Systematic training program for nursing home staff based on the concept of combination of medicine and care

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Abstract

It is important to improve the training for nursing home staff in order to achieve better quality of life for the elderly.

This study aimed to develop a systematic training program for nursing home staff based on the concept of combination of medicine and care.

Thirty-four nursing staff from 2 representative nursing homes in Qiqihar City were selected as study subjects and divided into experimental and control groups. The subjects in both groups received routine training following "National Occupational Standards of Elderly Nursing Staff". In addition, the subjects in experimental groups received systematic training at three levels based on the concept of combination of medicine and care for 4 months.

After the training, the competence scores of nursing staff in experimental group increased significantly compared to control group, the living quality of the elderly in nursing homes cared by nursing staff in experimental group was significantly improved, and the satisfaction of the elderly to nursing staff in experimental group improved significantly, compared to control group ($P < .05$).

We develop systematic training program for nursing home staff based on the concept of combination of medicine and care, which can improve nursing care for the elderly in nursing home.

Abbreviation: GNCI = geriatric nursing competency inventory.

Keywords: elderly, nursing, nursing home, training

1. Introduction

The last several decades have seen remarkable increase in human life expectation. Consequently, the aging of the population has become a serious problem to the society worldwide. In particular, aging associated diabetes, cardiovascular and neurodegenerative diseases significantly impair the quality of life of the elderly.[1–5] Therefore, the long-term care of the elderly has become the focus of attention recently.[6]

A recent study showed that training for the elderly could improve their quality of life.[7] However, focus on the elderly themselves is not sufficient to improve the nursing for them. As the core part of the elderly care service, the staff in nursing home for the elderly directly affects the service quality of elderly care.[8,9] Unfortunately, literature search showed that no training system for nursing home staff has been established in China.

We hypothesized that the combination of medicine and care could improve the nursing for the elderly. Therefore, in this study we aimed to develop a systematic training program for nursing home staff based on the concept of combination of medicine and care.

2. Methods

2.1. Subjects

This study was approved by Ethics Review Board of The First Hospital of Qiqihar (approval No. 2016013) and informed consent was provided by each participant. In May 2016, 34 nursing staff were selected from 2 representative nursing homes in Qiqihar City as the subjects of this study. Inclusion criteria: nursing staff who had at least one year working experience at the nursing home, and were willing to participate in this study and signed informed consent. They were randomly divided into 2 groups by assigning random numbers to the participants: 19 in the experimental group and 15 in the control group, all of them were women, the age was 42 to 66 years old (average 51.35 + 6.53 years old).

2.2. Intervention measures

The subjects in control group and experimental group both received routine training following "National Occupational Standards of Elderly Nursing Staff". In addition, all 19 subjects

Table 1

Comparison of baseline parameter in 2 groups.

Parameter	Experimental group (n = 19)	Control group (n = 15)	*t*	*P*
Gender (female)	19	15	0.00	.00
Age (yr)	53 ± 4.32	52.14 ± 3.13	0.244	.813
Work experience (yr)	9.87 ± 6.43	8.71 ± 7.56	0.799	.445
Work experience in nursing (yr)	4.21 ± 3.31	5.21 ± 4.37	0.88	.40
Education level:				
Junior high school and below	15 (78.9%)	12 (80%)		
Technical secondary school and above	4 (21.1%)	3 (20%)	0.44	.177
Work motivation				
Make a living	2 (10.53%)	3 (20%)	1.357	.353
Interest or realizing value	17 (89.47%)	12 (80%)		

in experimental groups received systematic training at three levels based on the concept of combination of medicine and care as detailed below. At the first level, they attended monthly lectures (2 hours for each lecture, and total 4 lectures in 4 months) on disease and nursing knowledge given by the experts invited from local hospital and practiced on-site questions and answers (Q and A) to achieve the purpose of mastering professional nursing knowledge. At the second level, they received monthly training (2 hours for each training, and total 4 trainings in 4 months) on advanced nursing and rehabilitation technology given by experienced nurses, including diet and excretion care, disinfection protection, oxygen inhalation, fall and rescue, hemostatic dressing, cardiac arrest rescue, and psychological counseling skills. At the third level, they attended simulation study and group discussion once a month (2 hours for each study, and total 4 studies in 4 months). A simulated scenario was set by researchers, and the subjects performed role playing in the teams as the elderly needing care or nursing staff. Each team leader (researcher) organized the discussion in a team, summarized the errors of nursing staff in the daily care process, and clarified the correct practice.

