Journal of Medicines Development Sciences, 2026, Volume 11, Issue 3
https://bbwpublisher.com/journal/JMDS
ISSN Online:2382-6371
ISSN Print:2382-6363

Observation on the Effect of Pharmaceutical Intervention on Standardizing the Use of Risperidone Among Grassroots Patients

Jing Wei*

Rudong County Fourth People's Hospital, Nantong 226000, Jiangsu, China

Author to whom correspondence should be addressed.

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Abstract: *Objective:* To explore the impact of pharmaceutical intervention on grassroots patients taking risperidone medication on their standardized medication, treatment effects and medication safety. *Methods:* 80 grassroots patients admitted to our hospital from January 2025 to December 2025 who required risperidone treatment were selected as the research subjects and divided into two groups with 40 cases in each group using the random number table method. The control group received routine medication guidance, while the observation group received systematic pharmaceutical intervention based on the control group. *Results:* The standard medication rate and total effective rate of treatment in the observation group were higher than those in the control group, and the incidence of adverse drug reactions was lower than that in the control group ($P<0.05$). *Conclusion:* Pharmaceutical intervention for grassroots patients taking risperidone can effectively improve patients' standard medication levels, enhance clinical treatment effects, and reduce the occurrence of adverse drug reactions, which has grassroots clinical promotion value.

Keywords: Pharmaceutical intervention; Grassroots patients; Risperidone; Standardized medication; Medication safety

Online publication: September 16, 2026

1. Introduction

Risperidone is a commonly used atypical antipsychotic drug in clinical practice. It is mostly used in the clinical treatment of mental illnesses such as schizophrenia and bipolar disorder. The drug can effectively regulate the levels of central dopamine and 5-hydroxytryptamine receptors in patients, thereby improving the patients' mental symptoms [1]. Primary medical institutions receive a large number of patients with mental illnesses. However, primary patients generally have problems such as limited education, insufficient knowledge of medication, and weak self-management abilities. This makes patients prone to irregular behaviors such as increasing or decreasing dosage without authorization, missing doses, or stopping medication. This will not only reduce the effectiveness of drug treatment, but also significantly increase

the probability of adverse reactions such as dizziness, drowsiness, and extrapyramidal reactions, affecting patients' recovery and quality of life [2]. Conventional grassroots medication guidance is relatively simple in content. It only provides simple verbal instructions when patients take medication. It cannot continuously correct patients' bad medication behaviors, and the overall intervention effect has obvious limitations. Pharmacy intervention is a professional medication intervention model led by clinical pharmacists, which can carry out targeted medication guidance, medication supervision and health education based on individual patient conditions, making up for the shortcomings of routine medication management at the grassroots level [3]. The purpose of this study is to explore the application value of pharmaceutical intervention in grassroots patients taking risperidone medication, and to provide a clinical basis for improving the standard medication level of grassroots patients with mental illness.

2. Materials and methods

2.1. General information

Select 80 primary-care mental illness patients who require oral risperidone treatment admitted to our hospital from January 2025 to December 2025, and divide them into a control group and an observation group using the random number table method, with 40 cases in each group. There were 21 males and 19 females in the control group, aged 22 to 65 (43.25 ± 5.12) years old. There were 22 males and 18 females in the observation group, aged 21 to 64 (42.86 ± 5.08) years old. The two groups are comparable $P > 0.05$. Inclusion criteria: (1) Meet the clinical indications for risperidone and require long-term oral drug treatment; (2) Residents at the grassroots level who can cooperate with the full intervention and follow-up; (3) Consciousness is basically clear, and they can communicate normally. Exclusion criteria: (1) Those with severe liver and kidney dysfunction and organic disease; (2) Those with severe cognitive impairment and unable to cooperate with medication intervention; (3) Those who lost contact midway and were unable to complete the entire study.

