



Knowledge, Attitude and Practice of Hypertension Management among Bank Employees of Patiala- A Survey Study

Dilpreet Kaur¹, G. Jayaraman², Tamanna Chaudhary^{3*}, and Harleen Kaur³

¹MPT, Punjabi University, Patiala. (Assistant Professor, Guru Kashi University, Bathinda), India

²Assistant Professor, Punjabi University, Patiala, India

³Assistant Professor, Guru Kashi University, Bathinda, India

*Corresponding e-mail: drtamannachaudhary171688@gku.ac.in

Received: 14-June-2024, Manuscript No. ijmrhs-24-138986; **Editor assigned:** 17-June-2024, PreQC No. ijmrhs-24-138986(PQ); **Reviewed:** 18-June-2024, QC No. ijmrhs-24-138986(Q); **Revised:** 28-June-2024, Manuscript No. ijmrhs-24-138986(R); **Published:** 25-July-2024, **J-invoice:** J-138986

ABSTRACT

Background: Hypertension is a prevalent medical condition linked to an increased risk of death from all causes and cardiovascular disease. Lifestyle changes are recommended for hypertension prevention and exercise component is an important part of treatment and control. Lifestyle changes can have a positive impact on blood pressure levels, as well as overall cardiovascular risk and mortality. **Aim:** The study aims to determine the knowledge, attitude, and practice of hypertension management among bank employees of Patiala. **Method:** 108 subjects based on the inclusion and exclusion criteria were recruited in the study. A detailed explanation of the study was given to the participants and informed consent was obtained from all the participants attached in Google Forms. **Result:** shows only 20.4% of employees are aware that hypertension is a condition characterized by elevated blood pressure. 25.9% of the total individuals are aware of their normal blood pressure level. **Conclusion:** The present study concluded that only 20.4%, 25.9% and 8.3% bank employees were knowledgeable about the term hypertension and the attitude of bank employees towards the management of hypertension was poor.

Keywords: Hypertension, Knowledge, Attitude and practice

INTRODUCTION

Hypertension is a prevalent medical condition linked to an increased risk of death from all causes and cardiovascular disease. Lifestyle changes are recommended for hypertension prevention and exercise component being an important part for treatment and control [1]. Patients with blood pressure greater than 180/110 mmHg have a fivefold increased risk of coronary heart diseases compared to those with blood pressure less than 120/80 mmHg. Weight loss and increased physical exercise are important factors in blood pressure control [2].

Hypertension is a disease that is chronic, persistent, and largely asymptomatic [3]. Hypertension is diagnosed when a person's Systolic Blood Pressure (SBP) in the office or clinic is more than 140 mm Hg and/or their Diastolic Blood Pressure (DBP) is more than 90 mm Hg after repeated testing, according to most major recommendations.

According to the 2020 international guidelines, hypertension is defined as a Systolic Blood Pressure (SBP) of more than 140 mmHg in the office or clinic and/or a Diastolic Blood Pressure (DBP) of more than 90 mmHg. If SBP is

140 mmHg-159 mmHg and/or DBP is 90 mmHg-99 mmHg, it is categorized as Grade 1 hypertension, and if SBP is more than 160 mmHg and/or DBP is more than 100 mmHg, it is classed as Grade 2 hypertension [3].

In the majority of cases, the fundamental etiology of hypertension was unknown, and these patients were labelled as essential hypertension. Primary hypertension is usually inherited and is thought to be the result of a combination of environmental and genetic influences. Primary hypertension becomes more common as people become older, and those who have moderately high blood pressure at a young age are more likely to acquire hypertension later in life. It cannot be cured, although it can be managed with drugs up to a physiological level [4]. Secondary hypertension is hypertension that has an underlying potentially treatable etiology. Secondary hypertension can be caused by a variety of factors, including renal parenchymal disorders, aortic coarctation, thyroid dysfunction, fibromuscular dysplasia, obstructive sleep apnea, and many others, depending on the individual's age [5]. Renovascular hypertension is a kind of hypertension that can be treated if it is caused by an occlusive lesion in a renal artery. Renovascular hypertension is caused by atherosclerosis in the vast majority of individuals [4].

Hypertension is a silent killer that grows and complicates the disease without causing symptoms and can result in major life-threatening problems of essential organs as well as patient incapacity or death [6]. Psychological stress has been suggested as a contributing factor in hypertension. High blood pressure has clinical effects in the brain, heart, and kidneys. Strokes in the brain occur when blood arteries burst or become occluded by atheromatous material. Exertional chest discomfort and heart attacks are symptoms of coronary artery disease, which develops at a faster pace in hypertensive people [7]. Stroke, coronary disease, peripheral artery disease, renal disease, and heart failure are the most prevalent disorders induced by hypertension [8].

Hypertension affects about 1.13 billion people globally, mostly in low- and middle-income countries (WHO, 2019), and this number is expected to rise to 1.56 billion by 2025. Raised blood pressure continues to be the biggest cause of death worldwide, with 10.4 million deaths per year. In 2010, 1.39 billion persons worldwide were projected to have hypertension, according to global statistics.

In India, hypertension has become a significant social health issue. It is becoming more common in India, affecting 10.8% and 4.6% of fatalities and disability-adjusted life years in younger people in both rural and urban areas [9]. In India, hypertension is responsible for 42% of fatalities from cardiovascular disease and 57% of deaths from cerebrovascular accidents [10]. Hypertension affects 11.4% of Indians and 19.6% of Nepalese people. Its importance has grown, particularly in low- and middle-income countries [11].

AIM AND OBJECTIVE

The aim of the study is to determine the knowledge, attitude, and practice of hypertension management among bank employees of Patiala.

- To determine the knowledge of hypertension among public sector bank employees.
- To determine the attitude and practice of hypertension management among bank employees.
- To determine the awareness of the role of physiotherapy management in hypertension among the bank employees.

MATERIAL AND METHODS

This chapter describes the study design and the subject sample. A detailed description of the tools and procedures used for data collection is provided. The research proposal was approved by the Departmental Research Committee Ref. No. 1106 N/PT, Department of Physiotherapy and Institutional Ethical Committee Ref. No. 17/35/IEC/PUP/2022, Punjabi University, Patiala.

Study Design

Descriptive survey study.

Method of Data Collection

The data was collected using the scheduled interview method.

Sample Method

A convenient random sampling method was used for the study based on inclusion and exclusion criteria.

Source of Data

The data was collected offline through google forms.

[https://docs.google.com/forms/d/e/1FAIpQLSeOuT6Z-DLQ3HgwSd53IaRiGXD-
uq77FNOE6n5rATNDDcQ8SQ/viewform?usp=sf_link](https://docs.google.com/forms/d/e/1FAIpQLSeOuT6Z-DLQ3HgwSd53IaRiGXD-
uq77FNOE6n5rATNDDcQ8SQ/viewform?usp=sf_link)

Source of Sample

The study was carried out in public bank of Patiala (State bank of India).

Sample Size

A sample of 108 subjects meeting the inclusion and exclusion criteria were recruited for participation in the study.

Inclusion Criteria

- Both male and female public sector bank employees were included.
- Subjects between 30 years-45 years of age.
- Subjects working only in SBI bank of India were included.
- Subjects who agreed to participate in the study.

Exclusion Criteria

Age below 30 years and above 45 years.

Tools for Data Collection

Schedule an interview using a questionnaire via google form (as shown in Appendix II).

QUESTIONNAIRE

Demographic Data

Age - _____

Gender -

- Male
- Female

Job designation

- Cashier
- Assistant manager
- Senior manager
- Clerk

Working hours

- 8 hours
- 9 hours
- 10 hours
- 11 hours

Height - _____

Weight - _____

Year of service

- Less than 10 years
- 10 years-15 years
- More than 15 years

Knowledge

What does the term hypertension mean?

- High blood pressure
- High level stress
- Nervous condition
- High blood sugar
- Over activity
- Don't know

Do you think hypertension is dangerous to our health?

- Yes
- No

Would lowering high blood pressure improves one's health?

- Yes
- No

What does the upper (top) and bottom numbers of blood pressure called?

- Top number is systole and bottom number is diastole
- Bottom number is systole and top number is diastole
- Don't know

What should normal blood pressure levels be?

- Less than 140/less than 90
- 140/90
- More than 140/more than 90
- Don't know

Which measure(s) is (are) more important?

- Top (systolic)
- Bottom (diastolic)
- Both (top and bottom)
- Don't know

Can you do something to lower your blood pressure?

- Yes
- No

Attitude

Do you think taking medicine is important to maintain blood pressure under control?

- Yes
- No

Do you think high blood pressure (hypertension) is a lifelong disease?

- Yes
- No

Do you think that high blood pressure (hypertension) is something you can cure?

- Yes
- No

Is it possible to lower your blood pressure by changing your lifestyle?

- Yes
- No

Do you think that high blood pressure is an avoidable part of aging?

- Yes
- No

What is the most important factor in controlling your high blood pressure? (You can select more than one option from the following).

- Taking medications
- Exercising
- Less stress
- Quitting smoking
- Changing diet (salt)
- Reducing alcohol
- Losing weight

Do you think a regular visit to a physician is important?

- Yes
- No

Practice

Have you ever been diagnosed as hypertensive?

- Yes
- No

Did you recently check your blood pressure?

- Yes
- No

Did you recently visit your physician?

- Yes
- No

Had you recently examined your lipid profile, urine test and blood sugar level?

- Yes
- No

Physiotherapy Awareness

Have you heard of physiotherapy before?

- Yes
- No

Do you think physiotherapy is effective in management of hypertension?

- Yes
- No

Have you ever done any of these exercises to manage hypertension?

- Walking
- Jogging
- Cycling
- Dancing
- Others (yoga)

In a day, how long do you exercise?

- 10 minutes-20 minutes
- 30 minutes
- More than 30 minutes

How many times each day, do you exercise?

- Single time a day
- Two times a day
- Three times a day

How often do you exercise?

- Regularly
- On alternative days
- Weekly

Do you involve yourself in strength training exercises?

- Yes
- No

Do you perform deep breathing exercises to control blood pressure?

- Yes
- No

Do you perform any aquatic exercises (swimming)?

- Yes
- No

Do you indulge yourself in elastic band exercises?

- Yes
- No

Do you perform any pranayama to lower your blood pressure?

- Yes
- No

Do you indulge music therapy in your life?

- Yes

- No

Do you perform any relaxation exercises?

- Yes
- No

Have you tried biofeedback mechanism to control your blood pressure?

- Yes
- No

RESULTS AND DATA ANALYSIS

The present study was conducted to determine the knowledge, attitude and practice of hypertension management among the bank employees of Patiala. The observation of the study was further described as in the following sections:

SECTION A

Distribution of subjects according to the socio-demographic data.

Table 1 shows the age wise distribution of the sample. 35.3% were from 30 years-35 years age groups, 43.5% were from 36 years-40 years age group and 21.4% were from 41years-45 years age group (Figure 1).

