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# Impact of Nursing Activity Group Model on Health Education of Patients with Drugs

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## To cite this article:

Xiuting Li, Guiyan Wen, Yingfeng Huang, Huixia Yu. Impact of Nursing Activity Group Model on Health Education of Patients with Drugs. *American Journal of Nursing Science*. Vol. 10, No. 1, 2021, pp. 106-109. doi: 10.11648/j.ajns.20211001.31

**Received:** January 22, 2021; **Accepted:** February 23, 2021; **Published:** February 28, 2021

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**Abstract:** Objective: To assess impact of nursing activity group model on health education of patients with drugs. Methods: This study is a retrospective study, that we collected the data before and after the establishment of the nursing action group, and evaluated the effect of establishing the nursing action group by comparing the data. We performed this study in a general tertiary hospital from January 2019 to December 2020. There were 2 stages in the study. At stage 1 (January 2019 - December 2019), we carried out common nursing model in daily work. At stage 2 (July 2020 - December 2020), we implemented usual measures and the countermeasures of nursing activity group themed at improving health education of drug. Using the assessment of medication compliance, satisfaction of patient and drug cognition of patients, we compared the changes of patients' health education before and after the interventions to evaluate the effect of nursing activity group model. Result: Most of assessments were significant difference between two group, that health education of gastroenterology drugs of nurse and training on drug using on nurses had significant improvement after carry out nursing activity group model. In patients' assessment of medication compliance and satisfaction, there was only a small increase in patient satisfaction by carrying out nursing activity group model, but patients were observed to be improved significantly during carrying out nursing activity group. Conclusion: Nursing activity group model can improve medication compliance of patients, satisfaction of patients, and drug cognition of nurses.

**Keywords:** Medication Cognition, Nursing Activity Group, Satisfaction, Medication Compliance

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## 1. Introduction

According to report of World Health Organization, over 50% of health professionals were nurses in the world [1]. In work process, they need to provide education to patients and their families by their professional knowledge and related experience [2]. Patient education related to medication, termed 'health education' in this paper, its content often includes correct medication methods and knowledge of medication, that health education can improve acute or long-term health conditions [3, 4]. Therefore, health education process contrasts improving patients' health literacy and knowledge, building life-skills, healthy relationships and supporting behaviors changes to master self-management.

There is an important part of person-and family-centred care which is the therapeutic interactions among nurses, patients and patients' family [5-7]. Base on some researches, nursing activity group model can quickly establish the health education system through the division of labor cooperation and sharing professional skills [8, 9]. Those are reasons why nurses need undertake the work of health education for patient with drug, and nursing activity group model research is necessary in health education.

In different reports, there had improving of nursing activity group model for health education. Those reports had attempted to identify improving effect or postoperative factors

after health education work [10, 11]. Furthermore, nursing activity group had been shown to be important as nursing activity group can improve treatment effect. For example, Zhang's research shown that nursing activity group can effectively improve patients' quality of life during hospitalization [12]. Those reasons are why analyzing relation between nursing activity group model and health education is worth studying. The aim of this study was to evaluate impact of nursing activity group model on health education of patients with drugs.

## 2. Methods

### 2.1. Participants Enrollment and Survey Methods

This study is a retrospective study, that we collected the data before and after the establishment of the nursing action group, and evaluated the effect of establishing the nursing action group by comparing the data. We performed this study in a general tertiary hospital from January 2019 to December 2020. There were 2 stages in the study. At stage 1 (January 2019 - December 2019), we carried out common nursing model in daily work. At stage 2 (July 2020 - December 2020), we implemented usual measures and the countermeasures of nursing activity group themed at improving health education of drug, such as summarizing experience, summarizing relevant knowledge, and establishing publicity announcement. Using the assessment of medication compliance, satisfaction of patient and drug cognition of patients, we compared the changes of patients' health education before and after the interventions to evaluate the effect of nursing activity group model.

We carried out the activities strictly accordance with the steps of nursing activity group model. In 2020, we established a nursing activity group consisting of 7 clinical nurses. Because satisfaction score of our department was lower than the average satisfaction score of other departments of the hospital in 2019 (average satisfaction score: 91.15, satisfaction score of our department: 85.8%), we chose to improve health education of patients with drugs as nursing activity group model. The whole nursing activity group lasted from July 2020 to December 2020.

At last, the effective countermeasures were written into the hospital systems or processes to be implemented for a long time, to ensure the prolonged stability of the improvement effect. Moreover, we reviewed the problem based on feedback of patient and nurse.

### 2.2. Statistical Analysis

The data were input into Excel to establish a database and analyzed by SPSS22.0 software. use averages to describe the data. Besides, the categorical variables were described by percentages. The valid data includes satisfaction assessment of patient, medication compliance of patient, and cognition of specialized drugs of nurse. Statistical significance was observed at level of 0.05.

## 3. Result

18 nurses who were work in gastroenterology dept. were invited to join this study, all of them were female, and there was no significant difference in age or years of service. We collected the related data by questionnaires, the questions of questionnaire were shown in Table 1 and Table 2. The valid data included nurses' perceptions of gastroenterology drugs assessment and their perceptions of drug using assessment.

