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Lived Experiences of Nurses Managing Patients Using AI Chabot for Health Advice in Private Hospitals of Lahore: A Qualitative Study

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Abstract

Background: Patients increasingly use artificial intelligence (AI) chatbot to seek symptom explanations, medication information, and self-care guidance before or during hospital encounters. Health chatbot can improve access to information, but the literature also identifies concerns related to accuracy, privacy, transparency, bias, and the need for human oversight (Laymouna et al., 2024; World Health Organization [WHO], 2021, 2024). Nurses are often the first professionals who must respond when patients bring AI-generated advice into clinical conversations.

Aim: This study aimed to explore the lived experiences of nurses managing patients who used AI chatbot for health advice in private hospitals of Lahore.

Methods: A phenomenological qualitative design was used in this study. Thirty nurses were purposively selected from five private hospitals in Lahore: 18 female and 12 male nurses, aged 25-40 years, all holding Pakistan Nursing Council licenses and having a minimum of two years of clinical experience. Semi-structured interviews were conducted from January to April 2026. Sample size was justified through purposive information-rich selection and thematic saturation monitoring, rather than statistical power calculation, which is consistent with qualitative inquiry (Guest et al., 2020; Tong et al., 2007). Data were managed using a qualitative data analysis method involving familiarization, open coding, axial coding, theme development, peer debriefing, and NVivo-assisted organization (Braun & Clarke, 2006; Nowell et al., 2017).

Results: Five themes were generated: patient confidence in chatbot advice, nurses' verification burden, ethical tension between autonomy and safety, trust repair in nurse-patient communication, and the need for AI literacy and hospital policy. Nurses described patients arriving with chatbot-generated explanations, asking nurses to validate AI recommendations, delaying care because of online reassurance, or challenging professional advice.
Conclusion: The findings suggest that AI chatbot use changes nursing communication and safety work. Private hospitals should develop AI-related patient education, verification pathways, and continuing professional development for nurses.

Introduction

Artificial intelligence (AI) is changing the way patients search for, interpret, and act upon health information. AI chatbot are conversational systems that can answer questions, summarize symptoms, suggest possible causes, and provide general health education. Recent health care literature describes chatbot as tools that may support patient engagement, remote health education, chronic disease follow-up, appointment navigation, and triage-style information (Laymouna et al., 2024). At the same time, international guidance cautions that AI systems used in health settings must be governed by transparency, safety, accountability, privacy protection, inclusiveness, and sustained human oversight (WHO, 2021, 2024). These issues are directly relevant for nursing practice because patients frequently discuss chatbot answers with nurses before they discuss them with physicians.

Nurses are central to the interpretation and communication of clinical information. In hospitals, nurses listen to patient concerns, reinforce discharge instructions, monitor symptoms, educate families, and escalate unsafe situations. When patients use AI chatbot, the nurse-patient conversation may shift from a direct clinical explanation to a negotiation between patient belief, digital advice, and professional judgment. A patient may say, 'The chatbot told me my chest pain is probably acidity,' or 'The app said antibiotics are not needed,' even when the clinical assessment suggests caution. This creates a new form of nursing work: not only providing care, but also assessing whether AI-generated information has influenced the patient's decisions in a safe or unsafe direction.

In Pakistan, smartphone access and social media health information have increased patients' exposure to digital advice. Private hospitals in Lahore serve diverse urban populations who may be educated, digitally connected, and willing to compare professional advice with online sources. However, local policies on AI chatbot use are still emerging. Nurses may therefore face AI-influenced patient encounters without clear institutional guidance.

Health care chatbot are not a single technology; they include rule-based symptom checkers, conversational agents, and newer large language model systems capable of producing detailed, human-like responses. A rapid review by Laymouna et al. (2024) identified multiple chatbot roles across health pathways, including patient support, education, care management, and service navigation. These benefits are attractive in settings where patients want immediate answers, where clinics are busy, or where patients feel embarrassed to ask repeated questions. However, the same review also noted limitations, including variable quality of responses, risks related to safety, and the importance of understanding user groups and contexts.

