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Health Awareness Program Regarding the Management of Modifiable Risk Factors of Hypertension: Quasi Experimental Study

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ABSTRACT:

Background: 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.

Objectives: To assess the level of knowledge regarding the management of the modifiable risk factors of hypertension. To assess the effectiveness between the pretest and posttest of the management of the modifiable risk factors of hypertension after the health education . To find out the association between the pretest knowledge regarding the management of the modifiable risk factors of hypertension with their socio demographic variables .

Methods and Materials In this study quantitative research approach and Quasi Experimental research design was used to assess the knowledge of patients regarding modifiable risk factors of hypertension . Convenience sampling technique was used to select the samples , a sample size of 150 hypertensive people were selected for the study. A structured knowledge questionnaire was used to assess the knowledge of the hypertensive people**.** Panchayat administration need to take up responsibility to carry out the programmes educating rural people regarding hypertension .The PHC should carry out the camp for blood pressure monitoring once in 6 month .

Result : The study revealed that the majority of rural people was having poor knowledge regarding modifiable risk factor of hyper tension which was increase after health education ,its also true that hypertension is more in male than female .Similar study can be conducted among different population such as patient in hospital ,medical student, Geriatric people and in various setting such as rural, urban, hospital, university etc.

Conclusion : All together the experience of condition this study was pleasurable the people living in rural area were very co-operative .

Keywords : Hypertension , Effectiveness, Modifiable Factors , Management

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INTRODUCTION :

Hypertension is a major cause of the cardiovascular mortality and morbidity worldwide. Excessive dietary salts, low dietary potassium, overweight and obesity, physical inactivity, excess alcohol, smoking, low socioeconomic status and diabetes are considered as the modifiable risk factors for hypertension. High Blood pressure is not a disease but it is an important risk factor for cardiovascular complications . It is known as the condition in which blood pressure is raised to the point where the signs and symptoms of hypertension appears.

About billion of people world wide are having high blood pressure., Also high blood pressure is a serious problem in the developing countries where there is a transition from infectious disease to chronic non communicable disease . In addition ,complications from high blood pressure increase with age (such as heart failure ,stroke and kidney disease) .One in four people aged 18 years or over has high blood pressure in the developed countries .

Hypertension has become an important health problem .The incidence and the prevalence of hypertension continue to increase around the world . Currently worldwide 1.28 billion people between the age of 30 and 79 are projected to have hypertension with the majority of two third residing in low and middle income nations .

There are several effects as a result of hypertension .High blood pressure is a disease of cardiovascular system and is a major modifiable risk factor for the coronary heart disease ,congestive heart failure ,stroke ,renal failure ,renal dysfunction and eye problems .

Hypertension is linked with 70% of strokes and 60.5% of the kidney diseases and increases the risk of vascular dementia . Therefore once hypertension has been identified the patients should be monitored for their blood pressure at the regular intervals in order to know the blood pressure is in control or not and to take necessary action.It was been recognized that one of the several factors is the patients lack of knowledge related to management in terms of adherence to pharmacological treatments and modification of lifestyle such as diet control ,exercise. Poor control of blood pressure is the greatest cause of increasing morbidity and mortality of the people with hypertension.

Self management is a dimension of wellness and it emphasizes the fulfilling of the basic needs that maintains life in a secure and normal way .Dietary modification ,lifestyle change ,regular use of antihypertension medication and regular blood pressure checks ups are the

important aspects of self management. Self management is needed as the patients try to make themselves healthy by exercising ,losing weight or changing their eating habits so that they can control blood pressure effectively . Lack of self management ability among the patients with hypertension is a significant cause of the higher rates of disabilities and death ,especially from stroke ,renal failure or heart failure .

Material and Methodology:

The quantitative research approach in this study aimed to explore the management of the modifiable risk factors of hypertension within the hypertensive people of the selected rural community of Vadodara . Researcher used survey research design for collecting the data. Keeping in mind the availability of the time and resources and samples size the data was collected from four rural places . Pre-test Post-test research approach was used after providing the health education .Conducting the Research involved selecting 150 hypertensive people of the selected rural community from Vadodara using convenience sampling technique.

