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Original Research

Toward an Empowerment-Based Nursing Framework for Managing Multimorbidity in Older Adults

Argi Virgona Bangun[1*], Minerva B. De Ala[2], Marietta Fabros[2], Marcus Ochoa[2]

[1] Department of Nursing, Faculty of Health Sciences and Technology, Universitas Jenderal Achmad Yani, Cimahi, Indonesia 55293.
[2] School of Nursing, Philippine Women's University, Manila, Philippines 1004.

ABSTRACT

Background: *Population aging presents major challenges for healthcare systems, particularly in managing the complex needs of older adults with multiple chronic conditions (multimorbidity). This study explores behavioral, cognitive, and contextual factors influencing how older adults navigate complex treatment regimens, with the goal of developing an empowerment-based nursing framework.*

Methods: *This sequential explanatory mixed-methods study involved 127 older adults with chronic conditions in the quantitative phase and 9 participants in the qualitative phase. In-depth semi-structured interviews were conducted with the qualitative subsample and analyzed using thematic analysis, generating codes and themes related to the contextual dynamics of health decision-making. Findings from both phases were integrated to develop an empowerment-based nursing framework, grounded in patient autonomy, shared decision-making, and relational support, aimed at strengthening older adults' capacity to manage multimorbidity effectively.I*

Results: *Quantitative findings revealed that belief about medicine (β = 0.561, p = 0.001), health literacy (β = 0.219, p = 0.025), and perceived social support (β = 0.288, p = 0.001) significantly influenced care-related behaviours. The integration of findings underscored the need for tailored health education, supportive family engagement, emotionally responsive communication, and culturally accessible nursing care.*

Conclusion:
Older adults managing multimorbidity make care-related decisions based on a complex interplay of beliefs, literacy, emotional readiness, and social context. Nurses must adopt a holistic, empowerment-based approach that strengthens both medical understanding and relational support. The proposed framework offers direction for nursing practice and policy to improve adherence, autonomy, and quality of care in geriatric populations.

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CONTACT
Argi Virgona Bangun
✉
argie.virgona@gmail.com
Faculty of Health Sciences and Technology, Universitas Jenderal Achmad Yani, Cimahi, Indonesia 55293.

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INTRODUCTION

The process of population aging is a global phenomenon that is unavoidable. As the number of people aged 60 and over continues to rise, it is projected that this demographic will increase by 34%, from 1 billion in 2019 to 1.4 billion by 2030, with estimates indicating more than doubling of the older population to 2.1 billion by 2050 (National Institute on Aging, 2020). Similarly, in Indonesia, the older adult population comprises 10.75% of the total population, according to the 2020-2023 Interim Population Projection by (BPS-Statistics Indonesia, 2023). This aging population structure has a profound impact on healthcare systems, particularly as the prevalence of multiple chronic conditions (multimorbidity) increases. The aging process, accompanied by a decline in organ function, makes older adults more susceptible to diseases. As a result, older adults often experience multiple chronic conditions, complicating treatment regimens and increasing the risk of polypharmacy.

Polypharmacy, defined as the concurrent use of five or more prescription medications (Hughes et al., 2022), is a common issue for older adults, often arising due to comorbidities such as cardiovascular and endocrine diseases (Nicholson et al., 2024). While polypharmacy aims to improve prognosis and survival rates, it also presents significant risks, including adverse drug reactions, drug interactions, and prescribing cascades, which can exacerbate morbidity and mortality (Hughes et al., 2022). Furthermore, the pharmacokinetic and pharmacodynamic changes that occur in aging bodies contribute to these risks, as altered drug absorption, distribution, metabolism, and excretion increase susceptibility to medication-related harm (Ngcobo, 2025).

A growing body of literature emphasizes the importance of effective communication and shared decision-making in mitigating the risks of polypharmacy. Multidisciplinary collaboration, particularly involving nurses, is essential in ensuring that older adults are well-informed and actively participate in their treatment decisions. Studies have shown that shared decision-making models, where patients are involved in their care, lead to better health outcomes and higher satisfaction (Birkeland et al., 2022). However, older adults' preferences regarding their involvement in healthcare decision-making can vary, often influenced by cognitive impairment and health status (Brown et al., 2022). Older adults may face structural and relational barriers that limit their engagement in decision-making, further complicating their ability to manage chronic conditions (Vogel et al., 2023).