2.2. Method

The control group received routine medication intervention at the grassroots level. During the patient's visit to the hospital for medication, the medical staff briefly informed the patient of the basic usage, dosage and medication time of risperidone, verbally reminded the patient to take the medication on time and not to change the dosage without authorization, and briefly explained the basic precautions during medication.

The observation group implemented systematic pharmaceutical intervention on the basis of conventional intervention. The intervention work was carried out by a full-time clinical pharmacist: first, individualized medication education was carried out. The pharmacist explained the pharmacology of risperidone in plain language based on the patient's age, education level, and severity of the disease. The pharmacist explained the function, treatment purpose, standard usage and dosage, and treatment course requirements, clearly informing the patient of the importance of taking medication regularly for disease control, and explained the adverse consequences such as recurrence of illness and aggravation of symptoms caused by missed doses, unauthorized discontinuation of medication, increase or decrease in medication dosage, and correction of the patient's misunderstanding of medication. Secondly, an individualized medication plan is established. The pharmacist checks the patient's medication dosage based on the patient's condition and physical tolerance, standardizes the frequency and time of medication, and develops an exclusive medication list for the patient. The list clearly indicates the number of daily medications, single dose, and optimal medication time.

Prohibited behaviors are also marked for patients to check at any time. Then, regular follow-up intervention is carried out. Pharmacists follow up with patients by phone every week, ask patients about their recent medication status and physical status, promptly correct patients' irregular behaviors during medication, and answer medication questions raised by patients and their families. For patients who are slack in taking medication, they once again strengthened medication health education to increase patients' attention. Finally, adverse reaction monitoring and guidance were carried out. The pharmacist informed the patient in detail about the manifestations, causes and basic response methods of common adverse reactions of risperidone. The patient was advised to seek medical treatment in time if they had any symptoms of discomfort while taking the drug, and not to deal with it themselves or stop taking the drug. At the same time, the patient's adverse reactions were recorded, and the medication guidance content was optimized in a timely manner based on the patient's physical feedback to ensure medication safety.

2.3. Observation indicators

(1) Comparison of the standardized medication rates between the two groups of patients. Standardized medication standards require patients to strictly follow the doctor's instructions and take medication throughout the process, and the usage, dosage, and medication time fully comply with clinical requirements.

(2) Comparison of the total effective rate of clinical treatment between the two groups of patients. Markedly effective, the patient's mental symptoms have basically disappeared, the condition is effectively controlled, and there are no obvious abnormal manifestations; effective, the patient's mental symptoms have been significantly improved, the condition has become stable, and minor abnormalities occasionally occur; ineffective, the above standards are not met.

(3) Comparison of the incidence of adverse drug reactions between the two groups of patients. The dizziness, drowsiness, nausea, extrapyramidal reactions, etc. that occurred in the two groups of patients during the medication were counted.

2.4. Statistical methods

Data were analyzed using SPSS 22.0. Count data percentages are presented by row χ^2 test. $P < 0.05$ represents a significant difference.

3. Results

3.1. Comparison of standardized medication rates between the two groups of patients

The standard medication rate of patients in the observation group was higher than that of the control group ($P < 0.05$) (**Table 1**).

Table 1. Comparison of standardized medication rates between the two groups of patients [n (%)]

Group	n	Standardized number of medication cases	Standardized medication rate
Control group	40	31	77.50
Observation group	40	38	95.00
χ^2			5.165
P			0.023

3.2. Comparison of the total effective rate of treatment between the two groups of patients

The therapeutic effect of the observation group was higher than that of the control group ($P < 0.05$) (**Table 2**).

Table 2. Comparison of efficacy between two groups [n (%)]

Group	n	Effective	Valid	Invalid	Always efficient
Control group	40	16(40.00)	14(35.00)	10(25.00)	30(75.00)
Observation group	40	22(55.00)	15(37.50)	3(7.50)	37(92.50)
χ^2					4.501
P					0.034

3.3. Comparison of the incidence of adverse drug reactions between the two groups of patients

The incidence of adverse reactions in the observation group was lower than that in the control group ($P < 0.05$) (**Table 3**).

