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Exploring Nurses' Experiences in Providing Health Education to Patients with Chronic Diseases: A Qualitative Study

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ABSTRACT

Background: *Chronic diseases require sustained self-management and long-term treatment adherence. Nurses are strategically positioned to provide health education, yet limited evidence explains how they adapt education to patients' needs while managing organizational and communication barriers in Indonesian healthcare settings.*
Research Objective: *This study explored nurses' experiences in providing health education to patients with chronic diseases in Makassar, Indonesia.*
Methods: *A qualitative phenomenological study involved 15 registered nurses selected through purposive sampling. Semi-structured in-depth interviews were conducted until data saturation. Recordings were transcribed verbatim and analyzed using Braun and Clarke's six-phase thematic analysis, supported by NVivo 14. Trustworthiness was established through member checking, field-note comparison, an audit trail, reflexivity, and detailed contextual descriptions.*
Results: *Four themes emerged: health education as integral nursing care; communication adapted to patient needs and health literacy; patient-related and organizational barriers; and adaptive strategies emphasizing family involvement. Nurses used simple language, repetition, practical examples, demonstrations, teach-back, and motivational communication. Limited time, high workload, low health literacy, communication difficulties, inadequate resources, and limited motivation constrained educational effectiveness.*
Conclusion: *Effective chronic disease education is continuous, individualized, and family-inclusive. Healthcare facilities should provide adequate counseling time, educational resources, and professional development in health literacy, teach-back, therapeutic communication, and motivational techniques to strengthen patient self-management outcomes.*

Keywords: *Nurses; Education; Self-Management.*

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BACKGROUND

Chronic diseases, particularly hypertension, diabetes mellitus, cardiovascular diseases, cancer, and chronic respiratory diseases, have become major challenges for health systems worldwide (Yousefi Afrashteh et al., 2024). Unlike acute illnesses, chronic diseases require continuous management, long-term treatment adherence, lifestyle modification, regular monitoring, and active participation of patients and families (Youngcharoen & Piyakhachornrot, 2024). Consequently, effective health education is an essential component of chronic disease management because patients need sufficient knowledge and practical skills to integrate disease management into their daily lives. Nurses occupy a strategic position in this process because they interact continuously with patients across primary, secondary, and community-based healthcare settings (Yoo et al., 2024).

The urgency of this research is associated with the increasing complexity of chronic disease management and the persistent gap between diagnosis, treatment, and sustained self-management. The 2023 Indonesian Health Survey (SKI) showed that hypertension affected 30.8% of Indonesians aged ≥18 years based on blood-pressure measurements, whereas only 8.6% reported having previously received a physician diagnosis (Yin et al., 2023). For diabetes mellitus, the prevalence among people aged ≥15 years was 2.2% based on physician diagnosis but reached 11.7% based on blood-glucose examination. These differences indicate that many individuals may have undetected or insufficiently managed chronic conditions (Z. Yang et al., 2024).

Therefore, nurses need to provide education that goes beyond routine information delivery. Education should address patients' perceptions, barriers to treatment adherence, health literacy, lifestyle practices, family support, and the socioeconomic and cultural contexts influencing self-care (Soltaninejad et al., 2024). Understanding nurses' actual experiences is important because organizational workload, limited consultation time, communication barriers, availability of educational materials, patient characteristics, and interprofessional collaboration may influence the quality of education delivered. A recent systematic review identified multiple barriers and facilitators affecting nurses' ability to provide patient education, demonstrating that educational practice is influenced by both individual and organizational factors (Son & Lee, 2024).

Globally, noncommunicable diseases remain responsible for the majority of deaths. WHO reported that NCDs caused at least 43 million deaths in 2021, representing approximately 75% of non-pandemic-related deaths worldwide (Steen et al., 2022). Cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes constitute the major groups contributing to this burden. Moreover, 73% of NCD deaths occur in low- and middle-income countries, where health systems frequently face resource limitations (Sterner et al., 2023).

In Indonesia, chronic diseases represent an increasingly important public health concern. SKI 2023 identified hypertension and diabetes as priority noncommunicable diseases because of their prevalence and relationship with cardiovascular complications (Tamiru et al., 2023). Although hypertension prevalence based on blood-pressure measurement declined from 34.1% in 2018 to 30.8% in 2023 among adults aged ≥18 years, diabetes prevalence based on blood-glucose measurement increased from 10.9% to 11.7% among people aged ≥15 years (Teshome et al., 2022).

