ASSESSMENT OF KNOWLEDGE ON PRESERVATION AND USE OF MEDICAL EQUIPMENT THROUGH SKILL TEST OF MEDICAL STAFF

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Summary

Introduction: Medical equipment and machinery is an essential means for physicians to diagnose, monitor, care and treat patients correctly and effectively. *Objective:* Situation of using and preserving some medical equipment at Nhanai hospital in 2019, research is carried out on groups of nurses who directly take care of patients at hospitals. Method: Cut horizontal description. *Results:* Through analysis of occupational test results of 81 Nursing patients in 2019, we found that the proportion of nurses with the right general knowledge in preserving war 91.3%; Knowledge of using ECG, Electric syringe, Monitor are: 93.8%: 79.1%: 68.1%. Factors related to knowledge of use and storage of equipment are not statistically significant. *Conclusion:* Regularly organizing training courses on the use and maintenance of medical equipment for nursing in hospitals is very necessary in the coming time.

Key words: Nursing, Management, use, medical equipment.

INTRODUCTION

Medical equipment (medical equipment) is one of the important factors determining the effectiveness and quality of medical work, actively supporting physicians in diagnosing and treating patients accurately and quickly. quickly, safely and effectively, contributing to the good performance of the role of caring for and protecting the people's health. Medical equipment (medical equipment) is an indispensable means for physicians to accurately and effectively diagnose, monitor and treat diseases. The development of science and technology in the world has created modern, multi - type, continuously improved medical equipment... practically supporting human health[1]. However, the downside of such progress is the impacts of the management, use and maintenance of medical equipment and the economic impact of developing countries, especially the poor in society - such as WHO. warned at the Conference on medical equipment in Bangkok, Thailand in September 2010[2]. That is, weak management, lack of trained technical personnel along with poor use of understanding and irresponsibility lead to inadequacies in promoting investment efficiency and features of Medical equipment is also a huge waste for the people and the country[2,3,4].

Research by Le Dang Trung and La Ngoc Quang shows that the percentage of medical staff in the hospital achieving knowledge of use is 44% and that of maintenance knowledge is 46%. Factors related to the knowledge of equipment use and maintenance are the qualifications and years of service of health workers[5]. How is the preservation and use of medical machinery and equipment in Nhanai hospital now preserved? Is there a factor related to the preservation and use of medical equipment and machines in the hospital? To answer this question, we conduct an analysis based on the results obtained through the 2019 Nursing Skills Competition at the hospital.

SUBJECTS AND METHODS

Study subjects: All medical staff working at Nhan Ai hos-

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pital during the study period.

Research period: The study was conducted from June 2019 to July 2019.

Research location: At Nhanai hospital.

Research design: The study is conducted according to the cross-sectional descriptive method.

Samples and sampling methods: Total selection, 81 nurses.

Data collection method: The data are taken from the results of exams on nursing skills in 2019.

Processing and analyzing data: Data was cleaned before being analyzed. Data entry using Excel 2010 software. *Data analysis:* The collected data is processed by software Stata12.0. The study evaluated the odds ratio (OR) and 95% confidence interval (95% CI) to find the relationship between the general assessment of nursing knowledge in the management and use of medical equipment. medical care in the hospital.

Research indicators and variables: Variables on knowledge of nurses in the management and use of medical equipment and machines are built based on documents on the use of medical machines and equipment at the hospital.

RESULTS

General characteristics of the research sample

Table 1. Subjects by gender, age group, qualification, seniority (n = 81)

Set Score		Frequency	Rate (%)
Sex	Male	24	29.6
	Female	57	70.4
Age group	≤ 30 years old	31	38.2
	> 30 years old	50	61.8
Average age = 31.7; Median = 32; Minimum age of 22; Oldest age 40; KBT = 18			
Age group	Colleges	4	4.9
	Intermediate	77	95.1
Seniority go on bussiness	≤ 10 years	39	48.1
	> 10 years	42	51.9

Medical equipment management knowledge

Table 2. Knowledge of medical equipment management of nurses in various departments

Content	Knowledge	
	True n (%)	False n (%)
Medical equipment is assigned by staff	75 (92.6)	6 (7.4)
The medical device has full instruction manuals	78 (96.3)	3 (3.7)
Medical devices have clear and specific Use Regulations	81 (100)	0 (00)
General correct knowledge	**73 (90.1)**	**8 (9.9)**

Comment: 100% of respondents know that medical equipment in the department has clear and specific usage regulations.

