Original Article

Knowledge, Attitude and Practice of Lifestyle Modifications Among Hypertensive Patients Visiting A Tertiary Care Hospital in Central India

Deepti Amborkar[1], Arti A. Kasulkar[2], Madhur Gupta[3]

Abstract

Background: Globally, hypertension is a major problem. The cornerstone of the strategy for preventing hypertension is making appropriate lifestyle modifications. The present study was carried out to assess knowledge, attitude and practice of lifestyle modifications among hypertensive patients. ***Methods:*** This cross-sectional questionnaire-based study carried out among 343 hypertensive patients visiting a tertiary care hospital. ***Results:*** We observed that although majority of hypertensive had good knowledge and attitude about lifestyle changes in hypertension, least were adherent to those. ***Conclusion:*** The treatment of hypertension is greatly aided by preventive medication. In order to lower the prevalence of hypertension in a nation, assessments of knowledge, attitudes, and practices regarding lifestyle change are fundamentally necessary.

Keywords: Hypertensive patients, Knowledge, Attitudes, Practices, Lifestyle modifications

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Introduction

One of the main causes of disability and mortality in both developed and developing nations is hypertension, which calls for the immediate implementation of techniques to reduce it. According to the World Health Organization, 49% of cases of ischemic heart disease and 62% of cases of cerebrovascular illness are caused by hypertension. Furthermore, the leading risk factor for death globally is hypertension. As per the WHO study from 2019, an estimated 17.9 million people died from cardiovascular diseases in 2019, representing 32% of all global deaths. Of these deaths, 85% were due to heart attack and stroke. Of these, complications from hypertension cause 9.4 million deaths globally annually. Developing nations bear a disproportionate amount of the burden as a result of the epidemiological shift from communicable to non-communicable chronic diseases.[1-4] In India, the prevalence of hypertension was 10% in rural areas and 25% in urban areas in 2004. This resulted in 42% of cardiovascular fatalities and 57% of all stroke deaths. The cornerstone of the management and prevention of hypertension is appropriate lifestyle modifications, also referred to as non-pharmacological treatments and frequently disregarded. Changes in lifestyle manage hypertension and avert consequences. A vital and affordable strategy for the management and prevention of hypertension is lifestyle modification. A significant obstacle in this approach has been people's ignorance about and poor attitude toward lifestyle modification (LSM). Both pharmacological therapy and lifestyle modifications are effective ways to manage hypertension. It can decrease blood pressure as well as other cardiovascular risk factors. One of the patient-related hurdles to blood pressure control that was discovered was ignorance of LSM and a failure to implement it. LSM may be suggested as

1. Deepti Amborkar- MBBS Student, NKP Salve Institute of Medical Sciences & Research Centre and Lata Mangeshkar Hospital, Digdoh Hills, Hingna Road, Nagpur -440019
1. Dr Arti Kasulkar-Professor and Head, Forensic Medicine and Toxicology,NKP Salve Institute of Medical Sciences & Research Centre and Lata Mangeshkar Hospital, Digdoh Hills, Hingna Road, Nagpur-440019
1. Dr Madhur Gupta-Professor and Head, Biochemistry, NKP Salve Institute of Medical Sciences & Research Centre and Lata Mangeshkar Hospital, Digdoh Hills, Hingna Road, Nagpur -440019

Correspondence to: Prof. Arti A. Kasulkar, Department of Forensic Medicine & Toxicology, NKP Salve Institute of Medical Sciences & Research Centre and Lata Mangeshkar Hospital, Digdoh Hills, Hingana Road, Nagpur-440019, India. Email: artinarde@rediffmail.com

an adjuvant or as a first line of treatment prior to beginning medication therapy.[5-8]

At the study location, no research has thoroughly evaluated the knowledge, attitudes, and practices of hypertensive patients regarding the significance of lifestyle modification in managing their hypertension. Thus, the purpose of this study was to evaluate the knowledge, attitudes, and practices of lifestyle modification among hypertensive patients who were visiting a tertiary care hospital located in Central India. The present study aims to assess knowledge, attitudes and practices of lifestyle modifications among hypertensive patients visiting a tertiary care hospital located in Central India.

Methods

This cross-sectional study was carried out in 343 hypertensive patients of age group 18 years to 78 years selected by universal sampling method from August 2023 to September 2023. Prior to obtaining consent, the participants were informed of the study's purpose in their vernacular language. The information was gathered using validated questionnaires. The questionnaire asked questions about knowledge, attitudes, and practices related to changing one's lifestyle, as well as sociodemographic traits. The interview method was used to fill out the questionnaire. Some questions being multiple options, sum of percentage is not always 100%.