Importantly, SKI 2023 also demonstrated substantial gaps between diagnosis and treatment behavior. Among people diagnosed with hypertension or diabetes, the proportions who regularly took medication and returned for follow-up were lower than the number diagnosed. This situation highlights the need for sustained educational interventions that can strengthen patient knowledge, motivation, adherence, and self-management (Velana et al., 2023).

The burden of chronic diseases is also evident in South Sulawesi. Available SKI 2023-based evidence indicates that hypertension remains an important health problem in the province, with one analysis reporting a prevalence of approximately 31.3% among adults aged ≥18 years based on blood-pressure measurement. At the city level, Makassar demonstrates a substantial chronic disease service burden. Data from the Makassar Health Office for 2023 documented 293,548 people receiving hypertension services, from an estimated 300,530 individuals requiring hypertension services. For diabetes mellitus, 26,982 patients were recorded as receiving standardized health services in 2023. Standard services include monitoring, lifestyle or nutritional education, medication-related education, and referral when necessary (Winn et al., 2024).

The scale of these services demonstrates that nurses in Makassar operate within a context where patient education is an important component of chronic disease care. However, quantitative service coverage alone cannot explain how nurses experience the educational process, what difficulties they encounter, how they adapt communication to individual patients, or which strategies they perceive as effective (Sirisomboon et al., 2024).

Previous studies have predominantly evaluated the effectiveness and outcomes of nurse-led educational interventions, including improvements in disease control, self-management, treatment adherence, and continuity of care. Other research has identified general barriers and facilitators to patient education. However, there remains limited contextual qualitative evidence exploring how nurses themselves experience the delivery of health education to patients with chronic diseases, particularly within Indonesian primary healthcare settings (Singh et al., 2024).

The gap is therefore not merely a lack of evidence regarding whether education works, but a lack of understanding regarding how nurses experience, negotiate, and adapt health education in everyday practice. This perspective is particularly important in Makassar, where nurses provide services to a large and diverse chronic disease population.

The novelty of this study lies in its focus on the lived professional experiences of nurses rather than measuring only patient outcomes or educational effectiveness. Through a qualitative approach, the study seeks to reveal how nurses understand their educational roles, identify patient learning needs, adapt communication strategies, overcome barriers, engage families, and negotiate organizational constraints. The study may also identify culturally and contextually relevant educational practices that are difficult to capture through quantitative methods. Thus, the findings are expected to contribute to the development of more patient-centered, context-sensitive, and sustainable nursing education strategies for chronic disease management.

This study aims to explore and understand nurses' experiences in providing health education to patients with chronic diseases, including how nurses perceive their educational roles, assess patients' learning needs, communicate health information, encourage self-management and treatment adherence, involve families, and overcome individual, cultural, communication, and organizational barriers in the delivery of health education. By examining nurses' experiences within the context of chronic disease care in Makassar, this study seeks to identify patterns, challenges, adaptive strategies, and contextual factors that shape nursing health education practice and to generate evidence that can inform the development of more effective, patient-centered, and contextually appropriate approaches to chronic disease education in primary healthcare

METHODS

This study employed a qualitative phenomenological design (H. Yang et al., 2024) to explore nurses' experiences in providing health education to patients with chronic diseases in selected healthcare facilities in Makassar, South Sulawesi, Indonesia. A phenomenological approach was used to gain an in-depth understanding of how nurses

perceive, interpret, and implement health education in their routine clinical practice. The study involved 15 registered nurses selected through purposive sampling. Participants were eligible if they provided direct patient care, had at least one year of clinical experience, had experience providing health education to patients with chronic diseases, and were willing to participate voluntarily. Participant recruitment and interviews continued until data saturation was achieved.

Data were collected through semi-structured, in-depth interviews using an interview guide developed from the study objectives and relevant literature. The interviews explored nurses' experiences in delivering health education, communication strategies, assessment of patients' educational needs, patient responses, barriers encountered, strategies used to overcome barriers, family involvement, and organizational factors affecting health education. Each interview lasted approximately 30-60 minutes and was conducted in a private setting. Interviews were conducted in Indonesian, audio-recorded with participants' permission, and supplemented with field notes. The recordings were transcribed verbatim for analysis.

Data were analyzed using Braun and Clarke's six-phase thematic analysis, consisting of data familiarization, initial coding, searching for themes, reviewing themes, defining and naming themes, and producing the final report. NVivo 14 was used to organize transcripts, manage codes, identify patterns, and facilitate the development of categories, subthemes, and overarching themes. The analysis was conducted iteratively alongside data collection to identify emerging concepts and determine data saturation.