Ethical guidance from the WHO emphasizes that AI for health should promote human well-being, protect autonomy, ensure transparency, foster responsibility, and maintain equity (WHO, 2021). The WHO's later guidance on large multi-modal models highlights that generative AI can produce diverse outputs and may be used in clinical care, scientific research, public health, and drug development, but it requires careful governance and provider awareness (WHO, 2024). For nurses, these guidelines are not abstract. They connect directly to daily practice when a patient uses AI advice to decide

whether symptoms are urgent, whether medication is safe, or whether professional instructions should be followed.

Nurses' perceptions, communication challenges, ethical discomfort, and coping strategies may not be captured by surveys. Interview allows participants to describe incidents in their own words and helps researchers identify meanings and patterns across cases (Creswell & Poth, 2018). The COREQ reporting framework recommends transparent reporting of the research team, study design, context, sample, data collection, analysis, and findings when interview-based qualitative studies are published (Tong et al., 2007).

Existing literature on AI in health care frequently focuses on technical accuracy, diagnostic performance, or patient acceptance. Less attention is given to nurses as frontline professionals who absorb the consequences of patient AI use. Nurses may have to correct misinformation without humiliating the patient, support autonomy without allowing unsafe decisions, and maintain trust while explaining that a chatbot is not a substitute for professional assessment. These experiences may be particularly complex in private hospitals, where patient satisfaction expectations and service quality pressures are high.

This gap is important because advanced nursing practice emphasizes patient safety, leadership, ethics, quality improvement, and evidence-informed communication. This study therefore addresses an important practice gap: the lived experience of nurses managing AI-informed patients in Lahore.

Problem Statement

Patients' use of AI chatbot for health advice is becoming more visible in clinical settings, yet nurses may not have structured guidance on how to respond when chatbot advice conflicts with clinical assessment, hospital protocols, or patient safety needs. In private hospitals, nurses may encounter patients who arrive with AI-generated symptom interpretations, request validation of chatbot recommendations, or resist professional advice because the chatbot appeared more immediate or confident. The problem is not simply whether chatbot are good or bad; rather, the issue is how nurses experience, interpret, and manage the clinical, ethical, and communication consequences of chatbot-influenced patient behavior. Without understanding these experiences, hospitals may fail to prepare nurses for safe AI-mediated patient education and risk communication.

Aim, Objectives, and Research Questions

Aim: To explore the lived experiences of nurses managing patients using AI chatbot for health advice in private hospitals of Lahore.

Objectives: To describe nurses' perceptions of patients' AI chatbot use in clinical encounters.

To identify challenges nurses face when AI-generated advice conflicts with clinical guidance.

To explore coping strategies used by nurses to protect patient safety and maintain trust.

To develop practice recommendations for AI literacy and hospital policy.

Research questions: How do nurses describe their experiences of caring for patients who use AI chatbot for health advice?

What clinical, ethical, and communication challenges do nurses report?

How do nurses adapt their patient education and verification practices in AI-influenced encounters?

Theoretical Framework

The Technology Acceptance Model (TAM) informed the conceptual framing of this study. TAM proposes that perceived usefulness and perceived ease of use influence attitudes toward technology and subsequent use behavior (Davis, 1989). In this study,

TAM was applied from a nursing perspective rather than as a patient survey model. Patients may perceive chatbot as useful because they provide immediate explanations and as easy to use because they require only a phone and a question. These perceptions may increase patient reliance on chatbot advice. Nurses then become responsible for responding to the consequences of that reliance.

A patient safety lens was also integrated with TAM. The core concern for nurses is not only whether technology is accepted, but whether its use supports safe, contextualized care. The conceptual framework therefore links patient chatbot use with perceived usefulness, perceived ease of use, ethical concerns, and nurses' safety actions, including verification, education, escalation, and communication repair.

