Factors Influencing Nursing Compliance and Intervention Strategies in Elderly Patients with Chronic Diseases

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Abstract: With the increasing proportion of the elderly population, chronic disease management has become a key problem in health services for the elderly. Nursing compliance directly affects the control effect of chronic diseases. However, due to physiological decline, cognitive decline, insufficient family support and poor medical continuity, elderly patients generally have low compliance. Through questionnaire survey and field interview, this study analyzed the nursing compliance status and its influencing factors of 312 patients with chronic diseases aged 80 and above, and explored targeted intervention strategies. The results show that the core reasons for the decline in compliance are the complexity of medication, mild cognitive impairment, solitary state and weak family care ability. On this basis, a comprehensive intervention path centered on individualized health education, empowerment of family caregivers, optimization of primary medical services and application of aging-adaptive intelligent tools is proposed. The research emphasizes that improving compliance cannot rely on a single means, but should build a multi-dimensional and sustainable support system to promote the transformation from "passive implementation" to "active participation".

1. Introduction

Based on the rapid development of the social economy and the continuous improvement of medical standards, the average life expectancy has significantly increased, and the problem of population aging is becoming increasingly prominent. In this context, chronic non-communicable diseases have become a major public health problem that threatens the health of the elderly [1]. The prevalence of chronic diseases such as hypertension, diabetes, coronary heart disease and chronic obstructive pulmonary disease remains high in the elderly population, and the coexistence of multiple diseases is common. This seriously affects the quality of life of patients, and also brings a heavy burden to family care and medical system [2]. In the long-term management of chronic diseases, nursing compliance is the key link to determine the treatment effect and disease control level. The so-called nursing compliance refers to the degree to which patients follow the doctor's advice and nursing advice in medication, diet, exercise, regular monitoring and follow-up visits [3]. For elderly patients, good compliance is helpful to delay the progress of the disease, reduce the number of acute attacks and hospitalizations, thus reducing medical costs and improving the quality of life.

The existing intervention measures mostly stay in the "inform-execute" mode, lacking in-depth understanding of the psychological state, living habits and practical difficulties of the elderly patients, resulting in limited implementation effect of the intervention plan. For example, some health education materials are dense in words and various in terms, which are difficult for elderly patients to understand; Although intelligent reminder equipment has potential, its operation is complicated and the elderly have low willingness to use it [4]. This study focuses on the elderly patients aged 80 and above with chronic diseases, aiming to sort out the key factors affecting their nursing compliance through investigation and analysis, and on this basis, put forward operable intervention strategies. In addition to paying attention to physiological and disease factors, the

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research pays more attention to the role of social and psychological dimensions such as psychological cognition, family environment, social support and accessibility of medical services. Through multi-angle and multi-level discussion, we strive to provide more targeted reference for clinical nursing practice, and also provide theoretical support and practical path for improving the management system of chronic diseases in the elderly.

2. Concept definition and theoretical basis

"Chronic disease" usually refers to a kind of non-communicable disease with long course, slow development and difficult to be completely cured, which has the characteristics of long-term, recurrent attacks and multi-system involvement [5]. In this paper, it mainly covers hypertension, diabetes, coronary heart disease, sequelae of stroke, chronic obstructive pulmonary disease and other diseases with high incidence in the elderly population. These diseases often require long-term drug intervention, lifestyle adjustment and regular medical monitoring, and the treatment process is highly dependent on the active participation and continuous cooperation of patients. Different from acute diseases, the management effect of chronic diseases does not depend entirely on the medical technology itself, but more on whether the daily behavior of patients meets the requirements of medical advice.

"Elderly patients" generally refer to the elderly aged 80 and above in the fields of medicine and gerontology. This group has entered the late stage of life, with a marked decline in physiological function, often accompanied by the coexistence of various chronic diseases, decreased sensory function, weakened cognitive ability, limited mobility, and reduced self-care ability in daily life [6]. At the same time, the mental state of the elderly patients is also more complicated, and some people have a sense of loneliness, helplessness and even mild depression [7]. For this reason, when studying nursing compliance, we must fully consider the unique physical and mental characteristics of the elderly, and we cannot simply apply the research conclusions of middle-aged and elderly people.

