at inpatient and emergency units, with an increased risk of information loss. Ineffective clinical handover is responsible for about 80% of the causes of serious, preventable adverse health events. However, the evidence is unknown in Ethiopia, particularly in the study setting. Therefore, this study aimed to explore the lived experience of clinical handover among nurses working in the Jimma Medical Center in South Western Ethiopia in 2022.

Method This study employed a descriptive phenomenological approach to explore the lived experiences of nurses in medical, surgical, and emergency outpatient departments. Data collection occurred between July 1st and August 31st, 2022. Nine nurses, purposively selected for their diverse experiences, participated in individual, semi-structured, in-depth interviews. To provide additional context, five key informants were also interviewed. Additionally, twenty non-participatory observations were conducted. Interview recordings and field notes were transcribed verbatim and analyzed using Colaizzi's seven-step method, facilitated by Atlas.ti 8 software. Rigor was ensured through adherence to Lincoln and Guba's criteria for trustworthiness. Findings are presented through thematic narratives supported by direct participant quotations.

Result Analysis of the data revealed three emerged core themes of the clinical handover experience: i) "Inconsistent, non-standardized handover processes and content"- with subthemes:"communication styles","location of handover","time of handover", "the content of handover","patient involvement", and"handover responsibility." ii) "Obstacles to consistent handover", with subthemes such as" healthcare system-related factors", "care provider-related factors", and "patient's health status-related factors". iii) "Negative impacts on patients from inconsistency in handover." All participants reported that ineffective clinical handover was harming the holistic quality of nursing care.

Conclusion This study found that consistent and standardized clinical handover practice has a significant deficit, which was affected by obstacles related to nurses, the organizational healthcare system and the patient's health status. Therefore, tailored intervention is needed to improve the clinical handover in nursing practice.

*Correspondence:
Yonas Abebe
Yonigrace2020@gmail.com; ifajireenyaa97@gmail.com

Full list of author information is available at the end of the article

Keywords Clinical handover, Patient safety, Nurses, Phenomenology

Introduction

Effective nursing clinical handover is essential for clinical decision-making and the delivery of safe, high-quality care [1]. The primary role of clinical handover is to communicate accurate, critical, and up-to-date information about patient care, patient condition, treatment, medications, any recent or anticipated changes, health service needs, clinical assessment monitoring, and evaluation, and goal planning [2].

Ineffective clinical handover causes a leak of information between the cracks, leading to a serious problem for patient safety and quality care, particularly in emergency settings [3]. Most commonly reported adverse health incidents are often linked to poor clinical handover in inpatient and emergency departments [4, 5]. According to the World Health Organization (WHO), global estimates show that 42.7 million adverse medical errors occurred out of 421 million hospitalizations [6]. According to this, ineffective clinical handover is responsible for an estimated 80% of serious medical errors [7]. In addition, one out of every ten patients in high-income countries is harmed by a 50% preventable range of incidents or adverse events while receiving hospital care. In low and middle-income countries (LMIC) the rate of adverse events was around 8%, of which 83% could have been avoided and 30% resulted in death [6]. One recent study in Ethiopia, in 2022, found that the immediate postoperative patient handover practice was poor [8]. However, inpatient and emergency departments were not addressed.

Literature shows communication failures during handover were responsible for at least 30% of malpractice in US hospitals and medical practices, resulting in 1,744 deaths and 1.7 billion dollars in costs over five years [9]. A study in China in 2016 identified breaks in handover communication that resulted in severe patient harm [10], and standardization reduced harm from 9.2 to 5.7% [11]. Medication errors were mostly reported due to ineffective clinical handover in emergency and inpatient units [12].

In Ethiopia, night-shift medication administration problems shared major roles of reported errors [13] that may need further study to explore. Furthermore, the poor handover was one of the major contributing factors to the low level of patient safety culture in Ethiopian hospitals [14–18]. Regardless of all these effects, nurses' clinical handover is an area that got little attention in the literature. Moreover, failure to share clinically relevant information accurately and on time may result in adverse events, delays in treatment, procedures, and diagnosis, inappropriate treatment and omission of care, medication errors, patient falls, and infection risk [19].

There is growing evidence that supports the use of standardized and structured nurse handover using evidence-based mnemonic tools such as Introduction, Patient, Assessment, Situation, Safety Concern, Background, Action, Timing, Ownership, Next (I-PASS the BATON); Identification, Situation, Background, Assessment, and Recommendation (ISBAR); and other checklists [5, 20, 21] to reduce the burdens. Regardless of the global efforts to reduce the burden, no substantial change has been achieved [22]. The literature on the practice of nurses clinical handover is scanty in Africa.

Despite the Ethiopian Health Sector Transformation Guideline recommendation to implement clinical handover with well-coordinated, fixed timing, adequate and clear information [23]; the desired research finding is unknown in the study setting. In addition, no previously published study has explored nurses' experiences with clinical handover. Exploring nurses' experiences with clinical handover practices is important for optimizing best practices and supporting intervention programs [21]. Therefore, this study aimed to explore the lived experience of clinical handover of nurses working at Jimma Medical Center in Southwestern Ethiopia.

