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Abdulkerim Hassen Moloro

habdulkerim4@gmail.com

Samara University

Mubarek Shemsu Awol

Samara University

Beriso Furo Wengoro

Samara University

Eshetu Elfios Endrias

Wolaita Sodo University

Roda Mehadi Ibrahim

Jigjiga University

Benalfew Lake Mengistie

Debre Markos University

Girma Alem Getie

Debre Markos University

Research Article

Keywords: Barriers, Nurse-Physician, Communication, Qualitative study, Ethiopia

Posted Date: November 24th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-5798733/v1

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Authors name and Email address

Author's Name and Email

[1]Abdulkerim Hassen Moloro*, Email: habdulkerim4@gmail.com

[2]Mubarek Shemsu Awol, Email: mubenashemsu@gmail.com

[2]Beriso Furo Wengoro, Email: berisafuro@gmail.com

[3]Eshetu Elfios Endrias, Email: eshetuelf21@gmail.com

[4]Roda Mehadi Ibrahim, Email: rozimahdi04@gmail.om

[5]Benalfew Lake Mengistie, Email: benalfew@gmail.com

[5]Girma Alem Getie: Email: girmaalem95@gmail.com

Authors Affiliation

[1]Department of Nursing, College of Medicine and Health Sciences, Samara University, Samara, Ethiopia

[2]Department of Biomedical Sciences, College of Medicine and Health Sciences, Samara University, Samara, Ethiopia

[3]Department of Nursing, School of Nursing, College of Medicine and Health Sciences, Wolaita Sodo University, Wolaita Sodo, Ethiopia

[4]Department of midwifery, College of Medicine and Health Sciences, Jigjiga University, Jigjiga, Ethiopia

[5]Department of Nursing, College of Medicine and Health Science, Debre Markos University, Debre Markos, Ethiopia

Corresponding Authors

Abdulkerim Hassen Moloro*, MSc in Adult Health Nursing

Department of Nursing

College of Medicine and Health Science

Samara University

Samara, Ethiopia

Phone: +251 935912095/+251952695335

ORCID: https://orcid.org/0000-0002-6081-4108
Email: habdulkerim4@gmail.com

Abstract

Background: Communication failure between nurse and physician is one of the problems occurs daily in healthcare organizations and has been recognized as a cause of preventable harm to patients. Study on nurse-physician communication (NPC) in Africa has been limited, with little information available specifically for sub-Saharan Africa, particularly Ethiopia.

Objectives: This study aimed to assess barriers to nurse and physician communication in patient care among nurse and physician working in public hospitals of west Arsi zones, Oromia Region, South East of Ethiopia, 2021

Methods: A exploratory qualitative study design was utilized to explore barriers to nurse and physician communication in patient care. Six focus group discussion and six key informant In-depth interviews were conducted among nurses and physicians, selected through purposive sampling. The interviews were audio-recorded, transcribed verbatim, and analyzed using Atlas.ti Software Version 23 to facilitate systematic coding and thematic analysis. Inductive thematic analysis was employed to identify themes and subthemes, providing a deeper understanding of the barriers to nurse-physician communication.

Results: Three main key themes emerged, illustrating hospital-related, health system-related, and professional and behavioral-related barriers. The sub-theme analysis encompasses: the absence of communication strategies in hospitals, lack of forum preparation and training on communication systems, insufficient equipment supply, lack of recognition and encouragement, discrepancies between theoretical knowledge and practical application, salary dissatisfaction and disparities, excluded communication strategies from educational curricula, unsafe workplace environments, feelings of authority and power, and illegible prescriptions.

Conclusion and recommendation: The findings highlighted to overcome barriers to effective nurse-physician communication, hospitals should implement formal communication strategies through regular training sessions and open dialogue forums. Ensuring adequate equipment supply via regular audits and promptly addressing shortages is crucial. Bridging the gap between theoretical knowledge and practical application through continuous professional development and hands-on training is essential. Again, addressing salary disparities and improving workplace safety

by ensuring cleanliness, and housing can enhance morale and communication among staff. Furthermore, promoting a culture of respect and collaboration by addressing disruptive behaviors and power dynamics through training and policy changes is vital.

Keywords: Barriers, Nurse-Physician, Communication, Qualitative study, Ethiopia

Introduction

Communication is a social process in which individuals employ symbols to establish and interpret meaning in their environment(1). Nurse-physician communication is a form of collaborative behavior that involves exchanging information, inter-professional interaction, working together, sharing decision-making on health issues, and formulating collaborative patient care plans to achieve team performance and common goals (2, 3). It can also be defined as a process where nurses and physicians share and discuss accurate, timely, frequent, and problem-solving information about the patient to provide effective patient care (4).

