



## RESEARCH ARTICLE

# A STUDY TO ASSESS THE EFFECTIVENESS OF A PEDAGOGICAL PROGRAM REGARDING PREVENTION AND MANAGEMENT OF HYPERTENSION AMONG THE POLICE PERSONNEL IN MYSURU CITY

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### ARTICLE INFO

#### Article History:

Received 14<sup>th</sup> December, 2023

Received in revised form

20<sup>th</sup> January, 2024

Accepted 24<sup>th</sup> February, 2024

Published online 30<sup>th</sup> March, 2024

#### Key words:

Effectiveness, Pedagogical Program, Prevention and management, Hypertension, Police personnel Knowledge.

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### ABSTRACT

**Background of the study:** Hypertension has become a significant problem in many developing countries experiencing epidemiological transition from communicable to non-communicable chronic diseases. Literature has documented that strenuous working environment, tight work schedules with round-the-clock service, job demands and insufficient time with the family, that the policemen face in their day-to-day job activities have contributed to an increased incidence of cardiovascular disorders including hypertension among them. Knowledge about the risk factors is an important prerequisite for an individual to implement behavioral changes towards the prevention of chronic diseases. **Aim and objective:** The aim of the study was to assess the effectiveness of a pedagogical program regarding prevention and management of Hypertension among police personnel of Mysuru. **Methods:** Research design adopted for the study was pre-experimental, one group pre-test, post-test design. Non probability purposive sampling was used to select 100 police personnel for the study. Knowledge of police personnel regarding prevention and management of hypertension was assessed using Structured Knowledge Questionnaire. Pedagogical program on prevention and management of hypertension was conducted for police personnel. **Results:** The results of the study revealed that pedagogical program was effective in increasing the knowledge of police personnel regarding prevention and management of Hypertension as evidenced by computed paired 't' test which was significant at 0.05 level of significance ( $t_{99} = 30.88$ ;  $p < 0.05$ ). **Conclusion:** The pedagogical program was effective in enhancing the knowledge of police personnel regarding the prevention and management of Hypertension. The study findings stress the increasing responsibility of health professionals in planning and implementing various educational strategies to improve the knowledge of the public regarding prevention and management of Hypertension which in turn help to reduce their risk for Hypertension in their later life.

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**Citation:** Arunavati, N. and Dr. Usha M Thomas, K. 2024. "A study to assess the effectiveness of a pedagogical program regarding prevention and management of hypertension among the police personnel in mysuru city". *International Journal of Current Research*, 16, (03), 27638-27642.

## INTRODUCTION

Hypertension has become a significant problem in many developing countries experiencing epidemiological transition from communicable to noncommunicable chronic diseases<sup>1</sup>. Hypertension has been a silent killer since ages and global public health problem. It remains silent being asymptomatic during its clinical course. Because of its asymptomatic appearance, it does immense harm to the body in the form of target organ damage, hence the WHO has named it the "silent killer." Excess dietary salt, low dietary potassium, overweight and obesity, physical inactivity, excess alcohol, smoking, psychosocial stressors, and diabetes are considered as modifiable risk factors for hypertension<sup>1</sup>. According to the data updated by WHO on 25th August 2021, an estimated 1.28 billion adults aged 30-79 years worldwide have hypertension and two-thirds of them are living in low- and middle-income countries. The number of adults with 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 mainly due to a rise in hypertension risk factors in those populations. An estimated 46% of adults with hypertension are unaware that they have the condition and less than half of adults (42%) with hypertension are diagnosed and treated. As per the strategy of WHO, one of the global targets for non-communicable diseases is to reduce the prevalence of hypertension by 33% between 2010 and 2030<sup>2</sup>. Police personnel constitute a special occupational group with exposure to violence and constant stress at work place which directly or indirectly affect their health. Police personnel are responsible for public security and provide round the clock service to ensure law and order to civilians. A police officer is always subject to a lot of pressure from the department due to their work nature which requires them to be on their toes all through the day. They do not enjoy regular holidays that other workforce in a lot of other departments enjoy. As a result of this, they are put under tremendous load and are always keyed up. Consequently, the brunt of the condition worsens their personal health in terms of mental, physical, or emotional health<sup>3</sup>. Literature also documented that the increased risk