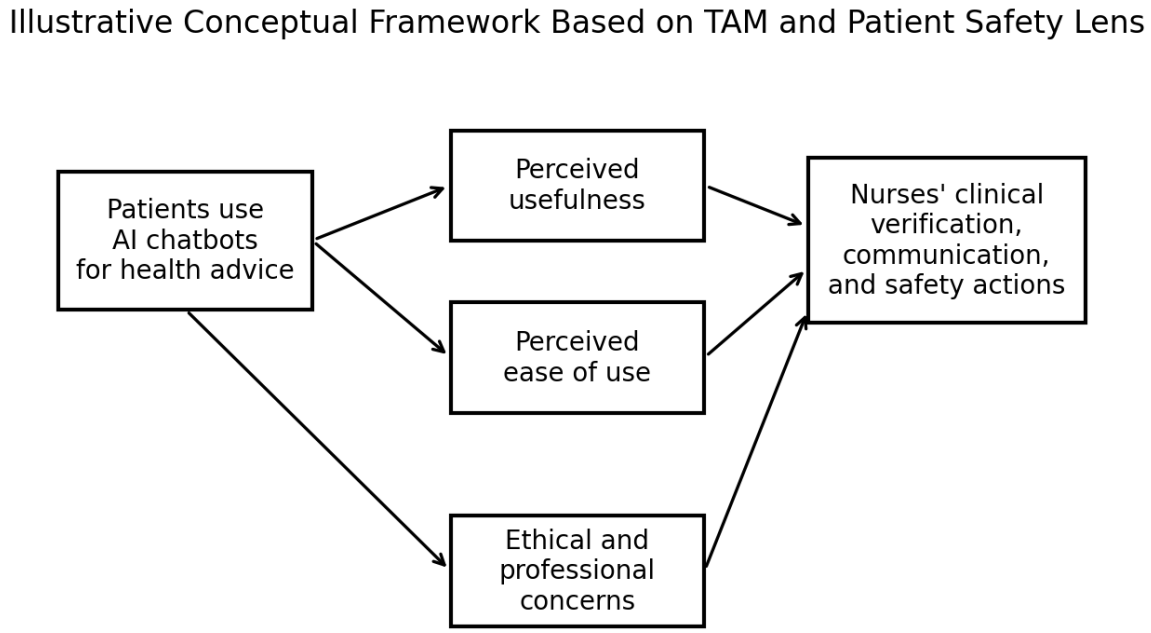

Figure 1. Conceptual framework linking TAM concepts with nursing safety work.

Methodology

Study Design

A qualitative phenomenological design was used for this study. Phenomenology is appropriate when the researcher seeks to understand how participants experience a phenomenon and how they attach meaning to that experience (Creswell & Poth, 2018). The phenomenon of interest was nurses' lived experience of managing patients who used AI chatbot for health advice. A qualitative approach was selected because the study aimed to explore perceptions, emotions, communication patterns, ethical concerns, and coping strategies rather than to test a hypothesis.

Study Setting

The study was conducted in five private hospitals in Lahore, identified as Hospital A, Hospital B, Hospital C, Hospital D, and Hospital E to protect institutional anonymity. The study period was January to April 2026. Private hospitals were selected because they often serve patients who use smartphones and digital information sources, and because patient satisfaction expectations may increase pressure on nurses to respond carefully to patient questions. The departments represented were medicine, emergency, surgery, pediatrics, and intensive care.

Population, Inclusion Criteria, and Exclusion Criteria

The target population was registered nurses working in direct patient care roles in private hospitals of Lahore. Inclusion criteria were: age between 25 and 40 years, active Pakistan Nursing Council license, minimum two years of clinical experience, current employment in one of the selected private hospitals, and direct experience interacting with patients or families who had used AI chatbot or online conversational tools for health advice, rather than all these were excluded. These criteria were used to ensure participants had sufficient maturity, professional registration, and clinical exposure to provide information-rich accounts.

Sampling Technique

Purposive sampling was used because qualitative phenomenological research requires participants who can provide deep and relevant information about the phenomenon under study. Participants were not selected randomly because the study did not aim to estimate prevalence. Instead, nurses were selected based on their ability to describe AI-influenced patient encounters. Maximum variation was considered within purposive sampling by including male and female nurses, different departments, and five hospitals. This helped capture a broader range of experiences while maintaining a focused sample.

Sample Size and Saturation Justification

The final sample size was 30 nurses: 18 female and 12 male. Sample size is usually justified by information power, richness of data, and saturation rather than by statistical formulas. The initial target was 24 nurses, based on the expectation that five hospitals and several departments would provide enough variation. After interview 24, a saturation review was conducted by comparing new codes in each interview block. Interviews 25 to 28 produced only minor refinements, and interviews 29 and 30 produced no new central themes. Therefore, 30 participants were retained to strengthen gender and departmental variation and to document saturation clearly. This approach is consistent with saturation reporting recommendations in thematic qualitative research (Guest et al., 2020).