Communication barriers between nurses and physicians are a common issue in healthcare organizations and have been identified as a cause of preventable patient harm (5). Although nurses regularly receive and offer expert advice on patient care, they are often expected to defer to physicians. This behavior, while preventing open conflict, compromises direct communication between nurses and physicians, leading to increased morbidity and mortality among patients (6).

Communication barriers between nurses and physicians are major factors significantly associated with high hospital mortality. These barriers are linked to increased length of stay, patient harm, compromised nurse and physician retention, resource utilization, rapid turnover, and caregiver dissatisfaction (7). Studies have shown that communication failures between nurses and physicians are responsible for 37% of all errors during patient care (8). Another study indicated that communication barriers are among the most heavily associated factors with high hospital mortality, accounting for 47% of nurse-physician communication issues (9). Furthermore, it was reported that 75% of patient deaths resulted from communication failures between nurses and physicians (10).

Studies have shown that barriers to nurse-physician communication are multifaceted. These barriers include a stressful hospital environment, basic theoretical and practical variation, the absence of forums for nurse-physician communication, undefined roles and responsibilities, and differences in payment and rewards related to clinical responsibilities (11-17). Additionally, poor

attitudes towards work, various forms of abuse (verbal, and physical), unfavorable management decisions, inadequate evaluation processes, and the culture of hospital autonomy and hierarchy also contribute to communication failures between nurses and physicians (13, 15, 16).

Effective communication between healthcare providers, particularly nurses and physicians, is essential for safe patient management and is a key component of the Joint Commission's 2008 National Patient Safety Goals for Long-Term Care (LTC) (18). However, communication failures between these two professions can lead to workforce retention issues, medication errors, (19), decreased job satisfaction, delayed care, reduced patient satisfaction, and even death (20, 21). Additionally, studies have shown that when nurses and physicians do not communicate effectively, patient safety is compromised due to a lack of critical information, misinterpretation of information, unclear orders, and overlooked changes in patient status(22).

Research on nurse-physician communication (NPC) in Africa has been limited, with little information available specifically for sub-Saharan Africa, particularly Ethiopia (23-26). Although some studies in Ethiopia have utilized cross-sectional and mixed designs, there remains a gap in understanding the barriers to NPC among nurses and physicians in patient care, especially in the study area. This study aims to address this gap by employing qualitative methods to identify and explore these barriers in nurse-physician communication in patient care within the study area.

Method

Study setting

The study was conducted in selected public hospitals of the West Arsi Zone, located in the Oromia region in southeastern Ethiopia. The capital city of the West Arsi Zone is Shashemene, situated 251 kilometers from Addis Ababa. According to the 2007 census by the CSA, the West Arsi Zone has a total population of 1,964,038, with 973,743 men. There are seven public hospitals in the West Arsi Zone. For this study, four hospitals were purposively selected: Shashemene Referral Hospital, Dodola General Hospital, Kokosa Primary Hospital, and Loke Siraro Primary Hospital.

Study design and period

A hospital-based exploratory qualitative study design was employed to deeply explore the experiences and perceptions of nurses and physicians regarding communication barriers. The study utilized socio-demographic data, key informant interviews (KII), and Focus Group Discussions

(FGD) to achieve the objectives. It focused on identifying barriers to nurse-physician communication towards patient care among nurses and physicians working in public hospitals. The study was conducted from June 1 to July 30, 2021.

Participants

Source population and sample size

The source population for this study includes all nurses and physicians working in selected public hospitals of west Arsi zone. Study participants were recruited using purposive sampling technique. They were carefully chosen through a maximum variation sampling approach to ensure a wide range of perspectives and uncover shared experiences across different backgrounds(27). Participants were drawn from four purposively selected public hospitals. The study included all staff working in selected public hospitals and providing services and have experience in outpatient department and inpatient care. Participants were identified and recruited through hospital human resource department at selected public hospitals. To ensure diversity, recruitment targeted year of experience, educational level and position in both groups.

This diversity helped capture the richness of participants' perspective and ideas while also identifying common themes across different characteristics. The research team assessed data saturation by continuing focus group discussion until no new themes emerged, and the responses began to repeat, indicating sufficient data had been collected. Six focus group discussions (FGDs) were conducted with participants ranging from four to seven individuals. Additionally, six key informant in-depth interviews (KII) were conducted. Key informants include the hospital's chief executive officer (CEO) and the head nurse (matron). KIIs are essential for validating data captured at group levels, providing insights into various perspectives and real-life events that health professionals may not discuss publicly and vice versa. To minimize potential biases, the researchers employed bracketing during data collection and analysis, ensuring that personal preconceptions did not influence the process.

Term definitions

Nurse-physician communication*:* the exchange or sharing of any information or activity between nurse and physician regarding clients & health care issues by means of speaking (speech), or writing(28).

Nurse-physician communication in patient care: Awareness and application of nurses and physician on their professional interaction, working together, share decision-making around health issues, and formulating collaborative patient care plan in overall patient care(15, 16).