among this group is related to their lifestyle and working environment. Policemen often lead a physically inactive life, have irregular diet and limited choice of foods while on duty, take overtime and shift work, suffer from disrupted sleep patterns, stress and have high rates of tobacco and alcohol consumption than the general population<sup>4</sup>. Literature has documented that strenuous working environment, tight work schedules with round-the-clock service, job demands and insufficient time with the family, that the policemen face in their day-to-day job activities have contributed to an increased incidence of cardiovascular disorders, obesity, insulin resistance, stress and liver disorders among them. Knowledge about the risk factors is an important prerequisite for an individual to implement behavioral changes towards the prevention of chronic diseases. Nurses have a vital role in health promotion activities. Being the integral part of health care provider system, nurses have the responsibility to implement educational strategies focused on individuals at high-risk categories. With this view, the present study was carried out to assess the effectiveness of a pedagogical program regarding prevention and management of hypertension among police personnel.

## OBJECTIVES

- To assess the knowledge regarding prevention and management of hypertension among police personnel before and after the Pedagogical Program.
- To determine the effectiveness of Pedagogical Program on knowledge regarding prevention and management of hypertension among police personnel.
- To determine the association between the knowledge of police personnel regarding prevention and management of hypertension and their selected personal variables.

## HYPOTHESES

**H<sub>1</sub>:** Mean posttest knowledge scores of police personnel regarding prevention and management of hypertension will be significantly higher than their mean pretest knowledge scores.

**H<sub>2</sub>:** There will be statistically significant association between the knowledge of police personnel regarding prevention and management of hypertension and their selected personal variables.

## METHODS

A pre-experimental one group pre-test post-test design was adopted for the study. Ethical clearance was obtained from the Institutional Ethics Committee. Non-probability purposive sampling technique was used to select 100 Police Personnel. Validated, Structured knowledge questionnaire was used to assess the knowledge of police personnel, Anthropometric measurements such as height, weight, waist circumference and Blood pressure of police personnel were monitored using standardized instruments. Pedagogical program included the risk factors, clinical features, diagnosis, prevention and management of Hypertension. Data was collected from 31/05/2022 to 06/06/2023.

## RESULTS AND DISCUSSION

**Description of Selected Personal Variables of Study subjects:** The selected personal variables of police personnel were age in years, gender, religion, educational qualification, working experience, dietary pattern, family history of hypertension, previous diagnosis of hypertension, habit of drinking alcohol, habit of smoking, and previous exposure to educational sessions regarding hypertension.

TABLE 1

Section 1: Frequency and percentage distribution of police personnel according to their selected personal variables

n=100			
SL.NO	Personnel variables	Frequency (f)	Percentage (%)
1	<b>Age in years</b>		
	1.1 35-45	20	20
	1.2 Above 45	80	80
2	<b>Gender</b>		
	1.1 Male	100	100
	1.2 Female	00	00
3	<b>Education qualification</b>		
	3.1 SSLC	42	42
	3.2 PUC	50	50
	3.3 Degree and above	8	8
4	<b>Duration of working experience</b>		
	4.1 1 to 10 years	17	17
	4.2 11 to 20 years	70	70
	4.3 21 to 30 years	13	13
5	<b>Dietary pattern</b>		
	5.1 Vegetarian	6	6
	5.2 Mixed	94	94
6	<b>Family history of Hypertension</b>		
	6.1 Yes	7	7
	6.2 No	93	93
7	<b>Habit of smoking</b>		
	7.1 Yes	7	7
	7.2 No	93	93

8	<b>Habit of drinking Alcohol</b>		
	8.1 Yes	10	10
	8.2 No	90	90
9	<b>Previous Diagnosis of Hypertension</b>		
	9.1 Yes	10	10
	9.2 No	90	90
10	<b>Previous exposure to educational sessions</b>		
	10.1 Yes	6	6
	10.2 No	94	94
11	<b>Blood pressure</b>		
	11.1 Normal	42	42
	11.2 Pre hypertension	30	30
	11.3 Hypertension	28	28
12	<b>Body mass index</b>		
	12.1 Normal	34	34
	12.2 Obese	37	37
	12.3 Over weight	29	29

