

Shared Decision-Making in Medications for Elderly Patients with Multi-Morbidities: A Phenomenological Study

Yu-Dan Liu¹, Hua Zhao¹, Cai-Yun Zhang², Yu-Juan Zheng³, Jia-Ning Hou¹, Jia-Le Yang¹, Xing-Yu Liu¹

¹College of Nursing, Shanxi University of Chinese Medicine, Jinzhong, 030619, People's Republic of China; ²Department of Nursing, Shanxi Provincial People's Hospital, Taiyuan, 030000, People's Republic of China; ³Department of Cardiology, Shanxi Provincial People's Hospital, Taiyuan, 030000, People's Republic of China

Correspondence: Hua Zhao, College of Nursing, Shanxi University of Chinese Medicine, Jinzhong, Shanxi, People's Republic of China, Tel +8613903465019, Email zhshun7788@126.com

Objective: To explore the willingness, needs, and factors influencing participation in medication decision-making among elderly patients with multi-morbidities, caregivers, and healthcare professionals.

Methods: A phenomenological research method was used to conduct semi-structured interviews with elderly patients with multi-morbidities, caregivers, and healthcare professionals. The purposive sampling method was used to select geriatric patients with multi-morbidities, their caregivers, and healthcare workers from March to July 2024 in the Geriatrics, Cardiology, Endocrinology, Respiratory, and Nephrology Departments of a tertiary hospital in Shanxi Province as the study subjects. The Colaizzi 7-step analysis method was used to analyze, summarize, and refine themes from the interview data.

Results: Twelve elderly patients with multi-morbidities, nine caregivers, and seven healthcare professionals were interviewed. Three themes and nine sub-themes were identified, as follows: (1) willingness to participate in decision-making (large differences in willingness and discrepancies between willingness and reality); (2) the current status of multi-morbidity management (lack of guidelines, healthcare systems and decision-making support systems); and (3) factors influencing participation in decision-making (bias in the power structure, lack of information exchange, insufficient knowledge and awareness of shared decision-making by healthcare workers, differences in patients' self-management initiative and medication-focused motivations).

Conclusion: Elderly patients with multi-morbidities were affected by multiple impediments to participation in medication decision-making. Healthcare professionals should continue to improve their shared decision-making awareness and ability, provide patients with targeted decision-making needs, solve decision-making problems, and promote the implementation of shared decision-making in elderly patients with multi-morbidities.

Keywords: multi-morbidity, elderly, shared decision-making, medication, patients, stakeholders, qualitative research

Background

China is accelerating into an aging society and as of November 2020 the number of people >60 years of age in China has reached 264 million.¹ It is predicted that the number of Chinese people >60 years will exceed 487 million by 2053.² Multi-morbidities are major medical issues that occur with the aging population. Older adults often combine multiple chronic diseases and varying degrees of functional impairment as they age as a result of organ aging and functional decline.³ In 2008 the World Health Organization defined multi-morbidity in the elderly as the simultaneous presence of ≥ 2 chronic diseases in older adults, including physical diseases, geriatric syndromes, and psychiatric disorders.⁴ Data from the Centers for Disease Control and Prevention (CDC) in the United States showed that approximately 50% of elderly patients with chronic diseases have ≥ 2 chronic diseases at the same time.⁵ Data from the National Health Statistics Yearbook of China showed that >75% of elderly people have >2 chronic diseases at the same time.⁶ Compared with a single chronic disease, multi-morbidities not only increase the rate of disability and death and reduce the quality of

life⁷ but also increase the difficulty in diagnosis and treatment, which significantly affects treatment adherence and efficacy.⁸ Thus, multi-morbidities in the elderly have become an important public health problem that needs to be solved in China and even globally.

As a basic component of “patient-centeredness”, shared decision-making (SDM) refers to the participation of patients and healthcare professionals in the clinical decision-making process. The provision of adequate decision-making support to patients and caregivers by healthcare professionals takes into account patient’s values, decision-making preferences, and the actual situation, which provides adequate decision-making support, discusses the pros and cons and health risks among various options, realizes information sharing, and develops a consensus decision-making plan.⁹ The traditional decision-making model is based on medical care and the patient is in a passive position, unable to accurately understand the patient’s value aspirations and acceptance, while SDM emphasizes the interactive communication and joint collaboration between the medical caregiver and the patient, effectively solving the problem of inadequate expression of the patient’s value orientation and willingness in the traditional decision-making model.¹⁰ Liu et al¹¹ explored the application effect of shared decision-making in diabetic patients. The results showed that shared decision-making can enhance patient self-management ability and improve treatment adherence, thus effectively improving blood glucose and blood lipid levels. Medication is extremely important for the efficacy and prognosis of elderly patients with multi-morbidities. Efficacy includes improvement in laboratory markers and good symptom control. Prognosis includes rehospitalization rates, survival and mortality rates.¹² Patient participation and self-management of medication, as the main body of medication, is the key to improving clinical outcomes. The “Healthy China 2030” plan advocates “sharing and building health for all”. Drug therapy should be determined by combining the preferences of patients and caregivers with the expertise of healthcare professionals.¹³ Therefore, the participation of elderly patients and caregivers in medication shared decision-making is particularly important.