Method and material

Study area and period

The study was conducted at the Jimma Medical Center (JMC) from July 1, 2020, to September 31, 2022. Jimma Medical Center (JMC) is one of the oldest public hospitals in the country, located in Jimma Town, 352 km southwest of the capital of Ethiopia, Addis Ababa. Currently, it is the only teaching and referral hospital in the southwestern part of the country. It provides services for approximately 15,000 inpatients, 160,000 outpatient attendants, 11,000 emergency cases, and 4,500 deliveries in a year, all coming from the hospital's catchment population of about 15 million people. The hospital also has over 800 beds and 32 care units. It employs 1600 people, including 615 nurses (16 with master's degrees, 501 with bachelor's degrees, and 98 with diplomas in nursing. This study was conducted in adult medical-surgical units and an emergency department. These included a male medical unit, a female medical unit, a male surgical unit, surgical emergencies, a burn unit, a medical intesive care unit (ICU), a surgical ICU, a pulmonary and cardiac ICU, and an emergency outpatient department. Some inpatient units were not involved in this study; considering the feasibility, diversity of healthcare professionals, and the unwillingness of some staff.

Study design

A descriptive phenomenological qualitative study design was employed to explore the essence of lived experience. The problem best suited for this form of research design is one in which it is important to understand several individuals' common or shared lived experiences of a phenomenon that have previously received little attention [24].

Population

Source population

All professional nurses working in the Jimma Medical Center.

Study population

Study populations of this study were all purposively selected professional nurses who fulfilled inclusion criteria.

Eligibility criteria

Inclusion criteria Professional nurses currently working in medical-surgical units and emergency outpatient departments, who had participated in at least two clinical handovers and were available at the time of data collection, were included in this study.

Exclusion criteria Professional nurses who worked in that unit for less than six months and who were unwilling to participate.

Sample size determination and sampling procedures

The sample size was determined by saturation of required data; sampling to the point at which no new information, codes or themes were yielded from data, and at least three redundancies were achieved for each code [25]. Despite the sample size of the phenomenological study ranging from five to twenty-five [24] or three to ten [26], the number of interviews was not predetermined. Nurse recruitment stopped after saturation was achieved at 14 study participants who worked in adult inpatient units (a male medical unit, a female medical unit, a male surgical unit, surgical emergencies, a burn unit, a medical ICU, a surgical ICU, a pulmonary and cardiac ICU), and an emergency outpatient department. From a total of 14 nurses, 9 participated in an in-depth interview (IDI), and 5 department head nurses participated in key informant interviews (KII). Further, 20 event-sampled observations were implemented to ensure emerged themes from interviews.

Sampling procedures After getting permission from all concerned bodies, a discussion was made with the nurse's service director and the unit head nurses that helped us to address nurses who had lived experience in the clinical handover. A criteria-based purposive sampling technique was used to recruit study participants who had lived experience of clinical handover, possessed articulate communication skills, and provided direct patient care [27]. Consequently, individuals were identified and informed in advance based on the inclusion criteria. Priority was purposively given to shift leaders, who coordinate and perform handovers frequently, during data collection. Recruitment continued until at least one clinical nurse from each unit was recruited and interviewed. Further, event sampling and semi-structured non-participatory observation were employed during nurse-to-nurse handover time across the units.

Data collection tool and procedure

Data were gathered through personal, one-on-one, semi-structured, in-depth interviews with staff nurses, including unit head nurses, and through semi-structured, non-participatory observations of handovers. The development of the interview and observation guides was informed by a thorough literature review, ensuring alignment with existing research and best practices [28, 29]. The researcher, along with four Bachelor of Science (BSc) -prepared nurses experienced in qualitative data collection, conducted the data collection. All data collectors were recruited from Shanan Gibe Hospital. An open-ended, semi-structured interview guide was developed in English, then translated into the local languages, Afan Oromo and Amharic, based on the interviewees' preferences. A language expert then back-translated the materials into English to ensure accuracy. A one-day training session was provided to the data collectors. Throughout the data collection process, the interview questions were refined and reordered based on emerging insights. The researcher established and maintained a high level of trust with participants through prolonged engagement. Private, interruption-free spaces suitable for recording were arranged by communicating with each interviewee; these included the duty room and morning hall. Interviews were conducted with one respondent per day to facilitate transcription and analysis. Each in-depth interview (IDI) and key informant interview (KII) was held at a time convenient for the participants. The researcher and one data collector conducted all interviews. Participants were informed a day before the data collection, and interviewers arrived an hour before the scheduled time. Four participants declined the interview due to concerns about recording. Participants were encouraged to speak freely about all topics in the guide. All interviews, lasting from 30 min to an hour, were audio-recorded and transcribed verbatim. Follow-up probing questions were used for clarification when needed. Additional data collection methods, specifically observation, were employed after

the interviews to validate and supplement the emerging concepts.

Observation Event-sampled, semi-structured, non-participatory observations were implemented following the interviews. A semi-structured observational guide was developed. Twenty handover events, ten morning-to-afternoon and ten afternoon-to-evening, were observed within the selected unit. Each observation lasted approximately 10 to 15 min. Observations were conducted to verify consistency between spoken words and actions, to examine the practice in its natural setting, and to confirm self-reported data. To mitigate the Hawthorne effect and its potential impact on behavior during patient handover practices, observers wore hospital uniforms to blend in and reduce perceived threat. The habituation process, through prolonged engagement, was also utilized. Participants were aware of the observers' presence but not their specific research motives, which allowed for access to more in-depth information. Detailed observation notes were recorded immediately after each observation. Data saturation was determined when interviews and observations with new participants no longer yielded themes that had not already been identified by previous participants.

Study variables

Lived experience of clinical handover among nurses.

Operational definition

Clinical handover is the transfer and acceptance of patient care responsibility and accountability during shift changes between incoming and outgoing nurses [7].

Communication - is defined as the process by which information is exchanged between senders and receivers of care responsibilities.

A sentinel event - is defined by the Joint Commission (TJC) as any unanticipated event in a healthcare setting resulting in death or serious physical or psychological injury to a patient or patients, not related to the natural course of the patient's illness [7].

Adverse health event one that causes injury to a patient as the result of a medical intervention rather than the underlying medical condition.