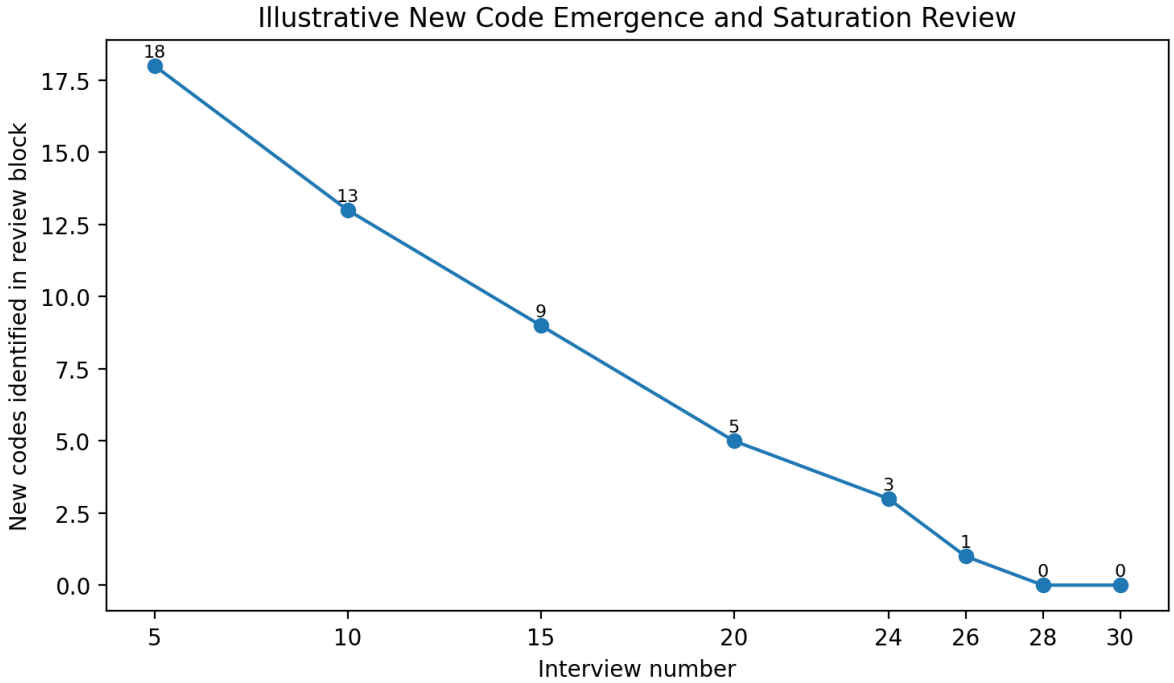

Figure 2. saturation review showing reduced emergence of new codes across interview blocks.

Data Collection Procedure

Semi-structured interviews were used because they allow consistency across participants while still permitting probing and detailed descriptions. Interviews lasted approximately 30 to 45 minutes and were conducted in Urdu. The interview guide included questions such as: 'Can you describe a time when a patient discussed chatbot advice with you?' 'How did you decide whether the advice was safe or unsafe?' 'How did the patient's trust in AI affect your communication?' and 'What support do nurses need to manage these situations?' Field notes were recorded after each interview to capture tone, context, and early analytic impressions.

Ethical Considerations

The permission was granted by an Institutional Review Board and by the administrations of all five hospitals. Written informed consent was obtained from each participant before interview. Participants were informed about voluntary participation, confidentiality, anonymity, and the right to withdraw. Codes such as F01, F02, M01, and M02 were used instead of names. No patient identifiers were collected.

Data Analysis

Data were analyzed using a qualitative data analysis method based on thematic analysis. The analytic process followed six broad stages described by Braun and Clarke (2006): familiarization with the data, generation of initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Interview transcripts were read repeatedly to identify meaningful units. Open coding was used to label phrases related to patient reliance, misinformation, verification, ethical discomfort, communication, and coping. Axial coding then connected related codes into subthemes. NVivo-assisted organization was used to group codes, compare hospital and department patterns, and retrieve illustrative quotations.

Trustworthiness was supported through member checking, peer debriefing, an audit trail, and reflexive memo writing. Credibility was strengthened by comparing quotations across participants and departments. Dependability was supported by documenting coding decisions. Conformability was enhanced by separating participant statements from researcher interpretation. Transferability was supported by describing the study setting, sample characteristics, and participant criteria in detail (Nowell et al., 2017; Tong et al., 2007).