Currently, shared decision-making has been gradually applied to the field of drug therapy in China, but shared decision-making is still in the early stages and only some influencing factors have been explored.¹⁴ The current study adopted the phenomenological research method to determine the willingness, needs, and influencing factors of elderly patients with multi-morbidities and stakeholders to participate in medication decision-making. The purpose is to provide a basis for the implementation of shared decision-making for elderly patients with multi-morbidities, to clarify the differentiated interests under different positions, and to construct a medication decision-making assistance program that matches the actual demands of stakeholders.

Materials and Methods

Research Subjects

The purposive sampling method was used to select geriatric patients with multi-morbidities, their caregivers, and healthcare workers from March to July 2024 in the Geriatrics, Cardiology, Endocrinology, Respiratory, and Nephrology Departments of a tertiary hospital in Shanxi Province as the study subjects.

Methods

Researchers

The research team has been engaged in clinical practice and scientific research in the elderly with multi-morbidities for several years and has accumulated a rich foundation of practice and scientific research. The interviewers have carried out several qualitative studies, mastered interview and data analysis methods, and are able to obtain comprehensive and objective interview results. The inclusion and exclusion criteria of the respondents are shown in [Table 1](#).

Data Collection

The phenomenologic research method is a method of qualitative research to understand and explain life experiences and world views, which centers on in-depth exploration of individuals’ perceptions and experiences.¹⁹ This study utilized a phenomenological approach and collected data through semi-structured interviews.²⁰ A first draft of the interview outline was developed based on the purpose of the study, literature research, and input from experts in the elderly with

Table 1 Interviewees Inclusion and Exclusion Criteria

| Participant Group | Inclusion Criteria | Exclusion Criteria |
|--------------------------|---|---|
| Patients | (1) ≥ 60 years of age; ¹⁵ (2) Diagnosed with ≥ 2 chronic diseases in the hospital; ⁴ (3) In the stable stage of disease with good mental status; (4) Ability to cooperate with the investigator to answer the questions with no communication barriers; (5) Informed consent and voluntary participation. | (1) Serious impairment of a major organ (eg, heart, liver, or kidney failure); (2) Impaired consciousness or cognition (Glasgow Coma Scale score less than 12, ¹⁶ Mini-Mental State Examination score less than 20, ¹⁷ or diagnosed major mental illness). |
| Caregivers | (1) No communication barrier; (2) Informed consent and voluntary participation. | (1) Paid caregivers; (2) Cognitive impairment or previous history of mental illness. |
| Healthcare Professionals | (1) Relevant practicing certificates; (2) Officially employed by the hospital; (3) ≥ 10 years of clinical work or management experience in the field of geriatric multi-morbidity; ¹⁸ (4) Informed consent and voluntary participation. | On leave or vacation in the last 3 months. |

multi-morbidities. Two patients, one caregiver, and one healthcare professional were pre-interviewed using the first draft. Based on the results of the pre-interviews, the final interview outline was revised and finalized. An outline of the interviewees' interviews is depicted in [Appendix 1](#).

The purpose and significance of the study, the entire recording, and the principle of content confidentiality were explained to the interviewees before the interview. After obtaining informed consent from the interviewees, an informed consent form was signed. An interview location with a quiet environment was chosen to ensure no interference. The interviewees were encouraged to express their opinions during the interview. The duration of the interview was 30–40 min. The interview was terminated immediately if the respondent was ill or for any other reason.

Ethical Consideration

The study was reviewed and approved by the Ethics Committee of Shanxi University of Traditional Chinese Medicine (Approval number:2024LL089). The principle of confidentiality was strictly adhered to and the respondents gave informed consent and participated in the study voluntarily.

Data Organization and Analysis

The text was transcribed within 24 h after the interviews, archived, and organized using NVivo 11.0 qualitative data analysis software. The researcher and 1 other Master of Science in Nursing student independently analyzed, coded, and distilled themes from the data using the Colaizzi 7-step analysis method. If there was disagreement, the final decision was made through discussion at a research team meeting.²¹ The specific methods were as follows: (1) repeatedly reading the text word-by-word; (2) selectively excerpting content related to the medication sharing decision-making experience and extracting meaningful units; (3) coding meaningful units; (4) summarizing the codes, identifying the same concepts, or features, and summarizing and condensing the codes into themes; (5) describing the themes in detail; (6) summarizing the similar themes and further condensing the themes; and (7) returning the results to the interviewees, verifying authenticity, and if there is disagreement, inviting another researcher to go back to the interview data to check the coding process, restructure the themes, and return to the participants for validation.

Results

The number of interviews was based on reaching information saturation. Twelve patients, nine caregivers, and seven healthcare professionals were ultimately included, and the general information of the interviewees is detailed in [Table 2](#).