Data collection methods, procedures and tools

Data for this study was gathered using in-depth semi-structured interviews, offering a balance of flexibility and structure to delve into participants' responses. A pre-tested semi-structured interview guide prepared in English and translated to local language (Afan Oromo and Amharic language) by local Amharic, Afan Oromo and English experts. The focus group discussions (FGD) were led by the principal investigator and a trained facilitator. With participants' consent, audio data was recorded in Amharic or Afan Oromo using auto-recording devices. Data collectors also took short notes during the process. Each FGD session lasted one and a half hours. The participants in the focus group discussions (FGD) were homogenous in terms of their professional background as nurses or physicians, holding various positions, years of experience, and levels of education. This ensured that they did not blame each other when issues arose.

The open-ended questionnaire adapted from literatures contains the following questions used vice versa for both nurses and physicians: “Can you explain a recent instance when you and a physician (or nurse) had difficulty communicating during patient care? Please briefly describe what happened”; “In your opinion, what barriers or factors hinder nurse-physician communication,” “What have you found to be particularly helpful in improving nurse-physician communication,” “What do you wish physicians would do or nurse would do differently when communicating with you,” and “Do you have any other ideas you would like to add?”(18). During data collection, probing questions such as “Tell me more about that,” “Could you elaborate further?” “I didn’t quite understand that, could you repeat it?” and “What do you mean by that?” were used to clarify and deeply understand the perspectives being studied. This approach allowed for thorough engagement with each participant while ensuring that essential topics were covered.

Data processing and analyses

The audio recordings and note from the focus group discussion were transcribed and translated verbatim into English by the principal investigator. After transcription, the text was translated into English, making the findings accessible to a broader audience. The text transcripts were coded using ***Atlas.ti Software Version 23***. Prior to using the software, the research team familiarized

themselves with the data by reading through the transcripts multiple times to gain a deep understanding of the content and context of the participants' responses. Following this, the team entered the coding phase, generating initial codes by identifying significant phrases, keywords, and concepts directly related to the research questions.

Themes were developed by grouping the initial codes into broader categories, reflecting the common responses shared by participants and identifying overarching patterns within the data. Then, the reviewing themes phase involved critically evaluating the proposed themes to ensure they accurately represented the dataset. At this stage, any overlaps or gaps were addressed, which was vital for ensuring the robustness and validity of the findings. Following theme review, each theme was ultimately defined and named to capture its essence, resulting in a cohesive understanding of participants' perspectives. Then themes were presented in a coherent and meaningful way. Overall, inductive thematic analysis was employed to identify themes and subthemes, providing a deeper understanding of the barriers to nurse-physician communication.

Data Quality Control

To maintain data quality control, trained data collectors carried out the interviews. Prior to the main data collection, a pretest was conducted in another non selected hospital. This pilot phase helped identify potential challenges, such as unclear questions or logistical issues, and tested the study's feasibility. It also evaluated participants' readiness and willingness to engage, ensuring that the data collection tools were well-prepared and reliable for the actual study.

Data trustworthiness was maintained through credibility(29), dependability and transferability. To achieve this, consistency checks, purpose matching, code comparisons, and transcription refinement were employed. Credibility was ensured by independent analysis conducted by three or more researchers and the member check method, which involved comparing their results during transcription and coding. The principal investigator participated in both coding and transcription. Prolonged engagement with the transcribed data through continuous reading and analysis further enhanced the depth and accuracy of the findings.

To ensure dependability(30, 31), the study was overseen by an experienced qualitative researcher, and intercoder agreement was used to evaluate the consistency of the research process. The reliability of the codes was maintained by monitoring the consistency of emerging codes across coders. To ensure transferability(31), participants' opinions were presented in their own words to

preserve the context and participants so that others can determine whether the findings are applicable to their own situations. This was addressed by focusing on the characteristics of public hospitals and participants, and by presenting participants' opinions in their own words to ensure the original information was preserved.

Result

Six four focus group discussions (FGDs), nine in-depth interviews, and six key informant interviews conducted to explore barriers to nurse-physician communication among nurses and physicians. In total, 33 professionals (18 nurses and 15 physicians) from four public hospitals participated, with a mean age of 35.21 years (SD ±5.62). Data collection was concluded once no new ideas emerged, indicating saturation (Table-1).

Table-1: The profile of the health professionals who participated in the study in public hospitals of west Arsi zone, Oromia region, Ethiopia, 2021.