This study investigates the health decision-making behaviors of older adults with multimorbidity and polypharmacy, focusing on the factors influencing their healthcare decisions. The findings highlight the significant role of trust in healthcare providers, the importance of adaptability, and the need for tailored care strategies. By examining these factors, this research contributes to the development of empowerment strategies that enable older adults to make informed and confident health choices. Specifically, it underscores the importance of communication, trust, and patient involvement in improving health outcomes and treatment adherence among older adults managing multiple chronic conditions. Central to these aims is the concept of shared decision-making (SDM), a collaborative process in which patients and healthcare providers work together to reach treatment decisions that reflect both clinical evidence and patient values and preferences (Marinkovic et al., 2022).

SDM is closely linked to patient empowerment, as it acknowledges the patient’s role as an active participant rather than a passive recipient of care. For older adults with multimorbidity, promoting SDM offers a meaningful needs and circumstances. Despite

growing recognition of these issues, few studies have simultaneously examined cognitive, relational, and contextual predictors of health decision-making in older adults with multimorbidity within a low- and middle-income country (LMIC) setting, and fewer still have integrated quantitative and qualitative method to develop an actionable nursing framework. This study addresses that gap by combining both approaches in a community health context in Indonesia, contributing an evidence-based, culturally situated empowerment framework that can inform nursing practice and policy in similar settings globally.

MATERIALS AND METHOD

This study employed a mixed-methods sequential explanatory design, integrating both quantitative and qualitative approaches. In this design, quantitative data are collected and analyzed first, and the result are then used to inform and explain the qualitative phase (Creswell & Hirose, 2019). This approach is particularly suited to studies in which statistical findings require deeper contextual interpretation through participant perspectives. The quantitative phase was conducted first to gather data on health decision-making and treatment adherence, followed by qualitative follow-up interviews to explore these factors in greater depth. The qualitative phase helped interpret the quantitative findings and provided deeper insights into the behaviors and experiences of older adults with multimorbidity in making health decisions.

This study was conducted in the working area of Citeureup Cimahi Community Health Center, West Java, Indonesia. Participants were recruited across two phases using purposive sampling. Sample size for Phase 1 (quantitative) was determined using the Lemeshow formula for an unknown population, yielding 127 participants. Shared inclusion criteria across both phases were: (1) aged 60 years and above, (2) diagnosed with multimorbidity, (3) undergoing polypharmacy treatment, and 94) willing to attend follow-up visits. Exclusion criteria included individuals with cognitive impairments or hearing loss that would prevent meaningful participation. For Phase 2, nine participants were purposively selected based on their capacity to articulate their health decision-making experiences in depth and their willingness to participate in two interview sessions.

For the quantitative phase, several established instruments were utilized. A general information questionnaire collected sociodemographic and clinical data including age, gender, educational attainment, comorbid diagnoses, and duration of treatment. The MSPSS (Laksmita et al., 2020) demonstrated satisfactory internal consistency in its Indonesian validation study, with Cronbach's alpha values exceeding 0.70 across all subscales. The BMQ Indonesian version (Sianturi et al., 2021) reported Cronbach's alpha values ranging from 0.50 to 0.65 across subscales (BMQ Specific-Necessity = 0.56; BMQ Specific-Concerns = 0.50; BMQ General-Overuse = 0.65; BMQ General-Harm = 0.53). The I-SHLMS (Rachmani et al., 2019) demonstrated strong predictive accuracy of 90.64% compared to the longer HLS-EU-SQ16, with the 10-item short version selected for its balance of accuracy and parsimony over the HLS-SF12 (88.67%). The MDMQ has demonstrated robust psychometric properties across international samples (Mann et al., 1997).

For the qualitative phase, the interview guide was developed based on Simon’s Decision-Making Model, incorporating findings from the quantitative phase. The guide explored how participants navigate decision-making stages, such as problem identification, alternative evaluation, and decision selection, while also considering the

role of factors like beliefs about medicine, health literacy, and social support. The guide consisted of eleven open-ended questions, including: (a) “Have you ever been in a situation where you had to make a big decision in a short time? Can you tell us about that experience?”; (b) “How do you consider the risks and benefits of a decision?”; (c) “When you have to make a big and difficult decision, do you ask other people for advice or follow your instincts?”; (d) “If you have to make a decision with limited information, how does this information help lead you to conclusions?”; and (e) “Does the doctor involve you and your family in making medical decisions?” Additional probes explored delayed decision-making, consideration of alternatives, decision regret, confidence, and reassessment of choices.

