A descriptive study to assess the knowledge and practice regarding hypertension and its prevention and control among students of G.N.M. 2nd year at P.G. College of nursing Gwalior (M.P.)

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ABSTRACT

High blood pressure is a common condition that affects the body's arteries. It's also called hypertension. If you have high blood pressure, the force of the blood pushing against the artery walls is consistently too high. The heart has to work harder to pump blood. The American College of Cardiology and the American Heart Association divide blood pressure into four general categories. Ideal blood pressure is categorized as normal blood pressure is 120/80 mm Hg or lower. Elevated blood pressure ranges from 120 to 129 mm Hg and the bottom number is below, not above, 80 mm Hg. Stage 1 hypertension, the top number ranges from 130 to 139 mm Hg or the bottom number is between 80 and 89 mm Hg. Stage 2 hypertension the top number is 140 mm Hg or higher or the bottom number is 90 mm Hg or higher. Blood pressure higher than 180/120 mm Hg is considered a hypertensive emergency or crisis. Sometimes just getting a health check-up causes blood pressure to increase. This is called white coat hypertension. Untreated, high blood pressure increases the risk of heart attack, stroke and other serious health problems. It's important to have your blood pressure checked at least every two years starting at age 18. Some people need more-frequent checks. Healthy lifestyle habits —such as not smoking, exercising and eating well — can help prevent and treat high blood pressure. To assess the level of knowledge of G.N.M. 2nd year students regarding control and prevention of hypertension. To assess the practice of G.N.M. 2nd year students towards control and prevention of hypertension. To determine the association between the selected demographic variables and the knowledge of G.N.M 2nd year students. Descriptive research approach and non-experimental research design was adopted. 100 students of GNM 2nd year were included in the research study by using non probability purposive sampling technique. Regarding knowledge score of GNM 2nd yr. students. Out of 100 students, (21%) students were poor, (22%) students were average, (30%) students were good, (27%) students were excellent. Regarding practice score of GNM 2nd yr. students. Out of 100 students, (10%) students were poor, (40%) students were average, (30%) students were good, (20%) students were excellent. Chi-square test was done to find out the association between knowledge and selected demographic variables of the study at 0.05 level of significance. There was not significant association between knowledge and selected demographic variables.

Keywords: Hypertension, Knowledge, Practice, Control, Prevention

INTRODUCTION:

High blood pressure is a common condition that affects the body's arteries. It's also called hypertension. If you have high blood pressure, the force of the blood pushing against the artery walls is consistently too high. The heart has to work harder to pump blood. Blood pressure is measured in millimeters of mercury (mm Hg). In general, hypertension is a blood pressure reading of 130/80 mm Hg or higher.

The American College of Cardiology and the American Heart Association divide blood pressure into four general categories. Ideal blood pressure is categorized as normal blood pressure is 120/80 mm Hg or lower. Elevated blood pressure ranges from 120 to 129 mm Hg and the bottom number is below, not above, 80 mm Hg. .Stage 1 hypertension, the top number ranges from 130 to 139 mm Hg or the bottom number is between 80 and 89 mm Hg. Stage 2 hypertension the top number is 140 mm Hg or higher or the bottom number is 90 mm Hg or higher. Blood pressure higher than 180/120 mm Hg is considered a hypertensive emergency or crisis. Seek emergency medical help for anyone with these blood pressure numbers. Blood pressure is determined by two things: the amount of blood the heart pumps and how hard it is for the blood to move through the arteries. The more blood the heart pumps and the narrower the arteries, the higher the blood pressure.

There are two main types of high blood pressure. Primary hypertension, also called essential hypertension for most adults, there's no identifiable cause of high blood pressure. This type of high blood pressure is called primary hypertension or essential hypertension. It tends to develop gradually over many years. Plaque buildup in the arteries, called atherosclerosis, increases the risk of high blood pressure. Secondary hypertension, this type of high blood pressure is caused by an underlying condition. It tends to appear suddenly and cause higher blood pressure than does primary hypertension. Conditions and medicines that can lead to secondary hypertension include Adrenal gland tumors, Blood vessel problems present at birth, also called congenital heart defects, Cough and cold medicines, some pain relievers, birth control pills, and other prescription drugs, Illegal drugs, such as cocaine and amphetamines, Kidney disease, Obstructive sleep apnea, Thyroid problems. Sometimes just getting a health checkup causes blood pressure to increase. This is called white coat hypertension.

