

STUDY TO ASSESS THE KNOWLEDGE AND ATTITUDE ON LIFESTYLE MODIFICATION AMONG HYPERTENSIVE PATIENTS ATTENDING OPD IN SRINIVASA HOSPITAL, BANGALORE

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ABSTRACT

Background: Hypertension is an important public health issue^[1] and contributes to the incidence of stroke, CAD, atherosclerosis, stroke, nephropathy, peripheral vascular disease, aortic aneurysm and heart failure. Strong research evidence has conclusively illustrated that lifestyle modification are effective in lowering BP and reducing related risk factors at little overall cost.^[2] In this regard, lack of knowledge and poor attitude toward lifestyle modification has been a major setback. **Objective:** To assess the knowledge and attitude on lifestyle modification among hypertensive patients and find the association between knowledge and attitude with socio-demographic variables. **Methods:** Quantitative descriptive approach with survey design was selected. Non probability purposive sampling was used. 60 sample sizes were taken. The structured questionnaire was used to collect the socio-demographic data and a structured questionnaire to assess the knowledge and 5 point Likert scale to assess the attitude of the hypertensive patients regarding life style modification. **Results:** The findings revealed that 16.7% have poor knowledge on lifestyle modification among hypertensive patients, 65% have average knowledge and 18.3% of them have good knowledge. The level of attitude of hypertensive patients on life style modification shows that 13.3% of them have unsatisfactory attitude, 53.4% have moderately satisfactory attitude and 33.3% of them are having satisfactory attitude. The correlation between knowledge and attitude of hypertensive patients regarding life style modification shows significant, positive, moderate correlation. The researcher prediction says when knowledge increases their attitude score also increases moderately. **Conclusion:** In the current study, knowledge toward lifestyle modification among hypertensive patients was average and with moderately satisfactory attitude. Concerted strategies are required to gain more knowledge and to attain satisfactory attitude toward lifestyle modification measures in this population group.

KEYWORDS: Lifestyle modification, hypertension, knowledge, attitude.

INTRODUCTION

Hypertension is the commonest cardiovascular disorder affecting at least 20% of adult population in several countries. It is one of the important risk factors for cardiovascular mortality accounting for 20-30% of all adults.^[3] Hypertension, simply put, is high blood pressure. It is defined as a persistent elevation of the systolic blood pressure at a level of 140 mm Hg and of diastolic blood pressure of 90 mm Hg or higher.^[2]

Hypertension prevalence is on the rise, and control rates are decreasing. Hypertension affects approximately 50 million persons- 1 in 4- in the United States, with the

highest rates of occurrence among the elderly, African Americans, less educated, and poorer people. It is estimated that only 25% of all people with hypertension have BP controlled at a target level below 140/90 mm Hg. According to search from January 1 1980, December 31, 2002, overall 26.4-95 % (26-27.2%) of adult population. In 2000 had hypertension (25.5-26.6%) and 29.2 % (28.8-29.7%) were projected to have this condition. The number of adults with hypertension in 2025 was predicted to increase by about 60% to a total of 1.56 billion (1.54-1.58 billion).^[5]

A cross sectional survey was done regarding the awareness of lifestyle modification among hypertensive patients attending primary health care centre and OP department at Karachi. 49% were male and 76% were female. On inquiring duration of taking antihypertensive drugs, 61% from OP department and 31% of primary health centre. Over 77% of patient of OPD department were not doing exercise and avoiding oily and heavy food.^[6]

A study was conducted to examine the effects of a compressive lifestyle modification intervention on BP and other CV risk factors in hypertensive patients. A total of 70 participants were randomly placed into either a lifestyle intervention or a control group. Four education classes and individual counseling sessions were held for the intervention group. Data were gathered at baseline and at the end of 6 months. At the end of 6 months, BP, weight, body mass index, waist circumference and fasting lipids, apart from high density lipoprotein cholesterol, significantly declined in the intervention group. Health promoting lifestyle scores of the intervention group had increased significantly compared to those of the control group. The result demonstrates the feasibility of comprehensive lifestyle modification and shows its beneficial effects.^[7]

The objectives of the study are assessing the knowledge and attitude level of hypertensive patients on lifestyle modification, to find out the association between knowledge level with their selected demographic variables, to find out the association between attitude level of hypertensive patients with their selected demographic variables and to find out the correlation between knowledge and attitude of hypertensive patients on lifestyle modification. In this study, we assessed the knowledge and attitude of hypertensive patients on lifestyle modification attending OPD in Srinivasa Hospital of Hoskote, Bangalore.

