
Research on the Application Effect of Humanized Nursing Intervention in Outpatient Infusion Room Nursing

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Abstract: *Objective:* To explore the actual effectiveness of humanized nursing intervention in outpatient infusion room care. *Methods:* 92 patients who received infusion in the outpatient infusion room of the hospital from January 2024 to February 2025 were selected as the research subjects, and were divided into an experimental group and a conventional group with 46 patients in each group using the random number table method. The conventional group adopted routine nursing intervention methods for outpatient infusion, while the experimental group used a humanized nursing intervention mode under the premise of routine nursing. The two groups of patients were compared in terms of nursing compliance, negative emotion scores, and nursing satisfaction. *Results:* After the intervention, the nursing compliance of the experimental group was higher than that of the conventional group, the negative emotion score was lower than that of the conventional group, and the nursing satisfaction was higher than that of the conventional group ($P < 0.05$). *Conclusion:* Humanized nursing intervention can effectively improve the nursing compliance of outpatient infusion patients, improve negative emotional states, and improve nursing satisfaction. It is worthy of promotion and application in outpatient infusion room nursing work.

Keywords: Humanized nursing; Outpatient infusion room; Nursing compliance; Negative emotions; Nursing satisfaction

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1. Introduction

The outpatient infusion room is a key window for hospitals to provide diagnostic and treatment services. It has a large flow of patients and complex and diverse conditions. Infusion therapy is a common clinical intervention method, and its nursing quality is directly related to patients' treatment experience and recovery process^[1]. The current routine care in outpatient infusion rooms focuses on the coordination of treatment operations and ignores patients' psychological needs and individual differences, which can easily cause patients to have negative emotions such as anxiety and fear, reduce nursing cooperation, and even lead to nurse-patient disputes. With the continuous updating of medical service concepts, the patient-centered humanized nursing model has gradually gained attention. This model focuses on providing personalized nursing services based on the physical and mental characteristics of patients, which can make up for the shortcomings of conventional nursing^[2-3]. Based on this background, this study applies humanized nursing intervention to outpatient

infusion room nursing work, explores its impact on patients' nursing cooperation, negative emotions, and nursing satisfaction, and provides practical reference for improving the quality of outpatient infusion care.

2. Materials and methods

2.1. General information

92 infusion patients received in the outpatient infusion room of the hospital from January 2024 to February 2025 were selected as cases and divided into two groups using the random number table method. There were 46 patients selected in the experimental group, 25 men and 21 women, aged 10 to 67 (42.56 ± 5.32) years old. There were 46 patients selected in the conventional group, 23 men and 23 women, aged 9 to 68 (43.12 ± 5.18) years old. There is no statistical significance in the general data comparison, $P>0.05$. Inclusion criteria: (1) Patients who require outpatient intravenous infusion treatment; (2) Have clear consciousness and can cooperate with care and assessment; (3) Voluntarily participate in this study. Exclusion criteria: (1) patients with severe heart, liver, kidney, and other organ diseases; (2) patients with mental disorders or cognitive dysfunction; (3) patients with a history of infusion allergy.

2.2. Method

The routine group implemented basic nursing intervention for outpatient infusion, which covered checking patient information before infusion, explaining basic infusion precautions, monitoring the status of the puncture site and vital signs during infusion, and informing about compression methods and follow-up precautions after infusion.

The experimental group used the humanized nursing intervention model on the basis of routine nursing. The specific measures are as follows: (1) Environmental optimization nursing: keep the infusion room clean and ventilated, reasonably regulate the indoor temperature and humidity, control the temperature at $22\sim 25^{\circ}\text{C}$, humidity $50\%\sim 60\%$, and post warm reminders — signs, books, magazines and green plants are placed in the waiting area, and soft and soothing music is played to reduce the noise level of the environment; a dedicated play area is set up for child patients, with brightly colored toys and picture books placed to distract their attention and alleviate fears. At the same time, rest seats and drinking water are provided for accompanying family members. (2) Psychological counseling care: proactively communicate with the patient before infusion, listen patiently to the patient's appeal, explain the purpose of the infusion treatment, the operation process and possible discomfort reactions based on the patient's age and education level, and use popular case explanations to help the patient understand and alleviate the patient's concerns; for patients with anxiety, use language comfort, emotional comfort and other methods to provide guidance, encourage the patient to express their inner feelings, and establish a good nurse-patient trust relationship. For patients with large mood swings, arrange for a special person to accompany and communicate briefly to stabilize their emotional state. (3) Personalized puncture care: Assess the patient's blood vessel condition before puncture. For children with thin blood vessels and low cooperation, as well as elderly patients with high blood vessel fragility, experienced nurses operate the puncture with gentle and accurate movements, select appropriate types of needles, and provide prompt encouragement after successful puncture. For patients who are sensitive to pain, local hot compresses are used to dilate blood vessels before puncture. Painless puncture auxiliary gel is used when necessary to reduce puncture pain. After the puncture, a cartoon-patterned patch is used to fix it to improve patient acceptance. (4) Humanistic care during the infusion process: During the infusion period, strictly follow the principle of patrolling every 15 to 30 minutes, proactively ask the patient about their feelings, adjust the infusion speed in a timely manner according to the patient's age, condition and tolerance, and slow down the speed appropriately for elderly patients and children; provide water cups and toilet bowls for patients with limited mobility. Provide daily assistance such as medical devices, etc., and regularly massage and puncture the limbs of patients with long-term infusion to promote blood circulation and prevent the occurrence of phlebitis; inform patients to call the nurse at any time if they feel unwell to ensure that patients' needs are responded to in a timely manner. At the same time, infusion records are kept to accurately record the start time of infusion, fluid balance, and patient response. (5) Health education and nursing: Combining the patient's condition and infusion drugs, use easy-to-understand language to explain disease-related