Inclusion criterion: Eligible participants were those who were ≥18-year-old, diagnosed as hypertensive (Systolic BP ≥ 130 and/or Diastolic BP ≥ 90) by a healthcare professional and gave informed consent.

Exclusion criterion: Excluded patients were those who were <18-year-old and who did not consent.

The data was entered in the excel sheet and analyzed by using Statistical Package for Social Sciences (SPSS) version 20.0 for percentage, mean, standard deviation, t test and Chi-square test. Pearson Chi-square test was used to find out statistical significance of differences in proportions. A p-value of <0.05 was considered to be significant.

Results

A total of 450 hypertensive patients were contacted. Out of which, 343 hypertensive patients in the age group between 18 years and 78 years (mean 41.80±15.16 years) fulfilled the inclusion criteria of our study and accepted to fill out the questionnaire (response rate of 76.2%) (Table 1). We observed that most of the patients 160(46.6%) were diagnosed with hypertension during the last 1 to 5 years followed by 127 (37.1%) patients who were diagnosed in the last 6 months to one year (Fig. 1). When inquired about how they came to know about hypertension, 168(48.9%) were diagnosed in a routine medical clinic, 93 (27.1%) in screening programme, 29(8.5%) during emergency service and 53 (15.5%) didn't remember. Regarding knowledge of optimal blood pressure, 148(43.1%) responded correctly and 175(51.1%) were unaware about the same. The majority of hypertensive patients knew about the causes, symptoms, risk factors, effects, and methods of treating and preventing their condition (Table 2). Table 3 depicts participants' attitude on hypertension. The majority of them concurred that routine blood pressure checks, nutrition management and limiting salt consumption, regular exercise, and keeping a normal body weight were important. Hypertensive patients practicing the activities in controlling blood pressure are shown below in Table 4. We observed that 92(26.8%) checked blood pressure and 111(32.3%) checked weight regularly. Balanced diet 138(40.2%), managing physical and emotional stress 127(37.1%), decreased salt concentration in diet 194(56.6%). 137(39.9%) patients practiced exercise on a routine basis which included different exercises walking and jogging (104), cycling (24), gym and sports(9). It is evident from Table 4 that 224(65.3%) patients regularly took antihypertensive medication. Out of which 141 preferred allopathic treatment, 52 preferred ayurvedic and 31 preferred homeopathic treatments for hypertension. The remaining 119 (34.6%) who didn't take antihypertensives on a regular basis quoted the reason as depicted in Figure 2.

Table 1: Socio-demographic features of the participants (n=343)

Characteristics features	Category	Frequency (%)
Gender	Female	132(38.5%)
	Male	211 (61.5%)
Age	18 – 28 years	94(27.4%)
	29 – 39 years	55(16.1%)
	40 – 50 years	110(32.1%)
	> 50 years	84(24.4%)

Characteristics features	Category	Frequency (%)
Locality	Rural	141(41.1%)
	Urban	202(58.9%)
Education	Graduation	210(61.3%)
	Post-graduation	57(16.6%)
	Matriculation	52(15.2%)
	Below matriculation	24(6.9%)
Marital Status	Married	226(65.9%)
	Unmarried	91(26.6%)
	Divorced	18(5.2%)
	Widow(er)	08(2.3%)

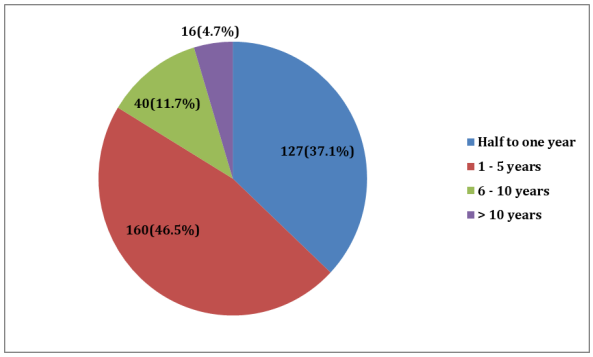

Figure 1: Duration of hypertension since onset among hypertensive patients

Table 2: Knowledge on lifestyle modifications among hypertensive patients to control hypertension