2.3. Evaluation

The assessment was conducted using the revised "Geriatric Nursing Competency Inventory (GNCI)" (Supplemental appendix 1, Available at: http://links.lww.com/MD/E367) and the scale consisted of seven domains and 49 items with score ranging from 49 to 245. The higher the score, the better nursing care the elderly received. The scale has a Cronbach α coefficient of 0.939, Cronbach α coefficient of 0.754 to 0.940 for each domain, and a content validity index of 0.981.

The "WHO quality of life-brief scale (WHOQOL-BREF)" (Supplemental appendix 2, http://links.lww.com/MD/E367) was an international scale to measure the quality of life of individuals. This scale was used to evaluate the quality of life of the elderly cared by the nursing staff.

Finally, a self-made "Survey Questionnaire on Satisfaction of the Elderly to Nursing Service" (Supplemental appendix 3, http://links.lww.com/MD/E367) was used to evaluate the nursing provided by the nursing staff, which consisted of 20 items with scores ranging from 20 to 100. The higher the score, the better the satisfaction of the elderly with the nursing care.

2.4. Statistical analysis

SPSS17.0 statistical software package was used for data analysis. The descriptive analysis (frequency, component ratio, mean, standard deviation) was used in the general situation of the 2 groups, and an independent sample *T* test was used to test the ages of the 2 groups. The chi-square test was used for other comparison of the 2 groups. A parallel-control independent sample *T*-test was used to compare the difference of the competence of the nursing staff, the living quality and satisfaction score of the elderly. $P < .05$ was considered statistically significant.

3. Results

3.1. Baseline assessment of experimental group and control group

Prior to the experimental intervention, we collected and analyzed baseline parameters in 2 groups of nursing staff. There was no significant difference between the nursing staff in experimental group and control group ($P > .05$) (Table 1). All staff had no professional title, administrative position, and previous nursing care training experience. In addition, there was no significant difference in the competence of the nursing staff, the living quality and satisfaction score of the elderly in nursing homes between experimental group and control group (($P > .05$) (Tables 2 and 3).

3.2. Change of the competence of the nursing staff in two groups before and after training

After four months of systematic training, GNCI scores were used to evaluate the changes of the competence of the nursing staff before and after training. The changes of GNCI scores were significant in experimental group compared to control group. The average value of the elderly nursing core competence scores in experimental group increased from 187.43 to 210.23 after training, while that in control group did no change significantly before and after training (Table 4).

3.3. Change of the living quality of the elderly in nursing homes cared by nursing staff in two groups before and after training

After training, the living quality of the elderly in nursing homes cared by nursing staff in experimental group was significantly improved, and there was significant difference compared to control group ($P < .05$) (Table 3).

3.4. Change of satisfaction of the elderly in nursing homes to nursing staff in two groups before and after training

After training, the satisfaction of the elderly in nursing homes to nursing staff in experimental group improved significantly, and

Table 2

Comparison of GNCI scores in 2 groups before training.

Item	Experimental group (n=19)	Control group (n=15)	t	P
Critical thinking and research ability	25.43±10.72	17.75±6.80	1.27	.234
Clinical nursing competence	45.28±4.42	41.75±6.99	1.041	.325
Leadership skill	30±4.22	23.75±9.25	1.65	.132
Interpersonal relationship	20.85±1.46	18.25±5.56	1.21	.256
Law and ethics	42.5±25.1	30±3.74	1.13	.287
Personal professional development	14.1±3.28	13.5±2.08	0.349	.735
Educational guidance ability	19.71±5.28	18.25±3.2	0.498	.631
Total score	187.43±12.71	175.75±12.5	1.474	.175

GNCI = geriatric nursing competency inventory

Table 3

Comparison of living quality and satisfaction of the elderly in 2 groups before and after training.