Table 3. Comparison of adverse reactions between the two groups [n (%)]

Group	n	Dizziness	Lethargy	Nausea and vomiting	Extrapyramidal reaction	Overall incidence
Control group	40	4(10.00)	3(7.50)	3(7.50)	2(5.00)	12(30.00)
Observation group	40	1(2.50)	1(2.50)	1(2.50)	0(0.00)	3(7.50)
χ^2						6.646
P						0.010

4. Discussion

Mental disorders are chronic diseases that are highly prevalent and difficult to cure in grassroots clinical settings. The disease recurrence rate remains at a high level for a long time, which will continue to affect the social functions and physical and mental health of patients, and also impose a certain burden on grassroots families and public health services. Risperidone, as a clinical first-line atypical antipsychotic drug, is widely used in the long-term maintenance treatment of schizophrenia, affective mental disorders and other diseases due to its precise symptom control effect and relatively stable drug properties. Long-term continuous, standardized and sufficient oral administration is the key to ensuring the efficacy of the drug, stabilizing the patient's condition and preventing recurrence of the disease. The overall effect of drug treatment not only depends on the pharmacological effects of the drug itself, but is also inextricably linked to the patient's medication compliance, medication standardization, self-medication management ability, and medication safety awareness. The grassroots medical and health service scene has its own unique limitations. Most patients with mental illness at the grassroots level live in towns and rural areas. Their overall cultural awareness is low. They have no clear understanding of the treatment principles of mental illness and the necessity of long-term medication. There are common problems such as voluntary discontinuation of medication when symptoms improve, voluntary refilling of medication when the condition fluctuates, and frequent missed doses of daily medication. At the same time, medication management work in primary medical institutions is relatively weak. The traditional medication intervention model only relies on short-

term oral education in outpatient clinics. The intervention method is relatively simple and the intervention duration is relatively limited. Systematic pharmaceutical intervention is a new intervention model derived from the development of clinical pharmacy. Different from traditional extensive medication instructions, this model is led by professional clinical pharmacists and provides full-process, continuous, and individualized intervention services focusing on the medication shortcomings and cognitive deficiencies of grassroots patients. It can accurately fill various loopholes in routine medication management at the grassroots level.

This study shows that the standard medication rate of patients in the observation group is much higher than that of conventional intervention. Such results can fully reflect the actual value of pharmaceutical intervention in correcting patients' irregular medication behavior and improving medication compliance. Most of the core reasons for non-standard medication among grassroots patients are not patients' subjective and deliberate resistance to treatment, but rather objective factors such as lack of medication awareness, lack of systematic medication reminders, and lack of professional supervision and guidance. Routine outpatient oral education is a one-time intervention, and the medication knowledge that patients receive briefly during the consultation cannot form long-term memory. Systematic pharmaceutical intervention has completely improved this shortcoming. Individualized medication education can be based on the patient's understanding and cultural level, abandoning professional and obscure medical terminology, and conveying the medication knowledge of risperidone popularly, so that patients can truly understand the significance of long-term regular medication for disease control, and at the same time clearly understand the adverse consequences of various irregular medication behaviors. This can increase patients' attention to medication treatment at an ideological level and reduce the root cause of irregular medication problems caused by subjective slack. At the same time, the formulation of an exclusive medication list can provide patients with an intuitive and clear reference for daily medication and solve the problem of patients not being able to remember the dosage and time of medication. Regular weekly telephone follow-up can form a long-term supervision mechanism, and pharmacists can promptly check the patient's recent medication during the follow-up process. Medication issues, targeted answers to patients' medication doubts, timely corrections and secondary education for patients with slightly irregular medication behaviors, and continuous strengthening of patients' awareness of standardized medication, so that patients can maintain good medication habits for a long time, and ultimately achieve a significant increase in the overall standardized medication rate.