Knowledge of using medical equipment

Table 3. Knowledge of using electric syringe

Content	Knowledge	
	True n (%)	False n (%)
Knowledge of electric pump installation	49 (60.5	32 (39.5)
Knowledge of electric syringe pump sterility	71 (87.6)	10 (12.4)
The knowledge to start pumping drugs	61 (75.3)	20 (24.7)
Know the total volume of fluid infused	61 (75.3)	20 (24.7)
Know the choice of infusion rate	60 (74.1)	21 (25.9)
Know how to start the injection process	59 (72.8)	22 (27.2)
Know "STAR/STOP" to stop the injection	69 (85.8)	12 (14.2
Know "ON/OFF" to turn off the power	71 (87.6)	10 (12.4)
Know the "SET" machine that accepts the syringe	60 (74.1)	20 (24.6)
General correct knowledge	**64 (79.1)**	17 (20.9)

Comments: DD's correct knowledge of electric pump installation accounts for the lowest rate (60.5%).

Table 4. Knowledge of using multi - parameter Monit

Content	Knowledge	
	True n (%)	False n (%)
The START/STOP button measures and displays the blood pressure value	60 (74.1)	21 (25.9)
SpO_2 warning knowledge (arterial blood oxygen)	50 (61.2)	31 (38.8)
Knowledge of breathing rhythm alert settings	53 (65.4)	28 (34.6)
Know the setting of arterial blood pressure warning limits	71 (87.7)	10 (12.3)
Knowledge of electrocardiogram monitoring settings	56 (80.2)	25 (19.8)
Know how to turn off the power for Monitors	62 (76.5)	19 (23.5)
General correct knowledge	**55 (68.1)**	**26 (31.9)**

Comment: DDD know to set warning limit arterial blood pressure accounts for the highest percentage (87%).

Table 5. Knowledge of using the electrocardiograph

Content	Knowledge	
	True n (%)	False n (%)
Knowledge of electrocardiographic preservation	62 (76.5)	19 (23.4)
Knowledge of TEST for standard wave recording	64 (79.1)	15 (18.5)
Knowledge of the quadruple electrode color convention	69 (85.2)	12 (14.8)
General correct knowledge	**76 (93.8)**	**5 (6.2)**

Comment: General correct knowledge of DD in using electrocardiograph accounts for the highest percentage (93.8%).

Factors related to knowledge about how to preserve and use the medical device

Table 6. Relationship between age groups, sex, professional qualifications and seniority in comparison with research subjects' knowledge of preserving medical equipment.

Special	Knowledge		P
	True (n = 73)	Not true (n = 8)	
Age group			
≤ 30	28 (90.3)	3 (9.7)	0.6*
> 30	45 (90.0)	5 (10)	
Sex			
Male	21 (87.5)	3 (12.5)	0.8*
Female	52 (91.2)	5 (8.8)	
Specialize			
Colleges	4 (100)	0 (0%)	0.49*
Intermediate	69 (89.6)	8 (10.4)	
Working period			
≤ 10 years	35 (89.7)	4 (10.3)	0.8*
> 10 years	38 (90.4)	4 (9.6)	

** Fisher test*

Table 7. Relationship between age groups, sex, professional qualifications and seniority in comparison with knowledge of using electric syringes of study subjects

Special	Knowledge		P
	True (n = 64)	Not true (n = 17)	
Age group			
≤ 30	25 (80.6)	6 (19.4)	0.77
> 30	39 (78.0)	11 (22.0)	
Sex			
Male	19 (79.2)	5 (20.8)	0.98
Female	45 (78.9)	12 (20.1)	
Specialize			
Colleges	3 (100)	1 (00)	0.57*
Intermediate	60 (77.9)	17 (22.1)	
Working period			
≤ 10 years	31 (79.5)	8 (20.5)	0.91
> 10 years	33 (78.5)	9 (21.5)	

** Fisher test*

Table 8. Relationship between age group, sex, professional level and working seniority compared with knowledge of using multi - parameter Monochrome of study subjects

