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Survey on Medication Compliance among Community Patients with Chronic Diseases and Evaluation of the Effectiveness of Pharmaceutical Service Intervention

Jin Zhu*
Bochishan Community Health Service Center, Huai'an 223001, Jiangsu, China

**Author to whom correspondence should be addressed.*

Abstract: *Purpose:* To investigate the medication compliance of patients with chronic diseases in the community, and use the method of pharmaceutical service intervention as the research method to explore the effect of pharmaceutical service intervention for patients with chronic diseases in the community. *Methods:* 89 chronic disease patients treated in this community from January 2024 to December 2024 were selected, and all patients received pharmaceutical service intervention. Statistics were made on the types of drugs consulted by patients, and comparative analysis was conducted on patients' medication compliance and intervention satisfaction before and after intervention. *Results:* The patients with the largest number of consultations were over 60 years old, with 49 consultations, accounting for 55.06%. Patients under 40 years old had fewer consultations, with 17 cases, accounting for 19.1%. The largest number of patients consulted for cardiovascular and cerebrovascular system drugs, with 29 cases, accounting for 32.58%, followed by digestive system medication, with 18 cases, accounting for 20.22%. The medication compliance of patients after the intervention was significantly better than before the intervention ($P<0.05$). After the intervention, patients' satisfaction with outpatient services has significantly improved, and the difference is statistically significant ($P<0.05$). *Conclusion:* Implementing pharmaceutical service intervention for community patients with chronic diseases can not only improve patients' medication compliance, but also significantly improve patient satisfaction with the intervention, which is worthy of clinical promotion.

Keywords: Community patients with chronic diseases; medication compliance; survey; pharmaceutical service intervention

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1. Introduction

With the aging of my country's population and changes in lifestyle, chronic diseases have become a more important public health issue globally. Chronic diseases such as hypertension, diabetes, and coronary heart disease have the characteristics of long course, complex causes, long treatment cycles, and many complications, which have caused a serious burden on patients' quality of life and medical resources [1]. In our country, communities are an important part of primary medical and health services, and the prevention and treatment of chronic diseases is gradually being transferred to communities. However, medication compliance among community patients with chronic diseases still faces major challenges, which directly affects patient disease control and treatment effects. Medication compliance refers to the patient's correct use

of drugs in accordance with the prescription requirements under the guidance of a doctor or pharmacist, including the time of drug use, the dosage and frequency of drug use, and the execution of the course of treatment [2]. Clinical research results show that poor medication compliance is an important reason for poor management of chronic diseases. Insufficient compliance will lead to aggravation of patients' conditions, increased risk of complications, gradual increase in hospitalization rates, and further increase in medical expenses. Factors affecting medication compliance among community patients with chronic diseases are also diverse, including patients' insufficient knowledge of the disease and medications, concerns about adverse drug reactions, financial burden, complex medication regimens, lack of family support, and poor doctor-patient communication [3]. As an important component of the modern medical system, pharmaceutical services play a more active role in improving patients' medication compliance. Pharmacy services include medication education, medication guidance, medication consultation, individualized medication therapy management, medication monitoring, etc. Through the professional intervention of pharmacists, we help patients improve their understanding of diseases and medications, thereby enhancing patients' confidence in treatment and improving medication behavior. In recent years, domestic and foreign research results have shown that systematic and personalized pharmaceutical service intervention can greatly improve the medication compliance of patients with chronic diseases, thereby improving the patient's disease control effect. Based on this, this study investigated and analyzed the current status of medication compliance among community patients with chronic diseases, related factors that affect patients' medication compliance, and evaluated the effect of pharmaceutical service intervention on improving medication compliance and patient disease management. The report is as follows:

2. Materials and methods

2.1. Clinical data

89 patients with chronic diseases admitted to the community from January 2024 to December 2024 were selected. All patients received pharmaceutical service intervention, including 47 males and 42 females, aged 24 to 78 years old, with an average age of (45.23±12.11) years. All patients and their families were informed about this study and signed informed consent forms.

Inclusion criteria: ① patients with confirmed chronic diseases; ② those who have lived in the community covered by the study for a long time (such as ≥ 6 months); ③ those who are receiving medication for chronic diseases and have a stable treatment plan (such as continuous medication for ≥ 3 months); ④ those who are willing to cooperate in medication compliance assessment and pharmaceutical service intervention, and can accept follow-up as required.

Exclusion criteria: ① Patients with acute illness or serious complications; ② Those with mental or cognitive disorders; ③ Those with frequent changes in medication regimen; ④ Those who are unwilling to participate or withdraw from the study midway.