MATERIAL AND METHODS

- **Research Approach and Design:** Quantitative descriptive approach with survey design to accomplish the objectives of the study
- **Research Setting:** This study was conducted in selected hospital, Bangalore
- **Population**
- **Target population:** Clients who are known case of hypertension in Bangalore district
- **Accessible population:** 60 Hypertensive patients attending OPD at Srinivasa Hospitals, Bangalore
- **Sample and Sample technique:** 60 Hypertensive patients with age group of 20- 60 years attending OPD at Srinivasa Hospitals, Bangalore. The sampling technique used for the study was Purposive sampling technique
- **Sample selection criteria**
- **Inclusion Criteria**
- ✚ The patients who are in the age group between 20 to 60 years.

- ✚ The patients who are diagnosed as hypertensive.
- ✚ The hypertensive patients who are attending outpatient department in selected hospitals, Bangalore.
- ✚ The patients who are available during the period of data collection.
- ✚ The patients who can read and understand English or Kannada.
- **Exclusion criteria**
- ✚ The patients who are not willing to participate in the study.
- ✚ The patients who are not diagnosed as hypertensive.
- ✚ The hypertensive patients who are critically ill and mentally ill.
- ✚ The patients who cannot read and understand English and Kannada.

• Data collection instruments

Tool 1: Structured questionnaire to collect socio-demographic data

Tool 2: Structured knowledge questionnaire to assess the knowledge of hypertensive patients regarding life style modification

Tool 3: 5 point Likert scale to assess the attitude of hypertensive patients regarding life style modification

- **Procedure for data collection:** The ethical clearance was obtained from thesis review committee and head of the institution for conducting the study. The purpose of the study was explained and an informed consent was obtained from samples. A pilot study was conducted to ensure the reliability of the tool, applicability of items and identify the obstacles and problems that and problems that may be encountered in data collection, this number were excluded from the studied sample. The data was analyzed using descriptive and inferential statistics.

• Content Validity

The tool was given to 5 experts from the medical surgical nursing department and 2 cardiologists with the validation criteria checklist. Modifications were made in the tool based on the given corrections. After consulting with guide, statistician, the final tool was reframed. Later the tool was edited by English language expert and translated into Kannada by language experts without changing meaning of the tool.

• Reliability of the tool

The reliability was assessed by using split half method and Spearman's Brown Prophecy formula used. The reliability co-efficient of correlation values are 0.80 for knowledge and 0.86 for attitude.

RESULTS

Section 1: Based on Socio-demographic characteristics

The socio-demographic variables give the following results.

- 1) In relation to the age of the Hypertensive patients data reveals that out of 60 Hypertensive patients, 3.3% were in the age group of 21-30 yrs, 50% of the Hypertensive patients were in the age group of 31-

- 40 yrs, 30% of the Hypertensive patients are in the age group of 28-32 yrs and 16.7% of the Hypertensive patients are in the age group of 51-60 yrs
- 2) In relation to the gender the data reveals that out of 60 Hypertensive patients, 46.7% of the Hypertensive patients were male, 53.3% of the Hypertensive patients were females.
 - 3) In relation to the Educational status the data reveals that out of 60 Hypertensive patients 23.3% were having the education of secondary school, 50% were having the education of higher secondary school and 26.7 % were having the education of degree.
 - 4) In relation to the Occupation the data reveals that out of 60 Hypertensive patients 30% working for Daily wages, 16.7% were doing Business, 16.7% were working as a private employee, 13.3% were working as a Govt. employee, 23.3% were House wives.
 - 5) In relation to the Duration of illness, the data reveals that out of 60 Hypertensive patients 30 % of them were suffering from Hypertension since less than 5 years, 56.7% of them were suffering from Hypertension since 6-10 years, 10% of them were suffering from Hypertension since 11-15 years, 3.3% of them were suffering from Hypertension since more than 15 years.
 - 6) In relation to the Family Income per month the data reveals that out of 60 Hypertensive patients 13.3% were having income less than Rs. 5000, 50% were having income in between Rs. 5001-10000, 26.7% were having income in between Rs. 10001-15000, 10% were having income more than Rs. 15000.
 - 7) In relation to the type of family the data reveals that out of 60 Hypertensive patients, 26.7% of the Hypertensive patients were from joint family, 73.3% of the Hypertensive patients were from joint family.
 - 8) In relation to the Family history of Hypertension the data reveals that out of 60 Hypertensive patients 30 % were having history from parents, 53.3 % were having from siblings, 16.7 % were having from grandparents.
 - 9) In relation to the Dietary Pattern the data reveals that out of 60 Hypertensive patients 53.3 % were vegetarians and 46.7% were mixed.
 - 10) In relation to the Habits the data reveals that out of 60 Hypertensive patients 40% said smoking, 33.3% said alcoholism, 16.7% said tobacco chewing, 10% said o habits.
 - 11) In relation to the previous information regarding life style modification the data reveals that out of 60 Hypertensive patients 30% were said yes they had previous information regarding life style modification and 60% were said no, they don't had previous information regarding life style modification.
 - 12) In relation to the Source of health information, the data reveals that out of 60 Hypertensive patients 26.7% had received information from friends, 43.3% had received information from Family members, 10% had received information from mass media and 20% had received information from Health professionals.

