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## The effectiveness of planned teaching programme for self-blood pressure monitoring in terms of knowledge and skill among hypertensive clients of rural community of North India

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### Abstract

The current study aimed to evaluate the effectiveness of planned teaching programme regarding self-blood pressure monitoring in terms of knowledge and skill among hypertensive clients residing in rural area of north India. To assess and compare knowledge and skill regarding self-blood pressure monitoring among hypertensive client before and after administration of planned teaching programme. To determine the relationship between knowledge and skill regarding self-blood pressure monitoring among hypertensive client. A quantitative research approach using quasi experimental research design (one group pre-test post-test) was adapted for the study. The data was collected from 60 hypertensive clients of Mullana village, Ambala using Structured knowledge questionnaire and Observation checklist. The study observed that the mean post-test knowledge score (8.20) was significantly higher than the mean pre-test score (2.35). The mean post-test skill score (8.67) was significantly higher than the mean pre-test skill score (0.18). There was a weak positive statistical relationship ( $r=0.25$ ,  $p>0.05$ ) between knowledge and skill. It is concluded that planned teaching programme was effective in enhancing both the knowledge and skills in self-monitoring of blood pressure among hypertensive clients.

**Keywords:** Effectiveness, planned teaching programme, self-blood pressure monitoring, knowledge, skills, hypertensive clients

### 1. Introduction

Hypertension is defined as a systolic blood pressure of 140 mm Hg or more, or a diastolic blood pressure (DBP) of 90 mm Hg or more, or taking antihypertensive medication. Hypertension affects approximately 86 million adults ( $\geq 20$  years) in the United States; it is a major risk factor for stroke, myocardial infarction, vascular disease, and chronic kidney disease [1]. The prevalence of hypertension ranges in India from 20-40% in urban adults and 12-17% among rural adults. The number of people [2] with hypertension is projected to increase from 118 million in 2000 to 214 million in 2025, with nearly equal numbers of men and women [2]. A survey of 26,000 adults in South India showed a hypertension prevalence of 20% (men 23% and women 17%) [3]. Despite extensive research over the past several decades, the etiology of most cases of adult hypertension is still unknown, and control of blood pressure is suboptimal in the general population [4]. The evaluation of hypertension involves accurately measuring the patient's blood pressure, performing a focused medical history and physical examination, and obtaining results of routine laboratory studies [5]. It is indicated that hypertensive patients had adequate general knowledge and awareness about hypertension but they did not have comprehensive understanding of their condition. For example, they did not recognize the importance of systolic blood pressure (SBP) control and did not care about regular blood pressure (BP) measurement which suggested that an educational and interventional program for hypertensive patients is necessary [6]. Another study showed that poor perception of good health and irregular visits to physician doctor are some of the most important factors for unawareness, untreated and uncontrolled hypertension [7]. Preliminary evidence also shows that self-monitoring may improve control of blood pressure by improving compliance, as patients become more involved in their care. It has also been suggested that self-monitoring might reduce healthcare costs by reducing the number of clinic visits [8].

It has also been suggested that self-monitoring might reduce healthcare costs by reducing the number of clinic visits [9]. An important application of self-monitoring is to detect white coat hypertension. Although some have suggested that self-monitoring may represent a cheaper alternative method to detect this condition, it probably cannot replace ambulatory monitoring [10]. Therefore; the study was conducted to evaluate the effectiveness of planned teaching programme on self-monitoring of blood pressure in terms of knowledge and skill of hypertensive client.

**2. Methodology**

A quantitative approach with quasi (one group pre-test post-test design) was adapted. The study was conducted at Mullana village, Ambala among 60 hypertensive clients by using purposive sampling techniques. The data were collected using demographic Performa, Structured knowledge questionnaire and observational checklist on self-monitoring of blood pressure. The automatic digital device was used for self monitoring of blood pressure. On day one pretest of knowledge and skill, Planned teaching programme was given on self monitoring of blood pressure by group teaching (lecture cum demonstration). Divide the hypertensive client in 6 groups in each group having 10 hypertensive clients. On day 6<sup>th</sup> first monitoring was done and on 12<sup>th</sup> day post of knowledge and skill regarding self-monitoring was assessed. The information of knowledge was collected by interview techniques and skill was done by observational checklist. Demographic Performa consisting of 13 items: age, gender, religion, marital status, educational status, occupation, total monthly income, duration of hypertension, duration of hypertension, family history of hypertension, often check your BP, where check last BP,

