Description, Comparison and Analysis of Omaha System Applied in the Nursing of Elderly Chronic Diseases in Nursing Centers

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Abstract: Objective: To explore the clinical effect of the Omaha system in the nursing of elderly chronic diseases in nursing centers. Methods: 150 elderly patients with chronic diseases admitted to nursing centers from February 2017 to April 2019 were randomly divided into experimental group (Omaha system) and controlled group (common management), with 75 patients each. Results: Compared with the controlled group, the disease awareness rate (96.00%) was higher in the experimental group (P <0.05); the satisfaction rate on management (93.33%) in the experimental group was higher (P <0.05); meanwhile, the number of awakenings and sleep time and sleep quality in the experimental group were all better than those of the controlled group (P <0.05). Conclusion: The application of the Omaha system in the nursing of elderly chronic diseases in nursing centers can improve the patient's disease awareness and satisfaction on management, as well as improve the patient's sleep quality.

1. Introduction

At present, the rapid social and economic developments in China have exposed the tricky aging problem in social life, which contributed to a significant increase in the incidence of chronic diseases [1]. In general, most patients in the nursing centers have poor treatment compliance, as a result, the quality of the patient's treatment cannot be effectively guaranteed. Therefore, to improve the treatment effect and enable the patients to have quick recoveries from diseases, it is necessary to explore more effective management methods [2]. So this article mainly explores the clinical effects of the application of Omaha system in nursing of elderly chronic diseases in nursing centers.

2. Materials and Methods

2.1 General Material

150 elderly patients with chronic diseases admitted to the nursing center from February 2017 to April 2019 were selected and randomly divided equally into experimental group and controlled group, with 75 patients in each group. There are 40 males and 35 females in the experimental group with an average age of (63.28 ± 6.38); while in the controlled group, there are 42 males and 33 females with an average age of (65.31 ± 5.29). There was little difference in observation objects between the two groups, P> 0.05, so it was feasible to compare the 2 groups.

2.2 Method

The experimental group was under the management of Omaha system, and the method was as follows:

2.2.1 Research Tools.

(1) Problem Classification Scheme: the first level includes 4 fields: physiological domain, psychosocial domain, environmental domain, and health-related behaviors; the second level corresponds to different fields, mainly including 42 nursing problems, such as residence, sanitation,

income and so on; The third level includes 2 or 1 modifiers of each item; the fourth level is the descriptions of the signs and symptoms existing in the problems.

(2) Intervention Scheme: Nursing intervention is divided into 4 major categories: Case Management, Surveillance, Treatments and Procedures, Teaching, Guidance, and Counseling. It also includes 75 intervention targets, such as anger management, anatomy / physiology, etc.

(3) Outcome rating system: Use the Likert 5-level scoring method to evaluate the status, behavior and knowledge of the intervened objects, and scores are given according to the intervention effect and the existing problems, varying from 1 to 5. The higher the score is, the better the effect is. The Chinese version of the Omaha system turned out to have relatively good validity and reliability, 0.85 and 0.729 respectively.

2.2.2 Pre-Experiment.

Based on the differences in local culture and the characteristics of the elderly group, six problems that were barely involved or not even involved in the elderly with chronic diseases in nursing centers were deleted, such as postpartum, pregnancy, reproduction, family planning, growth, childcare, care, etc. 36 problems were finally decided, 4 about environmental sanitation, 7 about health-related behaviors, 10 about psychosocial areas, and the rest 15 were physiological related.

2.2.3 Staff Training.

Omaha's application methods, applications, frameworks and concepts were main contents of staff training. And the training also included evidence-based care, treatment, clinical manifestations, causative factors for elderly chronic diseases, nursing and evaluation of geriatric syndromes. Meanwhile, the staff needed to be very familiar of the application of the Omaha system in the management of chronic diseases with the help of case studies.

2.2.4 Application of Omaha System.

The nursing evaluation would be carried out for the elderly with chronic diseases after they were admitted to the nursing centers.

(1) Data collection: Collected medical, environmental, social, health-related behavior, psychology, and physiology information of the elderly by means of consulting medical records, conversation and observation, etc. And used the corresponding scales to make in-depth assessments of patients that were with high-risk health problems such as malnutrition, pressure sores and falls.