Table 1 Distribution of subjects according to the age

Age (in years)	Frequency	Percentage
30-35	38	35.30%
36-40	47	43.50%
41-45	23	21.40%
Mean	37.39	

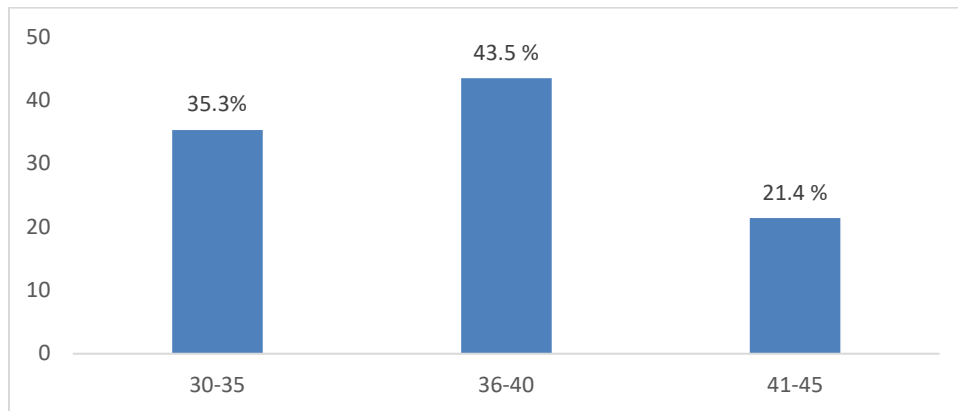


Figure 1 Distribution of subjects according to age

Table 2 shows the gender-wise distribution of subjects. Among the total 108 subjects, 52.8% were male and 47.2% were female (Figure 2).

Table 2 Distribution of subjects according to the gender

Gender	Frequency	Percentage
Female	51	0.472%
Male	57	0.528%
Total	108	1%
Mode	57	

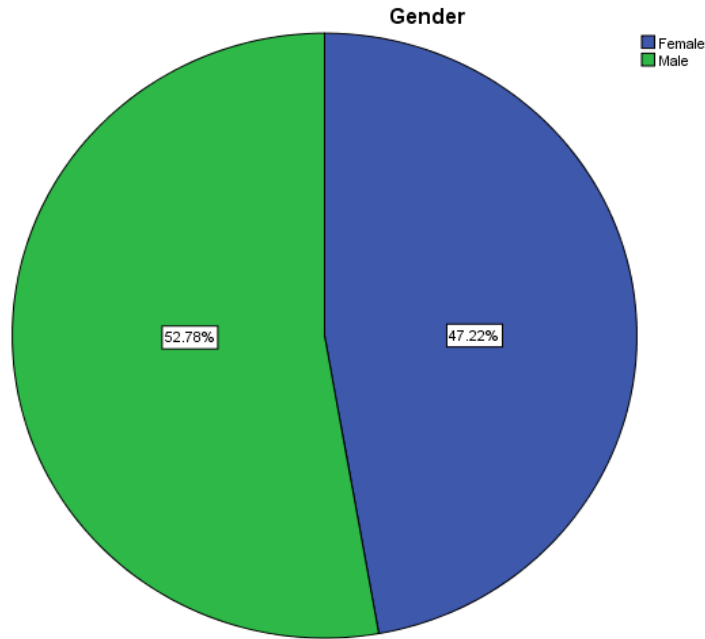


Figure 2 Distribution of subjects according to the Gender

Table 3 shows the distribution of the subjects according to the height. 44.4% were from the 1.70-1.79 group, 25% from 1.60-1.69 group, 22.2% from the 1.50-1.59 group, 7.4% were from the 1.80-1.89 group and 0.92% were from the 1.90-1.99 group (Figure 3).

Table 3 Distribution of subjects according to the height

Height	Frequency	Percentage
1.50 m-1.59 m	24	0.222%
1.60 m-1.69 m	27	0.25%
1.70 m-1.79 m	48	0.444%
1.80 m-1.89 m	8	0.074%
1.90 m-1.99 m	1	0.0092%
Mean	1.68	

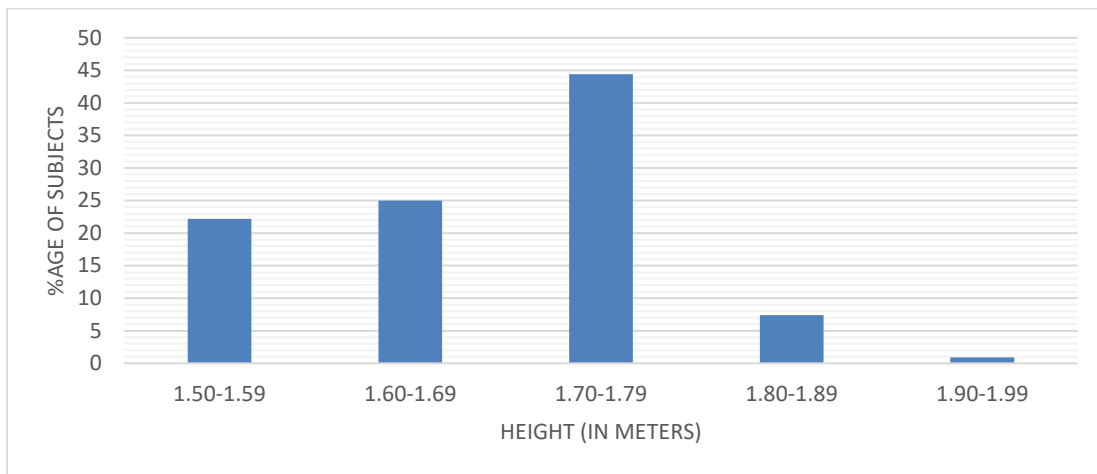


Figure 3 Distribution of subjects according to the height

Table 4 shows distribution of subject’s weight. Majority (43.5%) were among 55 kg-65 kg weight group followed by (38%) 66 kg-76 kg weight group and (18.5%) 77 kg-89 kg weight group (Figure 4).

Table 4 Distribution of subjects according to the weight

Weight	Frequency	Percentage
55 kg-65 kg	47	43.50%
66 kg-76 kg	41	38.00%
77 kg-89 kg	20	18.50%

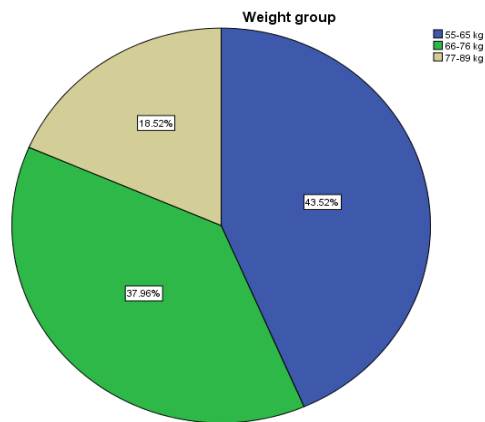


Figure 4 Distribution of subjects according to the weight

Table 5 shows the responses of subjects according to the body mass index. 75.9% of the subjects fallen under the 18-24.9 BMI group and 24.1% subjects were under 25-29.9 BMI group (Figure 5).

Table 5 Distribution of subjects according to the body mass index

BMI Category	Frequency	Percentage
18-24.9	82	75.9%
25-29.9	26	24.1%
Mean	24.08	

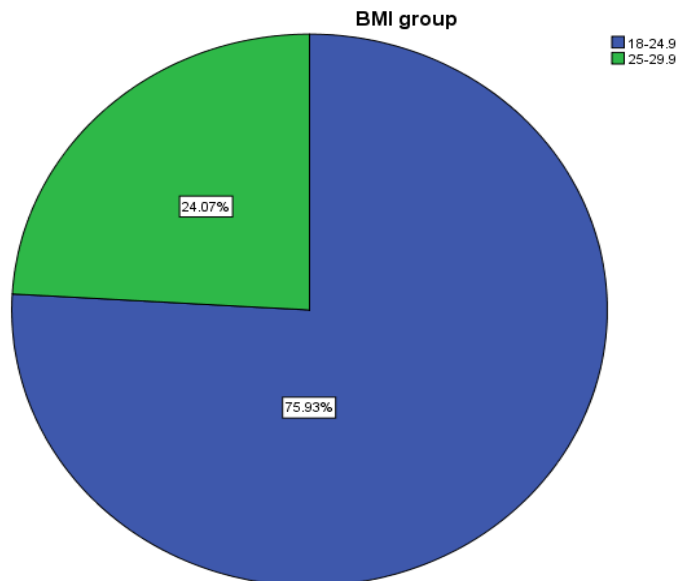


Figure 5 Distribution of subjects according to the body mass index

Distribution of Demographic Details

Table 6 shows the distribution of the subject’s demographic details according to the mean and standard deviation i.e. Age (in years) = 37.39 ± 4.14, Height (in m) = 1.68 ± 0.089, Weight (in kg) = 68.55 ± 8.38 and BMI (in kg/m²) = 24.08 ± 1.11 (Figure 6).

Table 6 Distribution of subject’s demographic details according to the mean and standard deviation

	Age (in years)	Height (in m)	Weight (in kg)	BMI (in kg/m ²)
Mean	37.39	1.68 m	68.55 kg	24.08
S.D.	± 4.14	± 0.089	± 8.38	± 1.11

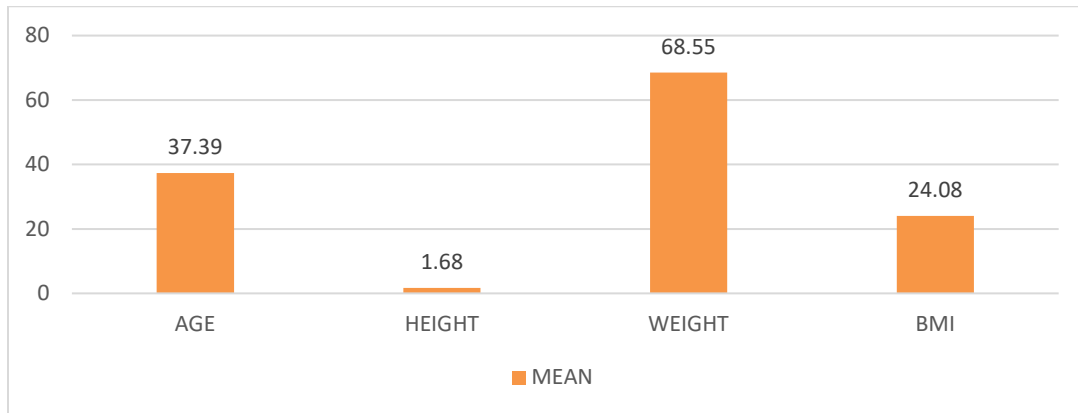


Figure 6 Distribution of subject’s demographic details according to the mean and standard deviation

Table 7 shows the distribution of subjects according to the job designation. 12% were assistant managers, 44.4% were cashiers, 32.4% were clerks and 11.1% were senior managers (Figure 7).