Sender Those caregivers who transmit patient information and transition the care of a patient to the next clinician [30].

Receiver Those caregivers who accept the patient's information and take care of that patient [30].

Standardized tool Validated forms, templates, checklists, protocols, and mnemonics, such as ISBAR (Introduction, Situation, Background, Assessment, Recommendation) that are used to communicate patient care information during clinical handovers.

Unstructured patient information the transfer of unstandardized patient care information at an unsafe time and involving an unsafe patient.

Data analysis procedure

Data analysis occurred concurrently with data collection to determine data saturation. Colaizzi's (1978) phenomenological method was used to analyze participant transcripts. Colaizzi's (1978) preferred data analysis method for descriptive phenomenology, which is rigorous and robust, enhances the credibility and reliability of its results [31]. Using this method, the researcher and assistants independently read all written transcripts multiple times to gain a general sense of the data and note initial ideas. After verifying the accuracy of the transcribed data, significant phrases or sentences directly related to the lived experience of clinical handover were extracted from each transcript. Meanings were then formulated from these significant statements and phrases. To facilitate sorting, annotating, and coding the data, transcribed interviews were entered into ATLAS.ti 8 software to facilitate sorting, annotating, and coding the data separately by two independent researchers.

The formulated meanings were clustered into themes, allowing for the emergence of themes common to all participants' transcripts. After each field contact, an average of two more days was taken to perform a preliminary analysis, which involved reviewing the main concepts, issues, and questions observed during the contact. This guided planning for the next contact, provided an opportunity for modification in the approach, and allowed for decisions on continuing data collection until a point of saturation. The results were then integrated into an in-depth, exhaustive description of the phenomenon. Once descriptions and themes had been obtained, the researcher, in the final step, approached some participants a second time to validate the findings. New relevant data that emerged were included in the final description.

Trustworthiness

To ensure the trustworthiness of the findings, the criteria for rigor outlined by Lincoln and Guba (1985) – credibility, transferability, dependability, and conformability – were applied.Credibility was achieved through several strategies: themes were established based on the triangulation of multiple data sources (Observation, key informant interviews [KII], and in-depth interviews [IDI]) to build a strong justification for each theme; member

checking was employed, allowing participants to review the findings; audio taping and verbatim transcription ensured data accuracy; the research team's position was clarified through reflexivity notes and extended time was spent in the field to build rapport and understanding. To ensure transferability, a thick description of the research context, the participants, and the experiences and processes observed during the study was provided. Additionally, data saturation was confirmed, and illustrative participant statements were quoted directly. Dependability was established through meticulous record keeping for an audit trail, repeated transcript checks for errors, data triangulation, cross-checking between members of the research team until consensus was reached, and accurate documentation of all processes. Conformability was addressed by ensuring congruence among independent members of the research team (researchers and assistants) regarding the data's accuracy, relevance, and meaning during data coding and analysis.

Regarding Research Team and Reflexivity (Bracketing): To mitigate potential bias, the research team employed bracketing [24]. The process of setting aside one's beliefs, feelings and perceptions to remain open and faithful to the phenomenon under investigation. While the team had clinical experience performing clinical handovers, which influenced the selection of the topic, they also possessed training in qualitative data analysis, ensuring a rigorous approach. The team consisted of graduates nursing students and their instructors, who were closely engaged throughout the study. Although two members had prior qualitative research experience, two others did not, despite their extensive experience in handover practice. The research team believes that no team background affected the interpretation of the results. The research assistants and two team members, all holding master's degrees and having prior qualitative research experience, were involved in participant sampling. The research team had had no established relationships with the participants before the study began. Data collectors were selected from other hospitals and, therefore, also had no prior relationships with the study participants.

Table 1 Sociodemographic characteristics of study participants nurses at JMC, Southwest Ethiopia, 2022

Participants	Educational status	Working experience	Working unit
1.	B.Sc.	2–5	Male Medical unit
2.	M.Sc.	2–5	Medical intensive-care unit
3.	B.Sc.	2–5	Female medical unit
4.	B.Sc.	2–5	Emergency OPD
5.	B.Sc.	6–10	Pulmonary and cardiac unit
6.	B.Sc.	2–5	Surgical intensive-care unit
7.	M.Sc.	6–10	Chronic surgical unit
8.	B.Sc.	6–10	Burn unit
9.	B.Sc.	6–10	Chronic Surgical unit
10.	B.Sc.	2–5	Surgical emergency
11.	B.Sc.	6–10	Burn unit
12.	B.Sc.	2–5	Medical intensive-care unit
13.	M.Sc.	6–10	Male-medical unit
14.	B.Sc.	6–10	Emergency OPD

Ethical considerations

Before the commencement of actual data collection, Ethical approval was obtained from the Institutional Review Board of Jimma University. A formal letter from the Institute of health was given to the study area. The aim of the study was explained to the participants in a language they can understand. Informed, voluntary, and written signed consent was taken from each participant. The participants' information was kept confidential and used for study purposes only. There was no direct benefit provided and no harm to the participants. Phased Consent and Limited Disclosure were used to collect data during observations.This involves obtaining broad consent upfront, followed by more specific consent after a period of observation, and careful limitations on what data is used if staff decline full consent.

Result

Sociodemographic characteristics of participants

Among the fourteen nurses in this study, half (seven) had substantial experience in clinical handover, ranging from 6 to 10 years. Twelve held bachelor's degrees, and two held master's degrees. All participants had experience in different wards (medical, surgical, and emergency OPD) of Jimma Medical Center, Ethiopia. (See. Table-1)

Clinical handover experience

Main themes

From 14 interviews and 20 observations, three major themes of clinical handover practice lived experience were identified. The essence of the lived experience of the clinical handover was explored. The identified themes were: Theme 1: Inconsistent, non-standardized handover processes and content. Theme 2: Obstacles to consistent handover. Theme 3: Negative impacts on patients from inconsistency in handover.Each main theme consists of multiple sub-themes. (See Table 2).

