Original Research Article

Nurses’ knowledge regarding nursing care and management of hypertensive patients in a selected hospital in Dhaka city

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ABSTRACT

Background: Heart diseases, hypertension, diabetes, COPD and cancer are some of the major NCDs and account for more than three-fifths of a death in Bangladesh. This study was aimed to assess the level of nurses’ knowledge regarding nursing care and management of the hypertensive patients.

Methods: This study utilized a descriptive cross-sectional study type and the data were collected using self-administered questionnaire. The respondents were informed about the purpose of the study to obtain their consent and they were given clear instructions on how to fill the questionnaires. All the data were analyzed using Statistical Package for Social Sciences (SPSS) version 22.

Results: In this study slightly above 60.0% of the participants were female and 73% of them were Muslims. More than half (53.0%) of the respondents had B.Sc. in nursing and 51.3% of them had <10 years of service experience. About 70.4% of the respondents had attended a training on hypertension and 92.2% of them knows about normal blood pressure measurement. About 92.2% of the participants knows the causes of hypertension and 82.6% of the respondents mentioned that hypertension management aims to prevent morbidity and mortality and only 39.1% of them knows the recommended diet for people with hypertension.

Conclusions: The finding reported that the nurses’ knowledge regarding the management of hypertensive patients and knowledge on hypertension were very good. Developing knowledge among the nurses in relation to hypertension is the key factor to plan for comprehensive nursing care for better prognosis of the patient.

Keywords: Diseases, Hypertension, Knowledge, Nurses, Patients

INTRODUCTION

Hypertension is the most important preventable risk factor for premature death worldwide. It increases the risk of ischemic heart disease, strokes, peripheral vascular disease, and other cardiovascular diseases, including heart failure, aortic aneurysms, diffuse atherosclerosis, chronic kidney disease, and pulmonary embolism. Hypertension is also said to be a risk factor for impairment and dementia. Other complications of hypertension includes hypertensive retinopathy and hypertensive nephropathy. A study reported that as of 2014, approximately one billion adults i.e. about 22% of the population of the world have hypertension. The prevalence of hypertension increases with age and it is
slightly more frequent in men. It is common in high, medium and low income countries.6-8

Bangladesh has come a long way combating some of the major communicable diseases causing existence of double burden of the diseases at the same time. Nevertheless, the current surveillance system is yet to be implemented appropriately. Stroke/heart disease, hypertension, diabetes, COPD and cancer are some of the major NCDs and cumulatively account for 68% death in Bangladesh.9,10 Among these public health problems, hypertension is an emerging epidemic and its prevalence was found to be within 15-20% among the adult population of Bangladesh. It’s the major modifiable risk factor for cardiovascular disease and some other complications like heart failure, renal failure etc.11 Hypertension has modifiable risk factors related to lifestyles, primarily tobacco smoking, lack of physical activity, unhealthy diet, harmful use of alcohol etc. are modifiable.12

METHODS

A descriptive cross-sectional type of study was carried out among nurses working in National Institute of Cardiovascular Diseases (NICVD), Dhaka Bangladesh to determine their knowledge on nursing care and management of hypertensive patients. All the nurses working in this hospital were included and non-nursing staffs were excluded for participation. A total of 115 nurses were selected using convenience sampling technique.

The study was carried out for a period of four months (April to August 2018) and the study population were all the nurses working in National Institute of Cardiovascular Diseases (NICVD), Dhaka Bangladesh during the period of this study. All the nurses who had at least 6 months service experience and willing to participate were included and those who had less than 6 months service experience or were sick during the study period were excluded for participation.

Data were collected using self-administered semi-structured questionnaire for a period of three weeks. The sampled respondents were informed about the purpose of the study to obtain their consent and they were given clear instructions on how to fill the questionnaires. The questionnaires were given to all the nurses who were on duty during the period of study and consent to participate were obtained. Researcher and the assistant issued questionnaires to respondents and gave them time to fill, then hand them back before they leave for home from a given shift. The researcher ensured that all the questionnaires were properly completed. All the data collected were coded numerically and entered into the SPSS version 22.0 software program for analysis. A descriptive statistical analysis was used to calculate the frequencies and percentages. The descriptive analysis of data was presented as tables. The level of knowledge was categorized based on knowledge scores; excellent (80-100%), very good (70-79%), good (60-69%), satisfactory (50-59%) and poor (0-49%).