Table 7 Distribution of subjects according to the job designation

Job Designation	Frequency	Percentage
Assistant manager	13	12.00%
Cashier	48	44.40%
Clerk	35	32.40%
Senior manager	12	11.1%

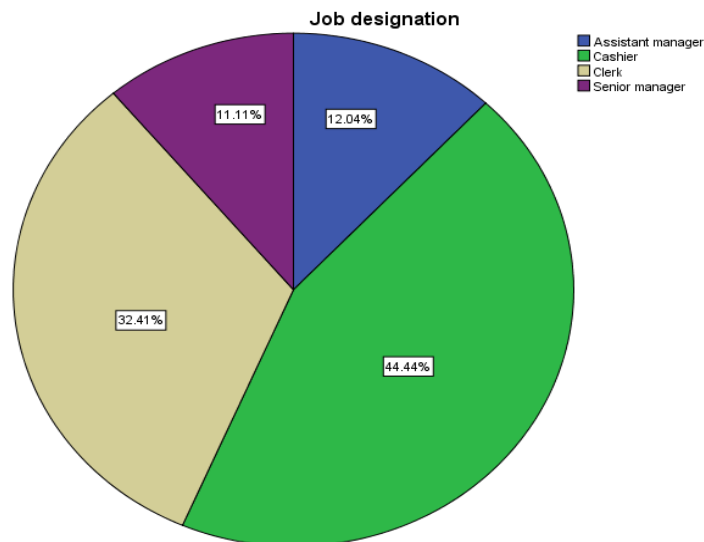


Figure 7 Distribution of subjects according to the job designation

Table 8 shows the number of subjects according to the working hours. The majority of the subjects (55.6%) were working for 8 hours and the minority of the subjects (7.4%) worked for 10 hours (Figure 8).

Table 8 Distribution of subjects according to the working hours

Number of hours	Frequency	Percentage
8 hours	48	44.40%
9 hours	39	36.10%
10 hours	9	8.30%
11 hours	12	11.10%
Mean of working hours	8.86	

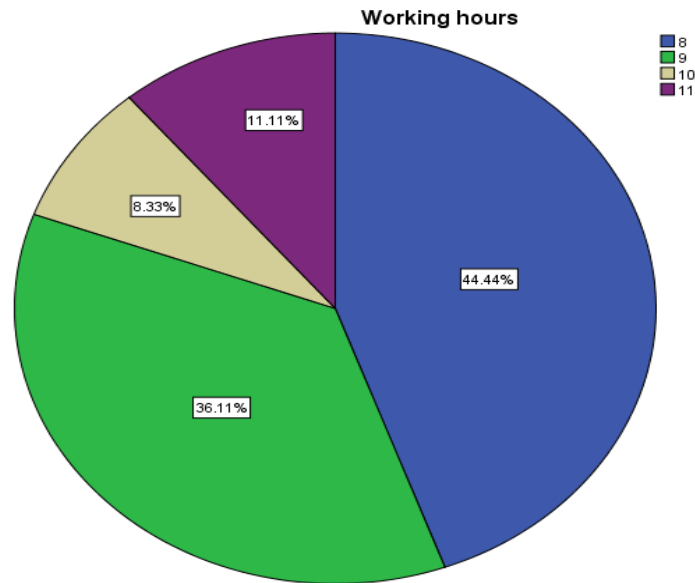


Figure 8 Distribution of subjects according to the working hours

Table 9 shows the years of service of SBI bank employees in which 35.2% were working for 10 years-15 years, 40.7% were working for less than 10 years and 24.1% were working for more than 15 years (Figure 9).

Table 9 Distribution of subjects according to the years of service

Service Years	Frequency	Percentage
10 years-15 years	38	35.20%
Less than 10 years	44	40.70%
More than 15 years	26	24.10%
Mode	44	

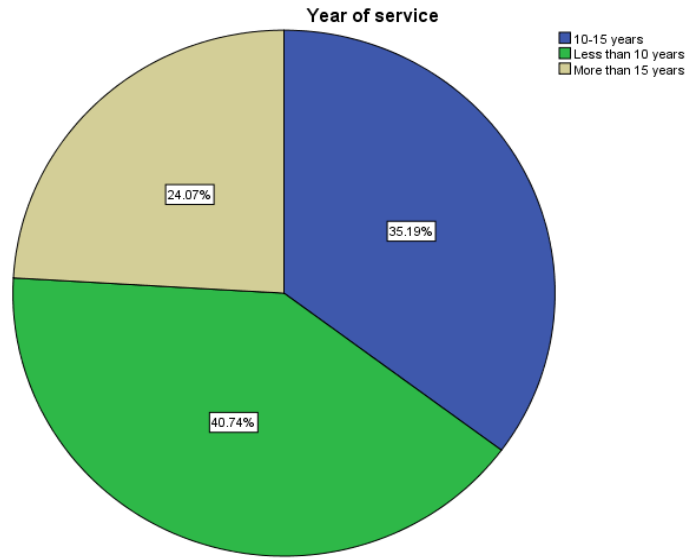


Figure 9 Distribution of subjects according to the year of service

SECTION B

Table 10 shows the responses of subjects according to their knowledge of the term hypertension. The majority of the subjects (55.6%) reported high levels of stress/tension as the meaning of hypertension followed by don't know (21.3%), high blood pressure (20.4%), nervous condition (1.9%), and over activity (0.9%) (Figure 10).

Table 10 Responses of the subjects toward the knowledge of the term hypertension

	Frequency	Percentage
Don't know	23	21.30%
High blood pressure	22	20.40%
High-level stress/tension	60	55.60%
Nervous condition	2	1.90%
Over activity	1	0.90%

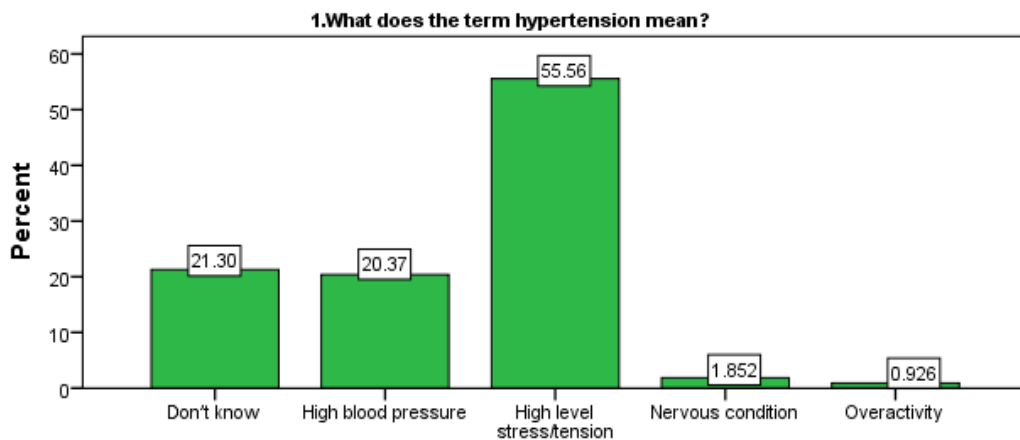


Figure 10 Responses of the subjects toward the knowledge of the term hypertension

Table 11 shows the responses of the subjects regarding hypertension being dangerous to their health 26.9% reported no and 73.1% reported yes (Figure 11).

Table 11 Responses of the subjects regarding hypertension is dangerous to their health

	Frequency	Percentage
No	29	26.90%
Yes	79	73.10%

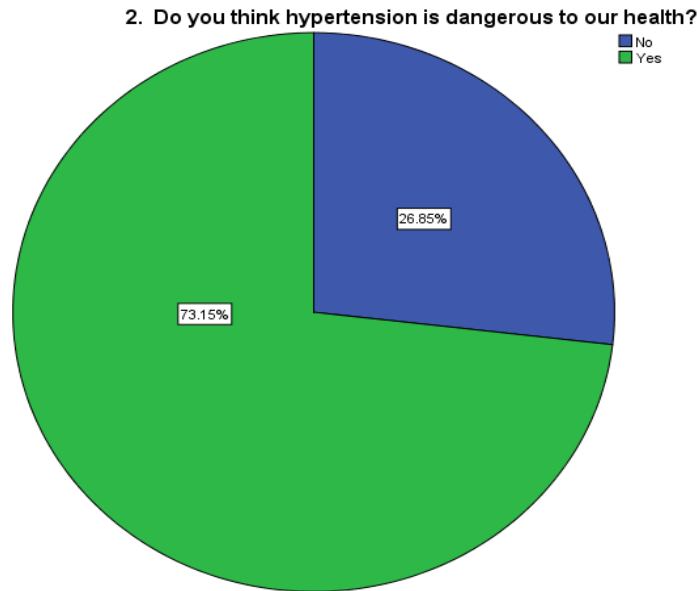


Figure 11 Responses of the subject's regarding hypertension is dangerous to their health

Table 12 shows the responses of the subjects about lowering high blood pressure improve one's health 38.9% reported no and 61.1% reported yes (Figure 12).

Table 12 Responses of the subject's about lowering high blood pressure improve one's health

	Frequency	Percentage
No	42	38.9%
Yes	66	61.1%

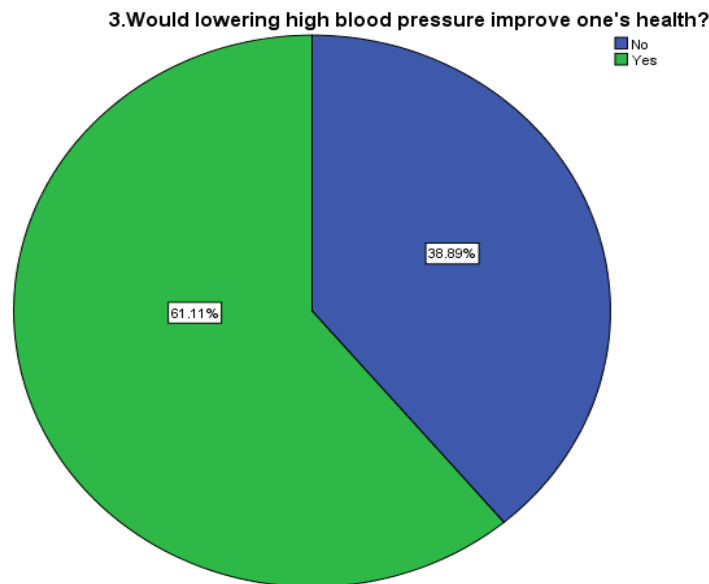


Figure 12 Responses of the subject's about lowering high blood pressure improve one's health

Table 13 shows the responses of the subjects about which term is used for the upper (top) and bottom numbers of blood pressure where the majority 87% reported don't know, 4.6% reported bottom number is systole and top number is diastole and 8.3% reported top number is systole and the bottom number is diastole (Figure 13).