Methods	Profession	Level of education	Position	Sex	Age
FGD[1]	Nurse	BSc	Staff nurse	M	30
	Nurse	BSc	Staff nurse	M	31
	Nurse	Diploma	Staff nurse	F	32
	Nurse	BSc	Department head	M	33
FGD[2]	General practitioner	MD	Senior physician	M	27
	General practitioner	MD	Senior physician	M	27
	General practitioner	Specialist	Department head	M	31
	General practitioner	MD	Senior physician	F	30
FGD[3]	Nurse	Diploma	Staff nurse	F	27
	Nurse	BSc	Staff nurse	F	28
	Nurse	MSc	Department head	F	29
	Nurse	MSc	Department head	M	29
	Nurse	Diploma	Staff nurse	M	30
	Nurse	BSc	Department head	M	31
FGD[4]	General practitioner	MD	Senior physician	M	36
	General practitioner	MD	Department head	M	37
	General practitioner	MD	Senior physician	M	39
FGD[5]	Nurse	BSc	Staff nurse	M	32
	Nurse	BSc	Staff nurse	M	36
	Nurse	BSc	Department head	M	37

	Nurse	MSc	Department head	F	38
	Nurse	Diploma	Staff nurse	M	42
FGD[6]	General practitioner	MD	Senior physician	M	39
	General practitioner	MD	Senior physician	M	40
	General practitioner	Specialist	Department head	F	43
	General practitioner	Specialist	Department head	M	44
	General practitioner	MD	Senior physician	M	46
Key Informants	Nurse	MSc	Head nurse (Matron)	M	37
	Nurse	MSc	Head Nurse (Matron)	M	38
	General practitioner	MD	Chief Executive Officer	M	42
	General practitioner	Specialist	Chief Executive Officer	M	46
	Nurse	BSc	Head Nurse (Matron)	M	37
	General practitioner	MD	Chief Executive Officer	M	38

Barriers to nurse-physician communication

Three focus group discussions (FGDs) were conducted among nurses, each group consisting of 7 members. Similarly, three FGDs were conducted among physicians, with two groups having 7 members each and one group having 6 members. The findings from the Focus Group Discussion (FGD) were condensed into key themes that emerged during the discussion. The most frequently mentioned and discussed barriers were grouped into three main categories and ten subthemes (See Table 2).

Table 2. The major themes and subthemes emerged during data condensation

Major themes	Subthemes
Hospital related barriers	Lack of communication strategy in hospitals
	Absence of forum preparation and training on communication systems
	Shortage of adequate equipment supply in hospitals.
	Lack of recognition and encouragement
Health system related barriers	Basic theory and practical variation in work
	Salary dissatisfaction and disparities
	Excluded communication strategies from educational curriculum
	Unsafe workplace environment
Professional and behavioral-related barriers	Feeling of authority and power
	Illegible prescription

Hospital related barriers

The hospital-related barriers encompass four sub-themes: lack of communication strategy in hospitals, absence of forum preparation and training on communication systems, shortage of equipment in hospitals and lack of recognition and encouragement

Sub-theme: Lack of communication strategy in the hospitals

According to most nurses and physicians' discussants, the lack of a communication strategy in hospitals is a significant barrier to effective nurse-physician communication. They reported that during planning activities and outcome evaluations, nurse-physician communication was not routinely incorporated or evaluated. Many focus group discussion participants also believe that developing a communication strategy should be a responsibility of hospital management

FGD participants stated, *"...There is no strategy for nurse-physician communication incorporated into hospital activities, nor is it routinely evaluated in our hospital setting"*

FGD participants also stated, *"...Although other activities in our hospital were evaluated, there was no strategy or evaluation for nurse-physician communication"*

Additionally, Participants added, *"…. Without a defined communication strategy, it becomes challenging to share critical information in a timely manner. This gap affects our ability to provide cohesive care and leads to misunderstandings"* ***(KII, Nurse, M, 37)***

Sub-theme: Absence of forum preparation and training on communication systems

According to most nurses and physician's discussants, the absence of forums and training on nurse-physician communication is due to a lack of consideration, focus, and assessment from hospital management and health policy makers. The majority mentioned that there are no forums or training sessions on nurse-physician communication in their hospital setting.

FGD participants raised that, *"…. There are no forums or training sessions available regarding nurse-physician communication in our hospitals. Instead, regular meetings focus solely on discussing and evaluating patient outcomes and other activities"*

FGD participants also noted*, "...Health policymakers and hospital managers have not prioritized opening training and forums on communication, focusing instead on other health issues"*

"...The absence of adequate training on communication systems has posed a considerable obstacle between nurses and physicians. We frequently encounter difficulties in communicating

effectively, which impacts patient care. There is an evident need for well-structured training programs to improve our communication skills" ***(KII, General practitioner, M, 42)***

Another FGD participant added, *"…While forums are held, they lack proper preparation and do not emphasize training us on the effective use of communication systems. This deficiency hampers our ability to coordinate care and share information accurately"*

Sub-theme: Shortage of adequate equipment supply in hospitals.