Table 2 Characteristics of the Study Participants

| Items | Patients | Caregivers | Healthcare Providers |
|---|----------|------------|----------------------|
| Mean age(year) | 65 | 40 | 43.9 |
| Gender | | | |
| Female | 7 | 4 | 5 |
| Male | 5 | 5 | 2 |
| Education | | | |
| Elementary or below | 6 | 2 | 0 |
| Junior high school | 3 | 3 | 0 |
| Senior high school/technical secondary school | 3 | 2 | 0 |
| Tertiary/undergraduate | 0 | 2 | 2 |
| Master's | 0 | 0 | 5 |
| Marital status | | | |
| Unmarried | 0 | 1 | N/A |
| Married | 10 | 7 | N/A |
| Divorced | 0 | 1 | N/A |
| Widowed | 2 | 0 | N/A |
| Place of permanent residence | | | |
| Urban | 8 | 6 | N/A |
| Rural | 4 | 3 | N/A |
| Professional title* | | | |
| Junior | N/A | N/A | 0 |
| Intermediate | N/A | N/A | 3 |
| Deputy senior | N/A | N/A | 3 |
| Senior | N/A | N/A | 1 |
| Employed years | | | |
| 10–20years | N/A | N/A | 3 |
| 21–30years | N/A | N/A | 3 |
| ≥30years | N/A | N/A | 1 |
| Type of multi-morbidities | | | |
| Coronary heart disease | 6 | N/A | N/A |
| Hypertension | 10 | N/A | N/A |
| Hyperlipidemia | 3 | N/A | N/A |
| Diabetes | 7 | N/A | N/A |
| Stroke | 3 | N/A | N/A |
| Chronic obstructive pulmonary disease | 1 | N/A | N/A |
| Peripheral vascular disease | 2 | N/A | N/A |
| Thyroid nodule | 1 | N/A | N/A |
| Hypothyroidism | 1 | N/A | N/A |
| Chronic kidney disease | 1 | N/A | N/A |

Note: *Attending physician and charge nurse are mid-level titles. Associate physician-in-chief and associate nurse practitioner-in-charge are associate senior titles. Chief physician and chief nurse are senior titles.

A total of three themes and nine sub-themes were identified. The themes and sub-themes included the following: (1) willingness to participate in decision-making (large differences in willingness to participate in decision-making and discrepancies between willingness to participate in decision-making and reality); (2) the current situation of multi-morbidity management (lack of multi-morbidity management guideline and healthcare system, and lack of decision-making support system); and (3) factors influencing participation in decision-making (bias in the power structure, lack of information exchange, insufficient knowledge and awareness of shared decision-making by healthcare workers, differences in the patient's initiative for self-management, and differences in patients' multiple motivations to focus on medications).

The three themes of medication shared decision-making for older patients with multi-morbidities are shown in Table 3 (P for patient, C for caregiver, D for doctor, and N for nurse).

Table 3 Themes and Sub-Themes in Medication Shared Decision-Making Among Elderly Patients with Multi-Morbidities

| Theme | Subtheme | Representative Statements from Interviews |
|--|--|---|
| Willingness to participate in decision-making | Large differences in willingness to participate in decision-making | P8: "The nurses give me medication every day, and they tell me how to take it, and I follow it". P9: "I'm willing to participate in decision-making, after all, it's related to my disease, so of course I'm willing to talk to the doctors and nurses about my condition". |
| | Discrepancies between willingness to participate in decision-making and reality | P12: (laughs) "Sometimes the doctor asks me and I just can't understand, even though I would like to participate". |
| The current situation of multi-morbidity management | Lack of multi-morbidity management guidelines and the healthcare system | D1: "Guidelines on multi-morbidities are not yet well developed and widespread, and it is important to incorporate the wishes and ideas of patients and caregivers when encountering conflicting treatments". C9: "My father has diabetes, coronary heart disease, high blood pressure, is our hospital's old patients, every year to come here for examination, each examination has to go to the cardiology department, endocrinology department, and sometimes have to do other tests, he is old, I do not want him to come back and forth, it is too much trouble, each examination has to queue up, no two days cannot be finished, we do not have a department specializing in this kind of patients?" |
| | Lack of decision-making support system | D3: "I involve patients when prescribing medications, but I also don't know the exact process or specifications for a complete shared decision-making process". |
| Factors influencing participation in decision-making | Bias in the power structure | P6: "Since I came to our hospital, it's because I trust the doctors here, so I take whatever the doctor prescribes". |
| | Lack of information exchange | P3: "I took potassium chloride, eat in what kind, out or what kind, is not absorbed?" |
| | Insufficient knowledge and awareness of shared decision-making by healthcare workers | C4: "The doctors and nurses did not ask our opinion about taking the medication, they just prescribed it and then the nurses sent it to us to take". |
| | Differences in the patient's initiative for self-management | P9: "After all, it's my own body, I definitely need to care about it, look at this little notebook of mine, it keeps track of the medicines I take every day, my blood pressure and hypoglycemia, and if there's a big change I will ask the doctors and nurses about it". P7: "I take which medicines the nurses give me, and the doctors will take care of my hypoglycemia if it's high (laughs)". |
| | Differences in patients' multiple motivations to focus on medications | P2: "I always felt like I was holding my breath before, and after I took this medicine I felt much better, so I remembered this medicine, I also asked the nurse how this medicine works, and asked how long I need to take it so that I do not have to feel bad all the time". C7: "My father had a bad appetite when he took some medicines before, so I asked the doctor if these medicines would cause a bad appetite, and if they wouldn't, then I would be free to let my father take them". |

Note: P for Patient, C for Caregiver, D for Doctor, N for Nurse.