"Nursing compliance" is the core variable of this study, which refers to the degree to which patients perform related behaviors according to the suggestions or doctor's orders of medical staff in the process of medical care [8]. In addition to taking medicine on time, controlling diet, insisting on exercise and other specific behaviors, it also involves multiple dimensions such as regular follow-up, active monitoring of illness, and avoiding risk factors [9]. It should be emphasized that compliance is not a one-way "obedience", but a dynamic behavior choice restricted by subjective and objective conditions.

Based on the three theoretical frameworks of health belief model (emphasizing patients' cognition of disease risk and intervention value), self-efficacy theory (enhancing patients' confidence by achieving small goals) and chronic disease care model (building a collaborative support system of medical system, community and self-management), this study analyzes the influencing factors and intervention paths of elderly patients' treatment compliance.

3. Analysis of influencing factors of nursing compliance

3.1 Individual factors: constraints of physiological and cognitive abilities

Elderly patients generally face problems such as memory loss, vision and hearing loss, and slow movement, which directly affect their ability to perform nursing behavior. For example, in terms of medication management, nearly 42% of the respondents said that "sometimes they forget whether they have taken medication", especially those who need to take medication several times a day, and the rate of missing medication is higher. In addition, patients with low education have difficulty in understanding the drug instructions, and are prone to dosage errors or accidental ingestion.

Cognitive function is an important variable affecting compliance. In this study, the Mini-Mental State Scale (MMSE) was used for screening. The results showed that patients with MMSE score lower than 24 (suggesting mild cognitive impairment) had an average score of 5.1 (out of 10),

which was significantly lower than that of normal cognitive group (see Table 1).

Table 1 Comparison of nursing compliance scores by cognitive status (n=312)

Cognitive Status	Number of Patients	Mean Compliance Score (±SD)	Main Observations
Normal (MMSE ≥ 24)	186	7.3 ± 1.6	Generally adhered to medication and diet control
Mild impairment (MMSE < 24)	126	5.1 ± 1.8	Frequent missed doses, misunderstanding of instructions, refusal to follow up

Psychological state can not be ignored. In the survey, using the Geriatric Depression Scale (GDS-15), it was found that 48% of the elderly patients had mild or above depression, and the compliance rate of this group of people in exercise and regular monitoring was only 31.2%, far lower than that of those without depression symptoms (67.5%).

3.2 Family and social support: the realistic gap of care resources

Family is the core strength of nursing support for elderly patients. The data show that 39.7%(124 people) are elderly people who live alone or have empty nests, and their medication compliance is only 54.8%, while the compliance rate of patients who live with their children or have regular caregivers reaches 76.3%. Whether the family members have basic nursing knowledge also directly affects the intervention effect.

Table 2 Relationship between caregiving arrangements and nursing compliance (n=312)

Caregiving Arrangement	Number of Patients	Medication Adherence Rate (%)	Follow-up Adherence Rate (%)	Main Challenges
Living with children who participate in care	98	82.7	79.6	Children busy; inconsistent support
Hired caregiver or nursing aide	56	63.4	51.8	High turnover; limited professional skills
Living alone or with spouse only	124	54.8	43.5	Frequently forgets medication; difficulty traveling
Covered by community home-based services	34	70.6	67.6	Infrequent visits; limited service content

It is worth noting that although some communities have carried out home-based care for the elderly, the frequency of service is mostly 1-2 times a month, which is difficult to meet the daily management needs of chronic diseases.

3.3 Disease and treatment factors: implementation obstacles caused by complexity

Table 3 Relationship between medication complexity and adherence rates (n=312)

Number of Daily Medication Doses	Number of Patients	Rate of Good Adherence (%)	Common Problems
1–2 times	107	78.5	Generally able to maintain regimen
3–4 times	132	61.4	Frequently misses midday doses
≥5 times	73	39.7	Confusion with medications, fear of side effects, treatment abandonment

The more types of chronic diseases, the more difficult it is to manage. In this group, 78.2%(244 people) suffered from two or more chronic diseases, and took 4.7 kinds of drugs on average, among which 18.6% patients needed to take drugs more than 5 times a day. There are many kinds of drugs and different taking time, which can easily cause confusion. According to the survey, nearly one-third of patients had voluntarily reduced or stopped taking drugs due to drug interactions or side effects.