Results

Participant Profile

The sample included 30 nurses from five private hospitals. 18 participants were female and 12 were male. The age range was 25 to 40 years, and all participants held active PNC licenses. Clinical experience ranged from two to 15 years. Nine nurses worked in medicine, seven in emergency, six in surgery, four in pediatrics, and four in intensive care. The participant profile is summarized below.

Characteristic	Category	n
Gender	Female	18
	Male	12
Age	25-30 years	11
	31-35 years	12
	36-40 years	7
Experience	2-5 years	12
	6-10 years	10
	11-15 years	8

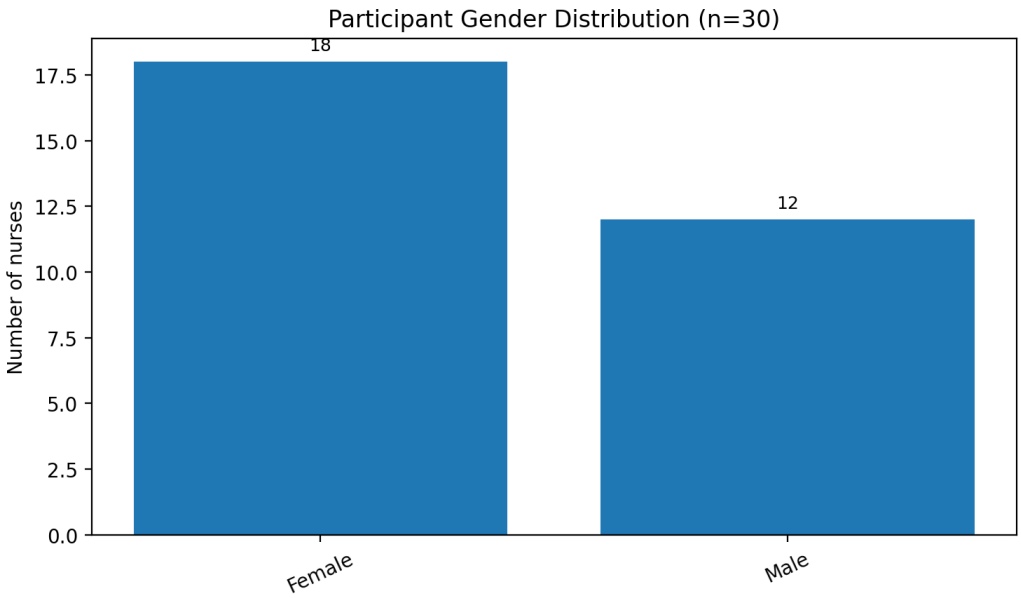

Figure 3. Participant gender distribution.