Table 13 Responses of the subjects about which term is used for the upper (top) and bottom numbers of blood pressure

	Frequency	Percentage
The bottom number is systole and the top number is diastole	5	4.60%
Don't know	94	87.00%
Top number is systole and the bottom number is diastole	9	8.30%

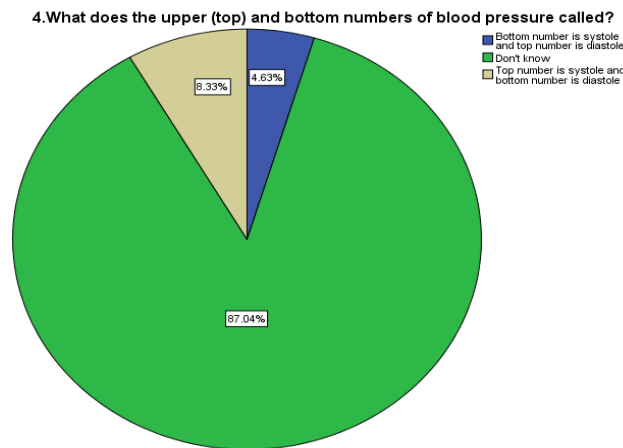


Figure 13 Responses of the subjects about which term is used for the upper (top) and bottom numbers of blood pressure

Table 14 shows the responses of the subjects about the normal levels of blood pressure where the majority 42.6% reported 140/90, 21.3% reported don't know, 25.9% reported less than 140 less than 90, and 10.2% reported more than 140/ more than 90 (Figure 14).

Table 14 Responses of the subjects about the normal levels of blood pressure

	Frequency	Percentage
140/ 90	46	42.60%
Don't know	23	21.30%
less than 140/less than 90	28	25.90%
more than 140/more than 90	11	10.20%

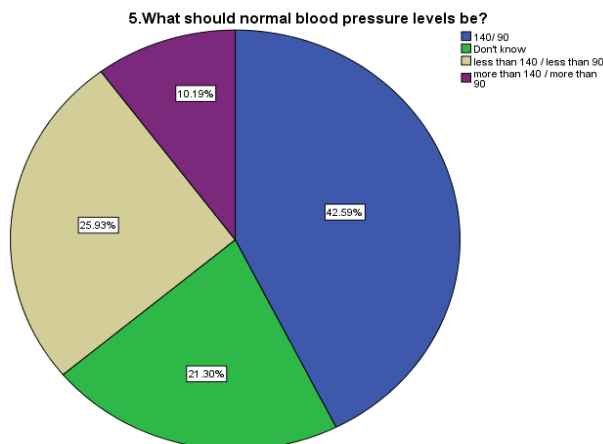


Figure 14 Responses of the subjects about the normal levels of blood pressure

Table 15 shows the responses of subjects about which measure(s) is (are) more important in which majority (51.9%) reported don't know and (29.6%) reported top (systolic), minority (11.1%) reported both (top and bottom), (7.4%) reported bottom (diastolic) (Figure 15).

Table 15 Responses of the subjects about which measure(s) is (are) more important

	Frequency	Percentage
Both (top and bottom)	12	11.10%
Bottom (diastolic)	8	7.40%
Don't know	56	51.90%
Top (systolic)	32	29.60%

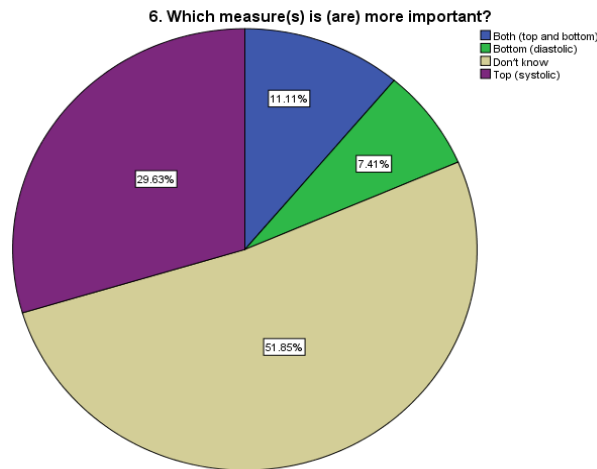


Figure 15 Responses of the subjects about which measure(s) is (are) more important

Table 16 shows responses of subjects regarding their opinion about doing something to lower blood pressure where 39.8% reported no and 60.2% reported yes (Figure 16).

Table 16 Responses of subjects regarding their opinion about doing something to lower blood pressure

	Frequency	Percentage
No	43	39.80%
Yes	65	60.20%

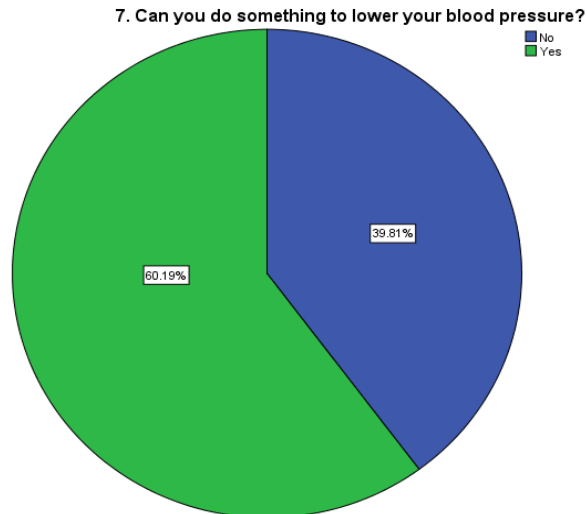


Figure 16 Responses of subjects regarding their opinion about doing something to lower blood pressure

SECTION C

Table 17 shows the responses of the subjects toward taking medicine to maintain blood pressure under control is important where 63.9% reported yes and 36.1% reported no (Figure 17).

Table 17 Responses of the subjects toward taking medicine to maintain blood pressure under control is important

	Frequency	Percentage
No	39	36.10%
Yes	69	63.90%

8. Do you think taking medicine is important to maintain blood pressure under control?

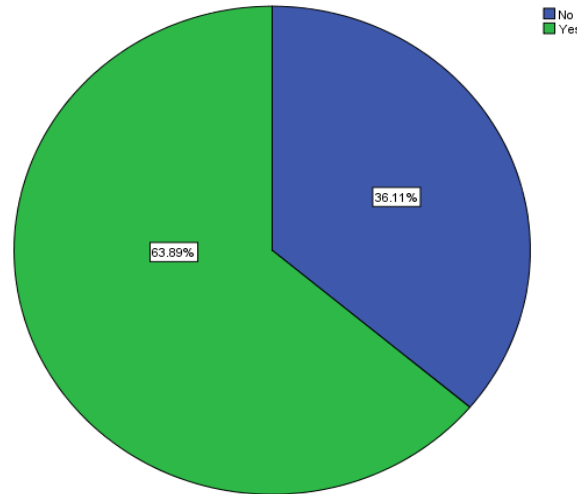


Figure 17 Responses of the subjects toward taking medicine to maintain blood pressure under control is important

Table 18 shows the response of the subjects about high blood pressure (hypertension) is a life-long disease where 67.6% reported yes and 32.4% reported no (Figure 18).

Table 18 Responses of the subjects about high blood pressure (hypertension) is a life-long disease

	Frequency	Percentage
No	35	32.40%
Yes	73	67.60%

9. Do you think that high blood pressure (hypertension) is a life-long disease?

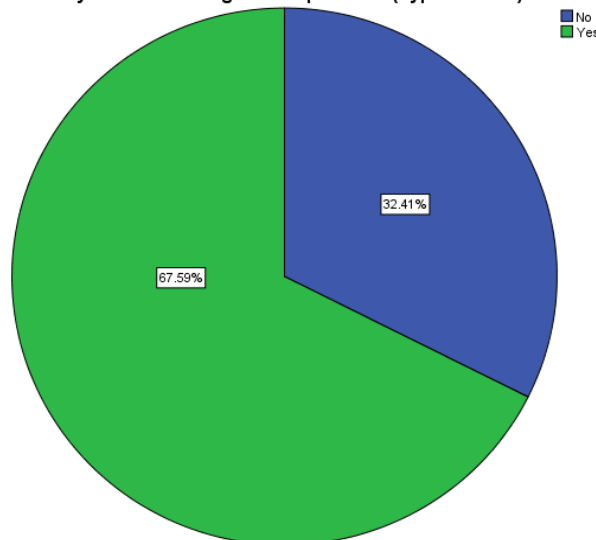


Figure 18 Responses of the subjects about high blood pressure (hypertension) is a life-long disease

Table 19 shows the responses of the subjects towards high blood pressure (hypertension) is something they can cure. 58.3% reported no and 41.7% reported yes (Figure 19).

Table 19 Responses of the subjects towards high blood pressure (hypertension) is something they can cure

	Frequency	Percentage
No	63	58.30%
Yes	45	41.70%

10. Do you think that high blood pressure (hypertension) is something you can cure?

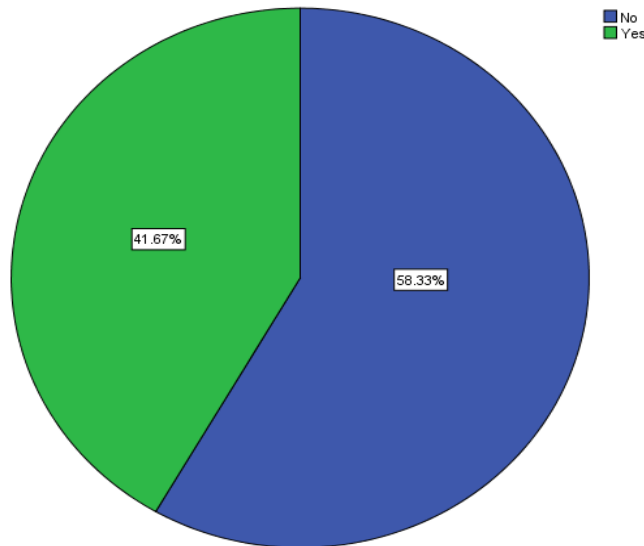


Figure 19 Responses of the subjects towards high blood pressure (hypertension) is something they can cure

Table 20 shows the responses of the subjects about the possibility of lowering blood pressure by changing lifestyle and majority 65.7% said yes whereas 34.3% reported no (Figure 20).