Untreated, high blood pressure increases the risk of heart attack, stroke and other serious health problems. It's important to have your blood pressure checked at least every two years starting at age 18. Some people need more-frequent checks. Healthy lifestyle habits —such as not smoking, exercising and eating well — can help prevent and treat high blood pressure. Some people need medicine to treat high blood pressure. Most people with hypertension don't feel any symptoms. Very high blood pressures can cause headaches, blurred vision, chest pain and other symptoms. Checking your blood pressure is the best way to know if you have high blood pressure. If hypertension isn't treated, it can cause other health conditions like kidney disease, heart disease and stroke.

The prevalence of hypertension varies across regions and country income groups. The WHO African Region has the highest prevalence of hypertension (27%) while the WHO Region of the Americas has the lowest prevalence of hypertension (18%). The number of adults with hypertension increased from 594 million in 1975 to 1.13 billion in 2015, with the increase seen largely in low- and middle-income countries. This increase is due to mainly a rise in hypertension risk factors in those populations.

To support governments in strengthening the prevention and control of cardiovascular disease, WHO and the United States Centers for Disease Control and Prevention (U.S. CDC) launched the Global Hearts Initiative in September 2016, which includes the HEARTS technical package. The six modules of the HEARTS technical package (Healthy-lifestyle counselling, Evidence-based treatment protocols, Access to essential medicines and technology, Risk-based management, Team-based care, and Systems for monitoring) provide a strategic approach to improve cardiovascular health in countries across the world.

Objectives:

- ❖ To assess the level of knowledge of G.N.M. 2nd year students regarding control and prevention of hypertension.
- ❖ To assess the practice of G.N.M. 2nd year students towards control and prevention of hypertension.
- ❖ To determine the association between the selected demographic variables and the knowledge of G.N.M 2nd year students.

Methodology

Study design

In this study, descriptive research approach and non-experimental research design was adopted.

Study population

The population in this study included GNM 2nd year students.

Study area
The present study was conducted in P.G College of Nursing, Gwalior (M.P).

Sample size

Size of the population consists of 100 students of GNM 2nd year.

Sampling method

In this study Non probability purposive sampling technique is used.

Inclusion criteria

• Students of GNM 2nd year.

• Students who were attending GNM 2nd year class in PG College of nursing Gwalior

• Students who were in age group of 17-24 yrs. irrespective of their sex, qualification and marital status. .

Exclusion criteria

- Students who were not willing to participate in study.
- Students who were not available during the study.
- Students who were above the set age criteria.

Data collection tool

The self-structured knowledge questionnaire was used to collect the data from students of GNM 2ND year.

Development of tool

The study tool consists of three section -

Section-I: - demographic Performa:

This section comprised of demographic data such as gender, age, living area, religion, which subjects do you have in 12th standard, Economic status, Source of knowledge about hypertension, any person suffered from hypertension in your family.

Section-II: knowledge questionnaire

This section comprised of knowledge questionnaire about prevention and control of hypertension having 14 objective type structured knowledge questions about hypertension under value of normal blood pressure, treatment and prevention of high blood pressure and complication of high blood pressure etc.

Section-III: practice questionnaire

This section comprised of 16 question statements on practice of GNM Students regarding prevention and control of hypertension.

Data collection

For the present study the investigator took into consideration the ethical issue. A formal prior written permission was obtained from the P.G College of Nursing, Gwalior (M.P). The data was collected in the month of May 2016. 100 subjects were collected by using purposive sampling technique. The researcher introduced himself to the respondents. And explained the purpose of study to the students. After this researcher collected the data from the students by using self-structured questionnaire to assess the knowledge and practice of GNM 2nd year students on hypertension.

Statistical analysis

The data analysis was done in accordance with the objectives of the study. The collecteddata was tabulated and analyzed by calculating percentage, Mean, frequency and chi square. Levels of significance chosen were P< 0.05. Bar graphs, pie chart, column diagrams were used to depict the findings. The data collected will be analyzed by using descriptive and inferential statistics.

Ethical clearance and informed consent

Institution's ethical review committee's permission was taken. Written permission was obtained from the ethical committee of P.G College of Nursing, Gwalior after explaining the type and purpose of study. The students had the freedom to withdraw from the study at any time without giving any reason and students concern was taken for the study.

RESULTS

Findings related to socio-demographic variables.