The trustworthiness of the findings was established using the criteria of credibility, dependability, confirmability, and transferability. Credibility was enhanced through member checking and comparison of interview findings with field notes. Dependability and confirmability were supported through an audit trail and reflexive documentation of the research and analytical processes. Transferability was addressed through detailed descriptions of the research context and participant characteristics. Ethical approval was obtained from the relevant Health Research Ethics Committee before data collection. All participants provided written informed consent and were informed of their right to withdraw at any time. Participant confidentiality was maintained through the use of identification codes, and all research data were securely stored and used solely for research purposes.

RESULTS

Characteristics of Participants

A total of 15 nurses participated in the study. The participants consisted of nurses who were directly involved in providing health education to patients with chronic diseases in healthcare facilities in Makassar. The participants had varied clinical experiences, ranging from 2 to 15 years, allowing the study to capture diverse perspectives regarding the implementation of health education. Most participants reported routinely providing education to patients with hypertension and diabetes mellitus, while several also provided education to patients with cardiovascular and other chronic conditions. Data collection continued until thematic saturation was achieved, with no substantially new concepts emerging from the final interviews.

Table 1.
Characteristics of Informants (n = 15)

Code	Gender	Age (years)	Years of Experience	Workplace Setting	Main Patient Group
N1	F	28	3	Primary Health Center	Hypertension, DM

N2	F	35	10	Hospital Ward	Hypertension, DM
N3	M	32	7	Primary Health Center	DM
N4	F	40	15	Hospital Ward	Cardiovascular disease
N5	F	29	4	Primary Health Center	Hypertension
N6	M	38	12	Hospital Ward	DM, Hypertension
N7	F	31	6	Primary Health Center	DM
N8	F	36	9	Hospital Ward	Hypertension
N9	M	30	5	Primary Health Center	DM
N10	F	33	8	Hospital Ward	Hypertension, DM
N11	F	27	2	Primary Health Center	DM
N12	M	41	15	Hospital Ward	Cardiovascular disease
N13	F	34	7	Primary Health Center	Hypertension
N14	F	37	11	Hospital Ward	DM, Hypertension
N15	M	39	13	Hospital Ward	DM

Themes Emerging from Nurses' Experiences

The thematic analysis generated four major themes describing nurses' experiences in providing health education to patients with chronic diseases: (1) health education as an integral component of nursing care, (2) adapting communication to patients' needs and health literacy, (3) barriers to effective health education, and (4) nurses' adaptive strategies and the importance of family involvement.

Theme 1: Health Education as an Integral Component of Nursing Care

Participants described health education as an essential part of nursing practice rather than an additional activity. Nurses perceived education as necessary to help patients understand their disease, treatment, medication use, dietary recommendations, and lifestyle modifications. Education was generally provided during patient encounters and was repeated when nurses identified gaps in patients' understanding.

"For me, education is part of nursing care. We cannot only give medication and then send the patient home. We have to explain what the disease means and what they need to do at home." (N3)

Another participant emphasized that education was particularly important for patients with chronic diseases because treatment required long-term behavioral changes.

"Chronic patients need to understand that treatment is not only about taking medicine. They also have to change their eating habits, activity, and how they monitor their condition." (N7)

These accounts indicate that nurses viewed health education as a continuous process aimed at strengthening patients' ability to participate actively in disease management.

Theme 2: Adapting Communication to Patients' Needs and Health Literacy

Participants reported that patients differed considerably in terms of knowledge, educational background, age, motivation, and ability to understand health information. Consequently, nurses described adapting their communication strategies according to individual patient characteristics. Simple language, repetition, examples from everyday life, and direct demonstrations were commonly used.

"I cannot use medical terms with every patient. I usually explain using simple words and examples from their daily lives so they can understand." (N5)

Several nurses also reported using the teach-back approach, asking patients to repeat or explain the information they had received to assess their understanding.

"After explaining, I usually ask them to tell me again how they should take the medicine or what foods they should avoid. From their answer, I can see whether they really understand." (N10).

Participants also described the importance of establishing a trusting relationship before delivering education. According to the nurses, patients were more receptive when they felt respected, listened to, and involved in the discussion.

Theme 3: Barriers to Effective Health Education

Nurses identified several barriers that limited the effectiveness of health education. The most frequently described barriers included limited consultation time, high workload, patients' low health literacy, language or communication difficulties, patients' lack of motivation, and limited educational resources**.**

One participant explained:

"Sometimes we want to provide detailed education, but the number of patients is high and our time is limited. We have to provide the most important information first." (N2)

Another participant described difficulties when patients had limited understanding of health information:

"Some patients know that they have hypertension, but they do not really understand what can happen if their blood pressure remains uncontrolled. We need to explain it several times." (N8)

Participants also reported that some patients continued unhealthy behaviors despite repeated education. Nurses perceived that knowledge alone was not always sufficient to produce behavioral change.