Table 20 Responses of the subjects about the possibility of lowering blood pressure by changing lifestyle

	Frequency	Percentage
No	37	34.30%
Yes	71	65.70%

11. Is it possible to lower your blood pressure by changing your lifestyle?

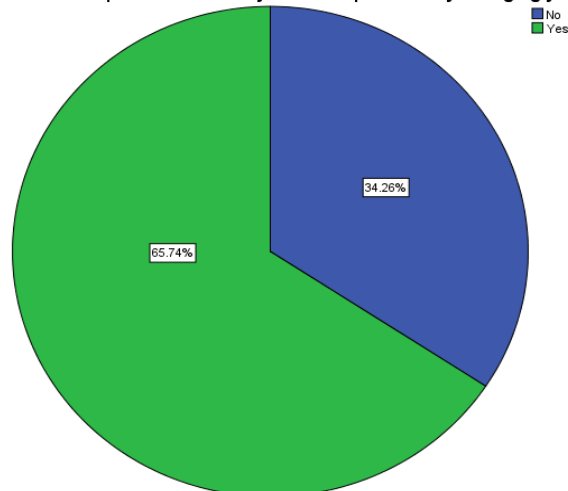


Figure 20 Responses of the subjects about the possibility of lowering blood pressure by changing lifestyle

Table 21 shows responses of the subjects toward high blood pressure is an avoidable part of aging where majority (80.6%) reported no and 19.4% reported yes (Figure 21).

Table 21 Responses of the subjects toward high blood pressure is an avoidable part of aging

	Frequency	Percentage
No	87	80.60%
Yes	21	19.40%

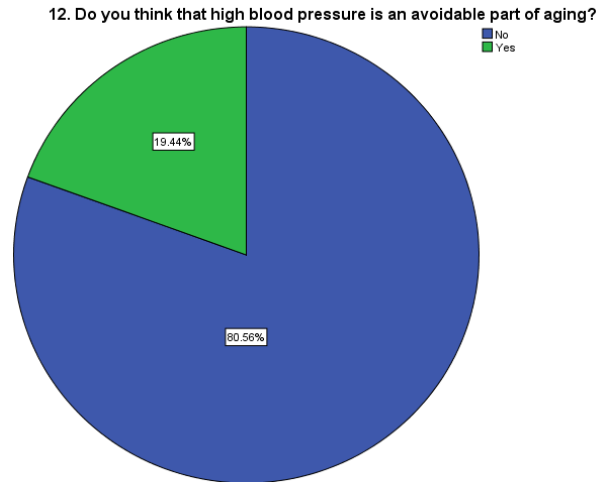


Figure 21 Responses of the subjects toward high blood pressure is an avoidable part of aging

Table 22 shows the responses of subjects towards the most important factor in controlling your high blood pressure where the majority (57.5%) reported changing diet (salt) followed by (50%) exercising, (47.2%) taking medications, (35.8%) losing weight, (30.2%) less stress, (23.6%) reducing alcohol and (15.1%) quit smoking (Figure 22).

Table 22 Responses of subjects toward the most important factor in controlling your high blood pressure

	Frequency	Percentage
Taking medications	50	47.20%
Exercising	53	50.00%
Less stress	32	30.20%
Quit smoking	16	15.10%
Change diet (salt)	61	57.50%
Reducing alcohol	25	23.60%
Losing weight	38	35.80%

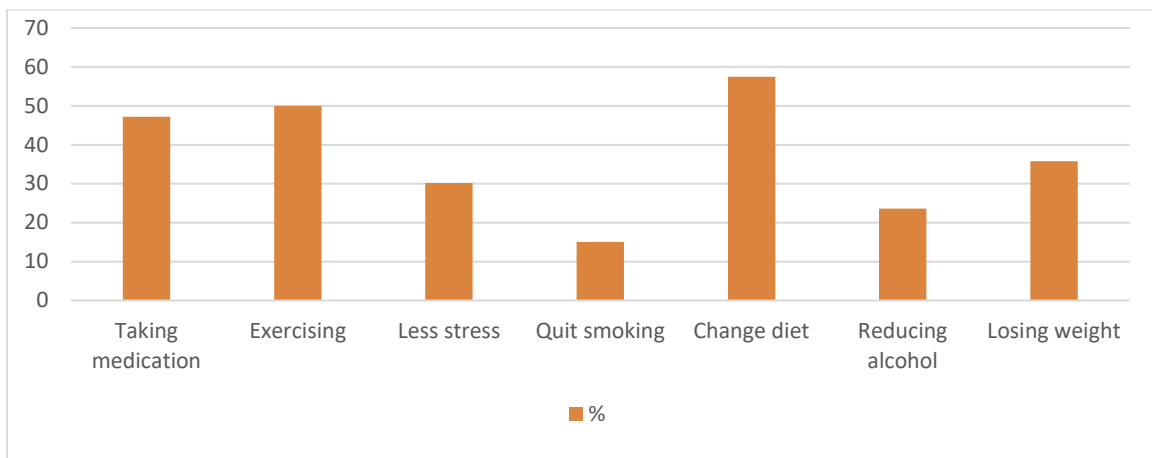


Figure 22 Responses of subjects towards the most important factor in controlling your high blood pressure

Table 23 shows responses of the subjects regarding the importance of regular visits to a physician where 77.8% reported yes and 22.2% reported no (Figure 23).

Table 23 Responses of the subjects regarding the importance of regular visit to a physician

	Frequency	Percentage
No	24	22.20%
Yes	84	77.80%

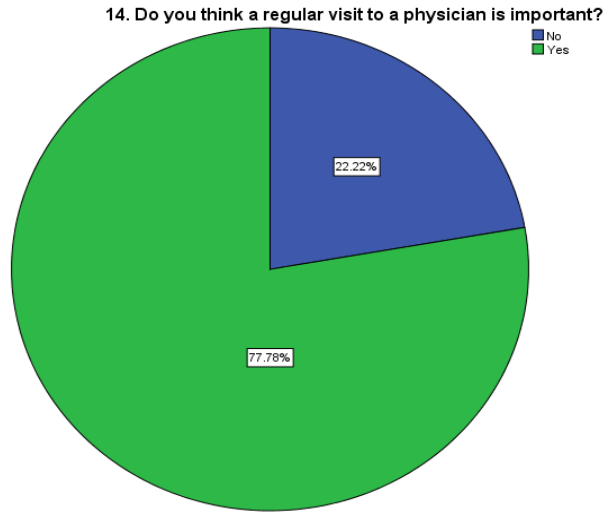


Figure 23 Responses of the subjects regarding importance of regular visit to a physician

SECTION D

Table 24 shows responses of the subjects if they have ever been diagnosed as hypertensive where 71.3% reported no and 28.7% reported yes (Figure 24).

Table 24 Responses of the subjects if they have ever been diagnosed as hypertensive

	Frequency	Percentage
No	77	71.30%
Yes	31	28.70%

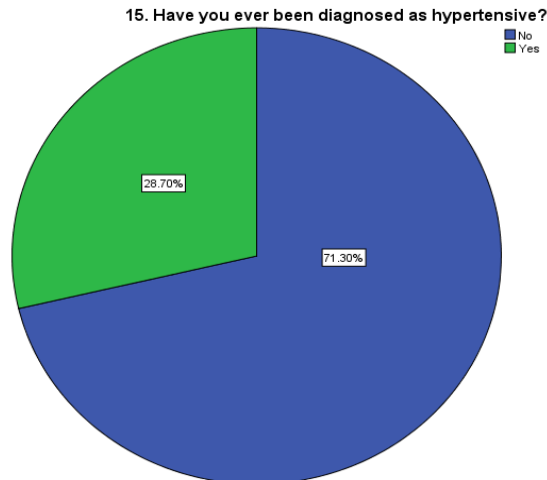


Figure 24 Responses of the subjects if they have ever been diagnosed as hypertensive

Table 25 shows responses of the subjects if they recently checked their blood pressure where 72.2% reported no and 27.8% reported yes (Figure 25).

Table 25 Responses of the subjects if they recently checked their blood pressure

	Frequency	Percentage
No	78	72.20%
Yes	30	27.80%

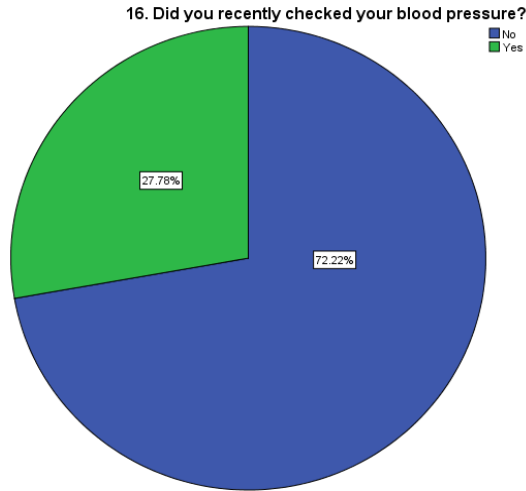


Figure 25 Responses of the subjects if they recently checked their blood pressure

Table 26 shows the responses of the subjects regarding their recent visit to a physician where 90.7% reported no and 9.3% reported yes (Figure 26).

Table 26 Responses of the subjects regarding their recently visit to a physician

	Frequency	Percentage
No	98	90.70%
Yes	10	9.30%

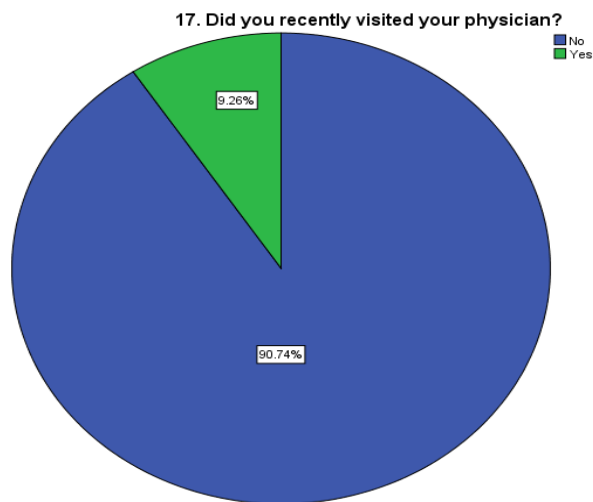


Figure 26 Responses of the subjects regarding their recently visit to a physician

Table 27 shows responses of the subjects if they had recently examined their lipid profile, urine test and blood sugar level where 83.3% reported no and 16.7% reported yes (Figure 27).

Table 27 Responses of the subjects if they had recently examined their lipid profile, urine test and blood sugar level

	Frequency	Percentage
No	90	83.30%
Yes	18	16.70%

18. Had you recently examined your lipid profile, urine test and blood sugar level?

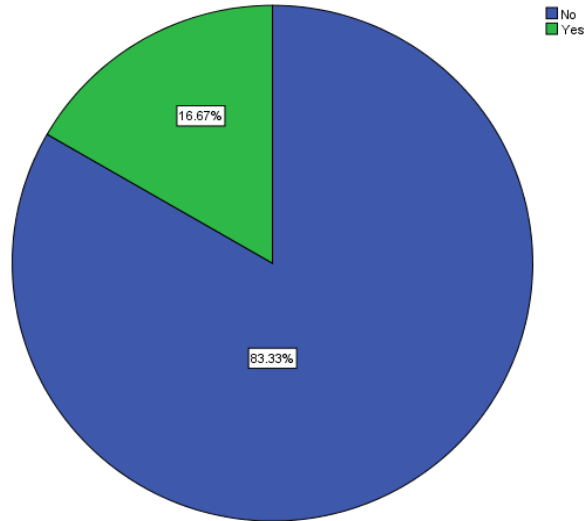


Figure 27 Responses of the subjects if they had recently examined their lipid profile, urine test and blood sugar level

SECTION E

Table 28 shows the responses of the subjects regarding if they have heard of physiotherapy before where 88.9% reported yes and 11.1% reported no (Figure 28).