Theme I: Willingness to Participate in Decision-Making

Large Differences in Willingness to Participate in Decision-Making

Evidence on the potential benefits and risks of treatment options for older patients with multi-morbidities is limited and weighed by several factors, including patient ability, social support, and treatment burden.²² In addition, individual

preferences of elderly patients may vary depending on their physical condition, cognitive level, and drug tolerance level.²³ Therefore, SDM among elderly patients with multi-morbidities is essential. This study showed that a portion of elderly patients with multi-morbidities favored healthcare worker-dominated decision-making.

P6: I don't know about this (participation in decision-making), I come to the hospital to listen to the doctor, and take whatever the doctor prescribes, and I don't think about anything else.

P8: The nurses give me medication every day, and they tell me how to take it, and I follow it.

Some of the older patients with multi-morbidities and their caregivers were very willing to participate in decision-making and to learn about medication-related information.

P9: I'm willing to participate in decision-making, after all, it's related to my disease, so of course I'm willing to talk to the doctors and nurses about my condition.

C3: I'd like to know what these medicines my dad is taking are for, or else he's taking them in large amounts every day, and I don't even know what he's taking.

Discrepancies Between Willingness to Participate in Decision-Making and Reality

This study found a discrepancy between the willingness of elderly patients with multi-morbidities to participate in decision-making and the actual situation, in which patients' verbal willingness to participate was high but the actual participation rate was low for several reasons (eg, lack of knowledge and personal characteristic factors).

P12: (laughs) Sometimes the doctor asks me and I just can't understand, even though I would like to participate.

N1: Patient and family cooperation is generally pretty good, it's just that they tend to want to participate in their minds but actually struggle to do so, perhaps because they don't know much about medicine.

P1: Some drugs are too expensive, this clopidogrel seven tablets will be more than a hundred, I put the stent have to keep eating for a year, and not every time you can go to the health insurance, the financial pressure is too much, do not want to give their children trouble, so I have the idea is not to say, the doctor and his children say what is it.

Theme 2: The Current Situation of Multi-Morbidity Management Lack of Multi-Morbidity Management Guidelines and the Healthcare System

Currently, most of the specialty guidelines only address a single disease and the clinical studies relied upon in the development of the guidelines often exclude patients with multi-morbidities to exclude confounding factors.²⁴

D2: For this kind of patients with multi-morbidities, we are particularly limited in prescribing and doing tests, there is no uniform standard, we can only judge according to the indicators, experience and the patient's wishes, some patients have to do imaging for cardiac discomfort but renal insufficiency, not only the imaging needs to be taken into consideration, but also the subsequent medication needs to be taken into consideration, and there is no unified guideline guidance, so sometimes it is particularly hesitant.

D1: Guidelines on multi-morbidities are not yet well developed and widespread, and it is important to incorporate the wishes and ideas of patients and caregivers when encountering conflicting treatments.

In clinical practice, there are few outpatient clinics specifically for elderly patients with multi-morbidities, which makes it difficult for patients with multi-morbidities to receive systematic and comprehensive treatment because they need to go to multiple clinics and there is not a close connection between healthcare professionals of various specialties, which makes it easy for contraindications and adverse reactions to occur between drugs for different diseases.

C9: My father has diabetes, coronary heart disease, high blood pressure, is our hospital's old patients, every year to come here for examination, each examination has to go to the cardiology department, endocrinology department, and sometimes have to do other tests, he is old, I don't want him to come back and forth, it is too much trouble, each examination has to queue up, no two days cannot be finished, we don't have a department specializing in this kind of patients?

Lack of Decision-Making Support System

Decision aids are part of SDM and facilitate SDM by providing patients and caregivers with the advantages and disadvantages of different treatment options and helping to clarify their personal values and preferences.²⁵ There is currently a lack of decision aids in China for medications for elderly patients with multi-morbidities.

- D3: I involve patients when prescribing medications, but I also don't know the exact process or specifications for a complete shared decision-making process.
- P5: I'm in the hospital every day with a nurse to give me medicine, the nurse told me how to take the medicine, I can also ask the nurse the role of the medicine, but I worry about what to do when I get out of the hospital, so many medicines, in case of taking the wrong I do not know.
- C6: In the hospital doctors and nurses communicate with us every day to see if there is any change in the condition, we have any questions can also ask them, but go home there is no one to ask, the information on the Internet is a mixed bag, or hope to be able to have professional knowledge of the information, so that I can also grasp.

Theme 3: Factors Influencing Participation in Decision-Making Bias in the Power Structure

In traditional healthcare systems, patients and caregivers are often in a passive position with a bias in favor of placing decision-making in the hands of healthcare professionals.

- P6: Since I came to our hospital, it's because I trust the doctors here, so I take whatever the doctor prescribes.
- C5: We had an imaging done when we came in, the doctor prescribed medication, and he had seen so many patients that we definitely listened to him.
- C8: The doctors and nurses are professionals and we don't understand.