2.2. Method

All patients receive pharmaceutical intervention services, ① Medication education and health education: through lectures, health bulletin boards and the distribution of promotional materials, the basic knowledge of chronic diseases, disease progression and risk of complications are popularized to patients. Explain the drug's mechanism of action, correct medication method, medication time, dosage, course of treatment, and possible adverse reactions to the patient in detail. Combined with drug treatment, patients are guided to eat reasonably, exercise appropriately, work regularly, quit smoking and limit alcohol, and help patients establish a healthy lifestyle. ② Personalized drug treatment management: Comprehensively understand the patient's medication history, combined medication, adverse drug reactions and drug interactions to ensure the safety and effectiveness of the patient's treatment plan. Cooperate with clinicians to optimize the medication plan based on the patient's condition, physical compliance and financial status. For patients with many types of medications and complex medications, the medication regimen can be simplified to improve the convenience

of medication. ③ Medication compliance monitoring and follow-up: Regularly understand the patient's medication status through phone calls, home visits, outpatient reviews, etc., and perform statistical analysis on the patient's symptom control and adverse drug reactions. The patient's medication compliance is comprehensively assessed using methods such as questionnaires, medication records, pill box recycling, and blood pressure and blood sugar monitoring. Analyze the reasons for poor compliance and carry out targeted intervention. For example, strengthen medication education and provide medication reminder tools. ④ Pharmaceutical consultation services: Pharmacists provide patients with face-to-face personalized medication consultations, answer patients' questions about drug use, dosage adjustment, combined medication and adverse reactions, etc., and provide pharmaceutical services through telephone calls, group free clinics, etc. to patients with limited mobility or who are unable to frequently visit the hospital for follow-up visits. ⑤ Establish patient management files: collect statistics on patients' basic information, disease diagnosis, medication history, allergy history, lifestyle, etc., and record in detail the content of each pharmaceutical service, changes in patient medication compliance, disease control status and improvement measures. The patient's intervention effect is regularly evaluated based on the follow-up results, and the drug treatment plan and intervention strategy are adjusted when necessary.

2.3. Observation indicators

① Carry out statistical analysis on the age distribution of patients participating in this study who consulted pharmaceutical services;
② Conduct statistical analysis on the types of drugs consulted by patients;
③ Comparative analysis of patients' medication compliance before and after intervention;
④ Comparative analysis of patients' satisfaction with the intervention before and after the intervention.

2.4. Statistical methods

The computing resources (X^2) of this project are all analyzed using econometric application software (SPSS version 22.0). The computing resources are displayed as (n,%). When ($P<0.05$), it has a certain statistical analysis value.

3. Result

3.1. Patient age distribution

Through the analysis of the age distribution of patients, it was found that the patients with the largest number of consultations were over 60 years old, with 49 consultations, accounting for 55.06%. Patients under 40 years old had fewer consultations, with 17 consultations, accounting for 19.1%. **Table 1** for details.

Table 1. Patient age distribution

Patient age	Number of inquiries	Composition ratio
Over 60	49	55.06
40-60	23	25.84
Under 40	17	19.10

3.2. Consulting on drug types

After analyzing the types of drugs consulted by patients, it was found that the most patients consulted on drugs for the cardiovascular and cerebrovascular systems, with 29 cases, accounting for 32.58%, followed by digestive system drugs, with 18 cases, accounting for 20.22%. **Table 2** for details.

Table 2. Analysis of patient consultation drug types

Drug type	Number of inquiries	Composition ratio
Cardiovascular system drugs	29	32.58
Digestive system drugs	18	20.22
Hypoglycemic drugs	13	14.61
Central nervous system drugs	9	10.11
Anti-infective drugs	8	8.98
Urinary system drugs	4	4.49
Blood system, anti-allergy, hormone drugs	4	4.49
Geriatric drugs	3	3.37
Others	1	1.12

3.3 Compliance analysis

The patient's medication compliance after the intervention was significantly better than before the intervention (P<0.05), **Table 3**.

Table 3. Medication compliance analysis

Group	n	Very compliant	Comply	Noncompliance	Always comply
Before intervention	89	30(33.71)	26(29.21)	33(37.01)	56(62.92)
After intervention	89	54(60.67)	33(37.08)	2(2.45)	87(97.75)
x^2					6.135
P					0.013

3.4. Comparison of outpatients' satisfaction with nursing care before and after intervention

As can be seen from **Table 4**, after the intervention, patients' satisfaction with outpatient services has significantly improved, and the difference is statistically significant (P<0.05).