The study incorporated three main sections of the questionnaire

- Section A: Demographic tools
- Section B: Pre test questionnaire
- Section C: Post test questionnaire

Prior to the data collection , permission was obtained from the relevant authorities , and a schedule outlining of the research activities was submitted to the research guide to ensure the proper oversight. The tools used were subjected to the consent validity through the experts evaluations, and reliability was established with a satisfactory test p value of less then 0.05. Analysis of the collected data involved utilizing the statistical measures such as frequency , percentage , standard deviation , chi square to glean the insights of the relationship between the variables.

RESULTS:

Section 1 : Frequency and percentage Distribution of demographic variables :

Table 1: Frequency and Percentage Distribution of Demographic Variables.

N=150

Sr. No	Demographic Variables	Frequency	Percentage
1	Age in years		
	a. Below 30 years	2	1.3
	b. 30-60 years	75	50
	c. Above 60 years	73	48.7
2	Gender		
	a. Male	100	66.7
	b. Female	50	33.3
3	Religion		
	a. Hindu	146	97.3
	b. Muslim	4	2.7
	c. Christian	0	0
	d. Others	0	0
4	Food		
	a. Vegetarian	97	64.7
	b. Non vegetarian	0	0
	c. Eggetarian	5	3.3

	d. Mix	48	32
5	Education		
	a. Uneducated	49	32.7
	b. Educated	101	67.3
6	Occupation		
	a. Housewife	46	30.7
	b. Business	29	19.3
	c. Farmer	69	46
	d. Student	6	4

Table 1 Depicts the frequency and percentage distribution of demographic variables. According to their age majority 75(50%) were in 30-60 years of age followed by 73(48.7%) were in above 60 years of age and 2(1.3%) were in below 30 years of age.

Regarding gender, one third100(66.7%) were male and remaining 50(33.3%) were female.

As per religion, maximum 146(97.3%) belongs to Hindu and remaining 4(2.7%) belongs to Muslim.

Regarding food, majority 97(64.7%) were vegetarian, 48(32%) were mix food and 5(3.3%) were eggetarian

As per education, maximum 101(67.3%) were educated and 49(32.7%) were uneducated.

With regard to occupation, majority 69(46%) were farmer, 46(30.7%) were housewife, 29(19.3%) were doing business and 6(4%) were students.

Section 2: Distribution of pre-test and post-test level of knowledge regarding management of the modification risk factor of Hypertension.

N=150

Level of knowledge	**Pre-Test**		**Post-Test**	
	f	**%**	**F**	**%**
Poor knowledge	108	72	16	10.7
Average knowledge	39	26	50	33.3
Good knowledge	3	2	84	56

Table 2 depicts the pre-test and post-test level of knowledge regarding management of the modification risk factor of Hypertension. Results revealed that in pretest majority108(72%) had poor knowledge, 39(26%) had average knowledge and 3(2%) had good knowledgewhere as in posttest majority 84(56%) had good knowledge, 50(33.3%) had average knowledge and 16(10.7%) had poorknowledge regarding management of the modification risk factor of Hypertension

SECTION - III

Table 3: Effectiveness of health awareness program regarding the management of the modifiable risk factor of hypertension

N=150

Knowledge	**Mean**	**SD**	**Mean D**	**t value**	**df**	**P value**
Pre-test	9.86	3.31	10.04	21.20	149	0.001*
Post-test	19.90	5.15				

***p<0.05 level of significance**

Table 3 depicts the effectiveness of health awareness program regarding the management of the modifiable risk factor of hypertension which was tested by using paired t test. Mean post-test knowledge score was 19.90±5.15was higher than pretest mean knowledge score 9.86±3.31 with mean difference of 10.04 and obtained (t value=21.20, df=149, p=0.001) was found statistically highly significant at $p<0.05$ level. Findings indicate that health awareness program was effective in improving the knowledge regarding the management of the modifiable risk factor of hypertension

SECTION - IV

Table 4. Association between pre-test knowledge regarding management of the modification risk factor of Hypertension with selected socio-demographic variables.

