

# A Study to Assess the Effectiveness of Structure Teaching Programme on Knowledge Regarding Hypertension and Its Management Among Nursing Students at Selected College of Nursing, Ghaziabad, U.P.

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## ABSTRACT

“Hypertension is a major public health problem and important area of research due to its high prevalence and being major risk factor for cardiovascular diseases and other complications. This quasi-experimental study was conducted to evaluate the effectiveness of structured teaching programme on knowledge regarding hypertension and its management among nursing students in selected college of nursing in Ghaziabad, U.P. A total of 80 nursing students were purposively selected and divided into two groups: experimental (n=40) and control (n=40). Pre- and post-intervention knowledge was assessed using a structured questionnaire containing 30 items.

The intervention group received a structured teaching programme, while the control group did not receive any teaching. Statistical analysis using paired and independent t-tests revealed a significant improvement in post-test knowledge scores in the experimental group (mean pre-test score =  $7.35 \pm 4.51$ ; post-test =  $19.50 \pm 6.76$ ;  $p < 0.001$ ), while no significant change was observed in the control group. Chi-square analysis indicated no significant association between knowledge levels and demographic variables.

This study concludes that structured teaching programmes are effective in improving knowledge of hypertension and its management among nursing students. Incorporating such educational strategies into the nursing curriculum can help reduce Hypertension and improve patient safety.”

**Keywords:** Hypertension, Structured teaching programme, Nursing education

## INTRODUCTION:

Hypertension is a major public health problem because of its high prevalence around the world. Around 7.5 million deaths or 12.8% of the total of all annual deaths worldwide occur due to hypertension. It is assumed to be increased to 1.56 billion adults with high blood pressure in 2025.<sup>1</sup>

In an analysis of worldwide data for the global burden of HTN, 20.6% of Indian men and 20.9% of Indian women were suffering from HTN in 200 . The rates for HTN in percentage are projected to

increased up to 22.9 and 23.6 for Indian men and women, respectively by 2025. Recent studies from India have shown the prevalence of high blood pressure to be 25% in urban and 10% in rural population in India. According to the WHO 2008 it estimates that the incidence of raised BP in Indians were 32.5% (33.2% in men and 31.7% in women). However, only about 25.6% of treated patients had their blood pressure under control, in a multicenter study from India on awareness, treatment, and adequacy of control of HTN<sup>2</sup>.

First-line therapy for hypertension is modification of lifestyle, including losing weight, healthy dietary pattern that includes decreased sodium and increased potassium intake, physical activity, and elimination of consumption of alcohol. The blood pressure lowering effects of individual lifestyle's components are partially additive and enhance the efficacy of medical therapy. The decision to initiate medications for hypertension should be based on the level of blood pressure and the presence of high atherosclerotic cardiovascular disorder risk. First-line drug therapy for hypertension consists of a thiazide or thiazide like diuretic such as metolazone, an angiotensin-converting enzyme inhibitor or angiotensin receptor blocker such as lisinopril or eprosartan, and a calcium channel blocker such as amlodipine and should be titrated according to office and home systolic blood pressure/diastolic blood pressure levels to achieve in most people an systolic blood pressure/diastolic blood pressure target (<130/80 mm Hg for adults <65 years and SBP <130 mm Hg in adults ≥65 years).<sup>3</sup>

Nursing students, play a pivotal role in implementing infection control practices. Their knowledge and skills in hand hygiene directly impact patient safety and clinical outcomes. Therefore, targeted educational interventions, such as structured teaching programmes (STPs), are necessary to enhance their understanding, motivation, and compliance with hand hygiene protocols.

This study evaluates “the effectiveness of a structured teaching programme on knowledge related to medical and surgical handwashing among nursing students in selected schools in Ghaziabad, Uttar Pradesh.” By addressing gaps in hand hygiene education, the findings aim to support the inclusion of such interventions in nursing curricula to improve infection control practices and enhance patient safety in clinical settings.

## METHODOLOGY

**Research Approach:** “A quantitative research approach”.

**Research Design:** The study utilized “a quasi-experimental non-equivalent control group pre-test post-test design”.

**Study Setting and Participants:** The study was carried out in two nursing college in Uttar Pradesh: Santosh College of Nursing, Ghaziabad (experimental) and Institute of international excellence college of nursing, (control), involving second-year Bsc Nursing students due to their early clinical exposure.

**Sampling:** A total of 80 nursing students were selected using “non-probability purposive sampling”, with 40 allotted to the experimental group and 40 to the control group.

**Data Collection:** A structured knowledge questionnaire consisting of 30 multiple-choice items was used for both pre- and post-tests. The structured teaching programme (STP) was delivered to the experimental group through lectures, demonstrations, and audio-visual aids. Post-tests were conducted on the 7th day following the intervention.

**Data Analysis:** The data analysis included “descriptive statistics such as frequency, percentage, mean, and

standard deviation” to summarize variables. Inferential methods applied were “paired and independent t-tests”, along with “chi-square test”. A p-value less than 0.05 was interpreted as statistically significant.

