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Research on the Application Value of the Extended Nursing Intervention Model in Senile Dementia Patients

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Abstract: *Objective:* To explore the application value of the extended nursing intervention mode in senile dementia patients. *Methods:* A total of 60 cases of Alzheimer's disease patients were selected as the research subjects and divided using the random number table method into the control group and the observation group, each with 30 cases. The control group adopted conventional nursing, while the observation group adopted the extended nursing model of this study. The self-care ability, quality of life, cognitive function, and the frequency of unsafe behaviors were compared between the two groups. *Results:* After 6 months of intervention, the results showed that the scores of all dimensions in the relevant data tables such as the activity of daily living (ADL) scale, simple intelligence scale, and health survey scale in the observation group were higher than those in the control group, and the differences were statistically significant ($P < 0.05$). The incidence of unsafe behaviors in the observation group was lower than that in the control group, and the difference was statistically significant ($\chi^2 = 5.963$, $P < 0.05$). *Conclusion:* Extended nursing plays a positive role in the nursing of Alzheimer's patients, including improving their cognitive function and restoring their self-care ability, so as to significantly improve their quality of life and reduce the occurrence of unsafe behaviors. It can be seen that the extended nursing intervention mode can be vigorously promoted in clinical practice.

Keywords: Senile dementia; Extended nursing intervention model; Coping style

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1. Introduction

The main manifestations of Alzheimer's disease are usually reflected in several aspects. The patients will first experience very significant memory impairment, especially for the decline of recent memory, and as the disease progresses, long-term memory will gradually be impaired. At the same time, the cognitive function of the patients will also show a significant decline, the ability to learn new knowledge will be weakened, and there will be disorientation, a decline in social ability, and other behaviors. Finally, at the mental level, patients may show

personality disorders such as emotional instability, irritability, paranoia, selfishness, and even mental symptoms such as delusions and hallucinations. Head trauma, thyroid disease, familial inheritance, and high or low maternal childbearing age can all contribute to the disease. As the disease worsens, the patient's ability to carry out daily living activities will gradually deteriorate, requiring care to a large extent; and their intelligence level will decline and eventually, they may lose the basic ability to take care of themselves. The purpose of this study was to observe the effect of an extended nursing intervention mode in senile dementia patients.

2. General information

2.1. General information selection

A total of 60 cases of Alzheimer's disease patients were selected as the research subjects and divided using the random number table method into the control group and the observation group, each with 30 cases. The control group had 18 women and 12 men, with an age of about 60 to 80 years old (± two years), the disease duration was about 2 to 10 years. In the observation group, there were 16 women and 14 men, whose ages were between 62 and 83 years old (± two years), and whose disease duration was between 2 and 10 years. The general data of the two groups were comparable.

2.2. Inclusion criteria

In order to ensure the comparability and scientificity of the study, relatively strict inclusion criteria have been formulated. It is reflected in the following points: (1) All patients' clinical performance records and medical records must be complete, which is convenient for later comparative analysis and accurate report data; (2) Informed consent must be signed by the patient or the patient's family face to face, agreeing to participate in this study and accept the relevant examination and treatment; (3) The patient's condition is relatively stable, and all patients need to have a high compliance; (4) Patients with hepatic and renal insufficiency, coagulation dysfunction, combined immune system disorders, and systemic infection were excluded to ensure the smooth progress of the study.

Through the above strict research subject screening and inclusion criteria design, we could further ensure that the research subjects meet our research standards and ensure the scientificity and reliability of the research results. These will also lay a good foundation for us to carry out this study, and bring a favorable auxiliary diagnostic basis for clinical medical research.

2.3. Methods

In this study, the control group adopted conventional nursing. During the hospitalization of patients, nursing staff should accompany them throughout the whole process, and explain the causes and symptoms of the disease to patients and their families in time to ensure that they have sufficient knowledge reserve to deal with follow-up nursing problems. At the same time, after discharge, the nursing staff will inform the patients of the follow-up visit time by telephone and other means, and provide guidance on the relevant drug use.

The observation group was treated with extended nursing intervention, the specific process was as follows: During hospitalization: (1) According to the situation of patients, an extended nursing group composed of family caregivers, community doctors, and psychological counselors was established. (2) A patient-centered attitude was maintained to understand and address patients' problems. Simultaneously, the patients' families were guided to