N=150

Sr. No	Demographic Variables	Pre-test knowledge			χ2value	df	p value
		Poor	Average	Good			
1	Age in years						
	a. Below 30 years	2	0	0	4.840	4	0.304^{NS}
	b. 30-60 years	49	25	1			
	c. Above 60 years	57	14	2			
2	Gender						
	a. Male	73	24	3	2.003	2	0.367^{NS}
	b. Female	35	15	0			
3	Religion						
	a. Hindu	106	37	3	1.269	2	0.530^{NS}
	b. Muslim	2	2	0			
	c. Christian	--	--	--			
	d. Others	--	--	--			
4	Food						
	a. Vegetarian	77	18	2	8.033	4	0.090^{NS}
	b. Non vegetarian	--	--	--			
	c. Eggetarian	3	2	0			
	d. Mix	28	19	1			
5	Education						
	a. Uneducated	34	15	0	2.120	2	0.346^{NS}
	b. Educated	74	24	3			
6	Occupation						
	a. Housewife	30	14	2	5.529	6	0.478^{NS}
	b. Business	23	6	0			
	c. Farmer	49	19	1			
	d. Student	6	0	0			

***p value < 0.05 level of significance NS-Non Significant**

Table 4 depicts the association between pre-test level of knowledge regarding management of the modification risk factor of Hypertension with their selected demographic variables

which was tested by using chi-square test. Result revealed that demographic variables such as again years, gender, religion, food, education and occupation, were not found any significant association at $p<0.05$ level with pre-test level of knowledge regarding management of the modification risk factor of Hypertension

DISCUSSION AND CONCLUSION :

The finding of the similar study conducted by P Devi[1] etal . A systematic review was conducted to study the trends in the prevalence , risk factors and awareness of hypertension in India .The study included the adult Indians with hypertension and did not included the Indians with hypertension staying outside India. The type of the study included was cohort ,case study and cross sectional study. Of 3372 studies, 206 were included for data extraction and 174 were observational studies. Among 174 observational studies , there were 4 cohort study , 11 case controlled studies , and 134 cross sectional studies .Prevalence was reported in 48 studies with sample size varying from 206 to 167 331. A significant positive trend ($P<0.0001$) was observed over time in prevalence of HTN by region and gender. Awareness and control of HTN (11 studies) ranged from 20 to 54% and 7.5 to 25%, respectively. Increasing age, body mass index, smoking, diabetes and extra salt intake were common risk factors. In conclusion, from this systematic review, we record an increasing trend in prevalence of HTN in India by region and gender. The awareness of HTN in India is low with suboptimal control rates.

his large systematic review revealed the changing trends in HTN prevalence in India. Higher prevalence rates were observed in urban population compared to rural population. An increasing positive trend in prevalence of HTN was observed in urban, and rural population and also in both genders. A significant increase in prevalence of HTN over time was also noticed within different regions in India. There are only a very few good quality studies on risk factors and awareness of HTN. There are no long-term outcome studies on treatment of HTN. There is a lack of awareness, suboptimal level of treatment and control of HTN in Indians. There is a need for good quality studies focusing on HTN and its treatment in Indians to develop optimal strategies for HTN management. Special guidelines for desirable levels of risk factors may be necessary for prevention of HTN. The findings from this review can be useful to implement population-based India- specific cost-effective HTN control programs to reduce the burde

The systematic review revealed that an increasing positive trend in prevalence of hypertension was observed in urban and rural population and in both gender .There is lack of awareness of hypertension in India There is need for good quality studies focusing on the hypertension management .

A similar study was conducted by Zarin Pilakkadavath [1] and Muhammed Shaffi [2] . A hospital based case control study was conducted to To estimate and compare the distribution of modifiable risk factors among hypertensive (cases) and nonhypertensive (controls) patients and to estimate the effect relationship of risk factors. Age- and sex-matched case-control study was conducted in a tertiary care hospital in Kerala using a pretested interviewer-administered structured questionnaire based on the WHO STEPS instrument for chronic disease risk factor surveillance. Bivariate and multiple logistic regression analyses were done. A total of 296 subjects were included in the study. The mean age of study sample was 50.13 years. All modifiable risk factors studied were namely obesity, lack of physical activity, inadequate fruits and vegetable intake, diabetes, smoking, and alcohol use were significantly different in proportion among cases and controls. Obesity, lack of physical activity, smoking, and diabetes were found to be significant risk factors for hypertension after adjusting for other risk factors. The study revealed that Hypertension is strongly driven by a set of modifiable risk

factors. Massive public awareness campaign targeting risk factors is essential in controlling hypertension in Kerala, especially focusing on physical exercise and control of diabetes, obesity, and on quitting smoking.