previous knowledge regarding self-monitoring. Structured knowledge questionnaire regarding self-monitoring of blood pressure consisting of 18 items covering the following 3 areas: Knowledge regarding concepts of self-monitoring of blood pressure, Purpose of self-monitoring of blood pressure, Step of self-monitoring of blood pressure. Observational checklist was prepared for evaluating the skills in performing the self-monitoring of blood pressure. There were total 17 items in the checklist. Content validity of the tools was established by the suggestion of expert in the field. Internal consistency of the questionnaire was computed by using kuder Richardson and found to be reliable. (0.67). Inter rater reliability of observational checklist on self-administration (r=0.68). The training on self-monitoring of blood pressure was prepared by reviewing the literature, seeking the opinion of the experts and validated by expert. Ethical consideration: Formal administrative approval was obtained from the Sarpanch of Mullana village, Ambala. Informed written Consent was taken from the participants.

**3. Result**

The result showed that more than half of clients (57%) belongs to more than 50 years of age group, majority of client were (75%) females. 43% client were having duration of hypertension since two years, majority of clients (82%) had no family history of hypertension. 72% clients going for their BP check-up. 98% had no knowledge regarding self blood pressure monitoring. The mean post-test knowledge score (8.20) is significantly higher than the mean pre-test knowledge score (2.35) and the mean post-test skill score (8.67) is significantly higher than the mean pre-test skill score (0.18)

**Table 1:** Mean, mean difference, standard deviation and t value of pre-test and post-test knowledge score and pre-test and post-test skill score of the hypertensive regarding self monitoring N=60

	Mean	Mean D	SD	SEMD	t-value
Knowledge Pre-test	2.35	5.85	1.41	0.40	14.52*
Knowledge Post test	8.20				
Skill Pre-test	0.18	8.48	3.79	0.40	20.89*
Skill Post-test	8.67				

Table 1 shows that the computed paired t value is significant for both (t=14.2, 20.89 p=0.05) knowledge and skill is significant. This statistical analysis shows that the gain in knowledge and skill were not by chance and thus improved by planned teaching programme.

The indicates co-efficient of co-relation between post-test knowledge and post-test skill scores. Pearson’s r was computed to find out the relationship between knowledge and skill scores Calculated ‘r’ value was (r=-0.198, 0.23, 0.21) suggesting no significant correlation between post-test knowledge score and post-test skills scores Findings related to the association of mean post-test knowledge score and post-test skills score were not significant with selected variables

**4. Discussion**

The present study indicated majority of the hypertension clients were females and these findings were consistent with the finding of Partim LS et.al which revealed that 70% females were hypertensive. The findings also revealed only 1% of hypertensive clients practice self blood pressure monitoring, these findings were consistent with the findings

of Osman EM in eastern Sudan, revealed that out of 242 patients only 19.4% know about self-monitoring.

The finding indicated the level of knowledge in the hypertensive clients were average (37%). These findings were consistent with the finding of Jennifer E. Bills reveals 40% clients had average knowledge regarding self-blood pressure monitoring.

**5. Conclusion**

The study concluded that the hypertensive clients had average knowledge and good skill regarding self-blood pressure monitoring of and improved after Planned teaching programme. The study findings reveal that there is no significant correlation between knowledge and skill. It is concluded that planned teaching programme was effective in enhancing both the knowledge and skills in self-monitoring of blood pressure among hypertensive clients.

**6. Recommendations**

The study can be replicated on a larger sample of hypertension in different setting for making broad generalization. A true experimental study can be conducted with structured teaching programme regarding self-blood

pressure monitoring. A descriptive study can be carried out to identify the barriers of self-blood pressure monitoring. A study can be conducted to assess other variables like attitude, beliefs and adherence regarding self-blood pressure monitoring.

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