



THE EFFECT OF STRUCTURE TEACHING PROGRAM ON KNOWLEDGE AND PRACTICES REGARDING CLINICAL PATHWAY OF HYPERTENSION AMONG THE STAFF NURSES WORKING IN THE SELECTED HOSPITALS.

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Abstract:

Hypertension is the common types of cardiovascular disease associated with high blood pressure. Structure teaching program is an effective way to improve the knowledge and practices regarding clinical pathway of hypertension.

The aim of the study was to identify the effect of structure teaching program on knowledge and practices regarding clinical pathway of hypertension among the staff nurses.

A quasi-experimental pretest post-test one-group research design was adapted.

Result shows, in knowledge, pretest, 73.3% average and 26.7% good knowledge. In posttest, 11.7% average and 88.3% good knowledge. 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.

Study concludes that, Structured teaching program is effective on knowledge and practices regarding clinical pathway of hypertension.

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INTRODUCTION:

An estimated 1.28 billion peoples aged 30-79 years worldwide have hypertension, most living in low- and middle-income countries. An estimated 46% of adults with hypertension are unaware about their condition. Less than half of the adults (42%) with hypertension are diagnosed and treated. It is found that 1 in 5 adults (21%) with hypertension have it under control. Hypertension is one of the main causes of premature death worldwide. One of the global targets for noncommunicable diseases is to reduce the prevalence of hypertension by 33% between 2010 and 2030¹. There are four categories of blood pressure such as; normal (systolic ≤ 120 and diastolic ≤ 80 mm of Hg), elevated (systolic 120-129 and diastolic ≤ 80 mm of Hg), hypertension stage 1 (systolic 130-139 and diastolic 80-89 mm of hg), hypertension stage 2 (systolic ≥ 140 and diastolic ≥ 90 mm of hg), hypertension crisis (systolic >180 and diastolic >120 mm of hg). The prevalence of hypertension increased with age, from 7.5% among adults aged 18-39 to 33.2% among those aged 40-59, and 63.1% among those aged 60 and over. A similar pattern was found in both the sexes². The ubiquity of age-adjusted hypertension in survey period 2017-2018 showed 45.4% among adults and was higher among men (51.0%) than women (39.7%). Hypertension increased with age: 22.4% (aged 18-39), 54.5% (40-59), and 74.5% (60 and over)³. Raised blood pressure (BP) is responsible for 7.6 million deaths every year worldwide (13.5% of the total), more than any other risk factors. Around 54% of stroke and 47% of coronary heart disease are attributable to high BP⁴. A greater percentage of men (50%) have high blood pressure than women (44%). High blood pressure is more common in non-Hispanic black adults (56%) than in non-Hispanic white adults (48%), non-Hispanic Asian adults (46%), or Hispanic adults (39%)⁵. In India, high blood pressure is one of the main causes of premature deaths. The rates of hypertension in percentage are increase to go up to 22.9 and 23.6 in Indian, men and women, respectively by 2025. The total number of adults suffering from hypertension increased from 594 million in 1975 to 1.13 billion in 2015, with the increase seen largely in low- and middle-income countries. This increase is due to mainly a rise in hypertension risk factors in those populations⁶. As per study was done in the month of June 2015 at selected hospital. There were sample total 50 staff nurses. The aim of the study was to assess the effect of structure teaching on knowledge of hypertension among the staff nurses. The tool was used demographic variables and structured knowledge

questions regarding hypertension. Results shows for the study only 36% staff nurses had good knowledge and 56% had average knowledge and 8% had poor knowledge scores significantly observed. The study concluded that, structured teaching program should be conducted and provide knowledge regarding hypertension among the staff nurses⁷.

A study was conducted in selected hospitals of Amritsar, Punjab. The aim of the study was to evaluate the effectiveness of structured teaching program on knowledge regarding hypertension and its management among hypertensive patients. Pre-experimental design of one group pre-test and post-test research design was adopted for the study. The data was collected using the purposive sampling technique from 100 size of sample, which was selected from the medical wards of GND and civil hospital Amritsar, Punjab, India. The result found that the overall pre-test mean knowledge score was 8.72 and SD 3.92. post-test result, mean score was 13.75 with SD 3.92. The study concluded that, hypertensive clients need to improve knowledge regarding hypertension and its management through structure teaching program⁸.