In total these Study finding shows that the health awareness of the modifiable risk factors of hypertension help to reduce the prevalence rate of hypertension and health awareness programs are required in India to prevent hypertension .

ETHICAL PERMISSION : Permission taken from Parul university Institutional Ethics Committee for Human Research (PU-IECHR) Also the permission was taken from the Sarpanch of the selected rural community of Vadodara namely from Sangadol , Ankhol , Vesaniya , Limda.

CONFLICT OF INTEREST: No conflict of interest.

AUTHORS CONTRIBUTION:

Author 1:- Approval and finalization of the studies conception and design, as well as manuscript drafting.

Author 2:- collection and analysis of data as well as interpretation of results

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REFERENCES:

1. Pilakkadavath Z, Shaffi M. Modifiable risk factors of hypertension: A hospital-based case-control study from Kerala, India. J Family Med Prim Care. 2016 Jan-Mar;5(1):114-9. doi: 10.4103/2249-4863.184634. PMID: 27453854; PMCID: PMC4943116.(1)
2. Mills KT, Stefanescu A, He J. The global epidemiology of hypertension. Nat Rev Nephrol. 2020 Apr;16(4):223-237. doi: 10.1038/s41581-019-0244-2. Epub 2020 Feb 5. PMID: 32024986; PMCID: PMC7998524.(2)
3. Emdin CA, Rothwell PM, Salimi-Khorshidi G, Kiran A, Conrad N, Callender T, Mehta Z, Pendlebury ST, Anderson SG, Mohseni H, Woodward M, Rahimi K. Blood Pressure and Risk of Vascular Dementia: Evidence From a Primary Care Registry and a Cohort Study of Transient Ischemic Attack and Stroke. Stroke. 2016 Jun;47(6):1429-35. doi: 10.1161/STROKEAHA.116.012658. Epub 2016 May 10. PMID: 27165956; PMCID: PMC5341765.(4)
4. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3181842/
5. https://ww.sciencedirect.com/science/article/pii/52213398423001227
6. https://www.sciencedirect.com/science/article/pii/S0019483223001025
7. https://pubmed.ncbi.nlm.nih.gov/37010868/
8. Pilakkadavath Z, Shaf IM. Modif able risk factors of hypertension: A hospital-based case-control study from Kerala, India. J Family Med Prim Care. 2016 JanMar:5(1):114-9. doi: 10.4103/2249-4863.184634. PMID: 27453854; PMCID: PMC4943116 .
9. Mills KT, Stefanescu A, He J. The global epidemiology of hypertension. Nat Rev Nephrol. 2020 Apr;16(4):223-237. doi: 10.1038/s41581-019-0244-2. Epub 2020 Feb 5. PMID: 32024986; PMCID: PMC7998524
10. https://www.who.int/news-room/fact-sheets/detail/hypertension
11. Emdin CA, Rothwell PM, Salimi-Khorshidi G, Kiran A, Conrad N, Callender T, Mehta Z, Pendlebury ST, Anderson SG, Mohseni H, Woodward M, Rahimi K. Blood Pressure and Risk of Vascular Dementia: Evidence From a Primary Care Registry and a Cohort Study of Transient Ischemic Attack and Stroke. Stroke. 2016 Jun;47(6):1429-35. doi: 10.1161/STROKEAHA. 116.012658. Epub

2016 May 10. PMID: 27165956; PMCID: PMC5341765 .

12. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3181842/
13. https://g.co/kgs/62MiziM
14. https://en.m.wikipedia.org/wiki/Effectiveness#:~text=Effectiveness%20or%20effectivity%20is%20the
15. produces%20a%20deep%2C%20vivid%20impression
16. http://www.idph.state.il.us/heartstroke/cvd_rf.htm#:~:text=Risk%20factors%20that%20can%20be, physical%20inactivity%20and%20poor%20nutrition
17. https://byjus.com/question-answer/define-management-1/
18. https://www.sciencedirect.com/science/article/pii/S2213398423001227