knowledge, medication precautions, and self-care methods, and develop personalized health education content for different patients. For example, patients with diabetes will explain the key points of diet and blood sugar monitoring, and patients with respiratory infections will explain home care and warmth preservation measures. A health education manual with pictures and texts will be issued to patients for patients and their families to refer to it at any time, and the contact information of the nurse will be reserved to facilitate patients' follow-up consultation on related issues.

2.3. Observation indicators

2.3.1. Comparison of nursing compliance between the two groups

Comparing the nursing compliance of the two groups, compliance is divided into three levels: Complete compliance, partial compliance, and non-compliance. Full compliance refers to the patient's active cooperation with all nursing operations and treatments, partial compliance refers to the patient's need to cooperate with care and treatment under the reminder of the nurse, and non-compliance refers to the patient's refusal or failure to cooperate with the nursing operations and treatment.

2.3.2. Comparison of negative emotion scores between the two groups before and after intervention

Compare the negative emotion scores of the two groups before and after the intervention, and use SAS and SDS to evaluate. The SAS and SDS scores range from 20 to 80 points. The higher the score, the more serious the patient's anxiety and depression. Scores were conducted one day before the intervention and on the day after the intervention.

2.3.3. Comparison of nursing satisfaction between the two groups

Comparing the nursing satisfaction between the two groups, the satisfaction is divided into three levels. Satisfied, relatively satisfied, and dissatisfied. Satisfied means that the patient has no objections to the entire nursing service and has a good evaluation. Comparatively satisfied means that the patient basically agrees with the nursing service, and only a few details have room for improvement. Unsatisfied means that the patient has many objections to the nursing service.

2.4. Statistical methods

Data were analyzed using SPSS 24.0. Measurement data that conform to normal distribution are expressed as mean plus or minus standard deviation and subjected to t test; count data are expressed as a percentage and subjected to χ^2 test. $P < 0.05$ represents a significant difference.

3. Results

3.1. Comparison of nursing compliance between the two groups

The total nursing compliance rate of the experimental group was higher than that of the conventional group ($P < 0.05$), as shown in **Table 1**.

Table 1. Comparison of nursing compliance between the two groups [n (%)]

Group	Complete compliance	Partial compliance	Noncompliance	Overall compliance rate
Regular group (n=46)	18 (39.13)	16 (34.78)	12 (26.09)	34 (73.91)
Experimental group (n=46)	29 (63.04)	15 (32.61)	2 (4.35)	44 (95.65)
χ^2				8.425
P				0.004

3.2. Comparison of negative emotion scores between the two groups before and after intervention

Before the intervention, the SAS and SDS scores of the two groups were similar ($P>0.05$). After the intervention, the SAS and SDS scores of the experimental group were lower than those of the conventional group ($P<0.05$), as shown in **Table 2**.

Table 2. Comparison of negative emotion scores between the two groups before and after intervention (Mean \pm SD, points)

Group	SAS pre-intervention score	SAS post-intervention score	SDS pre-intervention score	SDS post-intervention score
Regular group ($n=46$)	56.32 \pm 4.28	48.56 \pm 3.95	55.89 \pm 4.16	47.98 \pm 3.82
Experimental group ($n=46$)	56.78 \pm 4.35	41.23 \pm 3.56	56.23 \pm 4.21	40.15 \pm 3.67
<i>t</i>	0.511	9.349	0.390	10.025
<i>P</i>	0.610	0.000	0.698	0.000

3.3. Comparison of nursing satisfaction between the two groups

The total nursing satisfaction of the experimental group was higher than that of the conventional group ($P < 0.05$), as shown in **Table 3**.

Table 3. Comparison of nursing satisfaction between the two groups [n (%)]

Group	Satisfied	Quite Satisfied	Not satisfied	Overall satisfaction
Regular group ($n=46$)	19 (41.30)	15 (32.61)	12 (26.09)	34 (73.91)
Experimental group ($n=46$)	30 (65.22)	14 (30.43)	2 (4.35)	44 (95.65)
χ^2				8.425
<i>P</i>				0.004

4. Discussions

Outpatient infusion therapy is a commonly used clinical intervention method. During the treatment process, patients are likely to have negative emotions due to unfamiliarity with the environment and lack of knowledge about the treatment, which affects nursing cooperation and treatment experience. This puts forward higher standards for outpatient infusion room nursing services. Humanized nursing puts the patient at the core, focuses on meeting the physical and mental needs of the patient, improves the quality of care through personalized and all-around nursing intervention, and is in line with the development trend of modern medical services^[4]. The results of this study showed that the total nursing compliance rate and total nursing satisfaction of the experimental group were higher than those of the conventional group, and the negative emotion scores after the intervention were lower than those of the conventional group, indicating that the humanized nursing intervention was very effective in outpatient infusion room care.