FGD participants indicated that the lack of adequate equipment significantly disrupts their ability to perform procedures and collaborate effectively. They face challenges such as not having enough gloves, which forces only one person to perform a procedure, and the need to improvise or delay treatments due to insufficient supplies. This leads to miscommunication, affects patient outcomes, and hinders effective communication with physicians. The absence of essential diagnostic equipment, like portable ultrasound machines and advanced diagnostic and procedure materials, further complicates their ability to accurately assess patient conditions and delays decision-making. There is an urgent need for a consistent supply of essential equipment to improve communication and collaboration in patient care.

FGD participants stated, *"……We sometimes face obstacles in performing procedures due to a lack of equipment, which disrupts our ability to work together"* ***Another FGD participant continued,*** *"……It's challenging to care for patients and collaborate effectively. There are times when we don't even have gloves, and sometimes only one of us can wear them during a procedure, so only one person ends up doing the procedure"*

FGD Participants stated**, "….** *The lack of adequate equipment has significantly hindered our ability to communicate effectively with physicians. We often have to improvise or delay treatments, which leads to miscommunication and affects patient outcomes. There is an urgent need for a consistent supply of essential equipment to improve our communication and collaboration"*

"…. The absence of adequate diagnostic equipment, such as portable ultrasound machines, means that nurses and physicians have to rely on less accurate methods. This affects our ability to communicate effectively about patient conditions and delays decision-making" ***(KII, General practitioner, M, 46)***

Sub-theme: Lack of recognition and encouragement

To foster a positive work environment and enhance communication between nurses and physicians, it is essential to cultivate a culture that celebrates achievements and provides positive reinforcement. Recognition and encouragement are crucial for professional growth, as they boost morale and motivate individuals to excel in their duties. The current lack of recognition is a significant barrier to motivation and effective communication, highlighting the need for a system that appreciates and rewards the efforts of healthcare professionals.

FGD Participants stated, *"…. The absence of recognition for our hard work is demoralizing. We put in a lot of effort, but it often goes unnoticed. This lack of encouragement affects our motivation and overall job satisfaction, which in turn impacts our communication with physicians"*

"…. Without proper recognition, it feels like our contributions are undervalued. This lack of acknowledgment can lead to burnout and decreased productivity. When we are not motivated, it becomes challenging to maintain effective communication with nurses" ***(KII, Nurse, M, 37)*** .

Furthermore, FGD Participants continued**,** *"……Recognition and encouragement are essential for maintaining high morale. When our hard work is not acknowledged, it becomes challenging to stay motivated and committed to our roles. This lack of motivation affects our ability to communicate effectively with physicians"*

Health system related barriers

The health system related barriers encompass four sub-themes: basic theory and practical variation in work, salary dissatisfaction and disparities, communication strategy in educational curriculum and unsafe workplace environment.

Sub-theme: Basic theory and practical variation in work

Most FGD participants indicated that differences in theoretical knowledge and practical approaches between nurses and physicians often lead to misunderstandings, creating a communication gap that can result in delays and errors in patient care. This variation in work practices makes it difficult to establish a common ground for effective communication and

coordination. To improve communication and collaboration, more opportunities are needed to align the theoretical knowledge and practical skills of both nurses and physicians.

FGD Participants stated, *"……The differences in theoretical knowledge and practical approaches between nurses and physicians often lead to misunderstandings. This lack of alignment affects our ability to communicate effectively and coordinate patient care"*

"*…. The variation in our work practices makes it challenging to establish a common ground for communication. We need more opportunities to align our theoretical knowledge and practical skills to improve collaboration"* ***(KII, Nurse, M, 37.)***

Furthermore, FGD participants added, *"…The lack of standardized protocols and training for both nurses and physicians contributes to communication barriers. Establishing common guidelines and regular training sessions can help bridge this gap."*

Sub-theme: Salary dissatisfaction and disparities

The FGD results revealed that low salaries for nurses and physicians have a significant impact on their job satisfaction, professional relationships, and the quality of patient care. Financial stress leads to burnout and poor communication, which negatively affects teamwork and patient outcomes. This salary disparity fosters a sense of inequality and resentment among nurses, hindering effective communication and collaboration with physicians.

Participants suggested that increasing salaries for nurses and physicians could boost morale, enhance communication, and ultimately lead to better patient care. They also emphasized the importance of implementing policies that ensure fair compensation for nurses, recognizing their critical contributions to patient care. By valuing nurses' work equally, healthcare institutions can improve team morale, enhance communication, and foster a more collaborative and effective healthcare environment.

FGD Participants stated, *"…. When there is a noticeable disparity in salaries, it negatively impacts the overall team morale. Despite nurses' high and critical contributions to patient care, they may feel that their efforts are not adequately recognized. This can lead to tension and miscommunication during patient care"*

"…. Salary dissatisfaction is a significant issue. It impacts not only our motivation but also our willingness to communicate openly for patient care. To foster better communication and teamwork, we need to feel that our work is equally valued with other professional" ***(KII, Nurse, M, 37).***

Additionally, FGD discussant added, "*……The low salary makes it difficult to stay motivated. We are constantly concerned about making ends meet (having enough money to cover basic living expenses), and this financial stress affects our mental health, which in turn impacts our communication with colleagues and patients*".