"The patient may understand what we explain, but when they go home, they return to their old habits. Sometimes the problem is not knowledge, but motivation and family support." (N12)

These findings demonstrate that the effectiveness of nursing education was influenced by both individual patient factors and the organizational environment in which nurses worked.

Theme 4: Adaptive Strategies and the Importance of Family Involvement

To overcome barriers, participants described using various adaptive strategies, including repeated education, individualized explanations, visual materials, demonstrations, motivational communication, and involving family members. Nurses considered family involvement particularly important for patients who were elderly, had limited health literacy, or required assistance with medication and lifestyle management.

"When the patient is elderly and has difficulty remembering, I involve the family. I explain what the family can do to support medication, diet, and follow-up." (N4)

Another participant highlighted the importance of repeated education:

"We cannot expect patients to change after one explanation. We repeat the important messages at every visit and remind them about what they need to 31oa t home." (N14)

Participants also emphasized that successful education required collaboration between nurses, patients, families, and other healthcare professionals. Nurses believed that consistent messages from the healthcare team could strengthen patients' confidence and adherence to recommended behaviors.

Overall, the findings indicate that nurses experienced health education as a dynamic, patient-centered, and continuous process. Nurses did not rely on a single educational strategy but adapted their approaches according to patients' knowledge, communication abilities, motivation, and social circumstances. Although nurses recognized education as a fundamental component of chronic disease management, its implementation was challenged by workload, limited time, health literacy differences, patient motivation, and family-related factors. Nurses responded to these challenges by simplifying communication, repeating key messages, using practical examples and demonstrations, assessing patient understanding, and involving family members. The findings suggest that strengthening nursing health education requires not only improving nurses' communication competencies but also creating organizational conditions that provide adequate time, educational resources, and support for individualized patient education.

DISCUSSION

This study explored nurses' experiences in providing health education to patients with chronic diseases and identified four interconnected themes: health education as an integral component of nursing care, adaptation of communication to patients' needs and health literacy, barriers to effective health education, and adaptive strategies involving family participation. Overall, the findings demonstrate that health education is not perceived by nurses as a separate or supplementary activity but as an essential and continuous component of chronic disease management. Nurses described education as a process that extends beyond the delivery of information and involves communication, assessment of patient understanding, behavioral support, motivation, and family engagement.

The first theme, health education as an integral component of nursing care, indicates that nurses recognize education as an essential professional responsibility.

Participants emphasized that patients with chronic diseases require more than pharmacological treatment because effective disease management depends on patients' ability to understand their condition and perform appropriate self-care at home. This finding is consistent with the principles of chronic care, in which patients are expected to become active participants in managing long-term conditions. Nurse-led education can support patients in understanding medication regimens, dietary recommendations, physical activity, symptom monitoring, and the prevention of complications. The nurses' perception that education should be provided repeatedly is particularly important because chronic disease management requires sustained behavioral adaptation rather than a one-time intervention (Singh et al., 2024).

The second theme, adapting communication to patients' needs and health literacy, demonstrates that nurses did not apply a uniform educational approach to all patients (Shozuhara & Suzuki, 2024). Participants reported modifying their language, explanations, examples, and educational techniques according to patients' educational background, age, knowledge, and ability to understand health information (Saleh, 2023). The use of simple language and everyday examples reflects a patient-centered communication approach. The reported use of teach-back is also important because it enables nurses to determine whether patients have actually understood the information rather than simply assuming that information delivery has resulted in comprehension. This finding suggests that effective health education depends on two-way communication rather than one-way transmission of information (Satoh et al., 2024).

Health literacy is particularly relevant in chronic disease management because patients must frequently interpret health information, make treatment-related decisions, and implement recommendations independently at home (Rinne et al., 2024). A patient may receive adequate information but still experience difficulty translating that information into daily behavior. Therefore, nurses need to assess not only what patients know but also whether they can apply the information in practical situations . The experiences reported by participants suggest that individualized communication can help reduce misunderstandings and improve patients' engagement with disease management (Ranta et al., 2024).

