



A QUASI-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM ON PRACTICES REGARDING CLINICAL PATHWAY OF HYPERTENSION AMONG THE STAFF NURSES WORKING IN THE SELECTED HOSPITALS OF KASHMIR.

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Abstract

Hypertension remains an important health challenge. Various factors might have contributed to this rising trend of hypertension. Moreover, the global burden of disease is already very high as the people are spending lots of money on drugs. Therefore it seems to be a necessity to create awareness in people regarding practices and complementary modalities. Practices and Complementary modalities play an important role in the management of hypertension. Hypertension is one of the important challenging disease. Its prevalence is increasing worldwide. As nurses have to take care of hypertensive patients. They must have adequate knowledge and practice regarding hypertension. As age increases blood pressure also increases. There are various other factors like obesity, stress, family history, dietary pattern which causes increase in blood pressure. The research design selected for the study was Quasi-experimental pretest post test one group. The study was conducted in the month of January, 2024 on 60 subjects. The findings analysed that In practices, on day 1, 88.3% average and 11.7% good practices. Day 2 and 3, 66.7% average and 33.3% good practices. Day 4, 43.3% average and 56.7% good practices. On day 5, 31.7% average and 68.3% good practices. Day 6 and 7, all nurses had good practices. The results also portrayed that there was significant association of practices with this demographic variable (age) among staff nurses

regarding clinical pathway of hypertension. Finally the results concluded that Structured teaching program on practices regarding clinical pathways of hypertension was very effective.

Key words: Assess, Effect, Knowledge, Practices, Clinical pathway, Hypertension, Staff Nurses and Nursing.

1. INTRODUCTION

Hypertension is a disease that imposes risks of diseases on other systems including on CNS (Central Nervous system), renal system and CVS (Cardiovascular diseases). Various cardiovascular risk factors have been identified to be a cause of the acquisition of Alzheimer's disease by affecting the metabolism of cerebral glucose this eventually leads to memory loss and development of diabetes mellitus by causing insulin resistance. Whereas raised Blood Pressure (BP) is among the key risk factors of non-communicable diseases (NCD). NCDs contribute to 71% of all deaths that occur worldwide, and over 85% of these deaths occur in low and middle-income countries. The prevalence is getting higher in lower-income countries including Ethiopia which is estimated to be 19.6%⁽¹⁻⁴⁾.

High blood pressure was associated with being overweight, obese, smoking, some education, the highest wealth index, moderate physical activity, advanced age, and widowhood. In addition, lower physical activity, less than five times daily consumption of fruits and vegetables, diabetes, and chronic kidney disease were associated with an increased risk of hypertension. Moreover, a study shows that consumption of certain medicinal plants naturally controls excessive dilatory effects and stop the unwanted reduction of blood pressure like that of antihypertensive treatment⁽⁵⁻⁸⁾.

Increased BP is one of the preventable causes of premature deaths. However, most people do not control their blood pressure optimally. Knowledge about increased BP contributes a lot in controlling and preventing the complications it might result. Inadequate understanding of their disease condition in hypertensive patients is making it difficult to control hypertension adequately, in addition, it is one of the leading factors not to adhere to their treatment appropriately. Knowledge about hypertension in hypertensive patients is positively associated with a good adherence level, which in turn helps to control blood pressure. Health education is one approach to provide knowledge which is indicated by a systematic review as it is to help the control of BP, especially in old age group patients. The advantage of their medications and other related issues concerning their medication through health education is expected to result in good blood pressure control and knowledge is believed to be one of the prominent factors to bring good adherence status⁽⁹⁻¹³⁾.

A study done in the USA revealed that about 22% of participants had lower hypertension knowledge. Another study from Brazil showed that 17.7% of participants had little hypertension knowledge and it was significantly associated with non-adherence to antihypertensive treatment. Similarly, a study from Turkey indicates that the majority of participants didn't have adequate knowledge, in which one-third of the study participants were found to have a low level of knowledge about hypertension⁽¹⁴⁻¹⁶⁾.