Frequency and percentage distribution of demographic variables of Hypertensive patients.

Table 1: Demographic profile n=60.

Demographic variables		No. of patients	Percentage (%)
Age	21 -30 yrs	2	3.3%
	31 -40 yrs	30	50.0%
	41 -50 yrs	18	30.0%
	51 -60 yrs	10	16.7%
Sex	Male	28	46.7%
	Female	32	53.3%
Education	Secondary	14	23.3%
	Higher secondary	30	50.0%
	Degree	16	26.7%
Occupation	Daily wages	18	30.0%
	Business	10	16.7%
	Private employee	10	16.7%
	Govt employee	8	13.3%
	House wife	14	23.3%
Duration of illness	< 5 yrs	18	30.0%
	6 -10 yrs	34	56.7%
	11-15 yrs	6	10.0%
	> 15 yrs	2	3.3%
Family income	< Rs.5000	8	13.3%
	Rs.5001-10000	30	50.0%
	Rs.10001-15000	16	26.7%
	Rs.15000	6	10.0%
Family type	Joint family	16	26.7%

	Nuclear family	44	73.3%
Family history of Hypertension	Parents	18	30.0%
	Siblings	32	53.3%
	Grand parents	10	16.7%
Dietary pattern	Vegetarian	32	53.3%
	Mixed	28	46.7%
Habits	Smoking	24	40.0%
	Alcoholic	20	33.3%
	Tobacco chewing	10	16.7%
	None	6	10.0%
Previous information regarding life style modification	Yes	18	30.0%
	No	42	70.0%
Source of health information	Friends	16	26.7%
	Family members	26	43.3%
	Mass Media	6	10.0%
	Health professionals	12	20.0%

Table 1– shows the socio-demographic profiles of the Hypertensive patients for the study of “A study to assess the knowledge and attitude on lifestyle modification among hypertensive patients attending outpatient department at Srinivasa Hospital, Bangalore, Karnataka.”

The present study was intended to assess the knowledge and attitude of hypertensive patients towards lifestyle modification. This section deals with the analysis and interpretation of data collected from 60 hypertensive patients.

Section 2: Assess the Knowledge level of Hypertensive patients on Life style modification

Table 2: Each domainwise percentage of knowledge N=60.

Knowledge on	No. of questions	Min – Max score	Knowledge score		% of Mean score
			Mean score	SD	
General information about Hypertension	6	0-6	2.80	0.95	46.7%
Management	5	0 -5	2.30	1.01	46.0%
Life style modification	9	0 -9	4.30	1.60	47.8%
Total	20	0 -20	9.40	2.27	47.0%

Table no.2 shows the Hypertensive patients Domain wise percentage of knowledge on Life style modification. They are having 46.7% of knowledge on “General information about Hypertension”, 46% of knowledge on

“management of Hypertension” and they have maximum knowledge in “life style modification” (47.8%). On an average overall knowledge score on life style modification is 47 % and mean score of 9.40, SD-2.27.

Table 3: Level of Knowledge.

Level of knowledge	No. of Hypertensive patients	Percentage%
Poor	10	16.7%
Average	39	65 %
Good	11	18.3 %
Total	60	100%

Table No.3 shows the level of knowledge of Hypertensive patients regarding Life style modification. 16.7% of them having poor knowledge and 65% of them having average knowledge, 18.3% of them having good knowledge.