An official letter of request for access to official information was sent from Daffodil International University through Department of Public Health, to the Management of National Institute of Cardiovascular Diseases (NICVD) Dhaka Bangladesh. Oral request were made to the nurses. This was done to inform them about the purpose and benefits of the study. The study was approved by Ethics Committee of the Faculty of Allied Health Sciences (FAHS) through Department of Public Health, Daffodil International University Dhaka Bangladesh.

RESULTS

Socio-demographic characteristics of the respondents

Table 1 showed that little above three-fifths (61.8%) of the respondents belongs to age group 33 years and below. Most of the participants (61.7%) were female and the majority (69.6%) of the participants were married.

| Variables | Frequency | Percent |
|-----------|-----------|---------|
| Age (years) | | |
| ≤33 | 71 | 61.8 |
| ≥34 | 44 | 38.2 |
| Sex | | |
| Male | 44 | 38.3 |
| Female | 71 | 61.7 |
| Marital Status | | |
| Married | 80 | 69.6 |
| Unmarried | 35 | 30.4 |
| Religion | | |
| Muslim | 84 | 73.0 |
| Hindu | 30 | 26.1 |
| Buddhist | 1 | 0.9 |
| Qualifications | | |
| Diploma | 39 | 33.9 |
| B.Sc. in Nursing | 61 | 53.0 |
| Masters | 15 | 13.0 |
| Years of Service Experience | | |
| <10 years | 59 | 51.3 |
| 10-20 years | 41 | 35.7 |
| >20 years | 15 | 13.0 |
| Training on hypertension | | |
| Yes | 81 | 70.4 |
| No | 34 | 29.6 |

More than seven-tenths (73%) of the respondents were Muslims, followed by Hindu (26.1%) and the remaining were Buddhist. More than half (53.0%) of the respondents had B.Sc. in nursing, followed diploma in
nursing (33.9%) and the rest had masters level of education. Little above half (51.3%) of the respondents had <10 years of service experience, followed by 35.7% who had 10-20 years’ service experience and 13% had more than 20 years of service experience. 70.4% of the respondents had attended a training on hypertension.

**Nurses knowledge regarding nursing care and management of hypertensive patients**

Table 2 shows that more than nine-tenths (92.2%) of the participants knows about normal blood pressure measurement and 81.7% of them knows blood pressure level that indicate pre-hypertension. About 92.2% of the participants knows the causes of hypertension and 67.0% of them knows the hypertension risk factors. About 62.6% of the respondents knows about maintaining bed rest and elevating head of bed and 60% of the respondents knows about monitoring and recording of BP while the patient is at rest. About 62.6% of the respondents can observe the sudden hypotension and 60% can monitor electrolytes, BUN and creatinine. More than seven-tenths (73%) of the respondents knows about observe skin color, moisture, temperature, and capillary refill time and 29.6% of the respondents knows about monitoring response to medications to control blood pressure. About 82.6% of the respondents mentioned that hypertension management aims to prevent morbidity and mortality and only 39.1% of them knows the recommended diet for people with hypertension. About 66.1% of them knows the moderate salt restriction of hypertensive patient and 87% mentioned that weight loss is important in management of hypertensive patient. 70.4% of the respondents said decrease in ethanol intake helps in the management of hypertension and 91.3% of them stated that relaxation is a technique that aims to reduce tension or anxiety.

![Table 2](image)

**Knowledge scores distribution of the respondents**

Table 3 showed the knowledge scores of the respondents. According to knowledge on hypertension, the participants had very good knowledge (74.8%). Regarding the knowledge on management of hypertensive patient, the respondents were found to have a very good knowledge (73%). However, based on knowledge regarding the
nursing care of the hypertensive patients, the respondents had good level of knowledge (65.2%).