Questions	Response	N (%)
Optimal blood pressure	120/80 mmHg	148(43.1%)
	More than or equal to 140/90 mmHg	20(5.8%)
	Don't know	175(51.1%)
Causes of hypertension*	Obesity	276(80.5%)
	Stress	305(88.9%)
	Physical inactivity	284(82.8%)
	Hereditary	212(61.8%)
	Excess salt in diet	223(65.1%)
	Smoking or Chewing tobacco	133(38.8%)
	Excess alcohol consumption	174(50.7%)
	Don't know	02(0.6%)
Signs and symptoms of hypertension*	No signs and symptoms	82(23.9%)
	Headache and dizziness	230(67.1%)
	Chest pain	257(74.9%)
	Fainting	208(60.6%)
	Stroke	162(47.2%)
	Blurred vision	147(42.8%)
People at risk of having hypertension*	Old aged people	170(49.6%)
	People with family history	266(77.6%)
	Obese and overweight people	264(76.9%)
	People with chronic conditions (Diabetes, Kidney disease)	279(81.3%)
Consequences of untreated hypertension*	Heart diseases	307(89.5%)
	Kidney diseases	179(52.2%)
	Vision loss	214(62.3%)
	Stroke	107(31.2%)
	Dementia	93(27.1%)
	Death	210(61.2%)

Questions	Response	N (%)
Treatment options for hypertension*	Regular intake of medication	271(79.1%)
	Balanced diet	265(77.3%)
	Adequate exercise	286(83.4%)
	Deaddiction	179(52.1%)
Prevention of hypertension*	By engaging in regular physical exercise	285(83.1%)
	By eating low salt diet	292(85.1%)
	Weight reduction and maintenance	245(71.4%)
	Cessation of smoking	240(69.9%)
	By reducing or stopping alcohol drinking	247(72.1%)
	Managing physical and mental stress	233(67.9%)
	Cannot be prevented no matter what	68(19.8%)

***Multiple options**

Table 3: Attitude of participants towards effect of lifestyle modification in hypertension

Questions	Disagree	Strongly disagree	Neither agree nor disagree	Agree	Strongly agree
Regular blood pressure checkup is important	24(6.9%)	34(9.9%)	74(21.6%)	160(46.7%)	51(14.9%)
Hypertension is a preventable disease	28(8.2%)	40(11.7%)	11(3.2%)	222(64.7%)	42(12.2%)
Diet control and reduction in salt intake is important in controlling blood pressure	14(4.1%)	32(9.3%)	60(17.5%)	183(53.4%)	54(15.7%)
Extra cooking oil in the daily meal has adverse effect on hypertension	54(15.7%)	10(2.9%)	68(19.9%)	139(40.6%)	72(20.9%)
Maintaining normal body weight is an important factor in controlling blood pressure	62(18.1%)	6(1.7%)	53(15.5%)	148(43.1%)	74(21.6%)
Excessive alcohol intake has adverse effect on blood pressure	54(15.7%)	4(1.2%)	64(18.7%)	136(39.7%)	85(24.7%)
Excessive smoking has adverse effect on blood pressure	54(15.7%)	2(0.6%)	64(18.7%)	142(41.4%)	81(23.6%)
Stress will increase blood pressure	16(4.7%)	36(10.5%)	48(13.9%)	174(50.7%)	69(20.2%)
Regular physical activity and yogasana are important part of controlling blood pressure	20(5.8%)	36(10.5%)	30(8.7%)	177(51.6%)	80(23.4%)
Lifestyle modification can prevent hypertension and its consequences	12(3.5%)	42(12.2%)	64(18.7%)	161(46.9%)	64(18.7%)
Education of lifestyle management is an essential component of hypertensive management	86(25.1%)	2(0.6%)	20(5.8%)	146(42.6%)	89(25.9%)

Table 4: Lifestyle modification practices among hypertensive patients

Question	Yes	No
Check blood pressure regularly	92(26.8%)	251(73.2%)
Check weight regularly and try to reduce	111(32.3%)	232(67.7%)
Alcohol consumption	137(39.9%)	206(60.1%)
Smoking	101(29.4%)	242(70.6%)
Regular diet plan to include diet rich in fruits and green leafy vegetables	138(40.2%)	205(59.8%)
Manage physical and emotional stress	127(37.1%)	216(62.9%)
Practice recommended low salt diet	194(56.6%)	149(43.4%)
Followed a regular continuous exercise routine	137(39.9%)	206(60.1%)
Take medication regularly	224(65.3%)	119(34.6%)