REVIEW OF LITERATURE

REVIEW OF LITERATURE FOR THE PRESENT STUDY WAS ORGANIZED UNDER FOLLOWING

1. Review of literature related to clinical pathway of hypertension.
2. Review of literature related to knowledge and practices on among staff nurses regarding hypertension.
3. Review of literature related to effect of structure teaching program on knowledge and practices regarding clinical pathway of hypertension.

1. Review of literature related to clinical pathway of hypertension.

In this part, 3 national journal and 7 international journals. The overall studies of part A, suggested that clinical pathway of hypertension had significant benefits for recovery in patients.⁹

2. Review of literature related to knowledge and practices on among staff nurses regarding hypertension.

In this part, 4 national and 6 international journals. The overall studies of part B, concluded that nurses gained knowledge and improved practices regarding hypertension.¹⁰

3. Review of literature related to effect of structure teaching program on knowledge and practices regarding clinical pathway of hypertension.

In this part, 3 national and 3 international journals. The overall study concluded that structure teaching program improved knowledge and practices regarding clinical pathway of hypertension.¹¹

2. METHODS

2.1 Aim

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

2.2 Study design

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

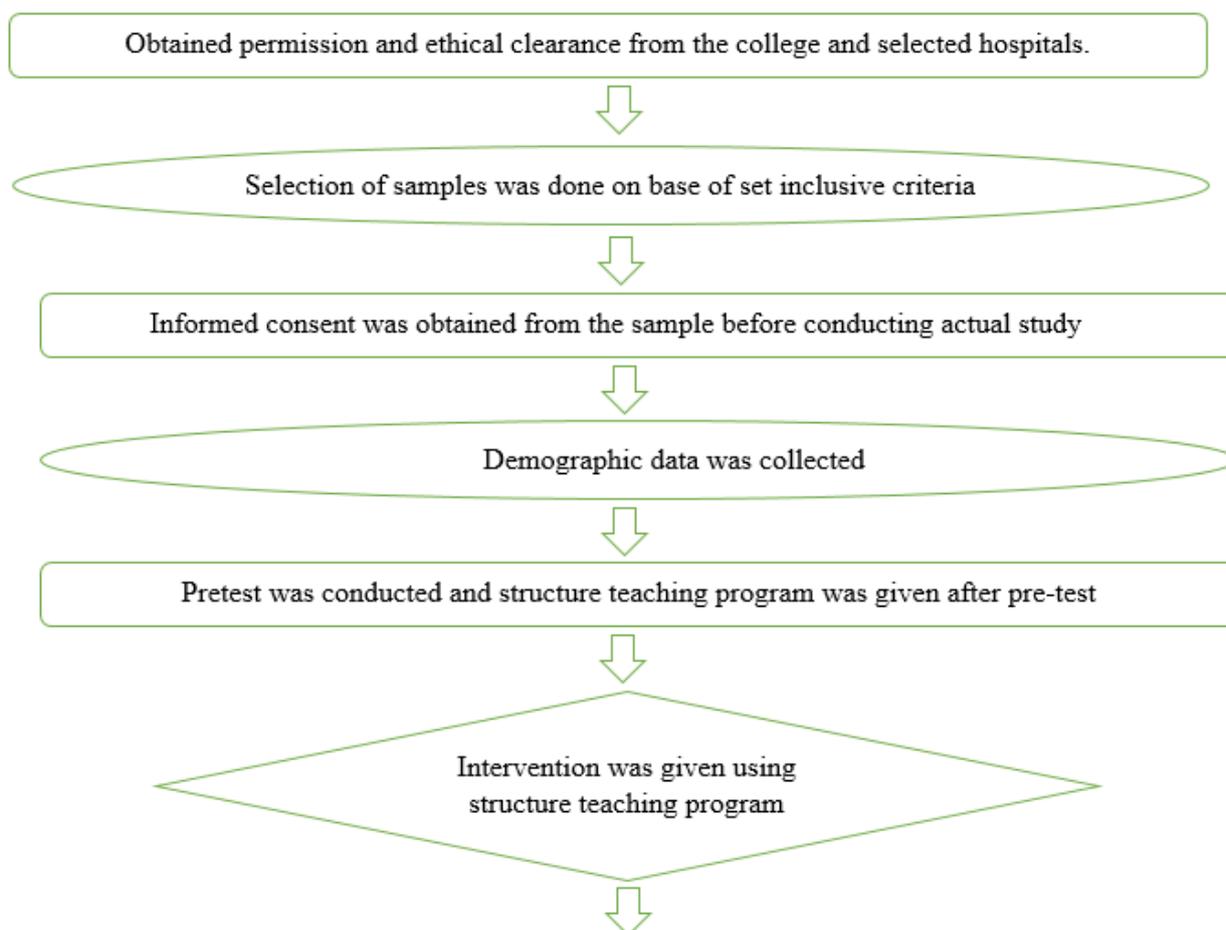
2.3 Sampling and recruitment

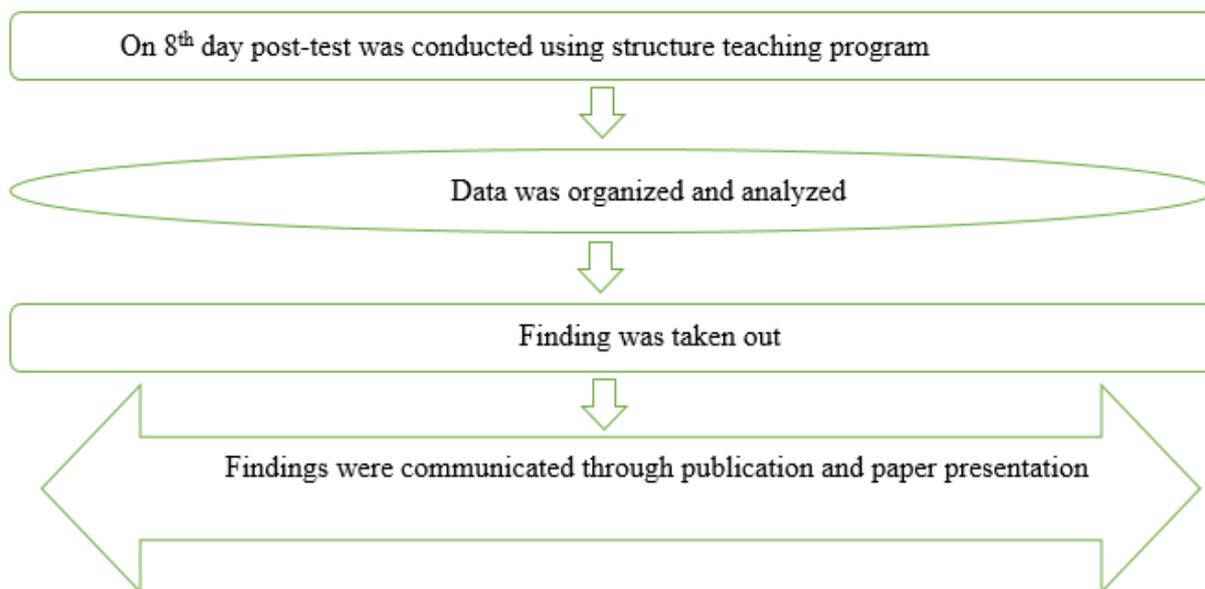
60 samples were selected using a non-probability purposive sampling technique.

2.4 Data collection

Informed consent was explained and obtained from the participant. Before starting the session approach of the statement, objective of the study was explained to the subject. Consent was taken from each subject, explain regarding maintain the confidentiality. 10 samples are taken for each day from 06/01/22 to 19/01/22. A pre-test was conducted prior intervention (structure teaching program) and after pretest structure teaching program was conducted for samples regarding meaning, purposes, elements of clinical pathway and clinical pathway of hypertension. Using various AV aids (flashcard, charts, leaflets, hand roll) for 15 mins on 12/01/22 post-test was conducted using the same tool.

SCHEMATIC DIAGRAM





2.5 Data analysis

The investigator analyzes the information victimization descriptive and inferential statistics and present them in table, graphic and figures. the subsequent set up analysis was through with the assistance of opinion of experts.