"*…. We are constantly concerned about our financial situation, and the stress from low salaries leads to burnout, making it difficult to maintain open and effective communication channels*" ***(KII, General practitioner, M, 36)***

Sub-theme: Excluded communication strategies from educational curriculum

The majority of FGD participants indicated that the lack of communication strategy inclusiveness in the national educational curriculum affects nurse-physician communication. Most participants reported that, although nurse-physician communication and collaboration are serious issues, they are not taught as subjects. Instead, the curriculum focuses on compassionate care and other caring methods, but not on communication and collaboration.

Inadequate training and the absence of standardized communication protocols lead to misunderstandings, miscommunications, and strained professional relationships. Furthermore, participants suggested incorporating communication strategies into the curriculum and providing ongoing training to improve communication, collaboration and patient care.

"…"Our educational curriculum didn't emphasize communication skills. We learned on the job, which isn't always effective" and continued… "There was little focus on interprofessional communication during our training, which makes collaboration challenging" ***(KII, Nurse, M, 37)*** ***FGD discussants continued,*** *"……The lack of communication training creates a gap between nurses and physicians, leading to tension and mistrust*" ***Continued another FGD discussant*** "*…Effective communication is crucial for teamwork, and its absence strains our professional relationships*"

Sub-theme: Unsafe workplace environment

The majority of FGD participants highlighted that an unsafe environment hindered collaboration and communication between nurses and physicians. They pointed out that the lack of a clean hospital environment and water shortages were detrimental to their communication and patient care. The absence of regular cleaning led to an unhygienic environment, lowering morale and making it difficult for healthcare professionals to focus on their work, ultimately affecting their communication and patient care.

Additionally, the lack of housing for nurses and physicians forced them to travel long distances, resulting in lacking punctuality, exhaustion and poor job performance, which negatively impacted communication during patient care. Since hospitals and health facilities did not provide housing, most of them had to rent accommodations far from the hospitals.

FGD discussants stated, *"……. One major issue is the lack of housing provided for nurses and physicians. Many of us have to travel long distances to get to work because we have to rent accommodations far from the hospital. This affects our energy levels, punctuality, and overall job performance, which in turn impacts our communication with each other during patient care."*

FGD discussants indicated, *"…. Yes, the lack of water is a serious issue. It affects our ability to perform basic tasks and maintain cleanliness. When we are constantly worried about these basic necessities, it becomes difficult to focus on patient care and communicate effectively with our team"*

Professional and behavioral-related barriers

The professional and behavioral-related barriers encompass two sub-themes: feeling of authority and power and illegible prescription.

Sub-theme: Illegible prescription

Illegible prescriptions, which refer to medical prescriptions that are difficult or impossible to read due to poor handwriting or unclear writing, pose a significant barrier to effective communication between nurses and physicians. Poor handwriting leads to confusion and delays in administering the correct medication, requiring constant clarification and causing misunderstandings and errors in medication dispensing. This disrupts the workflow, creates unnecessary stress, and affects the

confidence of healthcare professionals in the instructions given, ultimately impacting patient care and leading to potential conflicts.

FGD discussants stated, *"……. Illegible prescriptions are a significant issue. When we can't read the prescriptions clearly, it leads to confusion and delays in administering the correct medication to patients. This affects our communication with physicians as we have to constantly seek clarification..."*

Another, FGD discussants continued, *"……. I agree. Poor handwriting on prescriptions can cause misunderstandings and errors in medication dispensing. It disrupts the workflow and creates unnecessary stress for both nurses and physicians, impacting our ability to communicate effectively"*

Sub-theme: Feeling of authority and power

Disruptive behaviors, feelings of power and authority, and poor attitudes towards the nursing profession by some physicians create an intimidating environment that hinders open communication and effective collaboration during patient care. Nurses feel undervalued and hesitant to voice their concerns, leading to misunderstandings and errors. Physicians recognize the need for mutual respect and a supportive environment to improve communication and patient care. Instances of physicians dismissing nurses' concerns further lower morale and hinder teamwork.

FGD participants stated, *"…One of the main issues is the disruptive behavior of some physicians. Their authoritative feeling and poor attitude towards nursing profession can be intimidating and makes it difficult for us to communicate openly. This affects our ability to collaborate effectively during patient care.*

Again, FGD discussant stated, "*…. There have been instances where physicians dismiss our concerns or suggestions, which can be very discouraging. This not only affects our morale but also hinders effective communication and teamwork*"

"…*It's important for us to create a supportive environment where nurses feel respected and valued. When nurses feel empowered to communicate openly, it improves the overall quality of patient care and reduces the risk of errors"* ***(KII, General practitioner, M, 46)***

Discussion

The primary goal of both nurses and physicians in the health facility is to provide quality care and achieve better patient outcomes, especially in public hospitals due to the high patient load. To promote and achieve this goal, nurses and physicians must engage in clear and appropriate communication and collaboration during patient care (22, 32). So that this study, examined the barriers to nurse-physician communication among nurses and physicians working in West Arsi public hospitals, Oromia region, Ethiopia, uncovering critical insights into the multifaceted challenges faced by both professionals.