Interviews were conducted by the principal researcher in a private, comfortable setting at the health center or participants’ homes, ensuring confidentiality and minimizing social desirability bias. Data collection took place over approximately five weeks, from the third week of February to the third week of March 2024. Each participant underwent two interview sessions (Interview I and Interview II), with a one-week interval between sessions. Interview I served as a pre-research interview combined with observational data collection; Interview II allowed for member checking and deeper exploration of emerging themes. Each interview session lasted approximately 45–60 minutes.

Quantitative data were analyzed using multiple linear regression to identify predictors of health decision-making and treatment adherence. Multiple linear regression was selected because the outcome variable (health decision-making behavior as measured by the MDMQ) is continuous in nature, and the study aimed to simultaneously examine the independent contributions of three predictor variables, beliefs about medicine, health literacy, and perceived social support while controlling for the effects of the others. In the qualitative phase, the transcribed interviews were analyzed using thematic analysis with NVivo 12 software to identify key themes and patterns related to decision-making behaviors in older adults with multimorbidity.

Thematic analysis was conducted following the six-phase framework (Streubert & Carpenter, 2011): (1) familiarization with the data through repeated reading of transcripts; (2) generation of initial codes from meaningful segments; (3) searching for themes by grouping related codes; (4) reviewing and refining themes for internal coherence and distinctiveness; (5) defining and naming themes; and (6) producing the final report. To establish trustworthiness, four criteria were applied: credibility was ensured through prolonged engagement with participants and member checking after Interview II; transferability was addressed through thick description of the study context and participant profiles; dependability was maintained through an audit trail of analytical decisions; and confirmability was achieved through reflexive journaling by the researcher throughout the data collection and analysis process.

The study adhered to ethical guidelines and received approval from the FITKes Unjani Health Research Ethics Committee (No. 134/KEPK/FITKes-Unjani/VI/2024) and the Philippine Women’s University Ethics Review Board (No. ERB2024_006). Informed consent was obtained from all participants, ensuring their understanding of the study’s purpose, procedures, and their rights, including confidentiality and voluntary participation. All ethical protocols were followed to safeguard participants' welfare and maintain the integrity of the data.

RESULTS

The results of this study are presented in two phases: quantitative (Phase 1) and qualitative (Phase 2). In Phase 1, the quantitative data were analyzed to identify the key predictors of health decision-making and treatment adherence among older adults with multimorbidity. In Phase 2, qualitative data were used to explore the decision-making processes and behaviors of participants in greater depth. An integrative approach was then used to merge the findings from both phases, providing a comprehensive understanding of health decision-making in this population.

Table 1. Socio-Demographic and Clinical Characteristics of Respondents (n = 127)

Characteristic	Frequency (n)	Percentage (%)
Age (years)		
60–64	49	38.59
65–69	46	36.22
70–74	28	22.04
75–79	4	3.15
Gender		
Male	37	29.13
Female	90	70.87
Marital Status		
Married	48	37.80
Divorced / Widowed	79	62.20
Highest Educational Attainment		
College Graduate	18	14.17
Primary & Secondary	109	85.83
Chronic Disease (number of disease)		
1 chronic disease	25	19.69
≥2 chronic diseases	102	80.31
Duration of Treatment (years)		
1–5	59	46.5
6–10	42	33.1
11–15	24	18.9
16–20	2	1.6

Most respondents were aged 60–69 years (74.81%) and were predominantly female (70.87%). A large proportion were divorced or widowed (62.20%) and had only primary or secondary education (85.83%). Additionally, 80.31% of participants had two or more chronic conditions, with nearly half undergoing treatment for 1–5 years. These characteristics reflect a population facing multiple health challenges and limited formal education, which may influence their health-related decisions.

Table 2. Participant Demographic Data

ID	Gender	Age	Marital Status	Highest Educational Attainment	Illness	Length of time Undergoing Polypharmacy (Years)
P1	F	61	Married	College	Hypertension,	4

ID	Gender	Age	Marital Status	Highest Educational Attainment	Illness	Length of time Undergoing Polypharmacy (Years)
P2	F	78	Widowed	College	DM Type 2, Osteoarthritis, Post PCI Hypertension, Heart Failure,	15
P3	F	60	Married	Secondary	Post PCI Gout, Osteoarthritis,	5
P4	M	63	Married	Secondary	CHD, Post PCI Stroke, CHF,	2
P5	F	60	Married	Primary	Post PCI Dyslipidemia,	3
P6	F	65	Married	Secondary	Post Stroke Breast Cancer	2
P7	M	73	Married	Primary	Stage 3 Hypertension	9
P8	F	68	Widowed	Secondary	and DM Type 2 Hypertension, Gastritis, Post-Op	3
P9	M	70	Married	Secondary	Cholecystectomy Hypertension, Post Stroke	12

Participants in this study ranged in age from 60 to 78 years and were mostly female. The majority were married, with educational backgrounds varying from primary to college level. All participants experienced multiple chronic conditions and had been undergoing polypharmacy for durations ranging from 2 to 15 years.