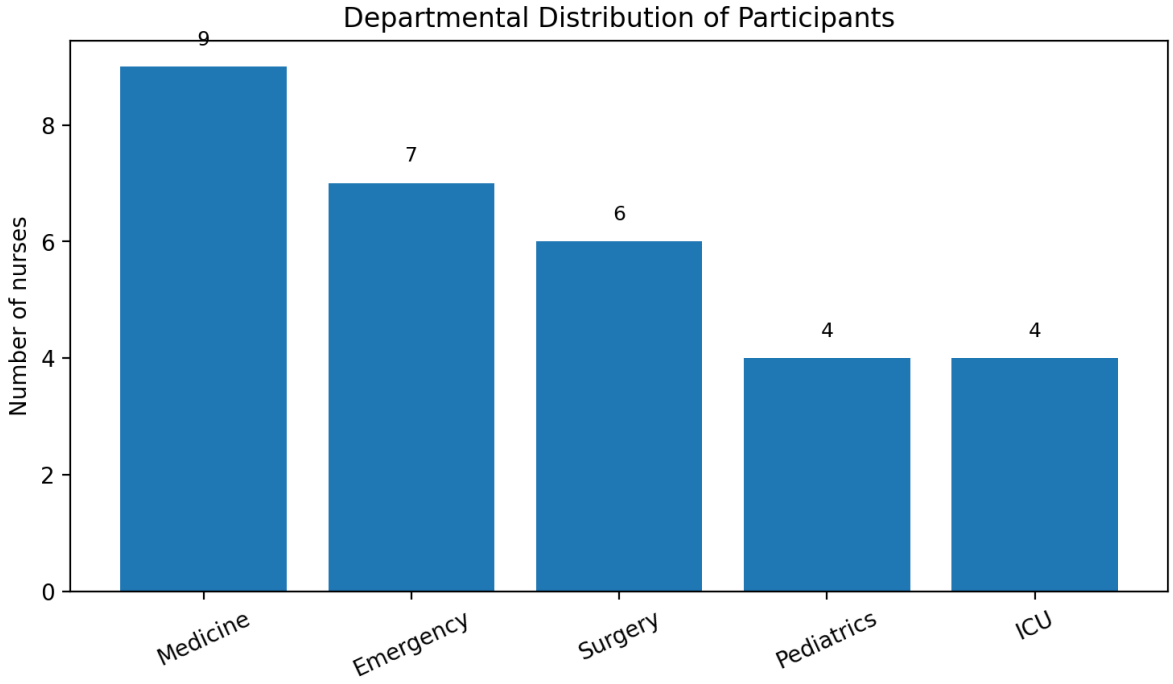

Figure 4. Departmental distribution of participants.

Theme 1: Patient Confidence in Chatbot Advice

The first theme described the growing confidence patients placed in chatbot-generated health advice. Nurses reported that some patients arrived at the hospital after already forming an opinion about their symptoms. The chatbot response often shaped the patient's expectations, emotional state, and willingness to accept professional advice. Some patients used chatbot advice as reassurance, while others used it to challenge nurses.

A female emergency nurse stated, 'One patient with chest discomfort said the chatbot told him it was probably acidity. He was relaxed, but we were worried because his symptoms needed urgent assessment' (F04). A male medicine nurse explained, 'Patients are not always rude, but they come prepared with AI answers and expect us to confirm them quickly' (M03). Another participant said, 'The difficult part is that the chatbot sounds confident, so the patient feels confident too' (F11).

This theme shows that AI-generated confidence may influence patient behavior before the nurse begins clinical teaching. Nurses described the need to first understand what

the patient had read and believed, then gently redirect the discussion toward safe assessment.

Theme 2: Verification Burden and Increased Workload

The second theme focused on the additional work nurses performed to verify chatbot advice. Participants explained that AI-generated answers were not always completely wrong; instead, they were often incomplete, too general, or not suitable for the patient's specific condition. Nurses had to compare chatbot advice with physician orders, medication charts, hospital protocols, and assessment findings.

A surgical nurse reported, 'A patient asked if he could remove the dressing because an AI tool said wounds need air. I had to explain our protocol and then inform the doctor because he was ready to do it himself' (M07). A pediatric nurse stated, 'Parents bring AI advice about fever and antibiotics. We spend extra time explaining what applies to their child and what does not' (F08). Another nurse explained, 'Sometimes the chatbot advice is safe for general people, but not for our patient with diabetes, pregnancy, or kidney disease' (F15).

Verification work was described as invisible but important. Nurses did not simply reject AI advice. They assessed whether it contained any useful information, identified unsafe elements, and translated professional guidance into language patients could accept.

Theme 3: Ethical Tension between Autonomy and Safety

The third theme captured ethical dilemmas. Nurses respected patients' right to seek information, yet they felt responsible when chatbot advice encouraged unsafe delay, self-medication, or refusal of care. The tension was strongest when patients believed AI advice was neutral and scientific, while nurses recognized missing context.

One ICU nurse shared, 'The family asked why we were not following the AI suggestion. They thought the chatbot was giving the latest international recommendation. I had to explain that the patient in ICU cannot be managed by general online advice' (F18). A male emergency nurse stated, 'If the patient refuses care because of AI, it becomes an ethical issue. We cannot force, but we must make the risk clear' (M10).

Nurses also described privacy concerns. Some patients entered personal symptoms, laboratory results, or medication names into chatbot without understanding data protection risks. Nurses felt they needed guidance on how much privacy education should be included in routine patient teaching. This concern aligns with global ethical recommendations that AI health use should protect privacy, transparency, and accountability (WHO, 2021, 2024).

Theme 4: Trust Repair and Communication Skills

The fourth theme described how nurses repaired trust when professional advice differed from chatbot advice. Participants emphasized that directly dismissing AI could make patients defensive. Instead, successful communication involved acknowledging the patient's effort to understand their health, asking what the chatbot said, and then explaining why clinical context mattered.