It was found that

➢   Gender wise majority of students (46%) were male and (54%) were female.

➢   Age wise majority of students (20%)were in the age group of 17-18 year (23%) were in the age group of 19- 20 yrs. 23% in 21-22 yrs. and rest 34% in 23- 24 yrs.

➢   As regard to the majority of students living area 22% were rural, 30% urban, 27% semi-urban & 21% semi-rural.

➢   As regard to the majority of students religion 60% were Hindu, 5% Muslim, 2% Sikh and 33% Christian.

➢   As regard to the majority of students Subject in 12th class was 30% of biology, 15% of mathematics, 10% of commerce, 24% of art and 21% of agriculture.

➢   As regard to the majority of students family income per months was 10000-15000 per month of 10% students, 16000-20000 per month of 30% students, 21000-25000 per month of 20% students, and 26000 - above per month of 40% students.

➢   As regard to the majority of student's source of knowledge was self-study of 25 % students, media of 30% students, family of 15% students, and college of 30% students.

➢   As regard to the majority 59% students' family have any person suffered from hypertension and 41% students Family do not have any person suffered from hypertension.

Findings related to knowledge score

➢   Out of 100 students (12%) students know the normal blood pressure value is 120/80 mmHg, (19%) students know the normal blood pressure value is 130/90 mmHg, (35%) students know the normal blood pressure value is 110/70 mmHg, (34%) students know the normal blood pressure value is 100/60 mmHg.

➢   Out of 100 students, (20%) students know the hypertension blood pressure value is 110/70 mmHg, (23%) students know the hypertension blood pressure value is 120/80 mmHg, (23%) students know the hypertension blood pressure value is 140/90 mmHg, (34%) students know the hypertension blood pressure value is 130/90 mmHg.

➢   Out of 100 students, (22%) students know the hypotension blood pressure value is 120/80 mmHg, (21%) students know the hypotension blood pressure value is 130/90 mmHg, (27%) students know the hypotension blood pressure value is 110/90 mmHg, (30%) students know the hypotension blood pressure value is 90/60 mmHg.

➢   Out of 100 students, (30%) students know that blood pressure is the force exerted by blood against brain, (40%) students know that blood pressure is the force exerted by blood against artery wall, (14%) students know that blood pressure is the force exerted by blood against kidney, (16%) students know that blood pressure is the force exerted by blood against none of the above.

➢   Out of 100 students, (51%) students know the blood pressure is measured in term of mmHg, (15%) students know the blood pressure is measured in term of mnHg, (10%) students know the blood pressure is measured in term of cmHg , (24%) students know the blood pressure is measured in term of Hg.

➢   Out of 100 students, (20%) students know that blood pressure can be controlled through avoiding alcohol, (24%) students know that blood pressure can be controlled through avoiding smoking, (22%) students know that blood pressure can be controlled through regular exercise, (34%) students know that blood pressure can be controlled through all the above given strategies.

➢ Out of 100 students, (30%) students know that a person can suffer from high blood pressure, (20%) students know that a person can suffer from low blood pressure, (40%) students know that a person can suffer from both types of blood pressure, (10%) students know that a person can suffer from none of them types of blood pressure.

➢ Out of 100 students, (30%) students know that when the ventricles of heart are contracting is called systolic blood pressure, (15%) students know that when the ventricles of heart are contracting is called diastolic blood pressure, (10%) students know that when the ventricles of heart are contracting is called both, (45%) students know that when the ventricles of heart are contracting is called none of them.

➢ Out of 100 students, (25%) students know that low blood pressure is called hypertension, (40%) students know that low blood pressure is called hypotension, (15%) students know that low blood pressure is called both, (20%) students know that low blood pressure is called none of them.

➢ Out of 100 students, (20%) students know that blood pressure changes throughout the morning, (24%) students know that blood pressure changes throughout the evening, (22%) students know that blood pressure changes throughout the walking, (34%) students know that blood pressure changes throughout the all of the above.

➢ Out of 100 students, (21%) students know that if high blood pressure is not treated it may lead to kidney damage, (27%) students know that if high blood pressure is not treated it may lead to heart attack, (22%) students know that if high blood pressure is not treated it may lead to stroke, (30%) students know that if high blood pressure is not treated it may lead to all of the above.