Table 3. Multiple Linear Regression Results and Model Summary for Predictors of Health Decision-Making Behavior (n = 127)

Predictor	B	SE	β	t	p
(Constant)	8.019	13.072	–	0.613	0.541
Belief about Medicine	0.744	0.132	0.561	5.631	0.001*
Health Literacy	0.532	0.235	0.219	2.267	0.025*
Perceived Social Support	0.356	0.109	0.288	3.262	0.001*
Model Summary					
R	0.469				
R Square	0.220				
Adjusted R Square	0.201				
Std. Error of the Estimate	7.723				

Belief about medicine was the most significant predictor of health decision-making behavior (β = 0.561, p = 0.001), followed by perceived social support (β = 0.288, p = 0.001) and health literacy (β = 0.219, p = 0.025). The model explained 22.0% of the variance in decision-making behavior (Adjusted R^2 = 0.201). These findings highlight the influence of personal beliefs, support systems, and health knowledge on how older adults make decisions about their care.

Figure 1. Hierarchical Framework of Health Decision-Making Among Elderly with Chronic Conditions

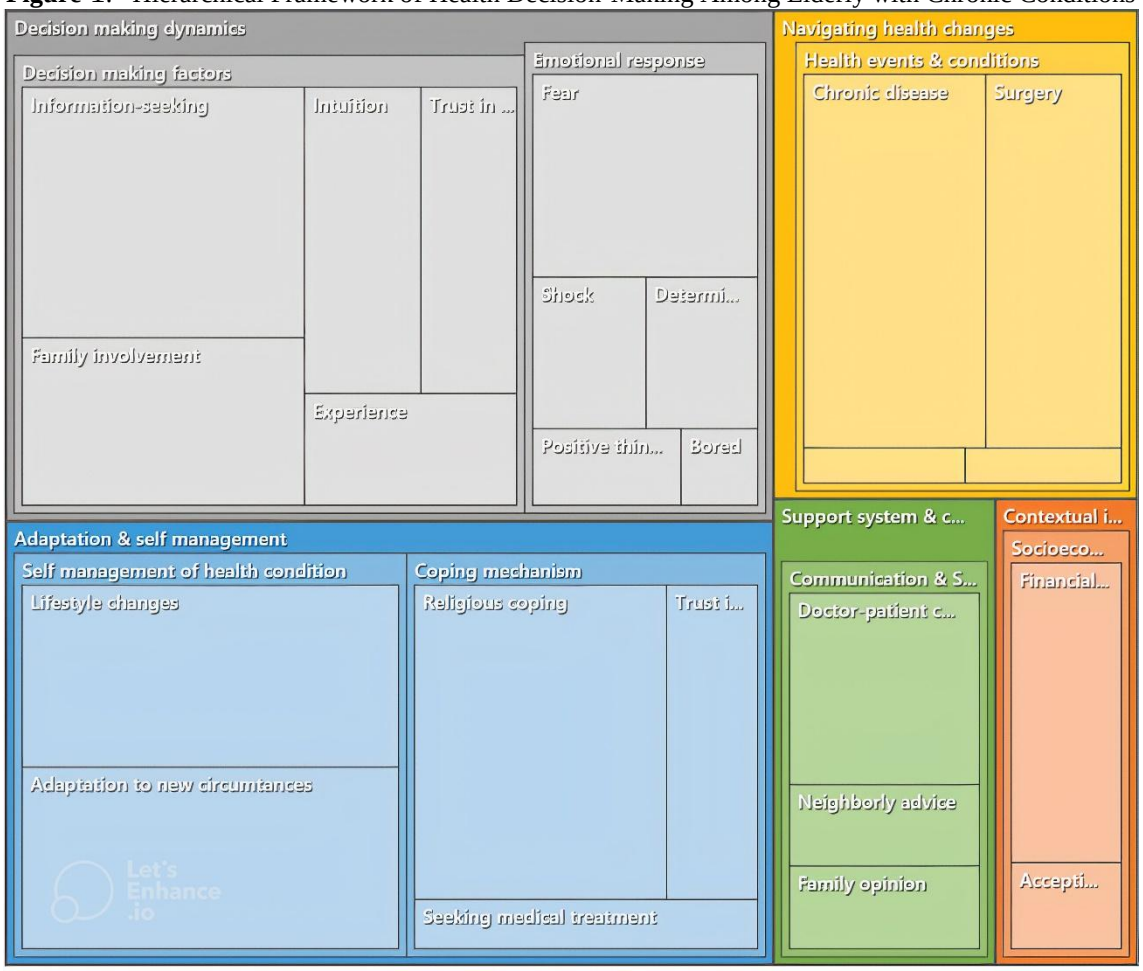

Figure 1 presents the hierarchical thematic framework derived from NVivo 12 analysis, organized by coding frequency and conceptual relatedness. Five overarching themes were identified, each capturing a distinct dimension of health decision-making among older adults with multimorbidity.