For the analysis of demographic information frequencies and proportion was calculated The significance was calculated by victimization mean,

median, variance and calculated and t price and association were done by fisher’s exact with designated demographic variable.

2.6 Rigour and ethical approval

The research proposal presented before ethical of institution the title was approved by committee. The researcher gets approval of Research Ethical Committee of the institute to conduct the study.

RESULTS

Description of samples (staff nurses) based on their personal characteristics

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

Demographic variables	Frequency	Percentage (%)
N=60		
Age		
21-30 years	30	50.0%
31-40 years	15	25.0%
41-50 years	15	25.0%
Gender		
Female	60	100.0%
Educational status		
GNM	32	53.3%
B.Sc.	6	10.0%
PB.BSC	14	23.3%
MSC	8	13.3%
Experience		
1-5 years	28	46.7%
6-10 years	16	26.7%
11-15 years	16	26.7%

The majority of samples 50% of the staff nurses were age of 21-30 years, 100% were females, 53.3% of them were GNM, 46.7% of them were 1-5 years of experience.

Analysis of data related to the knowledge and practice items.

Table 2: This data shows analysis of pretest and posttest knowledge items

N=60

Knowledge item	Pretest		Posttest	
	Freq	%	Freq	%
Clinical Pathway	39	65.0%	46	76.7%
Main purpose of Clinical pathway	38	63.3%	46	76.7%
Elements in 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%

In the pre-test, 73.3% of them knew the components of clinical pathway. 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.2)

Table 3: This data shows analysis 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	%								
Check weight patient	59	98.3%	43	71.7%	44	73.3%	46	76.7%	60	100.0%	60	100.0%	60	100.0%
Monitoring of blood pressure and vital signs every ½ hourly.	34	56.7%	40	66.7%	44	73.3%	43	71.7%	50	83.3%	59	98.3%	60	100.0%
Administer oxygen per nasal cannula 2 to 4 L/min to maintain > 95%.	28	46.7%	32	53.3%	35	58.3%	39	65.0%	27	45.0%	35	58.3%	44	73.3%
Perform ECG	36	60.0%	41	68.3%	43	71.7%	42	70.0%	41	68.3%	40	66.7%	41	68.3%
Do neurologic examination every 1 to 2 hours.	28	46.7%	31	51.7%	32	53.3%	34	56.7%	37	61.7%	35	58.3%	26	43.3%
Investigation	39	65.0%	44	73.3%	42	70.0%	44	73.3%	45	75.0%	49	81.7%	60	100.0%
Medications	43	71.7%	52	86.7%	43	71.7%	51	85.0%	41	68.3%	56	93.3%	60	100.0%
Dietary management	38	63.3%	44	73.3%	48	80.0%	47	78.3%	50	83.3%	60	100.0%	60	100.0%
Health teaching	41	68.3%	50	83.3%	47	78.3%	49	81.7%	58	96.7%	60	100.0%	60	100.0%

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.

In day 7, 100.0% practices done with patients' weight, blood pressure monitoring, investigation, medications, dietary management and health teaching. (Table.3)

Figure 1: Bar graph shows analysis of data related to effect of structure teaching program on knowledge regarding clinical pathway of hypertension among the staff nurses.

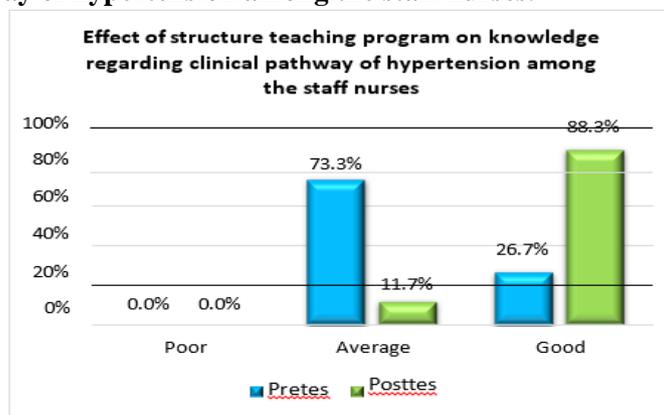


Fig 1: Effect of structure teaching program on knowledge regarding clinical Pathway of hypertension among the staff nurses.