**RESULTS**

**Table 1: Frequency and Percentage Distribution of Demographic Variables among Experimental and Control Groups**

S. No.	Variable	Category	Experimental Group (n = 40)		Control Group (n = 40)	
			Frequency (f)	%	Frequency (f)	%
1	Age (in years)	17–20	24	60	21	52
		21–23	13	32	14	35
		24–27	2	5	4	10
		28-30	1	3	1	3
2	Gender	Female	25	63	27	68
		Male	15	37	13	32
3	Previous Knowledge	Yes	10	25	14	35
		No	30	75	26	65
4	Source of Knowledge	Books	2	5	4	10
		Journals	3	8	7	17
		Social media	2	5	4	10
		Internet	10	25	3	8

The above table shows that most participants were aged 17–20 years, indicating they were early in their nursing education. Both groups were predominantly female (63% experimental, 68% control), reflecting typical nursing demographics. A high percentage had no prior knowledge of hypertension and its management (75% experimental, 65 % control), mainly sourced from books, followed by social media, internet and journals.

**Table 2: Pre-Test Knowledge Score Distribution among Experimental and Control Groups**

Knowledge Level	Experimental Group (n = 40)		Control Group (n = 40)	
	Frequency (f)	%	Frequency (f)	%
Good Knowledge	4	10	13	32
Average Knowledge	3	7	7	17
Poor	33	83	20	20

The above table shows that most students in both groups had poor knowledge of hypertension and its management , with over 40% falling into the average or good categories. Only a small percentage showed good knowledge.

**Table 3: Post-Test Knowledge Score Distribution among Experimental and Control Groups**

Knowledge Level	Experimental Group (n = 40)		Control Group (n = 40)	
	Frequency (f)	%	Frequency (f)	%
Good Knowledge	19	48	15	38

Average Knowledge	16	40	9	22
Poor	5	12	16	40

The above table shows that post-test knowledge levels were higher in the experimental group, with 12% scoring poorly, while 40% achieved average and 48% achieved good knowledge. In contrast, the control group performed with 40% falling into the good or average categories and 40% showing poor knowledge.

**Table 4: Paired t-Test Comparison of Pre- and Post-Test Knowledge Scores in Experimental and Control Groups**

Group	Test	Mean	S.D.	t-value	p-value	Significance
<b>Experimental (n = 40)</b>	Pre-test	7.35	4.51	7.657	0.001	Significant
	Post-test	19.50	6.76			
<b>Control (n = 40)</b>	Pre-test	15.87	6.05	1.022	0.315	Not Significant
	Post-test	16.77	6.01			

The experimental group’s mean score significantly improved from  $7.35 \pm 4.51$  to  $19.50 \pm 6.76$  ( $p = 0.001$ ), indicating the effectuality of the STP. In contrast, the control group showed a minimal, non-significant increase from  $15.87 \pm 6.05$  to  $16.77 \pm 6.01$  ( $p = 0.315$ ).

**Table 5: Association of Post-Test Knowledge Scores with Demographic Variables Using Chi-Square Test in Experimental group (n = 40)**

S. No.	Demographic Variable	Chi-square ( $\chi^2$ ) Value	Df	p-value	Significance
1	Age	12.59	6	0.032	Significant
2	Gender	5.991	2	0.087	Not Significant
3	Batch	12.59	6	0.643	Not Significant
4	Source of Knowledge	12.59	2	0.016	Significant
5	Previous Knowledge	5.99	2	0.049	Significant

The table shows that there were significant association between post-test knowledge score with age, source of information and previous knowledge demographic variables in experimental group as all p-values were below 0.05. Hence H<sub>2</sub> is accepted.

**Table 6: Association Between Post-Test Knowledge Scores and Demographic Variables in Control Group (N = 40)**

S. No.	Demographic Variable	Chi-square ( $\chi^2$ ) Value	Df	p-value	Significance
1	Age	12.59	6	0.254	Not Significant
2	Gender	5.991	2	0.99	Not Significant

3	Batch	12.59	6	0.318	Not Significant
3	Source of Knowledge	12.59	6	0.818	Significant
4	Previous Knowledge	5.99	2	0.004	Not Significant

The above table reveal that there was “no statistically significant association” amid knowledge scores and age ( $\chi^2 = 12.59, p = 0.254$ ), gender ( $\chi^2 = 5.991, p = 0.99$ ), or source of knowledge ( $\chi^2 = 12.59, p = 0.818$ ), as all  $p$ -values were greater than the 0.05 level of significance.

## DISCUSSION

The present study demonstrated that a STP significantly improved the knowledge of nursing students on knowledge regarding hypertension and its management. The experimental group showed a notable increase in mean scores from  $7.35 \pm 4.51$  to  $19.50 \pm 6.76$ , while the control group showed no significant change. This highlights the effectiveness of targeted education in enhancing hypertension awareness.

These findings are supported by Girija M. (2014), who observed significant knowledge gains among patients after implementing an STP on hypertension and its management<sup>4</sup>.

Further evidence from Shaikh (2021) confirms that structured education boosts theoretical knowledge among nursing students. These studies, consistent with our results, affirm that regular, structured interventions bridge the gap between knowledge and practice in diverse educational settings<sup>5</sup>.

A major strength of the study is its quasi-experimental design and use of a validated tool, enhancing reliability. Limitations include non-random sampling, small sample size, and brief follow-up. Slight score improvement in the control group may reflect external or peer learning, indicating the need to control such factors in future studies.

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