Simple Cylindrical Diagram Shows Hypertensive Patients Level Of Knowledge Regarding Lifestyle Modification
Section 3: Assess the attitude of hypertensive patients on lifestyle modification

Table 4: Each Questionwise Assessment Of Attitude n=60.

SL NO.	Statements	SDA(1)		DA(2)		UC(3)		A(4)		SA(5)	
		n	%	n	%	n	%	n	%	n	%
A1.+	Stoppage of smoking and alcoholism helps to prevent complications of hypertension	20	33.3%	12	20.0%	16	26.7%	8	13.3%	4	6.7%
A2. -	Medicines can be stopped at your own wish if the BP is found normal	12	20.0%	30	50.0%	15	25.0%	3	5.0%		
A3. +	BP should be checked periodically	12	20.0%	10	16.7%	4	6.7%	16	26.7%	18	30.0%
A4. -	Hypertensive patients can take fat rich foods.	16	26.7%	16	26.7%			8	13.3%	20	33.3%
A5. +	Regular exercise helps to control hypertension.	8	13.3%	20	33.3%	8	13.3%	12	20.0%	12	20.0%
A6. -	Hypertensive patients need to abstain from their job.	12	20.0%	16	26.7%	16	26.7%	12	20.0%	4	6.7%
A7. +	Hypertensive patients need to maintain their weight within normal limits.	8	13.3%	22	36.7%	12	20.0%	18	30.0%		
A8. +	Hypertensive patients should keep away from stress inducing situations.	8	13.3%	32	53.3%	16	26.7%	4	6.7%		
A9.-	Lack of proper rest and sleep does not affect BP.	20	33.3%	20	33.3%	4	6.7%	16	26.7%		
A10-	Hypertensive patient should abstain from sexual relationship	16	26.7%	24	40.0%	4	6.7%	8	13.3%	8	13.3%

Table 4 shows the each question wise hypertensive patients attitude on life style modification. Patients are having Maximum attitude in “Hypertensive patients can

take fat rich foods.” and minimum attitude in “Medicines can be stopped at your own wish if the BP is found normal

Table 5: Each Questionwise Percentage Of Attitudes n=60.

SL NO	STATEMENTS	Attitude score	
		Mean score	%
A1.+	Stoppage of smoking and alcoholism helps to prevent complications of hypertension	2.40	48.0%
A2. -	Medicines can be stopped at your own wish if the BP is found normal	2.20	44.0%
A3. +	BP should be checked periodically	3.30	66.0%
A4. -	Hypertensive patients can take fat rich foods.	3.00	60.0%
A5. +	Regular exercise helps to control hypertension.	3.00	60.0%
A6. -	Hypertensive patients need to abstain from their job.	2.67	53.4%
A7. +	Hypertensive patients need to maintain their weight within normal limits.	2.67	53.4%
A8. +	Hypertensive patients should keep away from stress inducing situations.	2.27	45.4%
A9.-	Lack of proper rest and sleep does not affect BP.	2.27	45.4%
A10.-	Hypertensive patient should abstain from sexual relationship	2.47	49.4%
	Total	26.23	52.5%

Table 5 shows the each question wise hypertensive patients attitude on life style modification. Patients are having Maximum attitude in “BP should be checked

periodically” and minimum attitude in “Medicines can be stopped at your own wish if the BP is found normal”.

Table 6: Level of Attitude n=60.

Level of attitude	No. of Hypertensive patients	%
Unsatisfactory	8	13.3 %
Moderately satisfactory	32	53.4 %
Satisfactory	20	33.3 %
Total	60	100%

Table No.6 shows the hypertensive patients level of attitude on life style modification. 13.3% of them having unsatisfactory attitude, 53.4% of them having moderately

satisfactory attitude, 33.3% of them are having satisfactory attitude.