view situations from the patients' perspectives, to increase empathy and understanding, respect their circumstances, and avoid harming their self-esteem. (3) Modern equipment was utilized to establish communication channels. For instance, WeChat groups were created by hospitals to send information related to Alzheimer's disease to families and patients. Regular updates on staged treatment measures and precautions were shared to guide families and patients to read together, thereby enhancing their confidence in managing the disease. (4) An electronic registration form was used to record the personal and contact information of discharged patients to facilitate follow-up communication. Post-discharge care: (1) Psychological interventions were provided for patients and their families. Psychological counselors maintained communication with both groups, scheduled weekly video calls, responded to patients' questions, and offered sufficient care and respect. The depth of communication was continuously enhanced, and recent life difficulties were addressed as much as possible. Concurrently, communication with family members was maintained, and timely encouragement was provided to help them maintain a positive outlook. (2) Interventions in patients' daily lives were carried out. Patients were guided in performing simple tasks such as making their beds, dressing, and washing dishes, in order to gradually develop and improve their independent living and self-care abilities. During this process, activities such as going for walks and sunbathing were incorporated to increase opportunities for outdoor contact and to support patients in completing activities more smoothly. (3) Guidance and interventions concerning medication management were provided to both patients and their families. The use of Alzheimer's drugs was generally guided by clear indicators. Medical staff ensured that detailed information regarding dosages and the use of related medications was sent to the mobile phones of patients and their family members, thereby enhancing the accuracy and timeliness of medication administration. In this way, family members were also enabled to play a supervisory role. Additionally, relevant knowledge about Alzheimer's disease was regularly sent to patients and their families to help them carry out follow-up care with a more stable state of mind. (4) Safe nursing guidance was also emphasized. Caregivers were informed that identification cards containing family contact information could be worn on the wrist or attached in other secure locations to prevent loss of contact if the patient went missing. At home, hazardous substances and items that could pose a danger to patients were properly stored in locations out of their reach, in order to prevent accidental injury or harm to others. The indoor home environment was arranged with particular attention to soft and simple furnishings to minimize the risk of injury from falls or collisions. (5) Regular follow-up visits for the disease were scheduled. Communication between nursing staff and family members was conducted to arrange home visits every two weeks. The patient's recent condition was recorded in detail, and the follow-up frequency was adjusted based on the progression of the disease. At the end of each month, educational sessions on Alzheimer's disease were held, with both patients and family members invited to participate. These sessions emphasized the importance of home-based care and aimed to standardize caregiving practices to improve follow-up outcomes. Both groups were required to undergo interventions over a six-month period

2.4. Observation indicators

The cognitive function, self-care ability, quality of life, and incidence of unsafe behaviors were mainly compared between the two groups:

(1) Cognitive function: Starting from seven aspects such as orientation, attention, computation, memory, recall, and language, the simple intelligence scale was used to evaluate the cognitive function of the patients before and after the intervention for 6 months. The total score was 30, where > 27 points indicates that the cognitive function of the patients was normal.

(2) Self-care ability: The self-care ability of patients before and 6 months after intervention was assessed by the Activity of Daily Living (ADL) scale. The scale targets 10 basic items such as dressing and eating, with a full score of 100. A higher score indicates a stronger self-care ability.

(3) Quality of life. A health survey scale was used to assess the condition of the patients before the intervention and after the completion of the 6-month intervention. The scale contains 36 items and is divided into eight dimensions in total. At the same time, a 6-level scoring method is adopted in the evaluation, which is converted into a percentage system for evaluation. The full score of each dimension is 100 points; the higher the score, the higher the quality of life of patients.

(4) Unsafe behavior: It refers to the occurrence of unsafe behavior such as falling and attacking others during the nursing period of patients. Specifically, all patients in the two groups were evaluated. The measurement data were expressed as the number of cases and percentage (%), and χ^2 test was used for comparison between groups. $P < 0.05$ was considered statistically significant.

3. Results

3.1. Cognitive function and self-care of patients in the two groups before and after intervention

Before intervention, there was no statistical significance in the scores of the simple intelligence scale and ADL scale between the two groups ($P > 0.05$). After 6 months of intervention, the simple intelligence scale data and the ADL scale data of the observation group were higher than those of the control group, with statistical significance ($P < 0.05$), as shown in **Table 1**.

Table 1. Scores of cognitive function and self-care ability of patients in the two groups before and after intervention (points)

Group	MMSE		ADL	
	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention
Control group (n = 30)	12.34 ± 3.46	17.36 ± 3.78	22.36 ± 8.76	41.39 ± 10.28
Observation group (n = 30)	12.56 ± 3.28	25.56 ± 3.98	22.45 ± 8.64	58.73 ± 12.43
t	0.253	8.183	0.040	5.888
P	0.801	0	0.968	0

3.2. Quality of life of patients in the two groups before and after intervention

In terms of quality of life, compared with SF-36 scores before intervention, there was no statistical significance between the two groups ($P > 0.05$). However, after the intervention, the SF-36 scores of the observation group were higher than those of the control group in all dimensions, with statistical significance ($P < 0.05$), as shown in **Table 2**.