Special	Knowledge		P
	True (n = 55)	Not true (n = 26)	
Age group			
≤ 30	21 (67.7)	10 (32.3)	0.98
> 30	34 (68.0)	16 (32.0)	
Sex			
Male	16 (66.6)	8 (33.4)	0.87
Female	39 (68.4)	18 (31.6)	
Specialize			
Colleges	4 (100)	0 (00)	0.15*
Intermediate	51 (66.2)	26 (33.8)	
Working period			
≤ 10 years	27 (69.2)	12 (30.8)	0.8
> 10 years	28 (66.6)	14 (33.4)	

** Fisher test*

Table 9. Relationship between age groups, sex, professional qualifications and seniority in comparison with knowledge of using the electrocardiograph of study subjects

Special	Knowledge		P
	True (n = 76)	Not true (n = 5)	
Age group			
≤ 30	29 (93.5)	2 (6.5)	0.93*
> 30	47 (94.0)	3 (6.0)	
Sex			
Male	23 (95.8)	1 (4.2)	0.62*
Female	53 (92.9)	4 (7.1)	
Specialize			
Colleges	4 (100)	0 (00)	0.59*
Intermediate	72 (93.5)	5 (6.5)	
Working period			
≤ 10 years	37 (94.8)	2 (5.2)	0.53*
> 10 years	39 (92.8)	3 (7.2)	

** Fisher test*

DISCUSSION

With the aim of describing the knowledge of use, preservation and use of medical equipment in hospital. Total number of participants is 81 DD. In which the majority of female respondents (70.4% compared to men 29.6%), the rate of men/women is 40%, mainly intermediate qualified people 95.1%. Average age 31.7. The youngest is 22 years old and the oldest is 40 years old. The age group > 30 is nearly twice as large as that of the ≤ 30 group (Table 1). The respondents have worked at the hospital ≤ 10 compared with > 10 years almost the same (48.1% compared with 51.9%).

The preservation of medical equipment at Nhanai Hospital is also conducted according to the plan. Based on the quantity and type of equipment within the scope of management, the person in charge of the department develops a storage schedule according to the specific requirements of each type of equipment. If the plan is to preserve the equipment, the failure of the equipment can be reduced, improving the "lifespan" of the deviceequipment, improve investment efficiency[3]. For contents about the use and maintenance of medical equipment; According to the general report on the health sector in 2010, "The inspection, warranty, maintenance and repair of medical equipment have not been given adequate attention in many facilities, so medical equipment rapidly degraded economy, reduced life expectancy", the cause of this situation is related to many technical issues, policies and incentives[6].

Table 2 shows that out of a total of 3 contents about correct knowledge about preservation, the rate of response is high at 90.1%. This rate is equivalent to that of author La Ngoc Quang 81.8%[5] but much higher than the study of author Le Dang Trung et al (46%)[5]. In order to increase efficiency in the exploitation and use of medical equipment, it is required that health workers in general and nurses in particular have certain knowledge and understanding in the use and maintenance of medical equipment. in the current shortage of technical staff[6].

The data in Table 3 shows that the percentage of respondents with general correct knowledge in using electric syringes, accounting for 79.1%, is still cumbersome, so it is necessary to train operators so that they can use more formations in forestry practice. sieve. However, this rate compared to the study of Le Dang Trung is higher (79.1% compared with 44% of Le Dang Trung)[5].

Data in Table 4 shows that the number of DD with correct general knowledge in the use of multi - parameter Monit is also low (68.1%). However, this rate compared to the study of Le Dang Trung is higher (68.1% compared with 44% of Le Dang Trung)[5].

Extracting data in Table 5 shows that the percentage of DD with correct general knowledge in using electrocardiograph accounts for a high rate (93.1%).

Quan describes the actual situation of the knowledge of preservation and use of medical equipment in the hospital by analyzing the results of DD in 2019, we find that the majority of the medical staff at the hospital The number is quite young, this knowledge should be equipped in a university or college environment because this medical equipment is a normal group, and hospital leaders should also strengthen training for its medical staff on knowledge of use and maintenance.

Factors related to the use and maintenance of the medical device

The results in Tables 6, 7, 8 and 9 show that health workers who are nurses have limited knowledge about the preservation of medical equipment. Health workers with less than 10 years of service and knowledge of medical

equipment use are not higher than those with more than 10 years of service, however, this difference has no statistical significance.

CONCLUSIONS

The analysis results of over 81 units at Nhanai hospital showed that all departments had built a process to use equipment. In terms of the knowledge about using and maintaining medical equipment at the hospital, the knowledge of use was 93.8%: 79.1%: 68.1% and about the knowledge of security. maintenance was 90.1%.

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