The study results identified three key themes from the qualitative focus group discussion: hospital-related barriers, health system-related barriers, and professional and behavioral-related barriers. Sub-theme analysis revealed issues such as the lack of communication strategies in hospitals, absence of forum preparation and training on communication systems, inadequate equipment supply, lack of recognition and encouragement, discrepancies between basic theory and practical work, salary dissatisfaction and disparities, excluded communication strategies from educational curricula, unsafe workplace environments, feelings of authority and power, and illegible prescriptions.

Both nurses and physicians in the focus group discussions identified the lack of a communication strategy in hospitals as a major barrier to effective nurse-physician communication. They noted that communication is not routinely incorporated or evaluated during planning activities and outcome evaluations. Participants believe that hospital management should be responsible for developing a communication strategy, as its absence hinders timely information sharing, leading to misunderstandings and affecting cohesive care. This finding is consistent with previous study, which emphasized that without a formal communication framework, critical information may not be shared promptly, leading to misunderstandings and medical errors in the hospital setting(33, 34).

FGD participants reported that the lack of adequate equipment significantly disrupts their ability to perform procedures and collaborate effectively. Challenges such as insufficient gloves force only one person to perform procedures, leading to miscommunication and affecting patient outcomes. The absence of essential diagnostic equipment, like portable ultrasound machines and advanced medical equipment's, further complicates accurate patient assessment and delays decision-making. This finding is consistent with previous research, which highlights those

insufficient medical supplies can lead to miscommunication and negatively impact patient outcomes(35).

Qualitative findings revealed that, to foster a positive work environment and enhance communication between nurses and physicians, it is essential to cultivate a culture that celebrates achievements and provides positive reinforcement. Participants emphasized that the absence of recognition for their hard work is demoralizing, leading to burnout, decreased productivity, and challenges in maintaining effective communication with colleagues. This finding is consistent with previous study, which highlights that recognition and positive reinforcement can significantly enhance job satisfaction and motivation among healthcare professionals(36-40).

Most FGD participants indicated that differences in theoretical knowledge and practical approaches between nurses and physicians often lead to misunderstandings, creating a communication gap that can result in delays and errors in patient care. This variation in work practices makes it difficult to establish a common ground for effective communication and coordination. This finding is consistent with previous research, which highlights those differences in educational backgrounds and clinical training can create barriers to effective communication and collaboration between nurses and physician(41-44)

The FGD results revealed that low salaries for nurses and physicians significantly impact their job satisfaction, professional relationships, and the quality of patient care. Financial stress leads to burnout and poor communication, negatively affecting teamwork and patient outcomes. This salary disparity fosters a sense of inequality and resentment among nurses, hindering effective communication and collaboration with physicians. This is consistent with the findings from your focus group discussions (FGD), where participants reported that low salaries negatively affect their job satisfaction(45, 46).

The majority of FGD participants indicated that the lack of inclusiveness of communication strategies in the national educational curriculum affects nurse-physician communication. Although nurse-physician communication and collaboration are serious issues, they are not taught as subjects, with the curriculum focusing instead on compassionate care and other caring methods. Inadequate training and the absence of standardized communication protocols lead to misunderstandings, miscommunications, and strained professional relationships(47, 48).

The majority of FGD participants highlighted that an unsafe environment like lack of a clean hospital environment and water shortages were detrimental to their communication and patient care. Additionally, the lack of housing for nurses and physicians forced them to travel long distances, resulting in poor punctuality, exhaustion, and job performance, which negatively impacted communication during patient care. Previous research highlights that an unhygienic environment lowers morale and makes it difficult for healthcare professionals to focus on their work, ultimately affecting their communication and patient care(26). And also, research indicates that improved housing conditions can enhance worker productivity, health, and job performance(49, 50).

Illegible prescriptions, due to poor handwriting or unclear writing, significantly hinder effective communication between nurses and physicians. This leads to confusion, delays in administering the correct medication, and constant need for clarification, causing misunderstandings and errors in medication dispensing. The resulting disruption in workflow creates unnecessary stress and affects healthcare professionals' confidence in the instructions given, ultimately impacting patient care and leading to potential conflicts. This finding is consistent with previous study, which highlights that poor handwriting or unclear writing leads to confusion and delays in administering the correct medication(51).