➢ Out of 100 students, (20%) students know that ACE inhibitor drug is used to treat high blood pressure, (23%) students know that diuretic drug is used to treat high blood pressure, (23%) students know that calcium channel blocker drug is used to treat high blood pressure, (34%) students know that all of the above drugs are used to treat high blood pressure.

➢ Out of 100 students, (34%) students know that in 120/80 mmHg 80 indicates systolic pressure, (19%) students know that in 120/80 mmHg 120 indicates systolic pressure, (35%) students know that in 120/80 mmHg 120+80 indicates systolic pressure, (12%) students know that in 120/80 mmHg 120 number indicates systolic pressure.

➢ Out of 100 students, (25%) students know that hypertension is commonly called silent killer disease, (21%) students know that hypertension is commonly called stunt killer disease, (14%) students know that hypertension is commonly called stealthy killer disease, (40%) students know that hypertension is commonly called secret killer disease.

Findings related to practice of GNM students regarding control and prevention of hypertension

➢ Out of 100 students, (19%) students control and prevent hypertension through normal weight and daily exercise, (21%) students control and prevent hypertension through avoiding smoking and alcohol, (28%) students control and prevent hypertension through healthy food, (32%) students control and prevent hypertension through all of the above.

➢ Out of 100 students, (12%) students know that hypertension may be due to hereditary, (19%) students know that hypertension may be due to excess weight gain, (34%) students know that hypertension may be due to unhealthy food and habits, (35%) students know that hypertension may be due to all of the above.

➢ Out of 100 students, (15%) students know that high blood pressure is treated by medical treatment, (20%) students know that high blood pressure is treated by regular exercise and healthy food, (25%) students know that high blood pressure is treated by avoiding smoking and alcohol, (40%) students know that high blood pressure is treated by all of the above.

➢ Out of 100 students, (25%) students consult with physician if they have high blood pressure, (30%) students take self-treatment if they have high blood pressure, , (15%) students nothing do if they have high blood pressure, (30%) students do all of the above if they have high blood pressure

➢ Out of 100 students, (40%) students know that anyone may be at risk of hypertension, (30%) students know that persons may be at risk of hypertension who are having family history, (20%) students know that persons may be at risk of hypertension who are having excessive body weight, (30%) students know that persons may be at risk of hypertension who are smoker.

➤ Out of 100 students, (30%) students know that headache is the first symptom of hypertension, (15%) students know that pain in arm and leg is the first symptom of hypertension, (10%) students know that no symptom at all of hypertension, (45%) students know that unnecessary feeling is the first symptom of hypertension.

➤ Out of 100 students, (20%) students know that barometer is the device that checks blood pressure, (33%) students know that sphygmomanometer is the device that checks blood pressure, (30%) students know that thermometer is the device that checks blood pressure, (17%) students know that none of the above is the device that checks blood pressure.

➤ Out of 100 students, (22%) students know that hypertension can cause damage to the eye, (21%) students know that hypertension can cause damage to the brain, (27%) students know that hypertension can cause damage to the kidney, (30%) students know that hypertension can cause damage to all of the above.

➤ Out of 100 students, (25%) students know that management of hypertension involve the stop smoking measure, (30%) students know that management of hypertension involve the moderate exercise and medication measure, (15%) students know that management of hypertension involve the healthy food with limited salt measure, (30%) students know that management of hypertension involve all of the above measure.

➤ Out of 100 students, (10%) students know that management of hypertension involve the stop smoking measure, (30%) students know that management of hypertension involve the moderate exercise and medication measure, (15%) students know that management of hypertension involve the healthy food with limited salt measure, (30%) students know that management of hypertension involve all of the above measure.

➤ Out of 100 students, (10%) students know the primary reason for hypertension is renal disease and diabetes, (30%) students know the primary reason for hypertension is stress, (20%) students know the primary reason for hypertension is unknown, (40%) students know the primary reason for hypertension is all of the above.

➤ Out of 100 students, (20%) students know the risk factor for hypertension include smoking, 23%) students know the risk factor for hypertension include obesity, (23%) students know the risk factor for hypertension include too much salt in diet, (34%) students know the risk factor for hypertension include all of the above.

➤ Out of 100 students, (45%) students know that high blood pressure should be treated because It can cause complication in organs like kidney, eye, heart and brain, (23%) students know that high blood pressure should be treated because it makes the person feel very drowsy, (12%) students know that high blood pressure should be treated because it causes tremors, (20%) students know that high blood pressure should be treated because it causes none of the above.