**Section 2. Effectiveness of Pedagogical Program on prevention and management Hypertension.**

**I.Frequency and Percentage distribution of knowledge scores of Police personnel according to their pre-test and post-test knowledge scores**



**Frequency and Percentage distribution of knowledge scores of Police personnel according to their pre-test and post-test knowledge scores**

It is evident that, the majority of Police personnel (63%) had average knowledge and 37% had poor knowledge regarding the prevention and management of Hypertension in the Pre-test. Data also revealed that in the post-test, there was an increase in the knowledge level of Police personnel i.e. 57% of them scored good and 43% had scored the average level of knowledge regarding prevention and management of Hypertension. A cross sectional study which has analyzed the knowledge and preventive practices regarding hypertension among police officers in Ibadan reported that majority (47.6%) had inadequate knowledge of hypertension.<sup>28</sup>.Another descriptive study which has analysed the Knowledge, Attitude and Lifestyle Practices Pertaining to Hypertension among the People of Ahoe-Ho, Ghana also reported that less than half (49.3%) of the respondents knew the preventive measures of hypertension.<sup>5</sup> A qualitative study conducted among 25 hypertensive patients and 13 family care givers documented that study participants had little or no awareness of hypertension self-management practices. Participants also reported that they do not receive lifestyle management advice from healthcare professionals, and do not know the importance of eating low-salt diets and engaging in physical activities<sup>39</sup>. Contradictory findings are observed in a study which has explored the knowledge, attitude, and practices on hypertension among adults in Indian Ocean. A high proportion of participants (96%) showed good basic knowledge on hypertension. 79% of subjects knew the benefit of physical exercise on blood pressure.<sup>6</sup>

**Mean, median, range and standard deviation of pre-test and Post-test knowledge of Police personnel.**

**TABLE 2**

n=100

Test	Mean	Median	Range	Standard deviation
Pre test	12.12	12.0	07-17	± 2.34
Post test	20.89	21.4	19-25	± 1.84

The data presented in Table 2 shows that, the pre-test knowledge scores ranged from 7-17 and the post-test knowledge scores ranged from 19-25. The mean pre-test knowledge score was 12.12 with a standard deviation of ±2.34 and the mean post-test

knowledge score was 20.89 with a standard deviation of  $\pm 1.84$ . This indicates that there was an increase in knowledge scores of Police personnel after the Pedagogical program.

**Mean, mean difference, Standard deviation difference, Standard error and paired 't' value of Pre-test and post-test knowledge scores of Police personnel.**

**Table 3**

n=100					
Test	Mean	mean difference	standard deviation difference	standard error	paired 't' test value
Pre test	12.12	8.77	$\pm 2.84$	0.28	30.88*
Post test	20.89				

$t_{(99)} = 1.96$ ;  $p < 0.05$  \*significant

The data presented in Table 3 shows that the mean difference between pre-test knowledge score and post-test knowledge score is 8.77. To find the significance of the difference between the mean knowledge scores, paired 't' test was computed and obtained value of paired  $t_{(99)} = 30.88^*$  was found to be significant at 0.05 level of significance. Hence it is interpreted that there was statistically significant difference between the mean pre-test and post-test knowledge scores of Police personnel and inferred that Pedagogical program on the prevention and management of Hypertension was effective in improving the knowledge of Police personnel. These results are supported with the findings of another study which has evaluated the effect of educational programs on hypertension management among patients attending Shiraz Healthy Heart House.