Lack of Information Exchange

In recent years there has been an endless stream of information access but online information is a mixture of good and bad. For elderly patients access is even more limited. In clinical settings healthcare professionals need to communicate with patients and caregivers about their conditions and treatments but this is usually limited to a high degree of specialization, resulting in low accessibility of multifaceted medication knowledge for patients and caregivers.

- P11: I was at home by myself, I often forget to take the medicine, and when I think of it later I don't know what to do, I read the instructions and it's not written (sigh), I don't know if I should drink it or just wait for the next meal to drink it.
- C1: My mom, she has poor kidney function, I don't know if taking these drugs will have side effects on kidney function.
- P3: I took potassium chloride, eat in what kind, out or what kind, is not absorbed?

Insufficient Knowledge and Awareness of Shared Decision-Making by Healthcare Workers

Due to the lack of medical decision support systems and training related to SDM, the current study showed that some healthcare professionals had insufficient knowledge and awareness of SDM, which resulted in SDM not being widely practiced in the clinic.

- C4: The doctors and nurses did not ask our opinion about taking the medication, they just prescribed it and then the nurses sent it to us to take.
- N4: Many times patients and caregivers ask me questions about decision making, and I don't know how to answer them because I'm not sure how this SDM should be implemented.
- N2: I specifically looked up this decision aid system before, and I didn't find any relevant authoritative content in our disease area, so I didn't implement it in a systematic way.

Differences in the Patient's Initiative for Self-Management

Self-management behaviors help manage the disease and improve symptoms and may also reduce readmission rates.²⁶ Muth et al²⁷ summarized the best evidence for clinical management of multi-morbidity and polypharmacy patients and the results suggested that patient self-management as part of monitoring and follow-up is key to managing patients with multi-morbidities and polypharmacy after discharge from the hospital. The current study showed differences in the subjective nature of patient self-management.

P9: After all, it's my own body, I definitely need to care about it, look at this little notebook of mine, it keeps track of the medicines I take every day, my blood pressure and hypoglycemia, and if there's a big change I'll ask the doctors and nurses about it.

P7: I take which medicines the nurses give me, and the doctors will take care of my hypoglycemia if it's high (laughs).

Differences in Patients' Multiple Motivations to Focus on Medications

Patients' motivations for paying attention to medications varied and consisted primarily of a perceived need for the medication and concerns about side effects, both of which motivated patients to take an active role in SDM. Some patients demonstrated personal motivations for paying attention to medications.

P2: I always felt like I was holding my breath before, and after I took this medicine I felt much better, so I remembered this medicine, I also asked the nurse how this medicine works, and asked how long I need to take it so that I don't have to feel bad all the time.

C7: My father had a bad appetite when he took some medicines before, so I asked the doctor if these medicines would cause a bad appetite, and if they wouldn't, then I would be free to let my father take them.

P10: Let me show you (take medicine), I have to take a handful of medicines a day, and every medicine has its side effect, so I sometimes worry whether I can metabolize these medicines (laughs bitterly), and whether these medicines will have a bad effect on each other.

Some patients, on the other hand, do not feel the need to discuss their medications with their doctors because these patients have been diagnosed and taking medications for a long time.

P4: I've had this disease for thirty years, I know all these medicines, I don't need doctors and nurses to tell me how to take them.

Discussion

Increase Patients' Willingness to Participate in Decision-Making and Promote Consistency Between Words and Deeds

During the last two decades there has been a global consensus that SDM should gradually replace paternalistic decision-making.²⁸ There are three forms of participatory decision-making (paternalistic, informed, and shared). Paternalistic decision-making was the predominant form of decision-making in the past, in which healthcare professionals were considered the authority and dominated the choice of decision-making options and patients cooperated with the treatment. Informed decision-making is often based on patient empiricism, which may result in treatment overlay and further lead to the occurrence of adverse events. The results of the current study showed that the willingness of elderly patients with multi-morbidities to participate in decision-making was mixed with some patients having a high willingness to participate and discuss their medication with healthcare providers. Conversely, some patients were influenced by factors, such as paternalistic decision-making and traditional healthcare concepts, and believed that all decisions should be based on the advice of their healthcare providers. A study conducted by Lee et al²⁹ explored the rate of participation in SDM among patients with multi-morbidities in China and showed that only 35.8% of patients participated in SDM, while another study showed³⁰ that 75.8% of patients with chronic diseases in a tertiary hospital in China were willing to engage in SDM. These findings showed that the patients' willingness to participate in decision-making reported in different studies was inconsistent and warrants further study. In addition, the WHO stated that the health benefits of improving current patient adherence to medication globally are greater than developing new treatments.³¹ Improving patient

medication adherence is one of the main goals of implementing shared decision-making. Studies have shown that the factors influencing patients' low medication adherence include insufficient knowledge of diseases and treatments, lack of doctor-patient trust, and cognitive bias,³² while SDM directly targets the factors influencing medication adherence by providing patients with information about diseases and treatments, and by providing a platform for doctor-patient communication, thus improving patients' medication adherence.