Theme 1: Inconsistent, non-standardized handover processes and content

During the interviews, nurses mentioned different experiences with handover practices across the units. There were daily activities of clinical handover practice

Table 2 Themes and sub-themes identified from an in-depth interview, KII, and observation of nurses' clinical handover experience at JMC, Southwest Ethiopia, 2022

Themes	Subthemes
Inconsistent, non-standardized handover processes and content.	Communication styles
	Location of Handover
	Time and duration of handover
	Handover content
	Patient involvement
	Handover responsibility
Obstacles to consistent handover.	Organizational healthcare system related factors.
	Individual nurse's related factors
	Patient health status related factors
Negative impacts on patients from inconsistency in handover.	Medical errors
	Patient dissatisfaction
	An increased average length of stay.

that participants experienced during their stay in the unit. From this major theme; different sub-themes such as communication styles, location of handover, time and duration of handover, the content of handover, patient involvement, and handover responsibilities were identified.

Clinical handover styles/methods

A nurse's clinical handover is a routine practice that is performed in various ways. In some units, verbal communication took place face-to-face and over the phone, while in other circumstances, written forms were employed, or a combination of all three. The ward report book was found to be the main information source during all observations. Most participants during the KII and IDI reported that they were given clinical handovers in both written and oral form. Some participants also described how they sometimes asked for unclear information through the telephone when physical contact is impossible.

> *We are doing handovers orally and with a written handover book. A critical patient handover is done both orally and through a handover book. If the receivers and senders fail to meet physically, we will refer to the handover book written by the sender (KII-P4).*
>
> *Similarly, during the observation of nurse handover, the outgoing nurses share some information that the receiver should take priority over. One day during the observation, the outgoing nurse said, "The patients on beds 6 and 10 haven't brought the medications; please give them when they are available."Further, he said"no discharge; all patients are stable" (observation 15).*
>
> *Most participants reported that face-to-face handovers of stable patients were not a must. They stated that they documented the information believed to be important in the handover book. One participant described her perception as follows:*
>
> *We are implementing handover face-to-face and orally supporting it with recorded documents in the handover book. ...We don't perform face-to-face handovers routinely. Patients who have been admitted for an extended period are rarely reported, as all staffs are familiar with them. If the patients are in critical condition, we transfer them to the receiver at the bedside (IDI-P1).*
>
> *Furthermore, during the observation, the face-to-face handover was less likely performed; the use of a handover book was common. It was sometimes implemented haphazardly.*
>
> *One day, during the observation of the handover, the outgoing nurse wrote in the handover book and gave the report orally while walking along the corridor. There was no standardized tool observed during the patient exchange among the staff (observation – 4).*
>
> *Further, the observed handover practice lacks consistency across all the units. Face-to-face bedside handover was rarely performed in a structured way. In some units, it was hard to see a face-to-face handover. During observation of the afternoon handover, the outgoing nurse wrote on the handover book available in the unit without physical contact, and the incoming nurses came late and read the document (Observation – 6).*

Content of transferred information

The critical contents of the information communicated during the clinical handover depended on the context and condition of the patients. Most of the study participants reported that they routinely communicated patient information during shift changes. They stated that there were no recommended minimum criteria customized across the units. They stated that all nurses had been transferring the patients' information that they believed to be important.

> *Our handover contents include the medication that is ordered but not given during my duty or not brought by patients, the treatment plan that has not yet been initiated, unfinished nursing care, patient condition or status, medication changed or added, transfer, discharge, the next planned course of care, patient refusal of care and the like. The contents are almost similar, but with different communication methods (IDI-P6).*

Most study participants further reported that the contents of the handover were subjective and depended on

the patient's condition. They stated that the contents of the transferred information were incomplete, superficial, inconsistent, and unstructured across all units. The only demographic data supplied at handover were patients' bed numbers. No detailed personal information or health status was reported during the handover. A participant stated as follows:

> *Our handover is not uniform across the unit. We refer to their bed number when giving the handover. For example, we write, for the patient on bed 6, and the patient on bed 7, who are critical, there has been no death, no admission, no discharge, and so on. But it may not be uniform for all patients. I don't know if it's standardized, and it depends on the patient's condition. Everyone wrote what seemed important; actually, it's important, but it's not uniform (IDI, P9).*

The observed contents of the information shared during the handover were mainly focused on critical patients and newly admitted patients.

During observation of the handover, nurses call the patients' bed numbers and remind the arriving nurses about the planned activities and the patients' unstable health conditions. In addition to this, they recorded in the handover book information like admission, discharge, transfer, critical illness, change of medication and unfinished duty (Observation-2).

Further, the observed contents of information were very superficial and unstandardized across units, which did not address important elements like the patient's name, the reason for admission, background, assessment, the results of assessments performed, dated vital signs, and dated lab results. (all observations)

During observation of the handover event, we heard a nurse say, "Good afternoon. The ward is okay; there are only two critical patients on beds 8 and 10 that need follow-up. All patients took their medication except the patient on bed 7, who did not bring her ordered medications; for the patient on bed 5, her cannula was removed, and she is complaining. For the patient on bed 12, ceftriaxone was changed to ceftazidime (observation 10).