A study conducted in China revealed that about half of the respondents had a low level of knowledge about hypertension. In Pakistan, the level of knowledge among respondents was average in which the respondents hadn't understood the importance of continuously taking medication well, due to this they were found to be non-adherent. Another study from Pakistan indicated that knowledge about hypertension was limited in patients with hypertension especially those with uncontrolled blood pressure. Similarly, a study from Iran showed that only 25.2% had good knowledge about hypertension⁽¹⁷⁻¹⁹⁾.

A study done in Zimbabwe found that there is poor hypertension knowledge among hypertensive patients. Similar to this finding a study conducted in Cameroon indicates that there is poor knowledge about hypertension among the patients. Moreover, studies from our country Ethiopia also revealed that there is limited knowledge about hypertension among patients with hypertension⁽²⁰⁻²²⁾.

Several studies showed that educational level is significantly associated with knowledge status in which patients with a low level of education were found to have lower hypertension knowledge than their counterparts. An institution-based study done in Pakistan revealed that a low level of hypertension knowledge was common in patients who are unable to control their blood pressure⁽¹⁴⁻²⁰⁾

Studies done from Iran and Ethiopia indicate females and elders have lower hypertension knowledge in comparison to males and younger age groups respectively. Similarly, those with lower income, non-employees, and those who have no regular physical activities were more likely to have lower hypertension knowledge. Moreover, living in rural areas and dietary risk factors were significantly associated with the low level of hypertension knowledge^(19,22).

The current study aimed to assess knowledge on hypertension and factors associated factors among patients with hypertension. This study found that about 55.3% of respondents have a low level of knowledge on hypertension and risk factors with 95% CI 50.3% to 60.2%. About 17.9% of them have a moderate level of knowledge with 95% CI 14% to 22% while only 26.5% with 95% CI 23% to 31% of them have a high level of knowledge. Government employees' long years of treatment and nearer distance from the hospital were the factors significantly associated with a level of knowledge of hypertension. This study is in line with studies done in Thailand. However, studies done at Uzbekistan, St. Paul Ethiopia, China, Cameroon, South Iran 2, Kwazulu, Srilanka, and North Carolina revealed that there was a better level of knowledge about hypertension than the current study. This difference might be due to socio-economic differences, the difference in knowledge measurement tools, and the inclusion criteria they used to include participants.⁽²³⁻²⁷⁾

However, the level of knowledge of the current study is greater than a study done in Brazil and Pakistan. The possible reason might be the study period difference and socio-demographic discrepancy. For the second objective, government employees, long years of treatment, and proximate distance from the hospital were significantly associated with the level of knowledge about hypertension as compared to the other groups. Those who work in government were found with a higher level of knowledge (versus moderate and low level of knowledge) than other working groups. This may be because of their higher education level as compared to other groups and this might have a contribution for having a higher level of knowledge while a higher level of educational status was associated with a higher level of knowledge about hypertension and this is supported by studies done in Austria, Ethiopia, Thailand, South Iran, Zimbabwe, and North Carolina. Literate individuals have better information exposure about hypertension through different ways including reading of Information, Education and Communication (IEC) materials prepared to patients with hypertension and this enhances their chance of obtaining adequate knowledge about hypertension⁽²⁸⁾.

Patients who were on treatment for longer years duration of treatment were found to have a higher level of knowledge (related to moderate and low level of knowledge) as compared to patients with less than two years of treatment. However, the finding is in contrast with a study conducted in South Africa. The possible explanation for the finding of the current study might be due to patients with a longer duration of treatment having a better chance to hear different information and get advice from health professionals. Also, to attend different health education sessions more about their disease than patients with recent years of diagnosis. Thus, such exposures to various useful information may lead them to be more knowledgeable about their disease⁽²⁶⁾.

Facility-based cross-sectional study was conducted between March and April 2019 in Gondar town. A systematic sampling technique was applied to select a total of 389 patients. A structured interview questionnaire was used to gather the data. The data were analyzed using STATA version 14. Ordinal logistic regression analysis was performed at $P < 0.05$ with a 95% confidence interval to identify statistically significant variables. A total of 385 respondents participated giving a response rate of 98.9%. The majority (55.3%) of the patients had a low level of, 17.9% had a moderate level of knowledge whereas 26.8% had a high level of knowledge about hypertension.