From the perspective of nursing compliance, the total compliance rate of the experimental group reached 95.65%, which was much higher than the 73.91% of the conventional group. This result was not caused by a single measure, but the effect of a multi-link collaborative intervention in humanized nursing. First of all, in the pre-infusion communication session, the nurse does not simply inform the process, but adjusts the explanation method according to the patient's educational level, using popular cases to illustrate professional knowledge, so that patients of different ages and cognitive levels can clearly understand the necessity of infusion therapy, and fundamentally reduce the resistance caused by

insufficient cognition. Secondly, in personalized puncture care, the use of painless puncture auxiliary gel directly reduces patients' fear of puncture pain. The operation of experienced nurses further improves the success rate of puncture and avoids patients' disgust due to repeated punctures^[5]. In addition, regular inspections and timely response to needs during the infusion process allow patients to feel the continuity and reliability of nursing services and enhance trust in nurses. This trust is transformed into active cooperation with nursing operations, thereby significantly improving cooperation. Routine nursing only focuses on completing treatment operations and lacks attention to details such as patient cognition and pain perception. Some patients are afraid of pain and do not understand the meaning of treatment, and have non-compliant behaviors such as procrastination and resistance to cooperation, which ultimately leads to a low cooperation rate.

In terms of improving negative emotions, the SAS and SDS scores of the experimental group after the intervention were significantly lower than those of the conventional group, indicating that humanized nursing intervention can effectively alleviate the anxiety and depression of outpatient infusion patients from many aspects, such as environment, psychology, and service experience. The large flow of people in the outpatient infusion room and the noisy environment are important external factors that induce negative emotions in patients. The experimental group accurately adjusted the indoor temperature and humidity to a comfortable range, paired with soothing music and green plant decorations to create a relaxing atmosphere from the sensory level, effectively reducing the emotional stimulation of the environment to patients; an exclusive play area was set up for children. Toys and picture books were used to divert their attention to avoid emotional fluctuations, such as crying, due to unfamiliar environments and fear of treatment, and at the same time, reduce the interference of children's emotions on other patients. During the psychological intervention process, nurses not only proactively communicate, but also pay attention to listening to patients' inner appeals, and arrange for a dedicated person to accompany patients with severe mood swings. This kind of targeted emotional counseling is more effective than general comfort in routine care. In addition, the effective control of pain and timely satisfaction of life needs during the infusion process make patients feel respected and cared for, and reduce anxiety and depression caused by discomfort and helplessness^[6]. Routine nursing care lacks precise intervention to optimize the environment, and does not formulate counseling measures based on individual emotional differences of patients. It only simply deals with patients when they have obvious emotional problems, and cannot alleviate negative emotions from the root cause, resulting in little improvement in patients' emotional status.

In terms of improvement in nursing satisfaction, the total satisfaction of the experimental group was 95.65%, which was significantly higher than that of the 73.91% of the conventional group. This result fully demonstrates that humanized nursing intervention can fully meet the patient's nursing needs and significantly optimize the patient's medical experience. Humanized nursing is not simply adding service items, but optimizing service details based on the actual needs of patients. In the environmental optimization process, rest seats and drinking water are provided for accompanying family members, taking into account the needs of both patients and family members, reducing the discomfort of family members while waiting, and indirectly improving patients' overall recognition of nursing services. In puncture care, the use of cartoon-patterned patches and effective pain control make nursing services more warm, and are especially recognized by children and elderly patients^[7]. Regular inspections and detailed records during the infusion process allow patients to feel the professionalism and rigor of nursing services, while the provision of living assistance allows patients with limited mobility to experience convenience and care. In the health education process, the illustrated manual and the setting of reserved contact information solve patients' questions about follow-up care and extend the nursing service to after the infusion is completed, forming a complete service chain. These details are optimized to fully cover the patient's needs throughout the entire process, from entering the infusion room to the end of the infusion, allowing patients to fully feel valued. The content of routine nursing services is relatively simple and only focuses on the core operations of infusion therapy. It ignores patients' needs in terms of environmental comfort, psychological feelings, follow-up care consultation, etc., and cannot form a complete service experience, so patient satisfaction is low^[8].

In summary, humanized nursing intervention applied in outpatient infusion room care can effectively improve patient care compliance, alleviate negative emotions, and improve nursing satisfaction. This nursing model meets the nursing

needs of outpatient infusion patients, has a positive effect on improving the quality of outpatient infusion care, and is worthy of promotion and use in clinical outpatient infusion room nursing work.

About the author

He Aitao (1978-), female, Han nationality, native of Nanjing, Jiangsu, with a bachelor's degree, currently holds the title of deputy community nurse, and works at Zhetang Central Health Center, Lishui District, Nanjing.

Disclosure statement

The author declares no conflict of interest.

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