The current study showed that there was a discrepancy between patients' willingness to participate and their actual participation. The actual participation of patients in decision-making was not optimistic. A study conducted by Zeng³³ found that 85.04% of diabetic patients had a positive attitude toward participation but only 60.90% had a high level of actual participation, which is consistent with the results of the current study. In the future we should focus on patients' medication-related experiences, including medication knowledge, medication expenditures, and trust in healthcare professionals, to address factors that may affect patients' attitudes and behaviors in participating in medication decision-making, and to promote patients' active participation in decision-making. Social network support is important for promoting patients' participation in decision-making³⁴ and healthcare professionals should actively play important supportive roles of family members, friends, and neighbors in medication decision-making so that patients can turn their wishes into practical actions and participate in the decision-making process.

Improvement of Guidelines for the Management of Multi-Morbidities and a Decision Support System

An epidemiologic survey in China showed³⁵ that as of 2023, multi-morbidities affect 46.5% of Chinese adults. The phenomenon of multi-morbidity not only increases the rate of disability and mortality and reduces the quality of life but increases the difficulty of consultation and treatment and affects the therapeutic effect.³⁶ Therefore, the problem of multi-morbidity management needs to be resolved urgently. In recent years foreign countries have issued clinical management guidelines for multi-morbidities,²⁷ involving drug prescription and optimization. At the end of 2023, China released the first Chinese expert consensus on the management of multi-morbidities in the elderly,¹² which took 1 year to form after several rounds of expert discussions and feedback, taking into account China's national conditions and the characteristics of Chinese elderly people. The expert consensus is applicable to Chinese patients with multi-morbidities ≥ 60 years of age the core objective of which is to establish a "patient-centered integrated management model" and to "share decision-making with patients in the process of decision-making and the development of intervention programs", which indicates the importance of SDM for patients with multi-morbidities. In addition, patients with multi-morbidities were categorized as mild, moderate, and severe based on the Charlson Comorbidity Index, and different management strategies were proposed. However, this expert consensus covers a wide range of topics and further development of more detailed guidelines for multi-morbidity management is still needed. At the same time, the successful management of multi-morbidities also requires improvement of the healthcare system and establishment of multi-morbidity departments to facilitate patients' consultation and treatment.

Currently, Chinese patients and caregivers receive information from a variety of channels with varying quality of information. Healthcare professionals are prone to clinical decision-making uncertainty when faced with decision-making for patients with multi-morbidities, which further leads to decision-making delays and regrets. A literature search reveals that developed countries, such as the United States, the United Kingdom, and Australia, have long been exploring shared decision-making for medications, such as exploring the clinical application scenarios of shared decision-making³⁷ and exploring the importance of shared decision-making for physical therapy.³⁸ Therefore, Chinese healthcare professionals should construct decision-making aids that meet the needs of the multi-morbidity community, provide scientific information for patients and caregivers, and provide healthcare professionals with comprehensive decision-making processes and content to promote the development of SDM in patients with multi-morbidities.

Focusing on Multiple Influences and Breaking-Down Traditional Concepts of Healthcare

The factors influencing participation of patients with multi-morbidities in SDM mainly come from both healthcare professionals and patients and caregivers. The lack of systematic knowledge and proactive awareness related to SDM among healthcare professionals leads to poor self-efficacy when practicing SDM, which further affects the quality of

decision-making and is prone to poor outcomes, such as indecision and decision regret. In the future, SDM training activities should be carried out regularly to enhance the theoretical knowledge of healthcare professionals to facilitate better application in practice. At the same time, healthcare professionals should motivate patients to participate in SDM from the perspective of patients' multiple motivations for paying attention to medications to form a virtuous cycle of interaction. Alternatively, patients and caregivers are often in a passive position due to differences in power structures, knowledge systems, and subjective initiative. Healthcare professionals should take the initiative to explain relevant knowledge to patients and caregivers, clarify the importance of personal preferences and values, break the traditional medical concepts, and establish health beliefs.

Advantages and Limitations

Currently, the application of SDM in medication therapy is still in the early stages in China and only a few influencing factors have been explored. There is a lack of qualitative research on the participation of elderly patients with multi-morbidities and stakeholders in medication decision-making. This study used phenomenological research methods to explore in depth the willingness, needs, and factors influencing geriatric patients with multi-morbidities and stakeholders to participate in medication decision-making, laying the foundation for subsequent research. However, this study only included geriatric patients with multi-morbidities and caregivers in Geriatrics, Cardiology, Endocrinology, Respiratory medicine, and Nephrology Departments. The sample source should be expanded on the basis of this study to make the findings more extensive. In addition, it is essential to carry out quantitative research based on the results of qualitative research.

Conclusion

This study identified three key findings regarding medication decision-making: (1) inconsistent willingness to participate in shared decision-making; (2) lack of clinical guidance, including lack of guidelines, healthcare systems, and decision support systems for multi-morbidities management; and (3) multiple impediments among older adults with multi-morbidities and healthcare professionals. Healthcare professionals should continue to improve their SDM skills, provide patients with targeted decision-making needs, solve decision-making problems, and facilitate the implementation of SDM among elderly patients with multi-morbidities. In addition, multi-morbidity management guidelines and decision-making aids should be developed as soon as possible to assist healthcare professionals in managing patients with multi-morbidities and promote patients' understanding of relevant evidence-based information so that both parties can work together to promote the development of SDM.