Those working in government organizations had 5.5 times higher odds of having a high level of knowledge than other groups (AOR = 5.5; 95%CI = 1.21, 25). Patients who received longer than four years of treatment showed twice larger odds of knowledge than those with below two years of treatment (AOR = 2; 95%CI = 1.29, 3.22). Moreover, patients residing proximate to the hospital increases the odds of having a higher level of knowledge by 1.64 times versus patients living far away from the hospital (AOR = 1.64, 95% CI = 1.07–2.63).²⁹

2. OBJECTIVES OF THE STUDY

- To assess the pre-test and post-test practice scores regarding clinical pathway of hypertension among staff nurses working in selected Hospitals of Jammu.
- To determine the effectiveness of Structured Teaching Programme on practice regarding clinical pathway of hypertension among staff nurses working in selected Hospitals of Jammu.
- To find out the association between pre-test practice scores with selected demographic variables.

3. RESEARCH METHODOLOGY

3.1 Aim

To identify the effect of structure teaching program on practices regarding clinical pathway of hypertension among staff nurses working in the selected hospitals of Jammu.

3.2 Study design

The researcher has adopted a quasi-experimental pretest post-test one-group research design

3.3 Sampling and recruitment

Sixty study subjects were selected by using a non-probability purposive sampling technique.

3.4 Data collection

Informed consent was explained and obtained from the participants. Before starting the session approach of the statement, objectives of the study were explained to the subject. Consent was taken from each subject after proper explanation in order to maintain the confidentiality. A pre-test was conducted prior intervention (structure teaching program) and after pretest structure teaching program on practices was imparted for samples regarding meaning, purposes, elements of clinical pathway and clinical pathway of hypertension by using various AV aids (flashcards, charts and leaflets) for 15 minutes and posttest was conducted on 12/01/24 by using the same tool.

3.5 Data analysis

The investigator analyzed the information in terms of data by using descriptive and inferential statistics and presented them in tables. The subsequent set up analysis was done with the assistance of opinion of experts. The knowledge was calculated by using frequency and percentage while as practice mean score was calculated by using mean, median, variance and paired t test and then association was found by using fisher's exact method with designated demographic variable.

3.6 Rigour and ethical approval

The research proposal presented before ethical Institution and the title was approved by ethical committee. The researcher got the approval from Research Ethical Committee of the institute in order to conduct the study.

4.RESULTS.

Table 1: Description of samples (staff nurses) based on their personal characteristics in terms of frequency and percentage

Demographic variables	Frequency	Percentage (%)
AGE		
21-30 Years	30	50.00%
31-40 years	15	25.00%
41-50 Years	15	25.00%
GENDER		
Female	60	100.00%
Educational Status		
GNM	32	53.3%
B. Sc	0	10.0%
PB. B. Sc	14	23.3%
M. Sc	08	13.3%
Experience		
1-5 Years	28	46.6%
6-10 Years	16	26.6%
11-15 Years	16	26.6%

The data presented in the table 1 showed that the majority of samples 50% of the staff nurses were in the age group of 21-30 years, out of them 100% were females, 53.3% of them were GNM, 46.7% of them were having 1-5 years of experience.

Table 2: Frequency and distribution of pretest and posttest with regard to the knowledge score.

N=60

knowledge item	Pretest		Posttest	
	Frequency	percentage	Frequency	percentage
Clinical Pathway	39	65.0%	46	76.7%
Main purpose of clinical Pathway	38	63.3%	46	76.7%
Elements of clinical pathway	39	65.0%	47	78.3%
Meaning of Variance	38	63.3%	49	81.7%
Components of clinical pathway	44	73.3%	49	81.7%
Normal Blood pressure	39	65.0%	49	81.7%
Comes under the hypertension stage 2 in adult	36	60.0%	49	81.7%
hypertension	34	56.7%	48	80.0%
Risk factor for Hypertension	37	61.7%	47	78.3%
Symptoms of Hypertension	41	68.3%	46	76.7%
Detect the hypertension in complete blood test	39	65.0%	46	76.7%
Antihypertensive medications are used to control the hypertension	42	70.0%	47	78.3%

diet to be followed for hypertension	42	70.0%	48	80.0%
Type of exercises is helpful for hypertension patient	35	58.3%	47	78.3%
Instrument used to measure BP	36	60.0%	44	73.3%
Prevent the hypertension	30	50.0%	42	70.0%
Complications of hypertension	33	55.0%	44	73.3%
Responsibilities of health care workers if a patient develops variance in clinical pathway	39	65.0%	46	76.7%
Responsible for documenting the clinical pathway	38	63.3%	45	75.0%
Clinical pathway-based care	36	60.0%	41	68.3%
First step nurse takes in a clinical pathway-based care	36	60.0%	39	65.0%