Table 28 Responses of the subjects regarding if they have heard of physiotherapy before

	Frequency	Percentage
No	12	11.10%
Yes	96	88.90%

19. Have you heard of physiotherapy before?

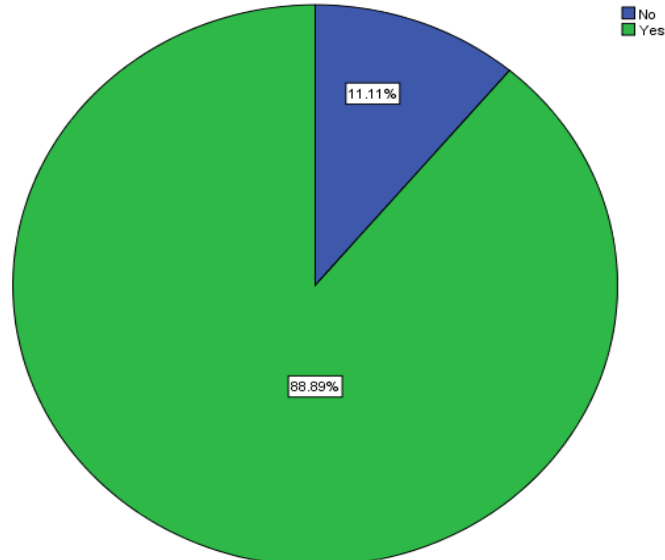


Figure 28 Responses of the subjects regarding if they have heard of physiotherapy before

Table 29 shows the responses of the subjects toward the effectiveness of physiotherapy in the management of hypertension where 55.6% reported no and 44.4% reported yes (Figure 29).

Table 29 Responses of the subjects toward the effectiveness of physiotherapy in the management of hypertension

	Frequency	Percentage
No	60	55.60%
Yes	48	44.40%

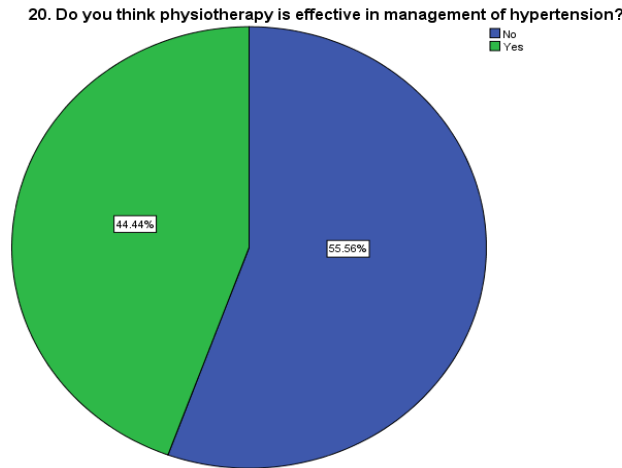


Figure 29 Responses of the subjects toward effectiveness of physiotherapy in management of hypertension

Table 30 shows the responses of the subjects about the management of hypertension by doing any of these exercises. Majority (44.4%) reported walking followed by (33.3%) jogging, (14.8%) cycling, (4.6%) other (e.g. yoga), and (2.8%) dancing (Figure 30).

Table 30 Responses of the subjects about management of hypertension by doing any of these exercises

	Frequency	Percentage
Cycling	16	14.80%
Dancing	3	2.80%
Jogging	36	33.30%
Others (E.g. yoga)	5	4.60%
Walking	48	44.40%

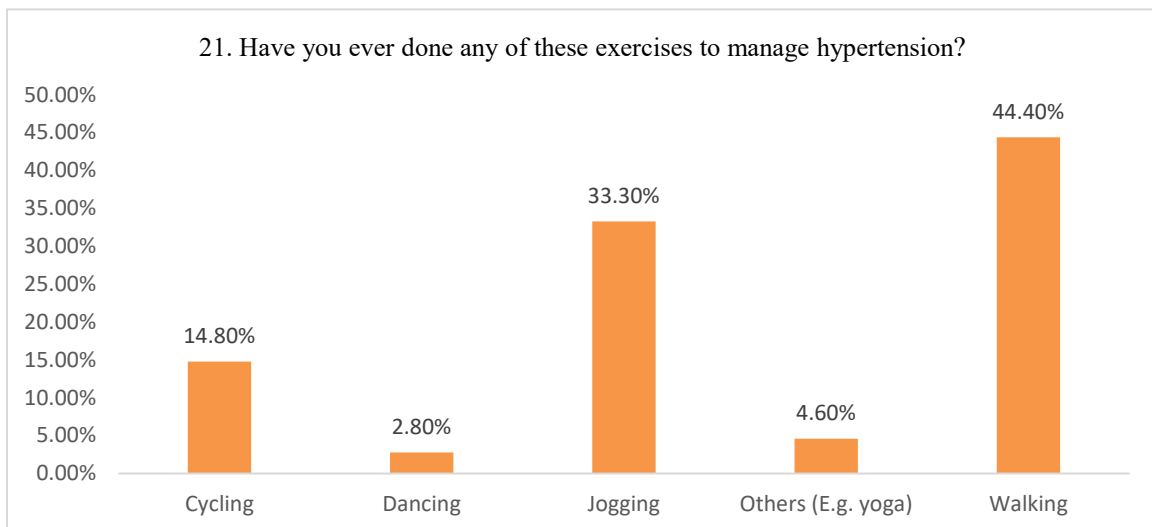


Figure 30 Responses of the subjects about management of hypertension by doing any of these exercises

Table 31 shows responses of the subjects about how long do they exercise in a day. 48.1% reported 30 minutes, 46.3% reported 10-20 minutes and 5.6% reported more than 30 minutes (Figure 31).

Table 31 Responses of the subjects about how long do they exercise in a day

	Frequency	Percentage
10 minutes-20 minutes	50	46.30%
30 minutes	52	48.10%
More than 30 minutes	6	5.6%

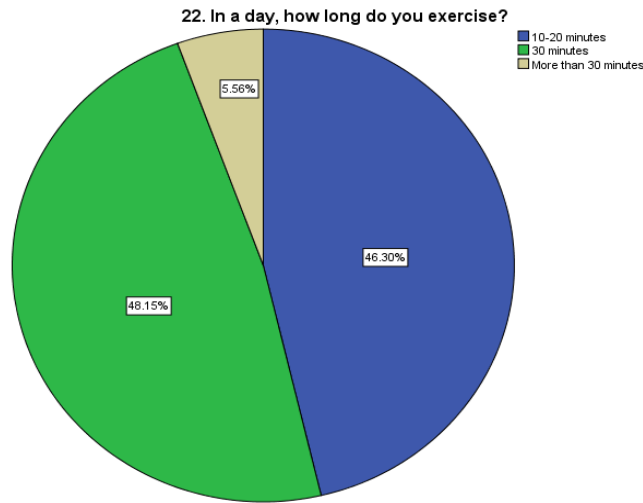


Figure 31 Responses of the subjects about how long do they exercise in a day

Table 32 shows the responses of the subjects for how many times they do exercise in a day. 88% reported a single time in a day followed by 12% two times in a day and 0% three times in a day (Figure 32).

Table 32 Responses of the subjects for how many times they do exercise in a day

	Frequency	Percentage
Single time a day	95	88.00%
Two times a day	13	12.00%
Three times a day	0	0.00%



Figure 32 Responses of the subjects for how many times they do exercise in a day

Table 33, shows the responses of subjects how often they do exercise. 46.3% reported on alternative days followed by 31.5% regularly and 22.2% weekly (Figure 33).

Table 33 Responses of subjects how often they do exercise

	Frequency	Percentage
On alternative days	50	46.30%
Regularly	34	31.50%
Weekly	24	22.20%

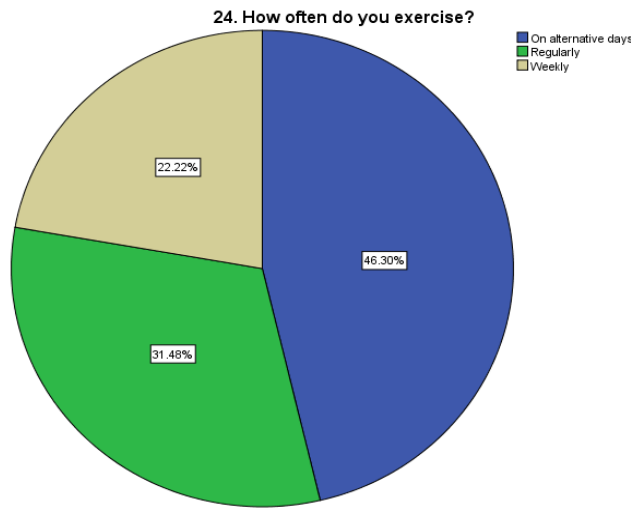


Figure 33 Responses of subjects how often they do exercise

Table 34 shows responses of the subjects toward their involvement in strength training exercises where 90.7% reported no and 9.3% reported yes (Figure 34).

Table 34 Responses of the subjects toward their involvement in strength training exercises

	Frequency	Percentage
No	98	90.70%
Yes	10	9.3%



Figure 34 Responses of the subjects toward their involvement in strength training exercises

Table 35 shows the responses of the subjects about performing deep breathing exercises to control high blood pressure where 65.7% reported no and 34.3% reported yes (Figure 35).

Table 35 Responses of the subjects about performing deep breathing exercises to control high blood pressure

	Frequency	Percentage
No	71	65.70%
Yes	37	34.3%

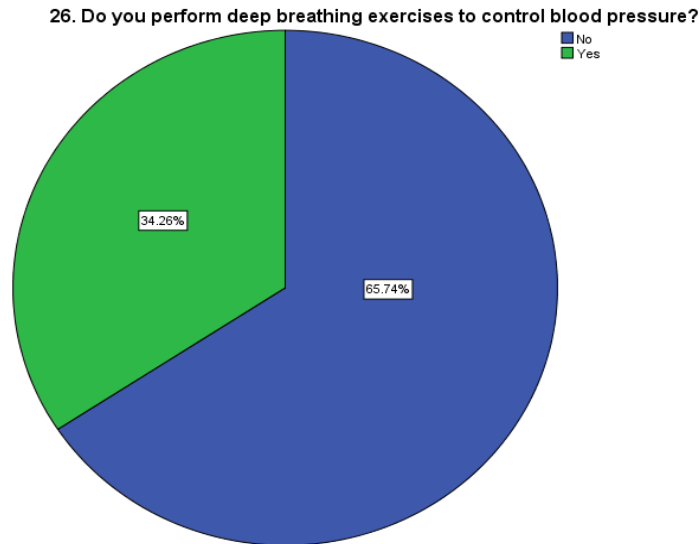


Figure 35 Responses of the subjects about performing deep breathing exercises to control high blood pressure

Table 36 shows the responses of the subjects about performing aquatic exercises. 82.4% reported no and 17.6% reported yes (Figure 36).