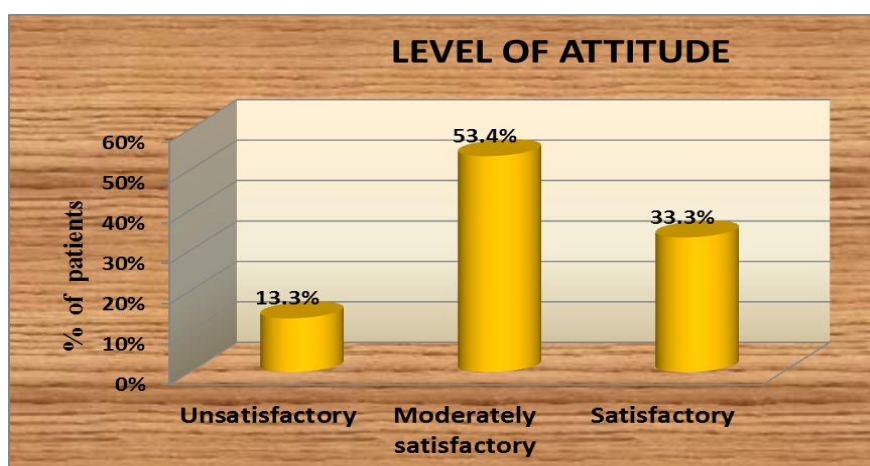


Fig. 2: Simple Cylindrical Diagram Shows Hypertensive Patients Level Of Attitude Regarding Life Style Modification

Section 4: Correlation between knowledge and attitude of hypertensive patients on lifestyle modification.

Table 7: Correlation between Knowledge and Attitude N=60.

Correlation	Mean $\pm$ SD	Karl pearson correlation coefficient	Interpretation
Knowledge& Practice	9.40 $\pm$ 2.28 26.23 $\pm$ 7.50	r=0.52 P=0.001**	Significant, positive, moderate correlation between knowledge and attitude. It means when knowledge increases their attitude score also increases moderately

* Significant at $P \leq 0.05$ ** highly significant at $P \leq 0.01$

*** very high significant at $P \leq 0.001$

Interpretation for r-value

Pearson correlation coefficient is denoted by “r”

“r” always lies between -1 to +1

0.0 – 0.2 poor correlation

0.2 - 0.4 fair correlation

0.4 - 0.6 moderate correlation

0.6 – 0.8 substantial correlation

0.8 - 1.0 strong correlation

Table- 7 shows the Correlation between Knowledge and Attitude of Hypertensive patients regarding Life style modification.

In the area of correlation between knowledge and attitude the Hypertensive patients shows significant,

positive, moderate correlation. The researcher prediction says when knowledge increases their attitude score also increases moderately.

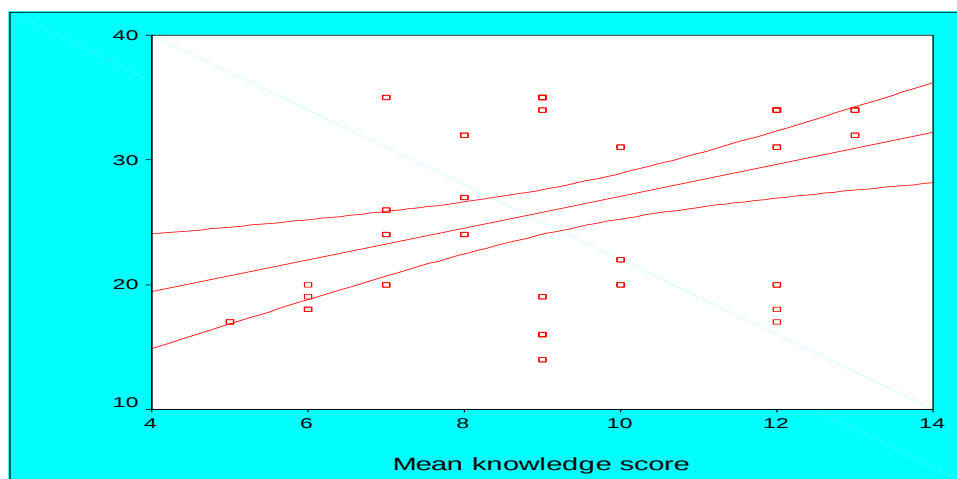


Fig. 3: Scatter plot with regression estimate shows the moderate correlation between knowledge and attitude score($r=0.52$)

DISCUSSION

In order to achieve the objectives of the study, quantitative descriptive approach with survey design was adopted. The subjects were selected by non probability purposive sampling method. The findings of the study have been discussed in relation to the objectives and other similar studies. The study reveals that most of the hypertensive patients (65%) only had an average knowledge lifestyle modification. The finding is supported by a study was done to determine levels and correlation of hypertension knowledge among 296 adults with hypertension assessed through a 10-item test. Low hypertension knowledge (#7 questions correct) was associated with age ≥ 60 years, having less than a high school education. The study concluded that hypertension knowledge deficits in specific content areas and among certain subgroups were present in this urban population.^[7]