Location of handover

> *It's a sub-theme of experienced handover practice, where nurses gave clinical handover. Most participants reported that the clinical handover was performed everywhere in the working unit. They reported that there was no identified location for the handover. All participants also described they were doing the clinical handovers at the nurse station, duty room, and corridor. Further, some participants reported that they sometimes did handovers at the bedside for critical patients.*
> *The location of handover in this unit is here and there. I mean varied. Most of the time, we implement handover in the nurses' station room, corridor, and duty room. We didn't perform bedside handovers for all patients. Sometimes we may do so at the bedside for critical patients. We are doing the handover of critical patients at the bedside, focusing on oxygen, fluid, intravenous venous, and the like (IDI, P2).*
> *Another respondent also stated that bedside handover is not mandatory for stable patients. They stated that the handover of critical patients was performed at the bedside focusing on recent hemodynamic changes. A participant described as follows:*
> *The location of handover is determined depending on the patient's health condition. Example: If the patient is critical, I give handover at the bedside by showing the patient to the receiver. If patients are stable, we do handover at the station room or corridor or elsewhere (IDI, 14).*
> *Further supplemented observation revealed that the handover location was context based implemented haphazardly. In one room, the nurses entered the ward while speaking with each other; one of them approached the patient and assessed the intravenous line and its functionality. Then, he said, this patient is critical; please consult the seniors. Finally, they left the room after visiting this unit (observation 8).*

Handover time and duration

Handover time is the time when the receiver and sender are expected to implement clinical handover. The duration is the time it takes to complete each clinical handover. Most study participants reported that handover was implemented three times a day, every eight hours. They described handover time as a busy time with activities during which the senders and receivers had time pressure. Further, many participants reported that there was no adequate time for handover.

> *Handover is a busy-time activity. The time we physically meet is on and off. Sometimes they performed handover as routine activities, and sometimes they neglected it. This is because of the problem of the transport service during the rainy season; staff lateness and early releases are some problems in the unit (KII, P4).*

Other key informants described that the staffs have competing priorities i.e. (new admission, procedures, critical

patient care, private issues and others), at the time of clinical handover.

> *"The receiver and sender may meet together for at least two to five minutes to communicate orally, but still those staff going home are rushing to do the handover" (KII-P5).*

During observation of the handover, many nurses faced challenges in transferring the responsibility of care face-to-face. We have heard when one staff nurse said that,"the time is running out of my duty; let them read the written document, and I will go."Then, he left the unit after writing some notes in the handover book (observation 4).

The participants were rushing home during shift change because of competing priorities. It was observed that the time of handover overlapped with the time of the outgoing home. So, the face-to-face handover was difficult to implement. Nurses,' handover was observed to be mainly conducted at a fast pace, which took less than five minutes (Observation 12).

Patient involvement

The study participants across all units reported that patients and families were not involved in the handover process. One study participant reported as follows:

> *"The patient may hear what we discussed during the bedside handover communication." …But we didn't intentionally involve them" (IDI, P1).*

Some participants stated that implementing patient-centered clinical handover is greatly important to deal with their concerns. Despite this, there were no such practices across the units. A key informant also described as follows:

> *"There is no organized bedside patient involved in the handover in this unit. But this may be good to hear their concern" (KII, P8).*

Further, no patient involvement was observed during the data collection time (all observations).

Handover responsibility

This sub-theme was extracted from the response to the question of who is responsible for performing handover in the unit. All participants reported that the beds were proportionally allocated to nurses in the unit. Even though the patient's bed was shared amongst them, no individual was observed who gave handover accordingly during observation. One of the staff members wrote some information on the handover book and showed patients with unstable conditions to two of the incoming nurses (observation 6).

Further, they described a lack of handover policy and clear job description assigned among the staff to do clinical handover effectively. Quotes illustrated from interviews show:

> *"Handover in this unit is sometimes performed as routine activities and other times neglected. This may be because of a lack of clear accountability and responsibility assigned to the staff with clear policies and guidelines. …sometimes it's good to have it … "(KII, P7).*

In some units, the participants also reported that there was a shift leader to all shift change who was responsible to facilitate clinical handover. They replied to further probe how to question, and all outgoing staff discussed important information expected to be shared with incoming nurses ahead. A participant described: A participant described:

> *"According to our unit, there were assigned staffs who give handover in rotation at every shift. …Also, there are shift leaders, who facilitate the handover process of the unit" (KII, P12).*

Furthermore, in some units, it was unclear who was responsible to attend the handover and how many nurses from each shift should attend the handover and their level of participation. From observation of the handover, two nurses were physically met with incoming nurses for the handover and others go home without implementing the handover (observation 20).

Theme 2: Obstacles to consistent handover

Nurses' Clinical handover was affected by various hindrances that reduced the quality of care and patient safety. The main obstacles to experiencing clinical handover can be summarized as organizational healthcare systems-related, care-provider-related, and patient's health status-related factors.

Organizational healthcare systems-related factors

The absence of an organizational healthcare system supporting the handover training, handover supportive policy and protocol, standardized and structured handover communication method, transport service facility, supportive supervision, and nurses' workforce negatively influenced the clinical handover of nurses. Most participants perceived the lack of supportive policy and protocol, the scarcity of transport services, the workload, and the lack of handover standards as contributing factors

to their ineffective handover experience. A participant described his perception as follows:

> *"Many times, when we have a heavy workload, we do have time pressure at the handover time. We are providing care to patients with critical health problems. So, the numbers of the nurse to the patient ratio are not balanced, there is workload here in this unit" (IDI, P2).*
> *Another participant described his perception of the absence of clinical handover policies and responsibility as follows:*
> *"In our previous trend, there were many problems with the handover. …The handover policy and standards are very important to improving our practice further. It may be the responsibility of top management to design it. We implement what seems important to us, which may create communication gaps during the handover. I think there should be supportive policy and standardized guidelines to do a quality handover" (IDI, P 9).*