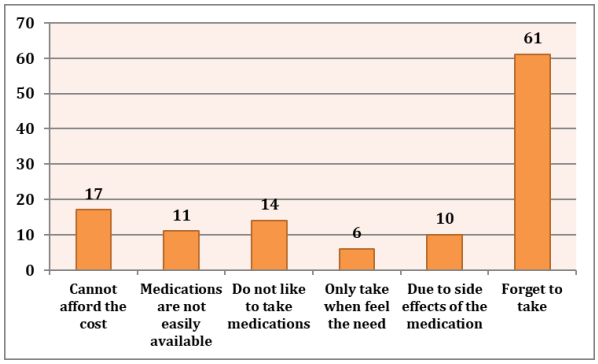

Figure 2: Reasons for not taking antihypertensive drugs among participants

We observed that although majority of hypertensive had good knowledge and attitude about lifestyle changes in hypertension, least were adherent to those (Table 5).

Discussion

Due to its significant reversible risk for heart attack, stroke, and kidney failure, hypertension is an extremely important public health concern. Finding novel and more efficient ways to manage hypertension and avoid associated problems should be the top focus of medical research endeavors, as it is a modifiable risk factor. In addition to being an appropriate supplementary treatment to medication, lifestyle changes can be used as a main healthcare approach to control hypertension and prevent its aftereffects.

In view of this, 343 hypertension patients in the age range of 18 to 78 (Mean = 41.80 years, SD = 15.16) who were attending a tertiary healthcare facility participated in a cross-sectional study to evaluate their knowledge, attitudes, and practices about modifications to their lifestyles. In contrast to studies,[11,12,13] our analysis revealed a male majority that is consistent with past research.[4,6,7,8,9,10] Abdalla AA[11] had a higher percentage of elderly people (58%), which is comparable to our study. Nonetheless, in a study conducted by Sefah et al.[5], most of respondents (53.7%) belonged to the 20–29 age group. In contrast to earlier studies[9,10], which reported a higher percentage of respondents having hypertension for more than ten years, we found that 127 patients (37.1%) had received a diagnosis of hypertension within the six months to a year, and 160 patients (46.6%) had received the diagnosis within the last one to five years.

In accordance with Abdallaa's[11] findings, only 43.1% of participants correctly identified the optimal blood pressure. When asked about lifestyle factors influencing blood pressure, most respondents were aware that salt consumption (65.1%) and alcohol consumption (50.7%) both had an impact; however, in a study conducted by Abdallaa[11] the participants had the least knowledge regarding the effects of alcohol on blood pressure. Of those who knew enough about the normal range of blood pressure, just 43.1% did. When asked what the main indicator of hypertension was, 67.1% of the patients correctly answered "headache." Seventy-six percent of the patients knew that obesity was a risk factor. Machaalani et al.[9] reported that most patients correctly identified the benefits of a low-salt diet and alcohol restriction in addition to the fact that regular medication intake can be utilized to treat hypertension. Although most respondents in our study forgot to take their drugs on a regular basis, Sefah B et al.[5] found that most respondents did not take their medications because they could not afford them. Comparable to the results of earlier studies[5,11,12,13] on the practice of lifestyle modification, we found that although most hypertensive people knew that changing their lifestyle can lower their blood pressure, the fewest followed through on those changes. This might be the case because fewer people are conscious of the advantages of changing their way of life. It might also occur from people who solely rely on medication and think that altering their lifestyle will not have an impact on their blood pressure.

Table 5: Association between knowledge and practice of lifestyle modification in hypertension among hypertensive patients

Lifestyle modifications	Response		Chi square	p value
	Knowledge	Practice		
Regular intake of medication	271	224	5.9665	0.0146
Balanced diet	265	138	4.5616	0.0327
Engaging in regular physical exercise	285	137	13.828	0.0002
Eating low salt diet	292	194	26.1601	0.0000003
Weight reduction and maintenance	245	111	0.187	0.6655
Physical and emotional stress	233	127	0.1891	0.6636
Cessation of smoking	240	101	0.0045	0.9466
Reducing or stopping alcohol drinking	247	137	1.34457	0.24623

Conclusion

One of the main medical conditions that cause disability, co-morbidities, and ultimately death is hypertension. The treatment of hypertension is greatly aided by preventive medication. In order to lower the prevalence of hypertension in a nation, assessments of knowledge, attitudes, and practices regarding lifestyle change are fundamentally necessary. The majority of participants in our study had sufficient knowledge regarding lifestyle modifications for hypertension, but the lowest percentage followed through on these changes in lifestyle. However, the results of this study can not be extrapolated to the population because it is based in a hospital.