The finding of the study shows that 53.4% of them had moderately satisfactory attitude on lifestyle modification among hypertensive patients. It is supported by a study done to assess the knowledge, attitudes, beliefs and blood pressure control in community based sample in a Ghana, 1135 patients who attended a free medical clinic. 30% were hypertensive (and 62% of these had Stage II hypertension), 73% were aware of their diagnosis, 59% were being treated, and only 5% had adequate blood pressure (BP) control defined as blood pressure, 140/90 mm Hg. Patients with hypertension were typically older (average age was 61 vs. 42 for normotensives), obese (30% had a BMI ≥ 30) and not physically active (65%). This study concludes that patients had several misconceptions about hypertension that were not consistent with a traditional hypertension, i.e. patients 'beliefs were mostly discordant with the traditional medical paradigm of hypertension.'^[8]

The present study shows the correlation between knowledge and attitude of hypertensive patients regarding life style modification. In the area of

correlation between knowledge and attitude the hypertensive patients shows significant, positive, moderate correlation. The researcher prediction says when knowledge increases their attitude score also increases moderately. A study was supported to evaluate the effectiveness of an education, counseling and behavioral skill building programme in Jordanian working adult's knowledge, attitude and beliefs about hypertension and adoption of a lifestyle. Results revealed that experimental group showed significantly better cardiac related knowledge, better scores for attitude and better scores for health responsibility, nutritional behavior IPR.^[9]

In this study shows the association between demographic variables of the Hypertensive patients and their level of knowledge. Age, Family history of Hypertension and habits are significantly associated with their level of knowledge. 30-40 yrs patients, sibling family history patients and no habits patients are having more knowledge than others. A study is conducted to assess the knowledge of hypertension among the staff of University of Ibadan, Nigeria. The socio-demographic features of the respondents indicated that 39% were females while 61% were males. The highest respondents fell between the ages of 40 to 49 followed by ages 30 to 39. The majority of the respondents (86%) were married. Among the respondents, 44% were Lecturer I and 56% were Senior Lecturers and above. 35% of the respondents agreed very strongly that excess smoking can cause hypertension. 38% agreed but not strongly. About 19% was not certain. Also, 34% strongly agreed that excess alcohol intakes could cause high blood pressure while 44% agreed but not strongly.^[10]

The present shows that shows the association between demographic variables of the Hypertensive patients and their level of attitude. Sex, Occupation and Type of family are significantly associated with their level of attitude. Females, govt employees and nuclear family patients are having more favorable attitude than others. It is supported by a hospital-based cross-sectional study

was conducted among 274 hypertensive patients in Hiwot Fana Specialized University Hospital. The pre-tested structured questionnaire was used, and the data were collected through an interview. Adjusted odds ratio (AOR) at 95% confidence interval (CI) was used for predicting the independent effect of each variable on the outcome variables. From the total participants, 200 (73.0%) of participants had good knowledge, 182 (66.4%) had favorable attitude and 136 (49.6%) had good practice on lifestyle modification recommended.^[11]

CONCLUSION

Hypertension is the condition of having high blood pressure consistently for more than six months. This occurs when the pressure of the blood caused by the pumping of the heart goes much beyond normal values. People with high blood pressure often do not feel sick. In fact it is called as “Silent Killer” and it is the leading cause of death in the world today. Hypertension is an important public health issue and contributes to the incidence of stroke and coronary heart disease.^[2]

The level of knowledge of Hypertensive patients regarding Life style modification shows 16.7 % of them having poor knowledge and 65 % of them having average knowledge, 18.3% of them having good knowledge.

The level of Attitude of hypertensive patients on life style modification shows 13.3% of them having unsatisfactory attitude, 53.4% of them having moderately satisfactory attitude, 33.3% of them are having satisfactory attitude.

The association between demographic variables of the Hypertensive patients and their level of knowledge shows Age, Family history of Hypertension and habits are significantly associated with their level of knowledge. 30-40 yrs patients, sibling family history patients and no habits patients are having more knowledge than others.

The association between demographic variables of the Hypertensive patients and their level of attitude shows Sex, Occupation and Type of family are significantly associated with their level of attitude. Females, govt employees and nuclear family patients are having more favorable attitude than others.

Interest of conflict: Nil.

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Ethical clearance: Permission had taken from the research committee of Smt. Lakshmidevi CON Consent was obtained from the subjects.

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