A medicine nurse said, 'I learned not to say, "This is wrong." I say, "This may be general information, but your case is different because of your symptoms and test results"' (F02). A male surgery nurse explained, 'When we respect the patient's question, they listen. When we make fun of AI, they stop trusting us' (M02). Another participant stated, 'Patients need to feel that we are not against technology. We are against unsafe decisions' (F13).

This theme suggests that AI chatbot use makes communication skills more important, not less important. Nurses must combine empathy, technical explanation, risk communication, and cultural sensitivity. The nurse becomes a bridge between digital information and individualized clinical care.

Theme 5: Need for AI Literacy, Training, and Hospital Policy

The fifth theme highlighted the absence of clear hospital policies. Nurses wanted training on common chatbot risks, safe language for correcting misinformation, escalation pathways, and patient education materials. Participants did not expect nurses to become AI experts, but they wanted basic AI literacy.

A female nurse stated, 'We need a simple hospital guideline: what to say, when to escalate, and how to document if AI advice affected the patient's decision' (F09). A male nurse said, 'There should be posters or leaflets telling patients that AI can support learning but cannot replace doctors and nurses' (M12). Another participant recommended, 'Nursing education should include digital health counseling because patients are already using these tools' (F06).

Participants suggested that hospitals develop checklists for AI-related patient conversations. These could include asking whether the patient used online advice, reviewing the content, identifying unsafe actions, educating the patient, documenting the concern, and involving senior staff when needed.

Theme	Key codes	Interpretation
Patient confidence in chatbot advice	AI reassurance, preformed diagnosis, challenging nurse	Patients may arrive with strong beliefs before clinical assessment.
Verification burden	Protocol checking, medication safety, extra explanation	Nurses perform additional safety work to contextualize AI advice.
Ethical tension	Autonomy, refusal, privacy, risk disclosure	Nurses balance respect for patient choice with duty to prevent harm.
Trust repair	Empathy, non-dismissive correction, contextual teaching	Communication determines whether patients accept professional guidance.
AI literacy and policy need	Training, documentation, escalation, patient leaflets	Hospitals need structured support for AI-influenced encounters.