Table 36 Responses of the subjects about performing aquatic exercises

	Frequency	Percentage
No	89	82.40%
Yes	19	17.60%

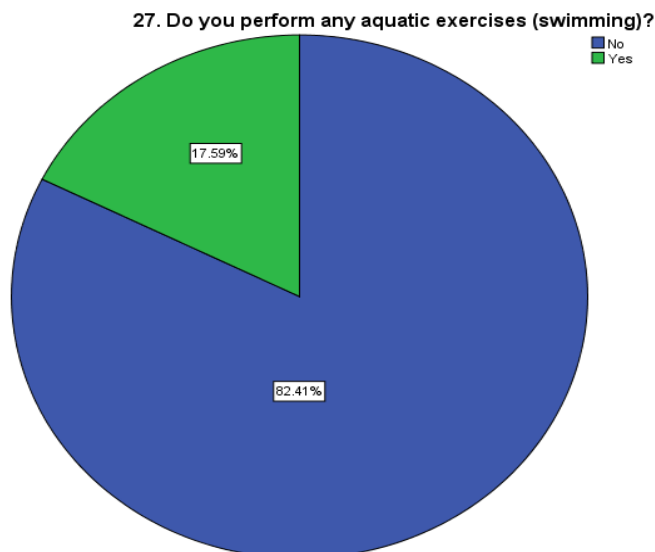


Figure 36 Responses of the subjects about performing aquatic exercises

Table 37 shows the responses of the subjects toward their indulgement in elastic band exercise where 91.7% reported no and 8.3% reported yes (Figure 37).

Table 37 Responses of the subjects toward their indulgement in elastic band exercise

	Frequency	Percentage
No	99	91.70%
Yes	9	8.30%

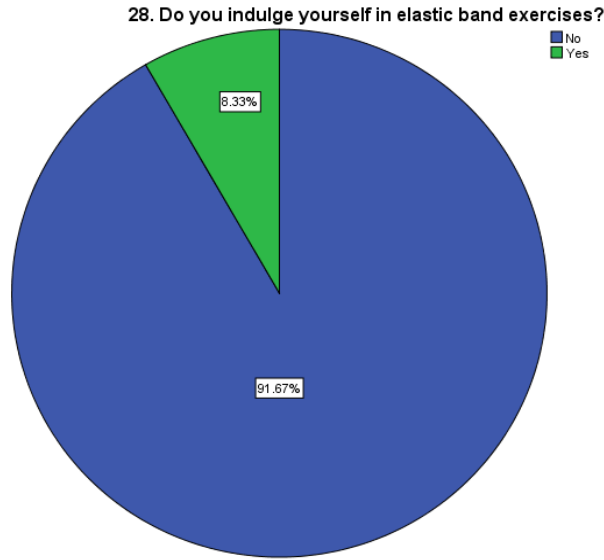


Figure 37 Responses of the subjects toward their indulgement in elastic band exercise

Table 38 shows the responses of the subjects about lowering blood pressure by performing pranayama where 76.9% reported no and 23.1% reported yes (Figure 38).

Table 38 Responses of the subjects about lowering blood pressure by performing pranayama

	Frequency	Percentage
No	83	76.90%
Yes	25	23.10%

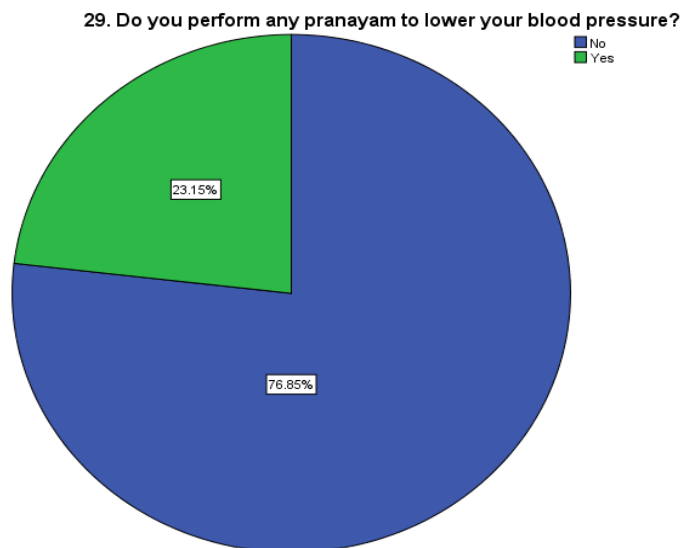


Figure 38 Responses of the subjects about lowering blood pressure by performing pranayama

Table 39 shows the responses of the subjects toward the involvement of music therapy in their life to reduce high blood pressure. 69.4% reported no and 30.6% reported yes (Figure 39).

Table 39 Responses of the subjects toward the involvement of music therapy in their life to reduce high blood pressure

	Frequency	Percentage
No	75	69.40%
Yes	33	30.60%

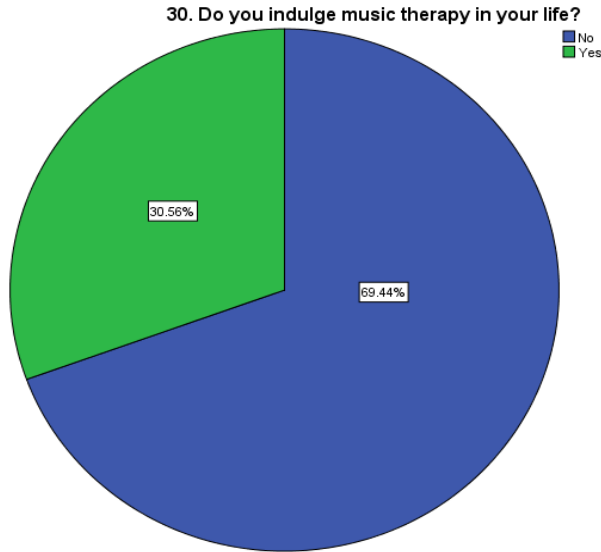


Figure 39 Responses of the subjects toward the involvement of music therapy in their life to reduce high blood pressure

Table 40 shows the responses of subjects towards performing relaxation exercises where 81.5% reported no and 18.5% reported yes (Figure 40).

Table 40 Responses of subjects towards performing relaxation exercises

	Frequency	Percentage
No	88	81.50%
Yes	20	18.50%

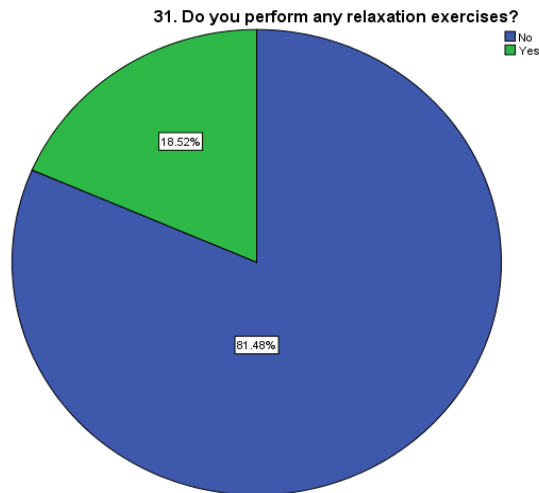


Figure 40 Responses of subjects towards performing relaxation exercises

Table 41 shows the responses of the subjects about trying biofeedback mechanism to control blood pressure and 100% of subjects reported no (Figure 41).

Table 41 Responses of the subjects about trying biofeedback mechanism to control blood pressure

	Frequency	Percentage
No	108	100%
Yes	0	0

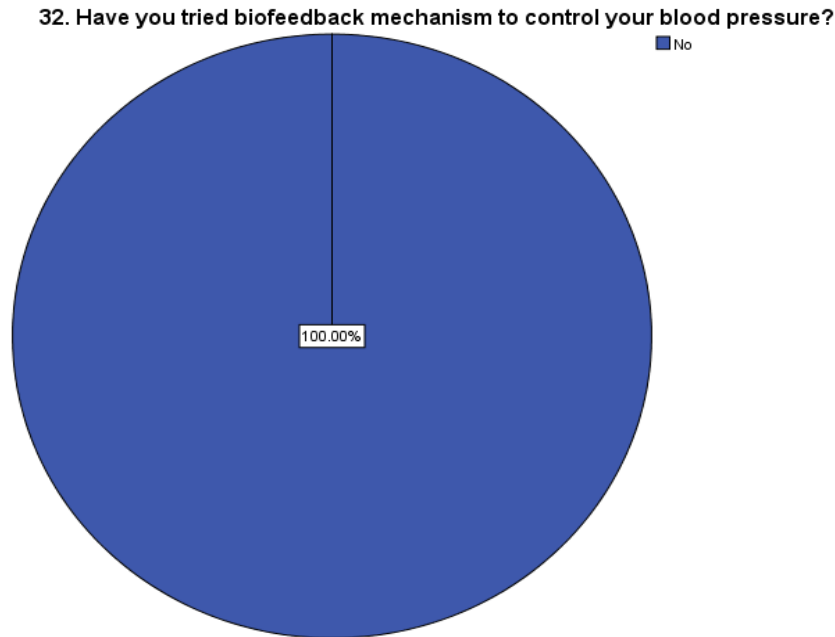


Figure 41 Responses of the subjects about trying biofeedback mechanism to control blood pressure

DISCUSSION

This descriptive survey was done to determine the current state of knowledge, attitudes, and practice of hypertension management among bank employees. According to our findings, the majority of bank employees believe hypertension is caused by excessive levels of stress or tension. Only 20.4% of employees are aware that hypertension is a condition characterized by elevated blood pressure.

Our study found that 25.9% of the total individuals are aware of their normal blood pressure level. A previous study showed that 51% of men and 56% of women were aware of the upper limit of the normal blood pressure range. Only 14% of these individuals were able to identify the higher and lower values correctly [12].

According to our research, 73.1% of employees are aware of the dangers of hypertension on their health and more than half of the participants agreed that something should be done to decrease blood pressure. 96% believed that reducing blood pressure would benefit their health, and 96% believed that they can control their excessive blood pressure [13].

We discovered that 47.2% of bank employees believe that using medication to treat high blood pressure is vital, while 57.5% believe that modifying one's diet is more important. A study conducted in overweight and mild hypertensive group found that lowering salt consumption increased the success rate of patients withdrawing from antihypertensive drug therapy [14].