In addition, some patients have misconceptions about the disease. For example, 27% of hypertensive patients believe that “medication can be stopped as long as blood pressure is normal”, ignoring the essential need for long-term control of chronic diseases. This misconception directly leads to treatment interruption and increases the risk of cardiovascular and cerebrovascular events.

4. Intervention strategies to improve nursing compliance

Elderly patients with chronic diseases generally face difficulties in nursing coordination, and relying solely on health education or regular follow-up is no longer sufficient to meet their complex needs. It is necessary to break the traditional nursing concept of "informing is enough" and shift towards a comprehensive intervention model centered on the patient, with multi-faceted collaboration and continuous support.

Most elderly patients have a low level of education, and their vision and hearing have also declined. Traditional paper brochures or oral explanations are not effective. Suggest adopting an educational approach of "contextualization+repeated reinforcement": simplifying professional terminology and using more metaphors to help understand; After each visit, provide a "nursing task list" that combines text and images, clearly listing the daily tasks to be done for the convenience of family members or caregivers to assist in implementation.

Many children want to take good care of the elderly, but lack professional knowledge. When faced with repeated questions or emotional fluctuations from the elderly, they are prone to anxiety and even conflicts. Caregiver support classes can be established at the community level once a month, covering practical skills such as medication management, emergency response (such as identifying hypoglycemia), and communication skills. For elderly people living alone, the "neighborhood mutual aid+community volunteer" model can be tried, allowing trained young elderly people to visit regularly and build an informal support network.

At present, although the family doctor contract system has been promoted, it is very common that "the contract is signed but the substantive service is not enjoyed". It is suggested that the elderly patients with chronic diseases should be listed as the key management objects, and the "1+1+1" service package should be launched: a team consisting of a general practitioner, a community nurse and a health manager should visit at least once a quarter, and the intervention plan should be dynamically adjusted in combination with telephone follow-up and health monitoring data. The content of the visit should not only stop at measuring blood pressure and checking blood sugar, but also pay attention to the actual difficulties encountered by the elderly. At the same time, the exchange of information between hospitals and communities should be promoted, and mechanisms should be established to ensure that the medication plans of discharged patients can be transmitted to grassroots healthcare providers in a timely manner, avoiding treatment interruptions.

Smart medication boxes, voice reminder watches, remote blood pressure monitors, and other devices can help improve patient cooperation to some extent, but the usage habits of elderly users must be considered. Research shows that over 60% of elderly people are resistant to complex operations, and some are disturbed by reminders all night because they cannot turn off their phones. For this reason, the application of technology should follow the principles of "simplification, aging adaptation, and assistance".

It should be emphasized that any intervention strategy cannot be effective without long-term persistence and dynamic adjustment. The patient's cooperation is not something that can be improved overnight, but rather a constantly fluctuating process. Nursing staff should establish a 'compliance file' to record changes in patient behavior at different stages, promptly detect signals of decreased compliance, and flexibly adjust treatment recommendations.

5. Conclusions

This study focuses on the nursing compliance issues of elderly patients aged 80 and above with chronic diseases, and analyzes the complex practical difficulties behind them. Unlike the middle-aged and elderly population, elderly patients face not only the challenges of the disease

itself, but also the combination of multiple pressures such as physical decline, psychological fluctuations, lack of family support, and poor connection with service systems. The survey found that many elderly people are not unwilling to cooperate, but rather powerless. These issues expose the shortcomings of current chronic disease management in terms of refinement and humanization.

Effective intervention should not be limited to distributing flyers or making phone calls, but should truly enter the life scenes of the elderly, mobilize family forces, optimize service processes, and moderately use technological means to lower the implementation threshold based on their abilities. For example, a daily care checklist with pictures and text, a medication training session with family members, or an understandable voice reminder are often more effective than ten general health lectures.

Future research should promote the establishment of a collaborative nursing network with community as the center, family as the foundation and professional knowledge as the support. The value of nursing work is not only reflected in the improvement of indicators, but also in whether the elderly can maintain dignity and a sense of control in the face of illness.

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