Abbreviations

SDM, shared decision making.

Data Sharing Statement

All data related to the results are presented in the manuscript. Due to the continuation of research on the subject and the privacy of the information, the data are not publicly available.

Ethical Approval Statement

The study was reviewed and approved by the Ethics Committee of Shanxi University of Traditional Chinese Medicine (Approval Number:2024LL089). This study was conducted in accordance with the declaration of Helsinki. Written informed consent was obtained from all participants, including the publication of anonymous responses/direct quotes.

Acknowledgment

Thank you to all the older multi-morbidities patients and stakeholders who participated in the interviews. We thank International Science Editing for editing this manuscript.

Author Contributions

All authors made a significant contribution to the work reported, whether it was in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agreed to be accountable for all aspects of the work.

Funding

This work was supported by the 2023-2024 Key Project of Shanxi Federation of Social Sciences (SSKLZDKT2023117), the Shanxi Province Research Student Practice Innovation Project (2023SJ272), the 2023 Science and Technology Innovation Capability Cultivation Plan Soft Science Research Special Project of Shanxi University of Chinese Medicine (2023PY-RKX-03), the 2023 Graduate Education Innovation Project of Shanxi University of Chinese Medicine (2023CX053), and Shanxi University of Chinese Medicine 2025 Postgraduate Teaching Reform Project (X2025JG010).

Disclosure

All authors declare that they have no conflicts of interest in this work.

References

- Ning JZ. Main data from the seventh national population census. *China Statistics*. 2021;69(5):4–5.
- Yang YF, Zhang XY, Chen J, Qian L. Report on healthy aging index in large and medium-sized cities in China (2019-2020) (Selected). *China Quality Certification*. 2020;14(11):32–39.
- Zhang R, Lu Y, Zhang SS, Chang F. Prevalence pattern and component correlation of chronic disease comorbidity among the elderly in China. *Chin J Public Health*. 2019;35(8):1003–1005.
- World Health Organization. *The world health report 2008: primary health cared now more than ever*. New York: WHO Press; 2008.
- Schram MT, Frijters D, van de Lisdonk EH, et al. Setting and registry characteristics affect the prevalence and nature of multimorbidity in the elderly. *J Clin Epidemiol*. 2008;61(11):1104–1112. doi:10.1016/j.jclinepi.2007.11.021
- Wang LM, Chen ZH, Zhang M, et al. Study on the prevalence and burden of chronic diseases among the elderly population in China. *Chin J Epidemiol*. 2019;64(3):277–283.
- Vetrano DL, Palmer K, Marengoni A, et al. Frailty and multimorbidity: a systematic review and meta-analysis. *J Gerontol a Biol Sci Med Sci*. 2019;74(5):659–666. doi:10.1093/gerona/gly110
- Rodrigues LP, de Oliveira Rezende AT, Delpino FM, et al. Association between multimorbidity and hospitalization in older adults: systematic review and meta-analysis. *Age Ageing*. 2022;51(7):afac155. doi:10.1093/ageing/afac155
- Park ES, Cho IY. Shared decision-making in the paediatric field: a literature review and concept analysis. *Scand J Caring Sci*. 2018;32(2):478–489. doi:10.1111/scs.12496
- Lei S, Yu KF, Zhou QH, et al. Application research progress on shared decision making applied in rehabilitation medicine. *Chin Nurs res*. 2021;35(20):3685–3688.
- Liu YJ, Li Y, Liu M, et al. Application effect of shared decision making aid system in the management of type 2 diabetes mellitus patients in the communities. *Chin Nurs res*. 2023;37(15):2805–2809.
- Zhu ML, Liu XH, Dong BR, Qing MZ, Chen Q. Chinese expert consensus on management of elderly patients with multi-morbidities(2023). *Chin J Clin Healthcare*. 2023;26(05):577–584.
- Zeng Z, Liu J. The central committee of the communist party of china and the state council issued the “outline of the healthy China 2030’ plan”. *Communique State Council Peopl’s Republic of China*. 2016;32:5–20
- Qian Y, Zhou QP, Liang ZN, et al. Influencing factors of participation in doctor-patient shared decision-making in patients with chronic disease: a meta-analysis. *J Nurs*. 2023;30(20):19–24. doi:10.16460/j.issn1008-9969.2023.20.019
- World Health Organization. *World report on ageing and health*. Geneva: WHO, 2015.
- Teasdale G, Maas A, Lecky F, et al. The Glasgow coma scale at 40 years: standing the test of time. *Lancet Neurol*. 2014;13(8):844–854. doi:10.1016/S1474-4422(14)70120-6
- Shi Y, Gao XX, Tan X, et al. Comparative analysis of brief assessment of impaired cognition(Chinese version)and mini mental state examination scales in cognitive assessment of stroke patients[J]. *J Chongqing Med Univ*. 2021;46(11):1310–1314. doi:10.13406/j.cnki.cyx.002918
- Tan YT, Zhang ZX, Yang Z, et al. A qualitative study of the influencing factors of ecological momentary assessment of rehabilitation exercise in middle-aged stroke patients. *Chin J Nurs*. 2024;59(21):2620–2626.
- Hu Y. Qualitative research. *J Nurs Train*. 2006(11):964–966.
- Neubauer BE, Witkop CT, Varpio L. How phenomenology can help us learn from the experiences of others. *Perspect Med Educ*. 2019;8(2):90–97. doi:10.1007/s40037-019-0509-2
- Liu M. Using an example to illustrate Colaizzi’s phenomenological data analysis method. *J Nurs Sci*. 2019;34(11):90–92.
- Brown EL, Poltawski L, Pitchforth E, Richards SH, Campbell JL, Butterworth JE. Shared decision making between older people with multi-morbidity and GPs: a qualitative study. *Br J Gen Pract*. 2022;72(721):e609–e618. doi:10.3399/BJGP.2021.0529
- Vogel A, Guinemer C, Fürstenau D. Patients’ and healthcare professionals’ perceived facilitators and barriers for shared decision-making for frail and elderly patients in perioperative care: a scoping review. *BMC Health Serv Res*. 2023;23(1):197. doi:10.1186/s12913-023-09120-4