Simple bar graph shows, in pretest 73.3% of the staff nurses were average knowledge and 26.7% of them was good knowledge regarding clinical pathway of hypertension. In posttest, 11.7% of the staff nurses was average knowledge and 88.3% of

them was good knowledge regarding clinical pathway of hypertension. This indicates, the knowledge among staff nurses regarding clinical pathway of hypertension improved remarkably after structured teaching program.

Table 4: Paired t-test for the effect of structure teaching program on knowledge regarding clinical pathway of hypertension among the staff nurses

N=60

	Mean	SD	t	df	p-value
pretest	13.2	1.6	24.5	59	<0.001
posttest	16.1	1.4			

According to table no.4, Researcher applied paired t-test for the effect to structure teaching program on knowledge regarding clinical pathway of hypertension among the staff nurses. Average knowledge score in pretest was 13.2 which

increased to 16.1 in posttest. t-value for this test was 24.5 with 59 degrees of freedom. Level of significance <0.001. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. (Table.4)

Figure 2. Compound graph shows analysis of data related to effect of structure teaching program on practices regarding clinical pathway of hypertension among the staff nurses.

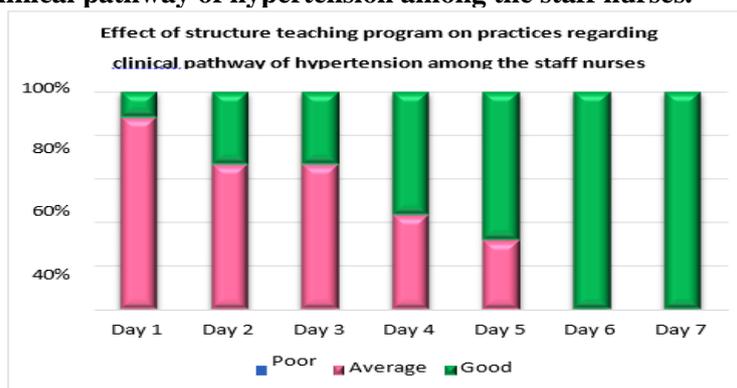


Fig 2: Effect of structure teaching program on practices regarding clinical Pathway of hypertension

Compound bar graph shows (fig no.3), 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 is remarkable improvement in practices regarding clinical pathway of hypertension among the staff nurses. Null hypothesis is rejected.

Table 5: Paired t-test for the effect of structure teaching program on practices regarding clinical pathway of hypertension among the staff nurses

N=60

Day	Mean	SD	T	df	p-value
Day 1	5.77	0.7			
Day 2	6.28	0.6	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 table no.5, Researcher applied paired t-test for the effect to structure teaching program on practices regarding clinical pathway of hypertension among the staff nurses. Average practices score on day1 was 5.77 which was 6.28, 6.3, 8.5, 8.7, 8.8, 8.9 on day2, day 3, day 4, day 5, day 6 and day 7. 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.

Analysis of data related to correlation coefficient between knowledge andpractices related to clinical pathway of hypertension.

Figure 3: T-test for significance of correlation coefficient between knowledge andpractices related to clinical pathway of hypertension.