Recommendations

Patients should be educated on the components and implementation of lifestyle modification in order to properly control and prevent their blood pressure. Healthcare providers should constantly advise patients to change their lifestyles and maintain a state of alertness in order to help them control their blood pressure. Public authorities, non-governmental organizations, and other stakeholders with an interest in health care services should promote and, where necessary, enforce the use of lifestyle modification to reduce patients' blood pressure.

Lifestyle modification, involving dietary recommendations and frequent aerobic exercise, can significantly lower blood pressure and improve biomarkers associated with cardiovascular disease. When people are provided with appropriate guidance and knowledge about doable lifestyle modifications, they become more aware. With information, people will design their own sensible diet plans and consistent exercise schedules. Both the number of hypertension individuals and their mortality can be decreased. People's lifetime risk of cardiovascular disease will be reduced by increasing self-awareness of their physical fitness through the assessment of lifestyle change knowledge, attitude, and practice.

Conflict of Interest: Nothing to declare.

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Ethical approval: The study was approved by the institutional ethics committee (IEC/8/2023) of NKP Salve Institute of Medical Sciences & Research Centre and Lata Mangeshkar Hospital, Nagpur, India.

Authors' Contribution: All the authors were equally involved in study design, patient selection, data collection and analysis, manuscript preparation, revision and finalization.

References

1. World Health Organization. Burden: mortality, morbidity and risk factors. In: Ala A, editor. Global status report on non-communicable diseases 2010. Geneva: World Health Organization; 2010. p.9-31.
2. Global action plan for the prevention and control of non-communicable diseases 2013−2020. Geneva: World Health Organization; 2013.
3. World Health Organization; 2013. World Health Organization. Global Health risks: mortality and burden of disease attributable to selected major risks. Geneva: World Health Organization; 2009.
4. Anowie F, Darkwa S. Knowledge, attitude and lifestyle practices of hypertensive patients in the Cape-Coast metropolis Ghana. J Sci Res Rep. 2015;8(7):1-15.
5. Sefah B, Onyame A, Ankrah C, Tetteh PA, Nutornutsi MD. Knowledge, attitude and lifestyle practices pertaining to hypertension among the people of Ahoe-Ho. J Hypertens Manag. 2021;7:61.
6. Iyalomhe GBS, Lyalomhe SI. Hypertension-related knowledge attitude and lifestyle practices among hypertensive patients in sub-urban Nigerian community. J Public Health Epidemiol. 2010;2(4):71-7.
7. Verma P, Manushi S, Ratan KS. Assessment of extent of lifestyle modification among diagnosed patients of hypertension attending tertiary care hospital. Int J Med Health Sci. 2015;4(2):196-201.
8. Tesema S, Disasa B, Kebamo S, Kadi E. Knowledge, attitude and practice regarding lifestyle modification of hypertensive patients at Jimma University specialized hospital, Ethiopia. Prim Health Care. 2016;6(1):218-21.
9. Machaalani M, Seifeddine H, Ali A, Bitar H, Briman O, Chahine MN.. Knowledge, attitude, and practice toward hypertension among hypertensive patients residing in Lebanon.Vasc Health Risk Manag 2022;18:541-53.
10. Ralapanawa U, Bopeththa K, Wickramasurendra N, Tennakoon S. Hypertension knowledge, attitude, and practice in adult hypertensive patients at a tertiary care hospital in Sri Lanka. Int J Hypertens. 2020;2020:4642704.
11. Abdalla AA. Knowledge, attitude and practice towards therapeutic lifestyle changes in the management of hypertension in Khartoum State. Cardiovasc J Afr. 2021;32(4):198-203.
12. Buda ES, Hanfore LK, Fite RO, Buda AS. Lifestyle modification practice and associated factors among diagnosed hypertensive patients in selected hospitals, South Ethiopia. Clin Hypertens. 2017;23:26.
13. Bogale S, Mishore KM, Tola A, Mekuria AN, Ayele Y. Knowledge, attitude and practice of lifestyle modification recommended for hypertension management and the associated factors among adult hypertensive patients in Harar, Eastern Ethiopia. SAGE Open Med. 2020;8:2050312120953291.