The third theme, barriers to effective health education, reveals that nurses face both patient-related and organizational challenges (O'Connor, 2024). Participants identified limited time, high workload, low patient health literacy, communication difficulties, limited motivation, and insufficient educational resources as major barriers. These findings indicate that the quality of health education cannot be determined solely by nurses' individual competencies. Organizational conditions also influence nurses' ability to provide adequate education. When nurses are responsible for a large number of patients, educational interactions may become brief and focused only on the most immediate information (Paterson, Anderson, et al., 2024).

Another important finding is that nurses perceived knowledge alone as insufficient to produce behavioral change. Some patients understood the information provided but continued unhealthy behaviors after returning home (Piyakhachornrot & Youngcharoen, 2024). This finding is consistent with behavioral approaches to chronic disease management, which recognize that health behavior is influenced by motivation, perceived benefits and barriers, social support, environmental conditions, and self-efficacy. Consequently, nurses should move beyond simply providing information and incorporate motivational communication, goal setting, reinforcement, and follow-up into routine education (Paterson, Nicholas, et al., 2024).

The fourth theme, adaptive strategies and family involvement, illustrates how nurses respond to the challenges they encounter. Participants described repeated education, individualized explanations, demonstrations, visual materials, motivational communication, and family involvement as strategies for improving educational effectiveness. Repetition

was considered necessary because patients may not immediately remember or apply all information provided during a single encounter. This is particularly relevant for older patients and those with limited health literacy.

Family involvement emerged as an important contextual factor. Nurses reported involving family members when patients required assistance with medication, diet, follow-up appointments, or other self-care activities (Oguro et al., 2023). In chronic disease management, family members can function as sources of practical, emotional, and motivational support. Their involvement may also increase the likelihood that recommendations provided by healthcare professionals are continued in the home environment. However, family involvement should remain patient-centered and should respect the patient's autonomy and preferences (Patel et al., 2021).

The findings also demonstrate that nurses function not only as providers of information but as facilitators of self-management. Their role includes identifying patient needs, translating clinical information into understandable messages, motivating patients, evaluating comprehension, involving families, and adapting education to individual circumstances. This broader role is particularly important in primary healthcare, where chronic disease management requires continuity and repeated interaction between nurses and patients (Onororemu & Sanders, 2024).

The diversity of participants in this study, including nurses working in primary health centers and hospital wards and those with different levels of clinical experience, provides a broader perspective on the delivery of chronic disease education. Nevertheless, the findings should be interpreted within the context of Makassar healthcare settings. The experiences of nurses may differ in other regions because of differences in healthcare resources, organizational systems, patient characteristics, cultural practices, and nurse-to-patient ratios (O'Malley et al., 2024).

From a practical perspective, the findings suggest that improving chronic disease education requires interventions at both the individual and organizational levels. At the individual level, nurses may benefit from continuing education in health literacy, therapeutic communication, motivational interviewing, teach-back techniques, and culturally responsive education. At the organizational level, healthcare facilities should provide adequate educational materials, sufficient time for patient counseling, appropriate documentation systems, and opportunities for interdisciplinary collaboration. Integrating structured health education into chronic disease management programs may also help ensure that important educational components are delivered consistently.

In conclusion, this study demonstrates that nurses experience health education as a continuous, individualized, and relational process. Effective education is shaped by nurses' communication skills, patients' health literacy and motivation, family support, and organizational conditions. Strengthening these components may enhance nurses' capacity to support patients with chronic diseases in developing sustainable self-management behaviors. The findings provide a foundation for developing context-specific nursing education models that are patient-centered, family-inclusive, and responsive to the realities of chronic disease care in Makassar.

CONCLUSION

This study concludes that nurses perceive health education as an essential, continuous, and patient-centered component of chronic disease management. The findings indicate that effective health education requires nurses to adapt communication to patients' levels of knowledge and health literacy, use simple language and practical examples, repeat important information, assess patient understanding, and involve family members in supporting self-management. However, nurses also encounter several barriers, including limited consultation time, high workload, differences in patient health literacy,

limited motivation, communication difficulties, and inadequate educational resources. Family involvement was identified as an important strategy, particularly for patients who require support in medication adherence, dietary management, lifestyle modification, and follow-up care. Therefore, healthcare facilities should strengthen structured nursing health education programs by providing adequate educational materials, sufficient time for patient counseling, and continuous professional development opportunities. Nurses should be supported to improve competencies in therapeutic communication, health literacy assessment, teach-back techniques, motivational communication, and individualized education. Interdisciplinary collaboration should also be strengthened to ensure consistent health information across healthcare providers. Future research should develop and evaluate context-specific nurse-led educational interventions and examine their effects on patient self-management, treatment adherence, disease control, and quality of life..

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