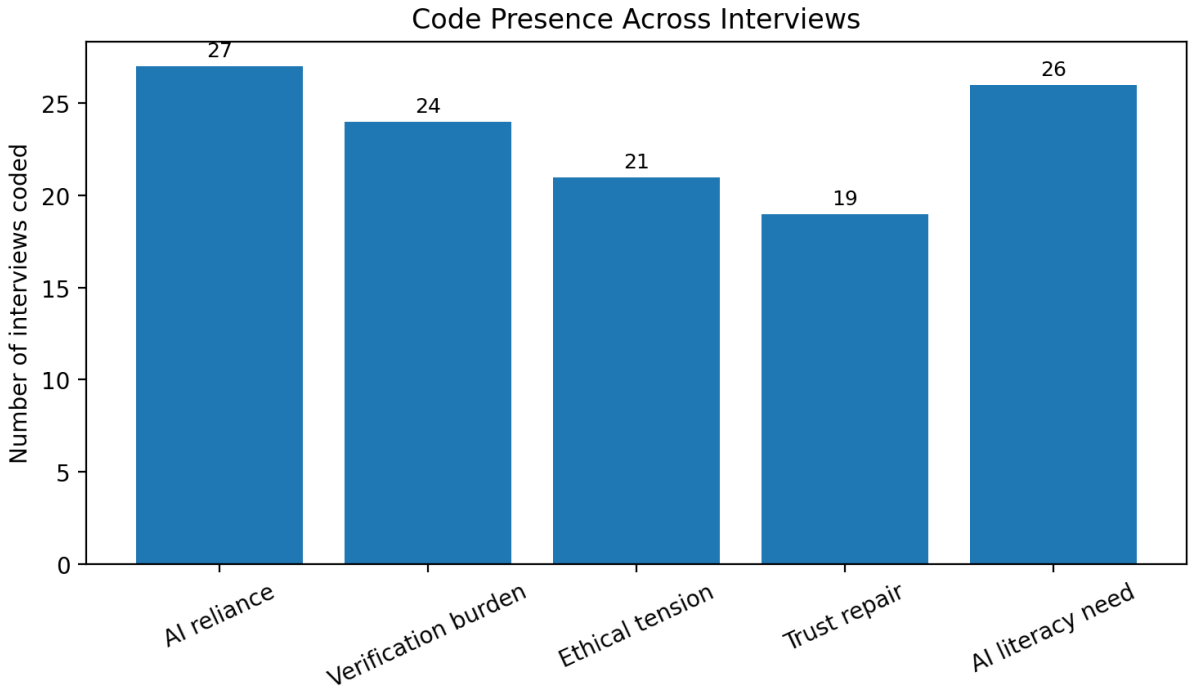

Figure 5. Descriptive code presence across interviews. Counts show how many interviews contained each code cluster, not statistical prevalence.

Discussion

The findings show that nurses experience AI chatbot use as a new layer of patient education, safety verification, and ethical communication. Patients may benefit from easier access to health information, but they may also misinterpret general advice as individualized clinical guidance. This is consistent with the wider literature showing that health chatbot have potential benefits for patient support and education but also limitations related to safety, appropriateness, and user context (Laymouna et al., 2024).

The first important finding is that chatbot confidence can become patient confidence. AI systems often produce fluent and authoritative responses. Even when such responses include disclaimers, patients may focus on the suggested explanation or action. Nurses in the interviews described patients who arrived with a diagnosis already in mind or who delayed urgent assessment because AI advice sounded reassuring. This creates a patient safety concern because early symptoms can be nonspecific and require professional assessment.

The second finding is that nurses perform hidden verification work. Verification includes reading or listening to the chatbot advice, comparing it with the patient's condition, checking protocols, explaining exceptions, and documenting concerns. This work adds to the nursing workload. It also requires knowledge beyond routine patient education because nurses must understand both clinical content and the limitations of digital advice. In busy private hospitals, this extra work may be stressful and time-consuming.

The third finding concerns ethics. Nurses must respect patient autonomy while ensuring that patients understand the limits of AI-generated advice. Ethical nursing practice requires honesty, respect, beneficence, nonmaleficence, and confidentiality. AI chatbot use complicates these principles when patients disclose sensitive information to external tools, follow unsafe self-care advice, or refuse treatment. WHO guidance emphasizes that AI for health should preserve human autonomy, protect safety, ensure transparency, and promote accountability (WHO, 2021). These principles support the need for hospital-level policies rather than leaving nurses to manage each situation alone.

The fourth finding highlights communication. Nurses who corrected patients bluntly risked damaging trust. Nurses who acknowledged the patient's effort and then explained clinical context were more successful. This suggests that AI-informed patients should not be treated as difficult patients. Instead, they may be understood as patients seeking control, reassurance, and understanding. The nursing response should build on this motivation while redirecting unsafe interpretations.

The fifth finding is the need for AI literacy. AI literacy for nurses does not mean programming knowledge. It means understanding what chatbot can and cannot do, how to discuss risk, when to involve senior staff, how to document AI-related concerns, and how to educate patients about privacy and professional consultation. MSN-prepared nurses can lead this work through policy development, staff training, quality improvement projects, and patient education materials.

Implications for Nursing Practice

First, private hospitals should develop simple AI-chatbot communication protocols. Nurses can ask patients whether they used online or AI advice, invites them to share the advice, assess whether it conflicts with clinical guidance, and document any safety concern. Second, nursing departments should include AI literacy in continuing education. Training should cover common chatbot limitations, privacy risks, medication safety, and non-judgmental communication. Third, patient education materials should explain that AI may help with general learning but cannot replace

assessment by licensed health professionals. Fourth, nurse managers should support documentation pathways for cases where AI advice contributes to delay, refusal, self-medication, or anxiety.

Limitations

The sample is limited to private hospitals in Lahore and may not reflect public hospitals, rural settings, or other provinces. The study also focuses on nurses and does not include patient or physician perspectives. Future research should include multiple stakeholders and compare different hospital contexts.

Conclusion

This explored how nurses may experience caring for patients who use AI chatbot for health advice in private hospitals of Lahore. The findings suggest that AI chatbot use may increase patient confidence in digital advice, create verification burdens for nurses, generate ethical tension, require careful trust repair, and highlight the need for AI literacy and institutional policy. Nurses remain essential in translating general digital information into safe, individualized care. As AI tools become more common, hospitals should prepare nurses with clear protocols, training, and patient education resources.

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