According to the results of this study, the total clinical treatment effectiveness of the observation group was significantly better than that of the control group. This improvement in clinical effect is directly and closely related to the improvement of patients' medication compliance, and is also an important reflection of the effect of pharmaceutical intervention on patients' clinical treatment outcomes. The pharmacological effects of risperidone are very regular. After entering the human body, the drug will regulate the activity of dopamine and serotonin receptors in the central nervous system and balance the patient's disordered neurotransmitter levels, thereby achieving the therapeutic purpose of controlling hallucinations, delusions, mood disorders and other psychiatric symptoms [4]. The clinical efficacy of this drug is highly dependent on the stable blood drug concentration in the body. Only when the patient strictly follows the doctor's instructions and takes the drug on time, in the right amount, and regularly can the drug concentration in the body be maintained within the effective therapeutic threshold, continue to exert its pharmacological effect, steadily improve the patient's mental symptoms, and achieve stable control of the disease. If the patient misses doses or takes less medication, it will directly cause the blood drug concentration in the body

to be lower than the effective therapeutic concentration, and the drug will not be able to exert a complete therapeutic effect. The patient's mental symptoms cannot be effectively controlled, and the condition is prone to recurrence or even worsening. Unauthorized overdose will cause the drug concentration in the body to be too high, which will not only fail to improve the therapeutic effect further, but will also disrupt the balance of neurotransmitters and cause new physical discomfort and mental abnormalities. Pharmaceutical intervention uses a comprehensive range of medication management methods to effectively avoid blood drug concentration fluctuations caused by various irregular medication behaviors, ensuring that patients' medication dosage, medication frequency, and medication duration fully comply with clinical treatment standards, allowing risperidone to continuously and stably exert its pharmacological therapeutic effects, gradually improve patients' clinical symptoms, and improve disease control effects. At the same time, systematic medication guidance can effectively prevent patients from adjusting their medication behavior due to cognitive misunderstandings, reduce disease fluctuations and treatment interruptions, and make the overall treatment process more coherent, thus significantly improving the overall effectiveness of clinical treatment and providing a strong guarantee for patients' recovery [5].

The data from this study show that the incidence of adverse reactions in the observation group during medication was significantly lower than that in the control group, fully proving that pharmaceutical intervention can effectively reduce the risk of risperidone medication and improve the safety and tolerance of grassroots patients. Common clinical adverse reactions of risperidone include dizziness, drowsiness, gastrointestinal discomfort, mild extrapyramidal reactions, etc. The probability and severity of such adverse reactions are not only related to the patient's individual physical tolerance, but the most important influencing factor is the standardization of medication. Most of the adverse drug reactions that occur in grassroots patients in clinical practice are not caused by the absolute toxicity of the drug itself, but are caused by irregular medication behaviors such as patients increasing or decreasing the dosage without authorization, irregular medication times, improper medication methods, etc. The pharmaceutical intervention implemented by the observation group has obvious advantages in safety control. During the intervention process, clinical pharmacists will educate patients in advance about the causes, early manifestations and scientific response methods of various adverse reactions of risperidone, improve patients' self-monitoring ability, and allow patients to actively avoid various adverse behaviors that induce discomfort during medication. At the same time, the pharmacist will check the dosage based on the patient's age, weight, condition, and physical tolerance to ensure that the dosage plan fits the patient's individual situation and reduce adverse reactions caused by improper medication dosage at the source. Regular follow-up monitoring can dynamically grasp the patient's medication status and physical response, provide timely professional guidance to patients who experience mild discomfort, and assist doctors in fine-tuning the medication plan when necessary to prevent mild discomfort from progressing into serious adverse reactions, comprehensively ensure the patient's medication safety, and ultimately achieve a significant reduction in the incidence of adverse reactions [6-7].

5. Conclusion

In summary, systematic pharmaceutical intervention for primary-level risperidone-treated patients has significant clinical application advantages and promotion value, and can be widely used in the long-term medication management of mental illness in primary-level medical institutions.

Disclosure statement

The author declares no conflict of interest.

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