Item	Experimental group (n=19)	Control group (n=15)	t	P
Living quality b/t	95.08±12.02	97.35±14.17	0.581	.564
Satisfaction a/t	90.73±9.27	86.73±11.26	1.08	.285
Living quality b/t	108.45±11.1	100.46±15.76	1.78	.035
Satisfaction a/t	97.5±7.86	84.32±2.85	1.71	.042

b/t = before training, a/t = after training.

there was significant difference compared to control group ($P < .05$) (Table 3).

4. Discussion

In this study, we developed systematic training program based on "National Occupational Standards of Elderly Nursing Staff" which helps the integration of the resources of the hospital and the health care system and enables the elderly to receive professional care. In particular, we applied the simulation study and group discussion to the training of nursing staff. Compared with conventional training course, our newly developed training program enabled the nursing staff to better experience the needs of nursing service for the healthy and disabled elderly.

After four months of systematic training, the competence of nursing staff in experimental group improved significantly while the competence of nursing staff in control group did no change significantly before and after the training. These data suggest that systematic training program help improve the nursing competence of nursing staff. From the perspective of the score of each domain (Table 4), after intervention the scores of three domains "clinical nursing competence", "interpersonal relationship", and

"law and ethics" of experimental group improved significantly, the most improvement was the score of "clinical nursing competence", increasing from $44±5.44$ before training to $54.55±5.63$ after training. However, there was no obvious change in "critical thinking and scientific research ability", "leadership ability", "personal professional development", and "educational guidance ability". Therefore, after four months of systematic training, the nursing staff in experimental group could profoundly realize the importance of the improvement of clinical nursing competence for caring for the elderly, but there was still a lack of understanding, education, scientific research, and leadership skills for personal professional development, indicating the need for future training of nursing staff.[10–13]

After 4 months of systematic training, the living quality of the elderly cared by nursing staff in experimental group was significantly improved compared to control group. In addition, the satisfaction of the elderly to the service of nursing staff in experimental group was improved significantly compared to control group. These results suggest that systematic training based on the concept of combination of medicine and care could provide better practical guidance to the daily work of the nursing staff in nursing homes, so that the elderly feel that the competence

Table 4

Comparison of GNCI scores in 2 groups after training.

Item	Experimental group (n=19)	Control group (n=15)	t	P
Critical thinking and research ability	22.83±3.53	22.25±2.55	0.41	.693
Clinical nursing competence	58.87±3.68	51.66±4.84	3.56	.002
Leadership skill	30.87±2.74	29.58±2.6	1.06	.302
Interpersonal relationship	21.75±2.17	19.62±1.3	2.46	.024
Law and ethics	30.42±3.26	26.25±2.81	2.95	.009
Personal professional development	18±1.69	17±1.53	0.37	.187
Educational guidance ability	28.25±3.81	27.42±3.85	0.47	.64
Total score	210.23±12.62	190.66±13.93	1.52	.028

GNCI = geriatric nursing competency inventory.

of nursing staff is improved and their physical and psychological needs could be satisfied.[14] On the other hand, the satisfaction of the elderly would reduce the stress of nursing staff and improve the well-being of nursing staff, forming a positive feedback loop to improve the care for the elderly in nursing home.[15,16]

Several limitations of this study should be pointed out. First, we only selected 2 representative nursing homes in Qiqihar City in this study. The sampling range may only reflect the status in Qiqihar City, and nationwide investigation still needs to be carried out to confirm our conclusion. Second, we only observed the short-term effects but not the long-term effects. After systematic training, whether practical guidance and benefits of the training could be kept need to be further investigated.

In summary, this study explored systematic training program for nursing home staff based on the concept of combination of medicine and care. Our results show that systematic training program is promising to improve nursing care to the elderly in nursing home.

Author contributions

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