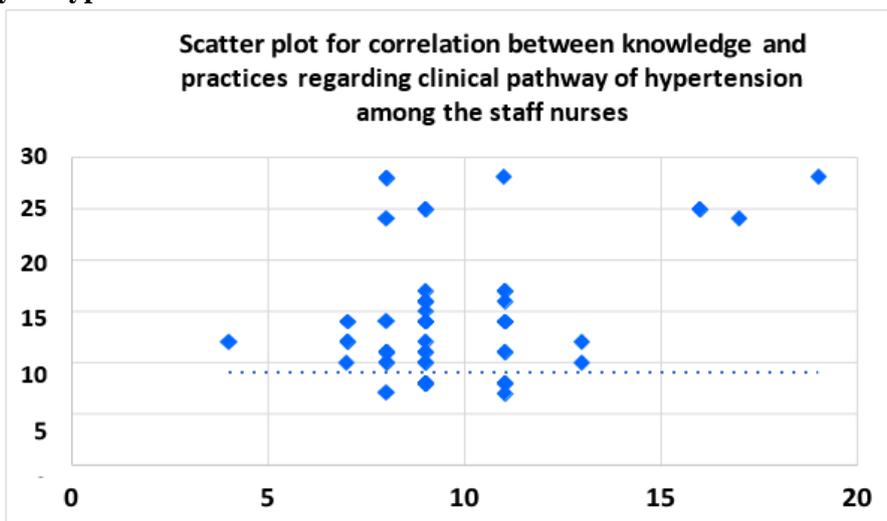


Figure no 3: Correlation between knowledge and practices regarding clinical pathway of hypertension among the staff nurses.

Correlation between knowledge and practices was assessed using Pearson’s correlation coefficient. Pearson’s correlation coefficient was found to be

0.38, which is positive. The strength of this positive correlation was tested using t-test for significance of correlation coefficient. T-value for this test was

3.12 with 58 degrees of freedom. Corresponding p-value was large (less than 0.05), the null hypothesis is rejected. There is significantly positive correlation between knowledge and practices

among staff nurses regarding clinical pathway of hypertension. More the knowledge among staff nurses better are the practices among them regarding clinical pathway of hypertension.

Analysis of data related to association of knowledge & practices with selected demographic variables

Table 6: Fisher’s exact test for association of knowledge with selected demographic variables N=60

Demographic variable		Knowledge		p-value
		Average	Good	
Age	21-30 years	23	7	0.051
	31-40 years	8	7	
	41-50 years	13	2	
Educational status	GNM	23	9	0.415
	B.Sc.	5	1	
	MSC	6	2	
	PB.BSC	10	4	
Experience	1-5 years	23	5	0.135
	6-10 years	9	7	
	11-15 years	12	4	

According to table no.6, Since all the p-values were less (less than 0.05), the demographic variables was found to have significant association with the

knowledge among staff nurses regarding clinical pathway of hypertension.

Table 7: Fisher’s exact test for association of practices with selected demographic variables N=60

Demographic variable		Practices		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
	B.Sc.	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	

According to table no.7, Since the p-value corresponding to age was small (less than 0.05), the demographic variable age was found to have significant association with the practices among staff nurses regarding clinical pathway of hypertension.

DISCUSSION

A similar study was conducted in the month of June 2015 at selected hospital of Mumbai city. There sample was 50 staff nurses selected for this study. The aim of the study was to assess effect of

structure teaching on knowledge of hypertension among staff nurses. Tool was used their First part of tool regarding demographic data i.e., age, gender, height, weight, BMI, dietary pattern, family history of cardiovascular disease, stress, history of hypertension, medicine. Second part of Tool contains questions regarding meaning of hypertension, causes, risk factors, complications and life style modifications are included in the tool. The result shows that, out of total 50 staff nurses only 18 (36%) staff nurses had good knowledge scores, 28 (56%) had average knowledge and 4

(8%) had poor knowledge scores. there was significant difference hasbeen observed. To assess the difference in knowledge scores t test is calculated, which is 20.5. The P value is <0.05. The study concluded that, knowledge of hypertension among staff nurses has been improved after providing structure teaching.¹²

The present study was done on 60 samples of staff nurses working in hospital. In pretest, 73.3% of the staff nurses were average knowledge (score 8-14) and 26.7% of them were good knowledge (Score 15-21) regarding clinical pathway of hypertension. After conducted structure teaching program, in posttest, 11.7% of the staff nurses was average knowledge (score 8-14) and 88.3% of them was good knowledge (Score 15-21) regarding clinical pathway of hypertension. This indicates that the knowledge among staff nurses regarding clinical pathway of hypertension improved remarkably after structured teaching program.

In 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 is 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.

CONCLUSION

The study was conducted to the effect of structure teaching program on knowledge and 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 is rejected, and after 7 days practices of clinical pathway score were found (greater than 0.05). Which indicating that the structure teaching is 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. structure teaching program is one of the teaching methods, which use to improve the knowledge regarding clinical pathway. The present study shows that, structure teaching 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.

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.

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 knowledge 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 knowledge and 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 among experimental group and control group without intervention.

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