The data presented in the table revealed that In the pre-test, 73.3% of them knew the components of clinical pathway while as In the post-test, the majority 81.7% of them knew the meaning of variance, components of clinical pathway, normal blood pressure, and about the stage 2 hypertension.

Table 3: Paired t-test for the effect of practices regarding clinical pathway of hypertension among the staff nurses.

N=60

Day	Mean	Mean	T	df	P-value
Day 1	5.77	0.7			
Day 2	6.28	0.6	14.2 59	14.2 59	<0.001
Day 3	6.30	0.5	14.6	59	<0.001
Day 4	8.58	0.5	21.5	59	<0.001
Day 5	8.72	0.7	22.0	59	<0.001
Day 6	8.83	0.5	22.5	59	<0.001
Day 7	8.95	0.4	23.1	59	<0.001

According to data analyzed in the table 3 after the application of paired t-test for the effectiveness of structure teaching program on practices regarding clinical pathway of hypertension among the staff nurses. The data concluded that Average practices score were elaborated in the followings:- Day-1 was 5.77, Day-2 was 6.28, Day -3 was 6.3, Day-4 was 8.5, Day-5 was 8.7, Day-6 was 8.8, and Day-7 was 8.9 respectively while as t-values for this test were 14.2, 14.6, 21.5, 22.0, 22.5, 23.1 with 59 degrees of freedom. Corresponding p-values were less (less than 0.05). It is evident that the practices among staff nurses regarding clinical pathway of hypertension improved significantly after structured teaching program.

Table 4: Frequency and percentage distribution of practice items from day 1 to day 7.

Practice Items	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7	
	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%
Check weight patient	59	98.3%	43	47.17%	44	73.33%	46	76.67%	60	100.0%	60	100.0%	60	100.0%
Monitoring of blood pressure and vital signs every ½ hourly.	34	56.67%	40	66.67%	44	73.33%	43	71.67%	50	83.33%	59	98.33%	60	100.0%
Administer oxygen per nasal cannula 2 to 4 L/min to maintain > 95%.	28	46.67%	32	53.33%	35	58.33%	39	65.00%	27	45.00%	35	58.33%	44	73.33%
Perform ECG	36	60.00%	41	68.33%	43	71.67%	42	70.00%	41	68.33%	40	66.67%	41	68.33%
Do neurologic examination every 1 to 2 hours	28	46.67%	31	51.67%	32	53.33%	34	56.67%	37	61.67%	35	58.33%	26	43.33%
Investigation	39	65.00%	44	73.33%	42	70.00%	44	73.33%	45	75.00%	49	81.67%	60	100.0%
Medications	43	71.67%	52	86.67%	43	71.67%	51	85.00%	41	68.33%	56	93.33%	60	100.0%
Dietary management	38	63.33%	44	73.33%	48	80.00%	47	78.33%	50	83.33%	60	100.0%	60	100.0%
Health teaching	41	68.33%	50	83.33%	47	78.33%	49	81.67%	58	96.67%	60	100.0%	60	100.0%

The data presented in the table 4 clarified that In the major findings, in day 1, 98.3% of them had checked patient's weight. In day 2, 73.3% of them had done the investigation and dietary management of hypertensive patients. In day 3, 80.0% of them had practiced dietary management of hypertensive patient. In day 4, 85.0% of them administered medications of hypertensive patients, In day 5, 100.0% checked the patient's weight. In day 6, 100.0% of them practices done with patients' weight, dietary management and health teaching and In day 7, 100.0% practices done with patients' weight, blood pressure monitoring, investigation, medications, dietary management and health teaching.