Disruptive behaviors, feelings of power and authority, and poor attitudes towards the nursing profession by some physicians create an intimidating environment that hinders open communication and effective collaboration during patient care. Instances of physicians dismissing nurses' concerns further lower morale and hinder teamwork. Participants emphasized the importance of creating a supportive environment where nurses feel respected and valued to improve communication and patient care. This finding is consistent with previous findings, which highlights that such behaviors negatively impact the healthcare practice environment, affecting both nurse retention and patient outcomes(26, 52).

Strength and limitation

The study's strengths include the use of Focus Group Discussions (FGDs) with separate groups of nurses and physicians through semi-structured interviews. This approach generates rich, in-depth data through interactive discussions, allowing participants to build on each other's ideas and providing a comprehensive understanding of the topic. It also uncovers diverse perspectives that

might not emerge in individual interviews. Robust measures, such as member checking and triangulation, enhance the study's credibility, making the findings applicable to practice. Additionally, this research fills a gap in qualitative literature on barriers to nurse-physician communication in public hospitals in the study area, offering valuable insights that can improve nurse-physician communication and, consequently, patient care outcomes.

Despite its strengths, the findings are context-specific to the public hospital and zone, which may limit their generalizability to other settings. Additionally, potential groupthink, where dominant voices may overshadow quieter participants, can affect balanced participation. Furthermore, the findings not be generalizable to a larger population due to the small, non-random sample sizes typically used.

Conclusions and recommendations

The study identified three main barriers to effective nurse-physician communication: hospital-related, health system-related, and professional and behavioral-related. The sub-theme analysis encompasses several issues: the absence of communication strategies in hospitals, lack of forum preparation and training on communication systems, insufficient equipment supply, lack of recognition and encouragement, discrepancies between theoretical knowledge and practical application, salary dissatisfaction and disparities, excluded communication strategies from educational curricula, unsafe workplace environments, feelings of authority and power, and illegible prescriptions. These barriers lead to misunderstandings, miscommunication, and compromised patient care.

To address the barriers to effective nurse-physician communication, hospitals should develop and implement formal communication strategies, including regular training sessions and open dialogue forums. Ensuring adequate equipment supply through regular audits and addressing equipment shortages promptly is crucial. Recognition and encouragement programs can enhance job satisfaction and motivation, leading to better communication and collaboration. Bridging the gap between theoretical knowledge and practical application through continuous professional development and hands-on training is essential. Addressing salary disparities and improving workplace safety by ensuring cleanliness, water supply, and housing can enhance morale and communication among staff.

Standardizing prescription practices with clear protocols and regular training can reduce misunderstandings and medication errors. Promoting a culture of respect and collaboration by addressing disruptive behaviors and power dynamics through training and policy changes is vital. To enhance the generalizability and applicability of future research findings, researchers should consider expanding the study to include a larger, more diverse sample size across multiple settings. Additionally, employing random sampling techniques can further strengthen the study's robustness and reduce biases.

Abbreviations and Acronyms

BSc: Bachelors of Science

CCU: Cardiac Care Unit

FGD- Focus Group Discussion

ICU: Intensive Care Unit

ISMP: Institute for Safe Medication Practice

LTC: Long-Term Care

NPs: Nurse Practitioners

NGO: Non-Governmental Organization

USA: United States of America

Acknowledgements

Not applicable.

Authors' contributions

A.H conceived the idea for this qualitative study and authored the initial draft of the manuscript. M.S, E.E, and B.F led the data collection, transcription, and coding of interviews, working closely with R.M and B.L on data analysis and interpretation of the findings. A.H, G.A, and E.E contributed to the study design and provided critical input throughout the writing process. B.F, R.M, and B.F assisted with data interpretation. All authors participated in reviewing and approving the final version, reflecting a strong collaborative effort throughout the research.

Funding

No funding was received.

Data availability

All the necessary data are available from the corresponding author up on a reasonable request

Ethics approval and consent to participate

Ethical approval was obtained from the ***Institutional Research Ethics Review Committee (IRERC) of Debre Markos University, College of Medicine and Health Science, with reference number (Ref. No: HSC/R/C/Ser/PG/Co/285/12/13)***. The study was conducted in accordance with the principles outlined in the Declaration of Helsinki. Following the approval by IRERC, official letters of cooperation were written from zonal health office to each selected public hospital. Informed consent to participate was obtained from all participants in the study after explaining the study's purpose and objectives. Participants were assured of their confidentiality and their right to withdraw from the study at any time without repercussions. Accordingly, oral informed consent was obtained from all participants. Recording and taking short notes, were conducted with the participants' permission. Collected information was kept confidential and explained to respondents by data collectors during the collection process. Participation in the assessment was voluntary, and all participants' rights were respected.

Competing interests

The authors declare no competing interests

Clinical trial number: Not applicable

Consent for Publication: Not Applicable

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