24. Boyd C, Smith CD, Masoudi FA, et al. Decision making for older adults with multiple chronic conditions: executive summary for the American geriatrics society guiding principles on the care of older adults with multimorbidity. *J Am Geriatr Soc.* 2019;67(4):665–673. doi:10.1111/jgs.15809
25. Liu TR, Xu CJ, Zhang YP, Wang SC. Research progress of patient decision aids for surgical patients. *Chin Nurs res.* 2024;38(06):1010–1014.
26. Allegrante JP, Wells MT, Peterson JC. Interventions to support behavioral self-management of chronic diseases. *Annu Rev Public Health.* 2019;40:127–146. doi:10.1146/annurev-publhealth-040218-044008
27. Muth C, Blom JW, Smith SM, et al. Evidence supporting the best clinical management of patients with multimorbidity and polypharmacy: a systematic guideline review and expert consensus. *J Intern Med.* 2019;285(3):272–288. doi:10.1111/joim.12842
28. Teutsch C. Patient-doctor communication. *Med Clin North Am.* 2003;87(5):1115–1145. doi:10.1016/s0025-7125(03)00066-x
29. Lee KP, Wong SYS, Yip BHK, et al. How common are Chinese patients with multimorbidity involved in decision-making and having a treatment plan? A cross-sectional study. *Int J Clin Pract.* 2021;75(8):e14286. doi:10.1111/ijcp.14286
30. Qian Y, Ning N, Zhang X, Hu CJ, Yu J. Study on the willingness of patients with chronic diseases to participate in shared decision making willingness and its influencing factors: based on data from a tertiary hospital in Harbin. *J Harbin Med Univ.* 2023;57(04):457–461. doi:10.20010/j.issn.1000-1905.2023.04.0457
31. De Geest S, Sabate E. Adherence to long-term therapies: evidence for action. *Eur J Cardiovasc Nurs.* 2003;2(4):323. doi:10.1016/S1474-5151(03)00091-4
32. Zhu JY, Zhu YY, Bai JJ. Research progress on medication compliance in elderly patients with diabetes mellitus and hypertension. *Shanghai Nursing.* 2024;24(12):29–31.
33. Zeng QX. *The Research of Status and Associated Factors of Patients with Type 2 Diabetes Mellitus Involved in Shared Decision-Making.* Guangxi University of Traditional Chinese Medicine; 2023.
34. Song FY, Dong WW, Niu YX, et al. Advances in research on the participation of chronically ill patients in medication decision-making. *Chin J Prev Control Chron Dis.* 2024;32(04):303–306. doi:10.16386/j.cjpcd.issn.1004-6194.2024.04.015
35. Geng Y, Jie W, He Y, et al. Prevalence and patterns of multimorbidity among adults aged 18 years and older - China, 2018. *China CDC Wkly.* 2023;5(2):35–39. doi:10.46234/ccdcw2023.007
36. Liu YD, Zhang CY, Guo MM, et al. Research progress on shared decision-making among patients with multi-morbidities. *Chin Evid-Based Nurs.* 2024;10(05):831–836.
37. Ward J, Kalsi D, Barnett N, et al. Shared decision making in chronic medication use: scenarios depicting exemplary care. *Res Social Adm Pharm.* 2020;16(1):108–110. doi:10.1016/j.sapharm.2019.04.047
38. Hoffmann TC, Lewis J, Maher CG. Shared decision making should be an integral part of physiotherapy practice. *Physiotherapy.* 2020;107:43–49. doi:10.1016/j.physio.2019.08.012

Patient Preference and Adherence

Dovepress
Taylor & Francis Group

Publish your work in this journal

Patient Preference and Adherence is an international, peer-reviewed, open access journal that focusing on the growing importance of patient preference and adherence throughout the therapeutic continuum. Patient satisfaction, acceptability, quality of life, compliance, persistence and their role in developing new therapeutic modalities and compounds to optimize clinical outcomes for existing disease states are major areas of interest for the journal. This journal has been accepted for indexing on PubMed Central. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/patient-preference-and-adherence-journal>