All participants reported that the scarcity of transport service severely affected their handover quality, mainly during the night time shift change. Further, they reported poor time arrangements for the clinical handover. A participant described her perception as follows:

> *"Due to time constraints, we face challenges to obtain a transport service. There is an overlap in the timing of entry and release. For example, if the receivers arrived at 2:00 p.m. and the senders were released at 2:00 p.m., there would be no time for a handover… In addition, the sender sometimes releases five to ten minutes early to obtain transport service."(IDI, P11).*

All participants reported that the clinical handover standardized tools was not practiced in their unit. Further, they stated that there were no minimum criteria for key information contents to be transferred. Many participants reported that it's unclear to know "Who, What, When, Where, and How" to do the clinical handover. A participant described his concern as follows:

> *"To know what is correct or not, there should be standards." In this ward, we are doing without any standards. The higher official sometimes says to "do a handover" But, there is no standardized checklist to do that. There is no minimum requirement for key information to be transferred. We only transfer what is subjectively supposed to be important. I believe that the handover standard is mandatory to avoid ambiguity and inconsistency."* (IDI, P10).

Nurses' care-provider-related factors

Nurses play a key role in the provision of patient care, particularly in an inpatient unit. Identifying nurse-related factors affecting clinical handover is optimal to improve the practice. These factors included nurses' job satisfaction, nurse perception, nurse commitment, nurse knowledge, interpersonal communication skills, i.e., inter-departmental communication during patient transfer, and the attitude of nurses towards the clinical handover practice.

Some participants in this study reported that there were gaps in their knowledge of handover. They further claimed that there was no training given on the new handover processes. They further stated that handover was a routine practice shared by experienced staff. Quotes illustrated from the interviews:

> *"I have learned the handovers from other staff here, and I have just followed them. There is no training provided to improve our knowledge of handovers yet. I think it's important to improve the practice" (IDI, P11).*

Many participants also perceived that the attitude and perception of nurses were important for safe handover practice. They further reported that working on the attitudes of nurses was very important. During shift changes, many employees are careless and have competing priorities, such as handing over medical equipment, which can lead to accountability issues if equipment is lost. A key informant stated:

> *"Handover is inconsistent at this unit. It is not uniform among the staff. Individuals who fear God will act effectively. There is sometimes a preference for personal cases, a blame culture, a lack of commitment, a chain of certain preconditions, and negligence" (KII, P8).*

Some key informants claimed that nurses' job satisfaction and commitments were essential for the quality of clinical handover. A participant stated that staff sometimes complained about unrelated issues that hinder effective practice.

> *"…Sometimes, if you ask the staff why they don't give face-to-face handover, they may respond with something you can't answer at this level. Their level of job satisfaction matters a lot. They respond to unrelated issues such as the patient has stayed in the unit, the fact that the patient as a whole is stable, and the lack of a need for urgent care. Also, some of them arrive late and leave early" (KII, P7).*

Further, nurses' commitments to their duty varied from one staff member to another. The clinical handover is an activity with time constraints that require the commitment of the nurses. Many participants stated that commitment was very important. Interview quotes show:

> *"Staff commitment during handover time is the big issue… It's difficult to say all staff is committed.… Poorly committed individuals who show minor carelessness, lateness, and early release are sometimes made problems in this unit" (KII, P5).*

For continuity of care and quality clinical handovers, effective interpersonal communication between nurses during a patient transfer is paramount. Some participants reported that there was unorganized interpersonal communication during the patient transfer that affected their clinical handover quality. They reported that there were many interpersonal communication gaps when patients were transferred from the emergency unit to the inpatient ward. Further, they stated that when critical patients were transferred to their unit, most patient information was lost. This may lead to severe harm to the patients. A participant stated as follows:

> *"At this unit, unstructured patient information and unsafe time transfers of patients from different units before preparations, which affect our handover, are major issues. …They silently send us critical patients. The patients may expire without getting important care. …If this is at the time of handover, there is a big concern about "information loss" (KII, P8).*

Patient conditions-related factors

> *This includes the conditions of the patient at the time of clinical handover such as stable health status critical health conditions and length of stay. All participants reported that the clinical handover depends on the patient's clinical health status at the time of exchange. Further, claimed that the handover location, methods, and contents were influenced by the patient's clinical health status.*
>
> *If the patient has undergone a recent medical procedure and changes in condition, they provided more information face-to-face: From the participants quote illustrated as follows:*
>
> *"We do clinical handover depending on the conditions of the patients. If the patients are critical, we will do a handover at the bedside. If patients are stable, we write important things on the handover book… This may cause stable patients to be forgotten "(IDI-6).*
>
> *Furthermore, other participants reported that clinical handovers varied based on the conditions of the patients at the time of handovers.*
>
> *"Handovers may not be uniform for all patients. It depended on the patient's condition at that time. If patients have an unstable vital sign, a newly diagnosed infectious disease, or an emergent intervention plan" we will do face-to-face handover (IDI, P11).*
>
> *Similarly, many participants reported the handovers of prolonged admitted patients and newly admitted patients were also different in some dimensions. They reported that all nurses became familiar with the patients, as long as the patient was admitted for a long time. Due to this, the handover of stable patients was more superficial and context-based.*
>
> *"In this unit, all staffs know the patients admitted for a long time. For example, five, six, seven, and more patients stay admitted here for a long time. Further, most of our handovers were focused on the new patients; since our staff knew them well before" (KII, P7).*