Theme 1, Decision-Making Dynamics, emerged as the most prominent theme and comprised two sub-themes: decision-making factors (encompassing information-seeking, family involvement, intuition, trust in physicians, and experience) and emotional responses (including fear, shock, boredom, positive thinking, and determination). Participants actively sought health information, primarily through the internet and healthcare providers while simultaneously relying on family guidance, intuitive judgment, and emotional states to navigate complex treatment choices. Theme 2, Adaptation and Self-Management, reflected participants' active efforts to adjust to chronic illness through lifestyle modifications (such as dietary changes, medication

adherence, and home exercise routines) and adaptive coping mechanisms including religious coping, trust in medical technology, and proactive help-seeking. Theme 3, Navigating Health Changes, captured how significant health events such as new diagnoses, surgical procedures (e.g., cardiac catheterization, cholecystectomy), and conditions like breast cancer prompted participants to reassess their health priorities and engage more actively in medical decision-making. Theme 4, Support System and Communication, highlighted the central role of doctor-patient communication, family opinion, and neighborly advice in shaping health decisions, emphasizing that effective, empathetic communication from healthcare providers and a robust social network were key enablers of informed choice. Theme 5, Contextual Influences, encompassed the socioeconomic and cultural factors shaping decision-making, including financial barriers to healthcare access, acceptance of aging and illness, and cultural orientations toward fate and dignity factors that collectively framed the broader environment in which health decisions were made.

Table 4. Integrated Results Matrix: Medical Decision-Making Among Older Adults with Multimorbidity

Quantitative Results	Qualitative Results	Implications for Nursing Practice
Majority (93.7%) had moderate belief in treatment effectiveness; only 6.3% had strong belief.	Decision-making is influenced by dynamic factors such as information seeking, family involvement, intuition, and emotional response.	Tailored Education & Counseling to strengthen treatment belief and enhance trust in medical interventions.
Over half (56.7%) had low health literacy; none had high health literacy.	Adaptation and self-management, including coping strategies and lifestyle changes, were key.	Health Literacy Programs to empower informed decision-making and provide clearer understanding of health information.
Most (61.4%) had low social support; only 1.6% had high support.	Social support and communication, especially with healthcare providers and family, played a central role.	Enhanced Support Systems and Improved Communication Strategies to foster trust and engagement in decision-making.
77.2% had balanced decision-making styles; no dominant styles reported.	Navigating health changes (e.g., chronic conditions, surgery) influenced choices.	Adaptation & Self-Management Support to reinforce decision balance and provide consistent guidance through health changes.
Belief in medicine, health literacy, and social support were significant predictors of decision-making.	Socioeconomic and cultural contexts shaped the decision-making landscape.	Accessible, Culturally Sensitive Care to reduce health disparities and accommodate diverse decision-making factors.

Table 4 summarizes key findings on health decision-making among older adults with multimorbidity. Most participants showed moderate treatment belief, low health literacy, and low social support, with balanced decision-making styles. Qualitative insights revealed that decision-making is influenced by information seeking, family involvement, and emotional factors. Nursing implications include tailored education, health literacy programs, enhanced communication, and culturally sensitive care to address these factors and improve decision-making.

Table 5. Empowerment Strategy Components for Health Decision-Making Among Older Adults with Multimorbidity