Table 5: Fisher's exact test for association of practices with selected demographic variable

Demographic variable		Knowledge		P-value
		Average	Good	
Age	21-30 years	29	1	0. .020
	31-40 years	10	5	
	41-50 years	14	1	
Educational status	GNM	29	3	0.613
	BSC	6	0	
	MSC	7	1	
	PB. BSC	11	3	

Experience	1-5 years	27	1	0.125
	6-10 years	12	4	
	11-15 years	14	2	

The data presented in the table 5 concluded that the p-value corresponding to age was small (less than 0.05), So the demographic variable age was found to have significant association with the practices among staff nurses regarding clinical pathway of hypertension.

5. DISCUSSION

Patients`compliance with their treatment is affected by numerous factors. Knowledge of staff nurses about hypertension is a key factor for better compliance among patients. Good understanding of the level of hypertension knowledge allows designing an intervention that improves the control of raised BP through overcoming misperceptions that guide non-compliance behavior. For better management and control of hypertension, the knowledge status of staff nurses regarding hypertension should be studied and understood well. Therefore, this study aimed to assess the hypertension knowledge level, practices and associated factors among staff nurses working in selected hospitals of Kashmir. The result of the present study showed that staff Nurses living proximate to the hospital had a higher level of knowledge (compared to moderate and low level of knowledge) than those who live far areas. The possible explanation for this could be the closest distance might allow patients to come to their appointment on time without delay which could increase their chances of obtaining health information from health care workers delivering health education in the early morning in the waiting area. There are potential limitations of the present study, one of which is a social desirability bias because we used face-to-face interviews, which may lead to social desirability bias and this could overestimate the result. On top of this, there might be recall bias, which might overestimate or underestimate the result. Furthermore, using a cross-sectional study that is able only to detect associations, but no causalities was the other limitation. The study concluded that with regard to practices, on day 1, 88.3% of them had average practices and 11.7% of them had good practices. On day 2 and day 3, 66.7% of the staff nurses had average practices and 33.3% of them had good practices. On day 4, 43.3% of them had average practices and 56.7% of them had good practices. On day 5, 31.7% of them had average practices and 68.3% of them had good practices. On day 6 and day 7, all of them had good practices. This indicates that there was remarkable improvement in practices regarding clinical pathway of hypertension among the staff nurses. Thus, clinical pathway is effective and improving the staff nurse`s knowledge and practices of hypertension.

6. CONCLUSION

The study was conducted to the effect of structure teaching program on practices regarding clinical pathway of hypertension among the staff nurses. Based on data collected and after statistical analysis was done, it was found that there is significant difference in pretest and posttest knowledge score was found (less than 0.05) hence null hypothesis was rejected, and after 7 days practices of clinical pathway score were found (greater than 0.05). Which indicating that the structure teaching was highly effective in improving in the knowledge and practices regarding clinical pathway of hypertension among staff nurses. Now a days, nurses play vital role in management of hypertensive patient care, which involved all aspects of care including clinical pathway. So, as to reach long term goal with day-by-day systematic care helps to nurses increases their knowledge and improving practices. Structured teaching program on knowledge and practice is one of the best teaching methods, which is used to improve the knowledge regarding clinical pathway. The present study shows that, structured teaching programme is a useful and effective tool to gain knowledge and improve practices regarding clinical pathway of hypertension among the staff nurses. Lack of knowledge and practices regarding clinical pathway of hypertension can prevent to reach long term goal of treatment. Although, ongoing teaching and its implementation of evidence-based practice guideline shows increasing knowledge and practices regarding clinical pathway of hypertension among staff nurses.

7. . LIMITATION

1. The study was confined to small number of subjects and shorter period.
2. Setting for the study was limited.
3. Data collection period was limited.

8. RECOMMENDATION

1. A similar study can be conducted on a large sample for broader generalization.
2. A comparative study can be carried out to assess the factors leading to practice regarding clinical pathway of hypertension among staff nurses between rural and urban.
3. A similar study can be conducted by using different teaching modalities like self instructional module, booklet etc.
4. A video teaching program on practice regarding clinical pathway of hypertension among staff nurses can be conducted in large samples for better generalization.
5. A comparative study can be conducted to compare the effect of structured teaching program on practice among experimental group and control group without intervention.
6. A comparative study can be conducted to compare the effect of structured teaching program on knowledge and practice among experimental group and control group with intervention.

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