**Table 3: Knowledge scores distribution of the respondents.**

| Score       | Knowledge on hypertension N (%) | Nursing care for hypertensive patient N (%) | Management of hypertensive patient N (%) |
|-------------|----------------------------------|---------------------------------------------|------------------------------------------|
| Correct     | 86(74.8)                         | 75(65.2)                                   | 84(73.0)                                |
| Incorrect   | 29(25.2)                         | 40(34.8)                                   | 31(27.0)                                |
| Total       | 115(100.0)                       | 115(100.0)                                 | 115(100.0)                              |

**Table 4: Knowledge scale distribution.**

| Excellent  | 80-100%  |
|------------|----------|
| Very Good  | 70-79%   |
| Good       | 60-69%   |
| Satisfactory | 50-59% |
| Poor       | 0-49%    |

**DISCUSSION**

In this study the total 115 nurses were participated and their responses were assessed. Educational attainment refers to the highest level of schooling that a person has reached. In our study based on educational qualification, more than half (53.0%) of the respondents had B.Sc. in nursing, followed diploma in nursing (33.9%) and the rest had masters level of education.

Nursing is a profession within the health care sector focused on the care of individuals, families, and communities so they may attain, maintain, or recover optimal health and quality of life. Nurses may be differentiated from other health care providers by their approach to patient care, training, and scope of practice. According to attending training regarding hypertension, 70.4% of the respondents had attended a training regarding hypertension.

A nurse can give sufficient care, and the results of reducing the patient's weight and changes in lifestyle (smoking cessation, reduction in alcohol intake, salt restriction, and increase in physical activity) are good. Especially for older patients with isolated systolic hypertension, it is wise to use non-pharmacological treatment.

More than nine-tenths (92.2%) of the participants knows about normal blood pressure measurement and 81.7% of them knows blood pressure level that indicate pre-hypertension. About 92.2% of the participants knows the causes of hypertension and 67.0% knows the hypertension risk factors. About 62.6% of the respondents knows about maintaining bed rest and elevating head of bed and 60% of the respondents knows about monitoring and recording of BP while the patient is at rest. About 62.6% of the respondents can observe the sudden hypotension and 60% can monitor electrolytes, BUN and creatinine. Patients with controlled hypertension improved markedly when a nurse took part in the care.

In western Australia patients with controlled hypertension improved from 70% to 87% in 3 years and in Israel the controlled hypertensive patients improved from 70% to 99%. The nurse took care of the contact with the patients, as she was presumed to be best at interacting with the patient and continuity of care.

More than seven-tenths (73%) of the respondents knows about observe skin color, moisture, temperature, and capillary refill time and 29.6% of the respondents knows about monitoring response to medications to control blood pressure. About 82.6% of the respondents mentioned that hypertension management aims to prevent morbidity and mortality and only 39.1% of them knows the recommended diet for people with hypertension. About 66.1% of them knows the moderate salt restriction of hypertensive patient and 87% mentioned that weight loss is important in management of hypertensive patient. 70.4% of the respondents said decrease in ethanol intake helps in the management of hypertension and 91.3% of them stated that relaxation is a technique that aims to reduce tension or anxiety. Nurses could give the patient more time, and their tasks in the programs were to measure blood pressure, provide information, educate in self-measurement, give advice about diet, control the intake of medicine, control laboratory tests, encourage the patient, and be an interpreter for the physician. Psychological problems and side effects were observed by the nurse and reported to the physician. Patients with complications were managed by the physician.

**CONCLUSION**

The finding reported that the nurses' knowledge regarding the management of hypertensive patients and knowledge on hypertension were very good (73%Vs75%). Nevertheless, the knowledge regarding nursing care for hypertensive patients was good (65%). Sincere and more sustained efforts are required to increase the knowledge of staff nurses regarding the nursing care and management of hypertensive patients.

**Recommendations**

Establishment a protocol concerning nursing care and management for hypertensive patients, training the nursing staff on this particular issue. Creating awareness and developing knowledge among the nurses in relation to hypertension is the key factor to plan for comprehensive nursing care for better prognosis of the patient and to reduce some problems and improve the quality of life of hypertensive patients. Overall the nurse’s education should be increased.
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