Component	Description	Objective	Follow-Up Actions
Tailored Education and Counseling	Personalized health education to enhance understanding of treatments and conditions.	Improve patient knowledge and health management skills.	Patients demonstrate better understanding and confidence in managing their condition.
Enhanced Support Systems	Establishment of support networks involving families and community resources.	Increase social support and access to assistance.	Formation of a reliable support network and improved emotional well-being.
Adaptation and Self-Management	Workshops and training to build coping and self-care skills for chronic conditions.	Promote adaptation and independent management of illness.	Improved self-management practices and reduced emergency care reliance.
Accessible Healthcare Services	Facilitate access to affordable, culturally sensitive healthcare and insurance guidance.	Reduce healthcare disparities and enhance service reach.	Increased service utilization and higher patient satisfaction with care accessibility.
Proactive Health Navigation	Nurse-led guidance to help patients navigate services and coordinate care.	Empower patients to make informed healthcare decisions.	Easier navigation and better adherence to care plans.
Improved Communication Strategies	Training providers in empathetic communication and shared decision-making techniques.	Strengthen patient-provider relationships.	Increased satisfaction, understanding, and treatment compliance.
Dynamic Decision-Making Support	Tools and resources to support informed and emotionally responsive health decisions.	Foster personalized, context-sensitive decision-making.	Enhanced patient involvement and reduced decisional conflict.

Table 5 outlines components of a nursing empowerment strategy to support older adults with multimorbidity. It includes tailored education to improve health knowledge, enhanced support systems through family and community networks, and self-management training to promote adaptation to chronic conditions. Additionally, it emphasizes accessible healthcare services, proactive health navigation, improved communication strategies, and dynamic decision-making support to foster informed, personalized healthcare decisions. The follow-up actions aim to enhance patient understanding, social support, care access, and decision-making, leading to better health management and improved patient outcomes.

DISCUSSION

Sociodemographic and Clinical Characteristics of Respondents

The socio-demographic and clinical characteristics of the 127 elderly participants reveal key factors that influence health decision-making, such as age, gender, marital status, educational background, chronic diseases, and treatment duration. The majority of participants were in the 60-64 age group (38.59%), with a decline in the number of respondents as age increased, and only 3.15% in the 75-79 age range. A significant gender imbalance was noted, with 70.87% of participants being female. Regarding marital status, 62.20% were widowed or divorced, while 37.80% were married. Educational attainment was predominantly limited to primary and secondary education (85.83%), with only 14.17% having completed college. Notably, 80.31% of respondents had two or more chronic diseases, highlighting the commonality of multimorbidity, and the majority had been undergoing treatment for 1-5 years. However, the number of participants decreased as the duration of treatment increased, with only 1.6% having been in treatment for 16-20 years.

These demographic characteristics underscore important aspects of elderly health management, with factors such as gender, education, and marital status influencing healthcare access and chronic disease management. Gender disparities, particularly the higher percentage of women, may reflect differences in healthcare needs or access, as older women often experience greater longevity and higher rates of chronic conditions (Temkin et al., 2023). Marital status plays a crucial role in health management, as marriage often provides emotional and practical support, which enhances the ability to manage chronic conditions. Research suggests that spouses and family members can contribute to medication adherence and provide essential caregiving, which can mitigate the impacts of multimorbidity and reduce healthcare burdens (Yusuf et al., 2024).

Education is strongly linked to better health literacy and decision-making, which is essential for managing multiple chronic conditions. Higher education levels are associated with improved understanding of health information, facilitating better management and greater participation in health-related decision-making (Li et al., 2024). The high percentage of individuals with multiple chronic diseases aligns with the challenges of polypharmacy and complex treatment regimens often faced by older adults (Hughes et al., 2022). Additionally, the duration of treatment influences adherence and psychological well-being; longer treatment periods may lead to fatigue and decreased motivation to follow health management strategies (Bankole et al., 2023).

The qualitative phase of the study provided further demographic details, with 9 participants offering insights into the factors influencing health decision-making. Gender distribution remained skewed toward women (66.7%), and most participants (66.7%) were in the 60-69 age range, reflecting a broad age distribution relevant for

understanding health decision-making across different stages of aging. Marital status revealed that most participants (55.6%) were married, while 44.4% were widowed, providing insights into the role of social support in health management. Educational attainment was similar to the larger sample, with the majority (77.8%) having completed primary or secondary education, while 22.2% had completed higher education. Health conditions varied, with many participants experiencing multiple health issues such as cardiac problems, stroke, and cancer, which contribute to the complexity of managing health. Polypharmacy was prevalent, with most participants on medication for 2-9 years, and two individuals engaged in long-term polypharmacy for over 10 years.

These findings align with the broader trends observed in the larger sample, reinforcing the notion that chronic disease, long-term treatment, and socio-economic factors such as marital status and education play significant roles in the health decision-making of older adults. The combination of both quantitative and qualitative data provides a comprehensive view of the challenges faced by the elderly in managing their health, emphasizing the need for personalized interventions and support systems that address both medical and socio-economic dimensions (Wister et al., 2022).