Study reported that the mean knowledge scores improved from  $2.77 \pm 2.7$  to  $7.99 \pm 1.78$  after 3 months ( $P < 0.001$ ).<sup>7</sup> Similar findings are observed in a study to assess the effectiveness of structured teaching training Programme on Knowledge and Practice of lifestyle modification among hypertensive patients attending out-patient clinics in Lagos, which documented that the pre-knowledge about hypertension among hypertensive patients differed significantly from post-knowledge after intervention ( $t = 4.90, p = 0.001$ ). Significant difference was also observed between the pre and post knowledge level about lifestyle modification after intervention ( $t = 3.62, p = 0.001$ ).<sup>8</sup>

A Cluster-Randomized Controlled Trial conducted to assess the effectiveness of a School-Based educational intervention to improve hypertension control among 402 schoolteachers in Kerala also stated that a greater proportion of intervention participants (49.0%) achieved hypertension control than the usual care participants (38.2%) after a 3-month educational intervention. The reduction in mean systolic blood pressure was significantly greater in the intervention group by 4.2 mm Hg than in the usual care group.<sup>9</sup>

### Section 3: Association Between the Knowledge of Police Personnel regarding the Prevention and management of hypertension and their selected personal variables

**Table 4. Chi square values between the knowledge of police personnel regarding the prevention and management of hypertension and their selected personal variables**

n=100				
SL No.	Personal Variables	Poor knowledge	Average knowledge	Chi-square
1.	<b>Age in years</b>			
	1.1 35-45	17	3	5.19
1.2	Above 45	46	34	
2.	<b>Gender</b>			
	2.1 Male	63	37	NS
2.2	Female	0	0	
3.	<b>Education qualification</b>			
	3.1 SSLC	27	15	6.57*
	3.2	PUC	34	
3.3	Degree and above	2	6	
4.	<b>Duration of working experience</b>			
	4.1 1 to 10 years	10	7	1.11
	4.2	11 to 20 years	49	
4.3	21 to 30 years	4	9	
5.	<b>Dietary pattern</b>			
	5.1 Vegetarian	1	32	5.88*
5.2	Mixed	62		
6.	<b>Family history of Hypertension</b>			
	6.1 Yes	2	5	3.85*
6.2	No	61	32	
7.	<b>Previous Diagnosis of Hypertension</b>			
	7.1 Yes	3	7	5.19*
7.2	No	60	30	
8.	<b>Habit of drinking Alcohol</b>			
	8.1 Yes	6	4	0.04
8.2	No	57	33	
9.	<b>Habit of smoking</b>			NS

	9.1 Yes	1	6	7.66*
	9.2 No	62	31	
<b>10.</b>	<b>Previous exposure to educational sessions</b>			
	10.1 Yes			
	10.2 No	3	3	0.46 NS
		60	34	
<b>11.</b>	<b>Blood pressure</b>			
	11.1 Normal	21	21	6.78*
	11.2 Pre hypertension	24	6	
	11.3 Hypertension	18	10	
<b>12.</b>	<b>Body mass index</b>			
	12.1 Normal	21	13	1.11
	12.2 Obese	23	14	NS
	12.3 Over weight	19	10	

$\chi^2_{(1)}=3.841$  ;  $p<0.05$ .;NS- not significant

Data presented in table 5 shows that there was statistically significant association between the knowledge of police personnel regarding prevention and management of Hypertension and their selected personal variables viz. age, educational qualification, working experience, dietary pattern, family history of hypertension, habit of smoking, previous diagnosis of hypertension and blood pressure. Hence it inferred that these variables had an influence on the knowledge of police personnel regarding prevention and management of Hypertension. Results also revealed that there was no statistically significant association between the knowledge of police personnel regarding prevention and management of hypertension and their selected personal variables viz. gender, habit of drinking alcohol, previous exposure to educational sessions and body mass index.

## CONCLUSION

The present study was focused to determine the effectiveness of a Pedagogical program regarding prevention and management of Hypertension among police personnel in Mysuru city. Majority of police personnel (63%) were having poor knowledge. The findings also revealed that Pedagogical program was effective in increasing the knowledge of Police personnel regarding prevention and management of hypertension. Study stress the increasing responsibility of health professionals in planning and implementing various educational strategies to improve the knowledge and practice of public regarding prevention and management of hypertension which in turn help to reduce their risk for developing Hypertension in their later life.

**Conflict of Interest:** Nil

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