Table 4. Comparison of outpatients' satisfaction with care before and after intervention

	Before intervention		After intervention		x^2	P
	Number of satisfied cases	Satisfaction rate	Number of satisfied cases	Satisfaction rate		
Appearance and manners	65	73.04	85	95.51	2.142	0.000
Service attitude	68	76.40	83	93.26	2.894	0.000
operating techniques	72	80.89	86	96.63	2.116	0.000
Interpretation guidance	54	60.67	85	95.51	3.291	0.000
Can you proactively arrange medical treatment?	58	65.17	89	100.00	3.524	0.000
Health education	50	56.18	87	97.75	8.432	0.000
Convenient service measures	63	59.56	84	94.38	2.157	0.000
Average satisfaction	61.42	64.42	85.57	96.15	9.558	0.000

4. Discussion

Chronic diseases such as hypertension, diabetes, coronary heart disease, and chronic obstructive pulmonary disease have become major public health problems globally and in my country. With the aging of my country's population and changes in lifestyle, the prevalence of patients with chronic diseases is increasing year by year. Chronic diseases have the characteristics of long course, many complications, and long treatment period, so they require long-term standardized drug treatment and health management. However, medication compliance among community patients with chronic diseases is generally low, which seriously restricts the effectiveness of disease control [4]. Medication compliance means that patients use medications correctly and in accordance with prescription requirements under the guidance of medical professionals, including taking medications on time, in the right amount, and according to the course of treatment. Clinical research results show that poor medication compliance in patients with chronic diseases is an important reason for poor disease control, increased complications, and increased medical burden. The World Health Organization reports that the global average level of medication compliance among patients with chronic diseases is only about 50%, and the compliance level in some communities in my country is even lower.

As an important front for chronic disease management, the community is responsible for important functions such as disease prevention, health education, standardized treatment and follow-up management. Pharmacists, as important members of the medical team, can greatly improve patients' medication compliance by providing patients with professional pharmaceutical services, thereby enhancing treatment effects [5]. Patients with chronic diseases' lack of knowledge about the disease and drugs is an important factor affecting medication compliance. Some patients lack understanding of the chronic process of the disease, the mechanism of drug action, and adverse reactions, which leads to arbitrarily reducing, discontinuing, and changing medications. Complex medication regimens, frequent dose adjustments, and multiple drug combinations can reduce patient compliance. Through personalized medication management, pharmacists can effectively simplify medication regimens, reduce unnecessary medication, and reduce the incidence of adverse reactions. Pharmacy services have emerged against the background of the growing demand for chronic disease management. Through the professional guidance and systematic intervention of pharmacists, they can comprehensively improve the medication behavior and disease management effects of community patients with chronic diseases from multiple levels. This service is not limited to the distribution of drugs, but also focuses on the education, management and monitoring of the entire drug treatment process. It is of great significance in improving patients' medication compliance, improving disease control, reducing complications and reducing the waste of medical resources [6]. The clinical characteristics of patients with chronic diseases place higher demands on patients' self-management abilities. However, due to factors such as insufficient disease knowledge and insufficient understanding of drug efficacy and safety among community patients with chronic diseases, medication compliance is generally reduced. Insufficient compliance will directly affect the effectiveness of patient disease control, not only increasing the risk of acute exacerbations and complications, but also increasing readmission rates and medical costs. The core of pharmaceutical services is that pharmacists use their professional advantages to help patients standardize their medication throughout the entire process from medication education, personalized medication management, compliance monitoring, adverse drug reaction management and regular follow-up [7]. Medication education is an important foundation for pharmaceutical services. Through health lectures, brochures, face-to-face guidance, etc., the pathological mechanisms of chronic diseases, the importance of drug treatment, rational drug use methods and possible adverse reactions should be popularized to patients, so that patients can fully understand the necessity of regular medication for disease control. In addition, through detailed explanations of the drug's mechanism of action, dosage, and medication time, we can help patients establish a correct concept of medication and improve their trust in drug treatment, thereby reducing the behavior of arbitrarily stopping medication, reducing dosage, or changing the medication regimen without authorization [8]. At the same time, pharmacists will carry out personalized treatment management based on the actual situation of the patient, optimize the treatment plan by collaborating with clinicians, simplify the medication process as much as possible, reduce the number of daily medication doses, reduce the risk of drug interactions, and improve the convenience and safety of treatment. This not only reduces patients' confusion due to the complexity of medication, but

also reduces the possibility of interrupting treatment due to adverse reactions.

In summary, pharmaceutical service intervention for community patients with chronic diseases can not only improve patients' medication compliance, but also significantly improve patient satisfaction with the intervention, which is worthy of clinical promotion.

About the author

Zhu Jin (year of birth - 1989.05), female, Han, Xuzhou, Jiangsu, undergraduate, pharmacist in charge, Bochishan Community Health Service Center, Qingjiangpu District, Huaian City, Jiangsu Province, research direction: Pharmacy

Disclosure statement

The author declares no conflict of interest.

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