Table 1 blew shows comparison of nurses' perceptions of gastroenterology drugs. Most of assessments were significant difference between two groups, that perceptions of gastroenterology drugs of nurse had significant improvement after carry out nursing activity group model. Before carry out nursing activity group model, most nurses had poor performance in different perceptions of gastroenterology drugs, especially for gastric motility drugs and hepatitis antivirals, the awareness rate is only approximately 20 percent.

18 nurses answered 6 questions with drug using by questionnaire. Between two groups, the most of valid data was significant difference except the question about oral cathartic (Table 2). Before carry out nursing activity group model, most nurses had not enough perceptions of drug using, only perception of oral cathartic had good performance (86.69%). After carry out nursing activity group model, nurses who were observed to have good perception of drug using had significant increasing, the comparisons of assessment result were statistical significance ( $p < 0.05$ ).

The assessments of medication compliance and satisfaction were collected from 30 patients who received treatment in gastroenterology dept. of public hospital. Table 3 indicated that there was only a small increase in patient satisfaction by carrying out nursing activity group model, but patients were observed to be improved significantly during carrying out nursing activity group, the assessment result of medication compliance rate were significant different among both of groups ( $p < 0.005$ ).

*Table 1. Comparison of nurses' health education of gastroenterology drugs.*

	Do you know what medications are available to regulate your gut flora?	Do you know the mechanism of action of gastric motility drugs and precautions?	Do you know how laxatives work?	Do you know the mechanism of action of hepatoprotective anti-inflammatory drugs?
Before carry out nursing activity group model	47.83%	21.74%	43.48%	34.78%
After carry out nursing activity group model	78.57%	71.40%	74.73%	78.57%
P value	< 0.005	< 0.005	< 0.05	< 0.005

*Table 1. Continued.*

	Do you know what the indications are to stop taking antiviral drugs for hepatitis?	Do you know what is the principle of oral treatment for ulcerative colitis?	Do you know what drugs are available to regulate intestinal flora?	Do you know the best time for patients to take medication for H. pylori?
Before carry out nursing activity group model	21.74%	30.43%	47.83%	47.83%
After carry out nursing activity group model	74.40%	85.71%	78.57%	78.57%
P value	< 0.005	< 0.005	< 0.05	< 0.05

*Table 2. Comparison of the health education of training on drug using on nurses (Attention rate, %).*

	Do you tell the patient when to take it when you prescribe a drug for antiacid, antireflux and ulcer treatment?	Do you conduct a drug related health education when you give a patient a stomach-stimulating drug?	Will you inform the patient of the effect of taking antiviral drugs, or the precautions to stop the drugs on their own?
Before carry out nursing activity group model	52.17%	30.43%	39.13%
After carry out nursing activity group model	85.71%	92.86%	78.57%
P value	< 0.05	< 0.005	< 0.005

*Table 2. Continued.*

	Will you instruct patients during colonoscopy to detail the matters needing attention of oral laxatives and health education?	Will you inform them of the effects and adverse reactions when you give diuretics to patients?	Will you correctly instruct patients when to take drugs to protect the gastric mucosa and the relevant precautions?
Before carry out nursing activity group model	86.96%	43.48%	34.78%
After carry out nursing activity group model	100%	85.71%	85.71%
P value	> 0.05	< 0.005	< 0.005

*Table 3. Medication compliance and satisfaction of patients.*

	Satisfaction (Mean±SD)	Rate of Medication compliance (%)
Before carry out nursing activity group model	85.8±5.0	69.69±19.32%
After carry out nursing activity group model	95.1±1.6	93.33±6.67%
t	7.14	21.65
P value	< 0.05	< 0.005

## 4. Discussion

The valid data of this study was collected from same patients and same nurses. This study used change which period was during before and after carry out nursing activity group model to assess effect of nursing activity group model. At present, nursing activity group model is known as an organized and planned mode of work, that it not only allows medical professionals in related professions to use their original skills and expertise, but also improves effect of their team work [13, 14]. It allowed nurses to manage patients more efficiently, and nursing group can manage more patients at the same time. Although this study was a tracing study and small sample size, it controlled the rise and fall trend of the outcome variables before the interventions as patients and nurses come from same department, and we still obtained relatively robust results.

In this study, the change effect of nursing activity group model followed the characteristics of time series data, and enough observations were available in both preintervention and postintervention periods. Before carrying out nursing activity group model, gastroenterology dept. had worrisome patient satisfaction and related medical awareness of nurse. However, the nursing activity group model began to apply,

medication compliance of patients, satisfaction of patients, and drug cognition of nurses were improved, their assessments of related performance were better, and their results were significant difference which were before and after carry out nursing activity group model. They proved that the impact of the nursing activity group model was useful. The result of this study is similar to the result of Zhou's report, she indicated that nursing activity group improved nurse's professional skills and teamwork skills during daily work, and their satisfaction of patients also was increased after nursing activity group model [15].

In limitation, there are several shortcomings in this study: First, the evaluation of nurses' medication cognition uses the qualified rate rather than the score, so it is impossible to further evaluate the level of nurses' medication cognition. Second, the data in this study are based on nurses' medication cognition, so it is impossible to further evaluate the actual impact of the nursing action group model on nursing work.

Overall, nursing activity group model can improve medication compliance of patients, satisfaction of patients, and drug cognition of nurses. The results which were before and after carrying out nursing activity group model were significant difference. There is no doubt that the efficiency and quality of nurses' work will be improved.

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