Predictors of Health Decision-Making

Quantitative analysis identified three significant predictors of health decision-making among older adults with multimorbidity: beliefs about medicine, health literacy, and perceived social support. Together, these factors reflect both the cognitive and relational dimensions that shape how older adults engage with their care.

Beliefs about medicine emerged as the strongest predictor ($\beta = 0.561$), indicating that older adults with positive perceptions of their prescribed treatments showed greater confidence and engagement in therapeutic decision-making. (Widyakusuma et al., 2023) found that medication beliefs substantially influence not only adherence but also trust in healthcare providers among those managing chronic conditions. Similarly, (Kasahun et al., 2022) found that patients who held positive necessity beliefs about their medications demonstrated higher adherence and greater participation in treatment planning.

Health literacy ($\beta = 0.219$), which is the ability to comprehend and effectively process health-related information, also exerted a significant influence on health decision-making, thereby underscoring the essential role it plays in facilitating informed choices among elderly individuals. (Li et al., 2024) found that diminished levels of health literacy among older adults are closely correlated with ineffective communication with healthcare providers, misinterpretation of medical guidance, and restricted participation in decision-making processes. (Vogel et al., 2023) similarly found that individuals with limited health literacy were more inclined to depend exclusively on physician directives without engaging in critical inquiry or seeking clarification regarding therapeutic strategies recommended to them.

Perceived social support ($\beta = 0.288$) constituted yet another pivotal determinant influencing health decision-making among elderly individuals. The presence of emotional and instrumental assistance from familial members, peers, or caregivers has been demonstrated to significantly bolster confidence and alleviate decisional conflict experienced by these individuals. According to (Lin et al., 2025), robust social support significantly mediates psychological well-being among elderly patients with chronic illness, enhancing autonomy and reducing feelings of burden among those managing multiple health conditions simultaneously. Furthermore, (Luo et al., 2023) found that

older adults who reported elevated levels of perceived social support indicated not only improved quality of life but also increased involvement and engagement in their care management processes.

These findings substantiate the notion that health decision-making is influenced not solely by cognitive capabilities or health knowledge but is also intricately shaped by individual beliefs and relational dynamics that characterize the social context of the patient. For nursing practice, these predictors present substantial opportunities to formulate more responsive and individualized interventions tailored to the unique needs of patients. Nurses are uniquely situated within the healthcare system to evaluate patients' perceptions of medication, foster health literacy through continuous education and support, and activate social support networks in order to enhance the decision-making capabilities of their patients regarding their health care.

Dynamic of Decision-Making

The qualitative findings revealed complex dynamics underlying health decision-making among older adults with multimorbidity. Several key themes emerged: trust in healthcare providers, emotional responses, intuition, family involvement, and adaptation strategies.

Trust in healthcare providers was frequently cited as a critical foundation for accepting and adhering to treatment plans. When trust was established, participants felt more confident in their choices and were more willing to participate in decision-making. This aligns with recent research showing that trust in clinicians enhances communication and treatment adherence in older populations (Aarønes et al., 2025).

Emotional responses, including fear, anxiety, and hope, strongly influenced how decisions were made. Some participants hesitated due to fear of worsening symptoms or side effects, while others were motivated by hope for recovery or maintaining independence. Studies show that emotional states can either support or hinder shared decision-making, particularly when individuals feel overwhelmed by complex treatment choices (Pedro Costa et al., 2025).

Intuition emerged when participants relied on gut feelings or past experiences, especially when medical information was unclear or contradictory. This "experiential knowing" has been recognized as an informal but valid contributor to decision-making among older adults, particularly those with longstanding illnesses (Bankole et al., 2023).

Family involvement played a significant role in guiding choices, with participants often deferring to children or spouses when making decisions about medications, appointments, or lifestyle changes. This reflects a collectivist orientation that is common in many Asian cultures, where family is seen as a central support system and decision-making is shared (Xiao et al., 2024).

Adaptation strategies such as spiritual coping, routine adjustments, and self-monitoring were also highlighted. These actions illustrate the agency of older adults to engage actively in their health despite limitations. Research supports that adaptive behaviors especially when reinforced by support and resources are key to improving quality of life and health autonomy among those with multimorbidity (Luo et al., 2023; Wister et al., 2022)

Taken together, the findings underscore that health decision-making among older adults is not merely cognitive or informational. It is relational, emotional, and context-dependent, shaped by personal values, lived experiences, cultural norms, and the

availability of support. Understanding these nuances is essential for nurses to provide empathetic, culturally responsive, and empowering care.