Our study found that 80.6% of the population thinks that high blood pressure is not an avoidable part of aging. 77.8% of the population says that regular visit to the physician is important. A previous study published found that young individuals with shorter encounter intervals (less than 1 month) had greater rates of hypertension management than young adults with longer follow-up intervals [15]. Even after considering for patients' health characteristics, the encounter interval was still a significant predictor of time to hypertension management. In middle-aged and older

groups, shorter return visit intervals have been linked to better hypertension management.

In this study, out of the total respondents who participated, 28.7% had hypertension. Identified a 30.4% incidence of hypertension among bank employees in an urban region of south Gujarat [16]. Observed that 12.4% of 194 bank employees in Owerri, Nigeria, had hypertension [17]. The average age of 194 bank employees was less than 30, whereas the average age of the participants in our research was 37.39. A study conducted among commercial bank employees in Addis Ababa, found 19.1% hypertension prevalence [18].

Our study shows that 44.4% of the employees has knowledge about the effectiveness of physiotherapy in the management of hypertension. According to a previous study resulted that physiotherapists might aid patients with hypertension by examining the translation of current rehabilitation research knowledge into clinical practice and creating hypertension physiotherapy services to address patients' evolving requirements [19].

According to our study, most of the employees say that by doing aerobic exercise like walking and jogging for 30 minutes on alternative days in a week can manage the hypertension. In one trial, participants were randomly allocated to either aerobic exercise or a placebo control therapy that included stretching and simple callisthenics. Only aerobic activity led to significant blood pressure decreases. Changes in weight, body fat, or 24-hour urine sodium or potassium excretion did not accompany in lowering the blood pressure. This study had an independent antihypertensive impact in moderate essential hypertension [20].

Our study shows that 17.6% bank employees indulge themselves in aquatic exercises. A search of the literature prior to April 2017 turned up 14 studies with 452 participants. Several new conclusions emerged from a meta-analysis of these trials:

- The change in SBP was assessed to be 8.4 mmHg, while the change in DBP was estimated to be 3.3 mmHg
- SBP and DBP reduced considerably in patients with hypertension
- Various types of aquatic exercise significantly lowered SBP and DBP and
- HR decreased significantly with a lower BP while BMI did not change significantly.

The study found that aquatic exercise decreases heart rate, prevents heart disease, and lowers blood pressure considerably in hypertensive persons; therefore, this study lends legitimacy to aquatic exercise [21]. According to one study, water exercise lowered systolic blood pressure in hypertensive women in a statistically significant way, similar to dry land training [22].

According to the findings of our study, 34.3% and 21.3% of the bank employees perform deep breathing exercises and pranayama respectively. Found that slow Bhramari pranayama breathing (respiratory rate 3/min) for 5 minutes reduced systolic blood pressure in 50 healthy people [23]. Another research done by 30 healthy adults found that practicing Anuloma-Viloma and Bhramari pranayama techniques reduced blood pressure significantly.

Our study findings showed that bank employees indulge in music therapy in their lives (30.8%) whereas 18.5% perform relaxation exercises to control blood pressure. One of the research projects showed that a progressive muscle relaxation done by 40 respondents aged 40 years-70 years for 8 sessions in 4 days with a duration of 20 min in the morning and afternoon could only decrease blood pressure as much as 6.42 mmHg (systolic) and 0.8 mmHg (diastolic) and that condition was due to the combination between progressive muscle relaxation and music therapy [24].

In this study out of the total bank employees, no one has heard about biofeedback for the treatment of hypertension. According to one study conducted found that general awareness of psychophysiology and biofeedback is lacking [25]. Approximately 1/4 of the participants had heard of biofeedback before to this study survey, and only 2 people had previous experience with biofeedback training.

Our study findings reported that 9.3% of bank employees do strength training exercises. A previous study showed that a 45-minute single bout of strength training lowers mean systolic and diastolic blood pressures, especially the latter, for at least 1-hour post exercise and for a few hours following exertion. Mean blood pressure beyond the short term does not seem to be affected [26].

CONCLUSION

The present study concluded that only 20.4%, 25.9% and 8.3% bank employees were knowledgeable about the term hypertension, normal levels of the blood pressure and about the upper & bottom numbers of blood pressure respectively. The attitude of bank employees towards the management of hypertension was poor. Many of them agreed that regular visit to a physician was important but the practice of bank employees was very poor regarding the same. The bank employees had heard about physiotherapy but they lacked the awareness regarding physiotherapy interventions that could possibly be beneficial in reducing high blood pressure.

Thus, it could be safely concluded that despite the wide range of available physiotherapy interventions that are efficient in reducing high blood pressure, the bank employees have very little awareness about the same. There is a wide range of scope of introducing the physiotherapy interventions and improving the scope of practice.

Limitation of the Study

- The study was performed in small sample size.
- The study was limited to geographical area Patiala.
- Other banks were not included in the study.
- In the present study waist circumference, alcohol intake, and smoking history was not taken.

ACKNOWLEDGMENT

I would like to express our gratitude to the participants and their families for their invaluable assistance with this study. I thank to Dr. Jayaraman for her support during the research.

Disclosure Statement

The authors declared no potential conflict of interest with respect to the research, authorship, and publication of this article.

Funding

No funding for this research.

Note on Contributors

Tamanna Chaudhary, Harleen Kaur, Assistant Professor, Guru Kashi University, Bathinda.

REFERENCES

1. Pescatello, Linda S., et al. "Exercise and hypertension." *Medicine & Science in Sports & Exercise*. Vol. 36, No. 3, 2004, pp. 533-53.
2. Kokkinos, Peter F., et al. "Exercise as hypertension therapy." *Cardiology Clinics*. Vol. 19, No .3, 2001, pp. 507-16.
3. Sathe, Samiksha, et al. "To find out immediate effect of bhramari pranayama on blood pressure, heart rate, and oxygen saturation in hypertensive patients." *International Journal of Current Research and Review*. Vol. 12, No. 19, 2020, pp. 193-97.
4. Kasper, Dennis L., et al., eds. *Harrison's Principles of Internal Medicine*. McGraw-Hill Education, 2015.
5. Viera, Anthony J., and Dana M. Neutze. "Diagnosis of secondary hypertension: an age-based approach." *American Family Physician*. Vol. 82, No. 12, 2010, pp. 1471-78.
6. Naseem, Sofia. "Knowledge attitude and practice towards hypertension among adult population in a rural area of Lahore, Pakistan." *International Journal of Scientific & Engineering Research*. Vol. 9, No. 5, 2018, pp. 1674-79.
7. Weinstein, Milton C., and William B. Stason. "Hypertension: a policy perspective". *Harvard University Press*. 1976.

8. Buang, Nurul F. B., et al. "Knowledge, attitude and practice regarding hypertension among residents in a housing area in Selangor, Malaysia." *Medicine and Pharmacy Reports*. Vol. 92, No. 2, 2019, p. 145.
9. Rajkumar, Eslavath, and John Romate. "Behavioural risk factors, hypertension knowledge, and hypertension in rural India." *International Journal of Hypertension*. Vol. 2020, pp. 1-7.
10. Ismail, Imaad M., et al. "Prevalence of hypertension and its risk factors among bank employees of Sullia Taluk, Karnataka." *Sahel Medical Journal*. Vol. 16, No. 4, 2013, pp. 139-43.
11. Rauniyar, Santosh K., et al. "Inequalities and risk factors analysis in prevalence and management of hypertension in India and Nepal: a national and subnational study." *BMC Public Health*. Vol. 20, 2020, pp. 1-11.
12. Piwońska, Aleksandra, et al. "Knowledge about arterial hypertension in the Polish population: the WOBASZ study." *Polish Heart Journal*. Vol. 70, No. 2, 2012, pp. 140-46.
13. Oliveria, Susan A., et al. "Hypertension knowledge, awareness, and attitudes in a hypertensive population." *Journal of General Internal Medicine*. Vol. 20, No. 3, 2005, pp. 219-25.
14. Langford, Herbert G., et al. "Dietary therapy slows the return of hypertension after stopping prolonged medication." *Jama*. Vol. 253, No. 5, 1985, pp. 657-64.
15. Turchin, Alexander, et al. "Encounter frequency and blood pressure in hypertensive patients with diabetes mellitus." *Hypertension*. Vol. 56, No. 1, 2010, pp. 68-4.
16. MH, Desai V., and A. Kavishwar. "A study on effect of life style risk factors on prevalence of hypertension among white collar job people of Surat." *The Internet Journal of Occupational Health*. Vol. 1, No. .1, 2009, pp. 1-10.
17. Diwe, K. C., et al. "Prevalence and awareness of hypertension and associated risk factors among bank workers in Owerri, Nigeria." *International Journal of Medicine and Biomedical Research*. Vol. 4, No. 3, 2015, pp. 142-48.
18. Fikadu, Girma, and Seblewengel Lemma. "Socioeconomic status and hypertension among teachers and bankers in Addis Ababa, Ethiopia." *International Journal of Hypertension*. Vol. 2016, No. 1, 2016.
19. Keen, Carol, et al. "Physiotherapy practice in pulmonary hypertension: physiotherapist and patient perspectives." *Pulmonary Circulation*. Vol. 8, No. 3, 2018.
20. Martin, John E., et al. "Controlled trial of aerobic exercise in hypertension." *Circulation*, Vol. 81, No.5, 1990, pp. 1560-67.
21. Igarashi, Yutaka, and Yoshie Nogami. "The effect of regular aquatic exercise on blood pressure: a meta-analysis of randomized controlled trials" *European Journal of Preventive Cardiology*. Vol. 25, No. 2, 2018, pp. 190-99.
22. Arca, Eduardo A., et al. "Aquatic exercise is as effective as dry land training to blood pressure reduction in postmenopausal hypertensive women." *Physiotherapy Research International*. Vol. 19, No. 2, 2014, pp. 93-98.
23. Pramanik, Tari, et al. "Immediate effect of a slow pace breathing exercise Bhramari pranayama on blood pressure and heart rate." *Nepal Medical College Journal*. Vol. 12, No. 3, 2010, pp. 154-57.
24. Astuti, Niken Fitri, et al. "Decreased blood pressure among community dwelling older adults following progressive muscle relaxation and music therapy (RESIK)." *BMC Nursing*. Vol. 18, 2019, pp 1-5.
25. Russo, Gaetano A., et al. "Exploring public attitude toward biofeedback technologies: Knowledge, preferences and personality tendencies." *Journal of Public Health Research*. Vol. 9, No. 4, 2020.
26. Hardy, David O., and Larry A. Tucker. "The effects of a single bout of strength training on ambulatory blood pressure levels in 24 mildly hypertensive men." *American Journal of Health Promotion*. Vol. 13, No. 2, 1998, pp. 69-72.