Table 2. Quality of life of patients in the two groups before and after intervention (points)

Group	Physiology		Psychology		Physical pain		General health		Energy		Social		Emotional		Mental health	
	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention
Control group (n = 30)	60.53 ± 2.41	71.36 ± 3.52	58.44 ± 2.30	69.43 ± 3.45	60.26 ± 2.51	72.57 ± 3.46	61.39 ± 2.68	73.35 ± 3.41	61.38 ± 2.44	72.59 ± 3.08	60.36 ± 2.31	74.55 ± 3.69	62.45 ± 2.39	71.57 ± 3.22	60.38 ± 2.31	74.56 ± 3.59
Observation group (n = 30)	60.46 ± 2.32	80.59 ± 3.97	58.53 ± 2.41	78.39 ± 4.15	60.18 ± 2.45	80.43 ± 3.95	61.46 ± 2.71	81.46 ± 4.07	61.42 ± 2.51	79.47 ± 3.94	60.29 ± 2.23	81.36 ± 4.13	62.67 ± 2.46	81.69 ± 4.05	60.45 ± 2.39	81.37 ± 4.18
t	0.115	9.528	0.148	9.094	0.125	8.199	0.101	8.180	0.063	7.535	0.119	6.735	0.351	10.713	0.115	6.769
P	0.909	0	0.883	0	0.901	0	0.920	0	0.950	0	0.906	0	0.727	0	0.909	0

3.3. Occurrence of unsafe behaviors in the two groups

In terms of the occurrence of unsafe behaviors, the incidence of unsafe behaviors in the observation group was much lower than that in the control group, and the difference was statistically significant ($P < 0.05$), as shown in **Table 3**.

Table 3. Occurrence of unsafe behaviors in the two groups [n (%)]

Group	Unsure of directions	Falling	Assault	Accidental ingestion	Total
Control group (n = 30)	3 (10.00)	1 (3.33)	2 (6.67)	5 (16.67)	11 (36.67)
Observation group (n = 30)	0 (0)	2 (6.67)	0 (0)	1 (3.33)	3 (10.00)
χ^2					5.963
P					0.015

4. Discussion

Under the accelerating aging process, Alzheimer's disease has gradually become a popular disease, its induced reasons are usually nerve cell apoptosis, nutritional metabolism disorders, and gene mutations, generally manifested as memory decline, daily life ability decline, personality change, intellectual decline, and other forms. However, in the current medical development process, specific drugs for Alzheimer's patients have not been developed, therefore, long-term care for patients after discharge is indispensable. In the process of fighting against the disease, most patients affected by their own economic ability will not choose long-term hospitalization; there are some patients with relatively mild disease and the condition will not have much change [1], who also do not need long-term hospitalization, these patients generally need rehabilitation training at home, so a sound and reasonable nursing process and life guidance for patients is of great significance.

The results of this study showed that the observation group had higher scores on the simple intelligence scale, ADL scale, and all dimensions of SF-36 than the control group, and the incidence of unsafe behaviors was also lower than the control group, suggesting that extended nursing mode had a significant promoting effect on improving patients' cognitive ability and improving patients' self-care ability [2]. Thus, extended nursing can effectively improve their quality of life.

The reasons are as follows: first of all, the extended nursing model can extend and develop the hospital nursing work in the direction of family care. It can help patients and their families improve the follow-up nursing

services after discharge, link the contents of the two directions, so as to continuously improve the quality of life of patients and reduce the probability of two or even multiple hospitalizations.

Secondly, extended nursing can conduct a comprehensive assessment of the patient's life ability and recovery, and can reflect the patient's disease progress in real time. It can carry out long-term and sustainable supervision on patients who have left the hospital. This supervision method is also the most effective, and to a certain extent, it can help patients develop a positive and healthy lifestyle. The traditional nursing work will become more detailed, specific, and scientific, to ensure that medical staff can solve the problems encountered in the process of patient discharge care, and ultimately continue to improve the nursing effect. In detail, psychological intervention can be conducted through in-depth communication with patients, give them sufficient respect and care, and discover the existing problems, to meet their psychological needs, to help establish a positive attitude and confidence in life, so as to stabilize the development trend of the patient's condition [3]. At the same time, due to the patient's illness, their cognitive ability and memory for things will be seriously decreased; the use of cognitive care can effectively alleviate the development of such diseases by going out and talking about the past to intervene to continuously enhance their awareness of the external environment.

In daily life, patients' rest time is also an important focus of extended nursing intervention. Helping them to reasonably arrange daily activities and rest time can continuously enhance patients' awareness of independent life, thus delaying the development of the disease. Medication guidance is to intervene in patients' medication mode, so that they can standardize medication and ensure the rationality of medication [4]. Safety nursing intervention is to reduce potential risks and prevent unsafe behaviors by wearing cards with contact information for patients and keeping dangerous goods away [5].

Finally, it is necessary to regularly have follow-up visits to patients and their families and understand the development process of the disease of patients, develop more targeted care for them, as well as ensure operability, and constantly improve the quality of life of patients and their families.

5. Conclusion

Extended nursing has proven to be highly beneficial in the nursing and management of Alzheimer's patients, offering comprehensive support that enhances both physical and mental well-being. One of its most notable advantages is the improvement of cognitive function in patients. Through structured activities, cognitive stimulation therapies, and personalized care plans, extended nursing helps slow the progression of memory loss and mental decline, enabling patients to maintain better mental clarity for a longer period.

Disclosure statement

The authors declare no conflict of interest.

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