(2) Finding problems: Analyzed the information in the data, described the corresponding nursing problems, and sorted them according to the severity and the harmfulness to the elderly.

(3) Problem scoring: Scored the intervened objects from three aspects: status, behavior and knowledge.

(4) Intervention planning: Chose the direction and types of intervention, supplemented the nursing measures by using evidence-based methods and consulted relevant experts.

(5) Process evaluation: Monitored, intervened and observed the intervention process dynamically, made timely evaluation, and adjusted the schemes accordingly.

(6) Final score: Evaluated the intervention effect 3 months later according to the problem's final score. In the meantime, the controlled group was under common management.

2.3 Observing Indicators

The disease awareness rate, satisfaction on management, and sleep quality were compared between the two groups.

2.4 Statistical Analysis

The SPSS22.0 statistical software was used and "($\bar{x}\pm s$)" and "[n(%)]" were also needed to represent the results,in the end, "t" and "x^2" were used to check the figures. Since P <0.05, the results were of statistical significance.

3. Results

3.1 Comparison of Disease Awareness Rate:

The experimental group was higher than the controlled group in disease awareness rate (P <0.05), see Table 1.

Table 1 Comparison of Disease Awareness Rate [n (%)]

Group	Patients number	The number of patients aware of disease	Disease awareness rate
Experimental group	75	72	96.00% (72/75)
Controlled group	75	63	84.00% (63/75)
X^2			15.841
P			<0.05

3.2 Comparison of Satisfaction on Management:

The experimental group was better than the controlled group in satisfaction on management (P <0.05), see Table 2.

Table 2 Comparison of Satisfaction on Management [n (%)]

Group	Patients number	Very satisfied	Satisfied	Not satisfied	Total satisfaction
Experimental group Controlled group	75	43	27	5	93.33% (70/75)
	75	28	33	14	81.33% (61/75)
X^2					15.109
P					<0.05

3.3 Comparison of Sleep Quality between the Two Groups:

The times of awakening, sleep time and the sleep quality of the experimental group outperformed those of the controlled group (P <0.05), see Table 3.

Table 3 Comparison of Sleep Quality between Two Groups ($\bar{x}$±s)

Group	Patients number	Times of awakening (time)	Sleep time (h)	Evaluation of sleep quality (score)
Experimental group	75	1.15±0.79	0.51±0.14	3.32±1.15
Controlled group	75	3.32±1.54	1.36±0.11	6.59±1.37
t		13.042	11.206	13.282
P		<0.05	<0.05	<0.05

4. Discussion

For elderly patients with chronic diseases in the nursing centers, the Omaha system can summarize their nursing problems and make accurate and comprehensive evaluation. During their stay in the hospital, the patients' severe health condition will cause more obvious physiological problems, and health-related behavior, psychosocial, and environmental problems are often neglected. In the recovery period, lacking of professional care will also cause poor problem evaluation [3]. While in the nursing centers, with professional technology and personnel, the Omaha problem classification subsystem can provide more accurate, comprehensive, and timely assessment of the nursing staff, so as to better manage and serve elderly that are with chronic diseases [4-5]. What's more, the multi-disciplinary characteristics of the Omaha intervention system can be perfectly manifested in the nursing centers, so that the self-care ability and awareness of patients can be significantly improved and they can return to family and society in a more effective manner [6].

5. Conclusion

This article explored the clinical effect of the Omaha system in the nursing of elderly chronic

diseases in nursing centers. The results showed that compared with the controlled group, the disease awareness rate (96.00%) and satisfaction on management (93.33%) of the experimental group were higher (P < 0.05). At the same time, the times of awakening (1.15 ± 0.79), sleep time (0.51 ± 0.14) and sleep quality score (3.32 ± 1.15) in the experimental group were all better than those of the controlled group (P <0.05). All in all, the application of the Omaha system in the nursing of elderly chronic diseases in nursing centers can not only improve the patient's disease awareness rate and satisfaction on management, but also significantly improve their sleep quality. Therefore, it is worthy to popularize this system and put it into clinical use.

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