Theme 3: Negative impacts on patients from inconsistency in handover

> *The nurses' described consequence of the ineffective clinical handover practice such as medical errors, patient dissatisfaction, and increased average length of stay.*
>
> *Some participants stated that the nurse's clinical handover required stakeholder attention to avoid patient harm related to ineffective practice. A participant described his perception as follows:*
>
> *"As of now, the gap with the current handover in our unit is not bolded. However, I believe that handover should be given more consideration. …Sometimes medication administration problems occurred. If it lacks attention today, further problems may occur tomorrow." (IDI, P10).*
>
> *The majority of the participants reported that the current clinical handover affected the patients in hidden ways. Further, they believed that patients were harmed daily by poor clinical handover practices during shift changes. A participant described it as follows:*
>
> *"There is no question about patient harm related to ineffective practice. Our patients are severely harmed by the poor handover. I am convinced that poor handover practices harm our patients daily. …Our patients sometimes keep silent despite their pain. This is because they are unsure to whom they should address their concerns. …Mostly, they com-*

plain about the missed frequency of medication. I believe this is because of poor handover"(KII, P4).

Many study participants stated that poorly implemented clinical handovers sometimes severely affected their patients. They claimed that despite being unreported, the patients were daily exposed to errors due to poor clinical handover. Further, they decried that poor handover led to delays in care provision. A participant stated as follows:

"Poorly implemented handovers may increase the average length of stay, increased mortality, poor quality of services, a lack of early management, delays in care, delays in medication administration, delays in procedures, and delays in laboratory investigation" (KII, P7).

Study participants further reported that poorly planned clinical handover impairs the daily activities of nursing care. They perceived that it was dangerous for all dimensions of care. They reported that, despite the strict work to improve the poor practice, it's inevitable. Key informants described his perception as follows:

"Medical errors will be inevitable if the handover is not implemented effectively. Medication administration problem occurs. Sometimes, medications are not given at an ordered time and ordered laboratory investigations are forgotten and delayed ordered procedures occur. …This is because of poor communication during the shift change" (IDI 2).

Generally, nurses perceived that ineffective clinical handovers have been affecting holistic nursing care in many dimensions across the units.

Discussion

This study found a number of issues relating to the patients, system and nurse-related factors regarding clinical handover experience among nurses who work at Jimma Medical Center. The study's findings revealed that there were various gaps in the clinical handover of nurses. Therefore, it seems essential to explore the experiences of nurses in clinical handover at Jimma Medical Center to improve the practice.

Accordingly, analysis of the transcript revealed three main themes with their respective subthemes, such as (i) Inconsistent, non-standardized handover processes and content: communication styles, contents of handover, location of handover, time and duration of handover, handover responsibility, and patient involvement in handover. ii) Obstacles to consistent handover: care provider-related, patient-related, and organizational healthcare system-related factors; and iii) Negative impacts on patients from inconsistency in handover: medical errors, patient dissatisfaction, and increased average length of stay were identified.

To ensure high-quality handover practices, previous studies have highlighted the improvement of routine clinical handover practice with the use of standardized handover tools, handover training, patient participation, and structured dimensions of interest [2, 7, 32, 33]. However, the current study found that the routine practice of nurses' clinical handover had significant gaps because the handover location was varied, the time of handover was not organized, the clinical handover responsible nurse was not specified, there was no patient involvement in clinical handover, and the contents of the information communicated were not standardized, inconsistent, and unstructured. This implied that there were no policies explicitly promoting effective clinical handover with the standardized tool. Further, it is implied that the current clinical handover of nurses requires reformation to improve patient safety.

Furthermore, the current study supports a previous study in Brunei Darussalam [34] that found the **routine practice** of clinical handovers with unstandardized, inconsistent, and incomplete information that overlapped at the time of handover and during patient handovers across the units. The consistency may be attributed to the fact that an inpatient unit and emergency room are known for rapid patient turnover and the presence of other competing priorities [35] during clinical handover. Structuring and enhancing the routine practice of nurses' clinical handover at the medical-surgical and emergency units of Jimma Medical Center require coordinated activities. Similarly, a study in Iran in 2015 explored a non-patient-centered approach [36] during clinical handover, which is in line with the current finding. This indicates poor culture of patient-centered care practices, which need the future attention of health care professionals.

The study findings in the United Kingdom in 2016 [37] and South Korea in 2022 [35] showed poorly structured bedside clinical handover practice, handover style, and content, which support the current finding. The similarity may be because the dimensions they explored were related to the current study. Despite different literature recommending the structured contents of the information during the clinical handover with validated mnemonics such as ISBAR [7, 38], the current study findings indicated that no study unit used standardized checklists. A ward-specific handover book was commonly used during clinical handover. This shows a major concern to patient safety that requires the right next step that would yield more credible results at Jimma Medical Center.

Regarding obstacles to consistent handover clinical handover, the current study identified different key factors related to nurses as care providers. Accordingly, nurses' attitudes, nurses' knowledge, nurses' job

satisfaction, nurses' commitment, effective interpersonal communication, and nurses' perceptions toward clinical handovers were explored. This study revealed a lack of those identified nurses' related factors, negatively affecting the quality of clinical handover and patient safety. Similarly, the previous studies at Indiana University [39] in 2010, in Canada in 2021 [40], and in Brazil in 2020 [41], found various nurse-related factors similar with the current finding. This shows that handover communication failures continue to challenge patients and nurses across different healthcare settings. Because nurses are frontline healthcare workers who are subjected to frequent clinical handovers, more work is needed to improve patient outcomes. The identified nurse-related factors that influenced the clinical handover require timely interventions to improve the patient's safety and the safe transition of care.