Empowerment Strategy Components

The integration of quantitative and qualitative findings in this study supports the development of a comprehensive nursing empowerment strategy to enhance health decision-making among older adults with multimorbidity.

From the quantitative analysis, belief about medicine, health literacy, and perceived social support emerged as key predictors. These indicate the need to strengthen individual knowledge, attitudes, and relational support. Meanwhile, the qualitative findings revealed contextual influences, such as trust, emotional responses, and family involvement, which shape how older adults perceive, interpret, and act on health decisions.

First, the strategy should include tailored health education to improve understanding of medication and treatment plans. This aligns with evidence showing that personalized education can reduce decisional conflict and increase confidence, especially when adapted to health literacy levels (Vogel et al., 2023). Nurses play a central role in translating clinical information into accessible knowledge, enabling informed participation in care (Li et al., 2024).

Second, strengthening family and social support systems is essential. Family members are often co-decision-makers in elderly care, particularly in collectivist cultural settings. Training family caregivers to facilitate health conversations, medication monitoring, and shared planning can significantly improve engagement and adherence (Li et al., 2024; Yusuf et al., 2024).

Third, the findings highlight the value of trust-building and emotional support as foundations of empowerment. Nurses should build rapport through continuity of care, empathetic communication, and cultural sensitivity. Emotional support mitigates anxiety, builds confidence, and enhances the patient's willingness to engage in complex decision-making processes (Romanazzo et al., 2022).

Fourth, integrating self-management and adaptive coping training, as revealed from the qualitative phase can enhance a patient's sense of control. Older adults who are trained to monitor symptoms, set priorities, and manage medication schedules report better autonomy and satisfaction (Luo et al., 2023).

Finally, the strategy should include nurse-led decision support models. Structured counseling, decision aids, and follow-up visits can assist older adults in clarifying values and evaluating options, particularly when decisions involve risks or trade-offs. Evidence shows that nurse-led decision support improves quality of care and increases shared decision-making behaviors (Aarønes et al., 2025).

In sum, the empowerment strategy must be multilevel, targeting individual knowledge, emotional readiness, and social context. By integrating psychosocial, relational, and clinical dimensions, nurses can foster autonomy and improve adherence among older adults with multiple chronic conditions. These findings further reinforce the value of integrating shared decision-making (SDM) into nursing empowerment frameworks (Marinkovic et al., 2022).

These findings carry meaningful implications for nursing practice, education, and policy. In practice, nurses caring for older adults with multimorbidity should routinely assess medication beliefs, health literacy, and social support as part of holistic care. Person-centered communication, including family involvement and culturally sensitive

counseling is essential, as is integrating shared decision-making into everyday nursing consultations to strengthen patient autonomy and adherence. In education, nursing curricula should equip students with skills in health literacy assessment, motivational communication, and SDM facilitation for geriatric populations. At the policy level, community health centers need dedicated resources for nurse-led empowerment programs tailored to the complex needs of this population.

This study benefits from its mixed-methods design, which enabled both statistical analysis and rich contextual understanding, strengthened by the use of validated, culturally adapted instruments in a real-world community health setting. That said, findings should be interpreted with caution: the study was limited to a single health center in Cimahi, the quantitative phase was cross-sectional, and the qualitative sample was small, though appropriate for thematic analysis. Self-reported data also carries the risk of social desirability bias. Future studies should test empowerment-based nursing interventions longitudinally and expand to diverse regions across Indonesia, including exploring SDM as a potential mediator between empowerment and health outcomes.

CONCLUSION

This study demonstrates that health decision-making among older adults with multimorbidity is shaped by a complex interplay of beliefs about medicine, health literacy, and perceived social support, with medication beliefs emerging as the strongest predictor. Qualitative findings further revealed that trust in healthcare providers, family involvement, emotional responses, and adaptive coping strategies are integral to how older adults navigate treatment choices in real-world contexts. The integration of quantitative and qualitative findings underscores that effective nursing care for this population must go beyond clinical instruction to encompass relational, emotional, and cultural dimensions.

The proposed empowerment-based nursing framework, comprising tailored education, strengthened support systems, trust-centered communication, self-management training, and nurse-led decision support offers a practical and evidence-based direction for improving adherence, autonomy, and quality of care in geriatric populations. Shared decision-making is a key mechanism through which this framework can be operationalized, enabling nurses to collaboratively navigate treatment complexity with patients and families. Future research should build on these findings by testing this framework longitudinally and across broader contexts, expanding geographic scope beyond single-city or single-province settings to include diverse regions of Indonesia, ensuring that empowerment frameworks are culturally responsive and applicable across varying healthcare landscapes.

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