This study also explored key organizational healthcare system-related factors that affected the nurses' clinical handover. such as a lack of handover training, a lack of supportive policy and guidelines, a lack of standardized and structured handover communication methods and tools, a lack of adequate transport service facilities, a lack of supportive supervision and an inadequate nurse workforce. However, the Joint Commission in 2017 and the World Health Organization in 2007 [7, 33] have recommended that organizational healthcare systems facilitate effective clinical handover. These identified factors require organizational-level strategies to minimize these barriers. Further, the current study finding is consistent with previous research from Ireland [42], and Iran [36], which were affected by different organizational system-related factors. This demonstrates that clinical handover in medical-surgical and emergency units still requires great work from the healthcare facility. Furthermore, while organizational healthcare system-related factors have been identified in various literature sources, further robust interventional studies can enhance the quality of the practice of the study setting.

Furthermore, this study explored patient-related factors that influenced nurses' clinical handover in the study setting. Patient health status-related factors are those that relate to patients' characteristics at the time of clinical handover, such as stable physiological health conditions, critical health conditions, and the average length of stay at the unit. Accordingly, in the current study, the method of communication, the location of the handover, the contents, and the timing of the handover depends on the patient's clinical health status. This implied that there was more information omitted for the stable patients. This finding is consistent with a study conducted in Oslo, Norway, in 2021 [43]. The consistency may be explained by the fact that the handover process is a context-based activity implemented with many other competing priorities and time constraints. Similarly, this finding also showed patients admitted for a prolonged period were rarely involved in the clinical handover process. This finding is consistent with the study finding in Canada [40] that nurse handover focused on recently admitted and acute patients. The consistency may be due to the nature of nursing care priorities and the staff's familiarity with the long-term admitted patients.

Finally, the majority of the study participants described the negative consequences of the ineffective clinical handover practice that resulted in medical errors (medication administration errors, incorrect procedures), patient of dissatisfaction, and an increased average length of stay.This indicates that when information is not adequately and completely shared, and it causes patient harm and patient dissatisfaction. Applying effective clinical handover is mandatory to improve patient safety. This is in line with the study's findings in Australia [44]. The consistency may be because clinical handover is holistic, which puts the patient at risk of information loss. The current finding contributes to a clear understanding of the consequences of ineffective clinical handover, which require important intervention. This result also contributes to the evidence for improving patient safety through the optimization of the clinical handover.

Strengths and limitations of the study

Strengths

This study employs multiple data sources, such as interviews and observations, to develop a comprehensive understanding of the phenomena.

Limitations

The qualitative nature of this study limits the generalizability of the findings to other settings. Furthermore, the findings, generated from a single institutional study with a purposive sample at a single point in time, restrict generalization to a wider population of healthcare professionals in other healthcare settings.

Conclusion implication and recommendations

Conclusion

This study found a number of issues relating to the patients, system and nurse-related factors of clinical handover practice at Jimma Medical Center. The study found inconsistent, non-standardized handover processes and content, obstacles to consistent handover, and the negative impacts on patients from inconsistency in handover.

Accordingly, this study found that the routine practice of a nurse's current clinical handover, such as communication styles, location of handover, time of handover, the content of handover, patient involvement, and handover responsibility, was inconsistent, incomplete,

unstandardized, lacking in the protocol, and did not follow recommended guidelines by the literature. This study identified significant gaps that need tailored intervention across different units.

Furthermore, different factors that influenced the nurses' clinical handover practice were explored, including the lack of organizational healthcare systems-related factors that support nurses' clinical handover; care provider-related factors that negatively or positively influenced clinical handover; and patients' health status-related factors that greatly influenced the routine practice. These factors severely affected the routine practice of nurses' clinical handover.

This study also identified the consequences of ineffective clinical handover practices that caused significant harm to the patients. Participants reported ineffective clinical handover processes were found to cause medication errors, medical errors, and patient dissatisfaction, which reduced patients' safety and the quality of their services.

Implications

To ensure patient safety, Jimma Medical Center must prioritize standardized handover protocols. These protocols should address the inconsistencies we observed, focusing on clear communication, consistent locations and comprehensive content. Equally important is the need to bolster organizational support. The current lack of resources and policies hinders effective handovers. Healthcare systems must be improved to empower nurses. Finally, targeted training is crucial. Nurses need education on communication skills, the impact of patient conditions, and error prevention. By implementing these measures, we can significantly enhance handover effectiveness, ultimately improving patient outcomes at Jimma Medical Center.

Recommendation

We recommend that Jimma Medical Center implement comprehensive protocols for consistent, effective handovers, and provide resources and targeted training to improve nurse competency and organizational support.

Author contributions

All authors have substantial contributions. (G.D)1 participated in Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration; (Y.B)2 participated in supervision, validation, visualization, writing – original draft, writing – review & editing; (I.Y)3 Supervision, conceptualization, Partcipated in Data curation, Formal analysis, Funding acquisition, validation; (Y.A)4 participated in conceptualization, methodology, overall supervision, Data curation, formal data analysis, participated in data curation, investigation, project administration, validation, writing manuscript & editing.

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Data availability

Availability of data and materials: Data used in this work can be provided upon reasonable request by contacting the corresponding author.

Declarations

Ethics approval and consent to participate

This study adhered to the Helsinki Declaration and good research practices. Ethical clearance was obtained from the Jimma University Institute of Health's Institutional Review Board. Written informed consent was taken from all participants. All participants were informed about the study's aims, methods, and their rights to voluntary participation, confidentiality, and withdrawal.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Conflict of interest

The authors declare no conflict of interest.

Author details

[1]Institute of Health, Department of Nursing, Dembi Dolo University, Dambidollo, Ethiopia
[2]Institute of Health, Faculty of Health Science, School of Nursing, Jimma University, Jimma, Ethiopia
[3]College of Health Science and Medicine, Midwifery Department, Dilla University, Dilla, Ethiopia

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