➤ Out of 100 students, (23%) students know that drug like hydrochlorothiazide act by causing sodium and water loss, (22%) students know that drug like hydrochlorothiazide act by reducing resistance of blood vessels, (26%) students know that drug like hydrochlorothiazide act by both of the above, (29%) students know that drug like hydrochlorothiazide act by none of the above.

➤ Out of 100 students, (26%) students know that in 120/80 mmHg 80 number indicate diastolic pressure, (37%) students know that in 120/80 mmHg 120 number indicate diastolic pressure, (21%) students know that in 120/80 mmHg 120+80 number indicate diastolic pressure, (16%) students know that in 120/80 mmHg 120-80 number indicate diastolic pressure.

➤ Out of 100 students, (43%) students know that hypertension is called silent killer because it comes without obvious symptoms, (26%) students know that hypertension is called silent killer because it is the Greek word for silent killer, (21%) students know that hypertension is called silent killer because people with hypertension are homicidal, (10%) students know that hypertension is called silent killer because It causes various symptoms.

➤ Out of 100 students, (19%) students know that high stress is hypertension, (32%) students know that high blood pressure is hypertension, (21%) students know that increased weight is hypertension, (28%) students know that none of the above is hypertension.

Total knowledge score of GNM 2nd yr. students.

➢ Out of 100 students, (21%) students are poor, (22%) students are average, (30%) students are good, (27%) students are excellent.

Total practice score of GNM 2nd yr. students.

➢ Out of 100 students, (10%) students are poor, (40%) students are average, (30%) students are good, (20%) students are excellent.

Findings related to the association of socio demographic data with knowledge score.

➢ Chi-square was done to find out the association between knowledge and sex of students. As calculated value of chi-square (0.383) was lower than the table value (7.82) at 0.5 level of significance. There was not significant association between knowledge and sex of students.

➢ Chi-square was done to find out the association between knowledge and age of students. As calculated value of chi-square (1.254) was lower than the table value (16.92) at 0.5 level of significance. There was not significant association between knowledge and age of students.

➢ Chi-square was done to find out the association between knowledge and living area of students. As calculated value of chi-square (1.617) was lower than the table value (16.92) at 0.5 level of significance. There was not significant association between knowledge and living area of students.

➢ Chi-square was done to find out the association between knowledge and religion of students. As calculated value of chi-square (3.791) was lower than the table value (16.92) at 0.05 level of significance. There was not significant association between knowledge and religion of students

➢ Chi-square was done to find out the association between knowledge and subject 12th class of students. As calculated value of chi-square (8.094) was lower than the table value (21.03) at 0.05 level of significance. There was not significant association between knowledge and subject 12th class of students.

➢ Chi-square was done to find out the association between knowledge and economic status of students. As calculated value of chi-square (3.962) was lower than the table value (16.92) at 0.05 level of significance. There was not significant association between knowledge and economic status of students.

➢ Chi-square was done to find out the association between knowledge and source of knowledge of students. As calculated value of chi-square (4.628) was lower than the table value (16.92) at 0.05 level of significance. There was not significant association between knowledge and source of knowledge of students.

➢ Chi-square was done to find out the association between knowledge and family in hypertension of students. As calculated value of chi-square (1.165) was lower than the table value (7.82) at 0.05 level of significance. There was not significant association between knowledge and family in hypertension of students.

DISCUSSION

The purpose of the study was to assess the knowledge and practice regarding hypertension and its prevention and control among students of G.N.M. 2nd year. Students were lacking knowledge regarding hypertension, its risk factors and management. The findings of the present study has been discussed in accordance with the objectives of the study. The first objective of the study was to assess the level of knowledge of G.N.M. 2nd year students regarding control and prevention of hypertension. Regarding knowledge score of GNM 2nd yr. students. Out of 100 students, (21%) students were poor, (22%) students were average, (30%) students were good, (27%) students were excellent. The second objective of the study was to assess the practice of G.N.M. 2nd year students towards control and prevention of hypertension. Regarding practice score of GNM 2nd yr. students. Out of 100 students, (10%) students were poor, (40%) students were average, (30%) students were good, (20%) students were excellent. The third objective of the study was to determine the association between the selected demographic variables such as (gender, age, living area, religion, which subjects do you have in 12th standard, Economic status, Source of knowledge about hypertension, any person suffered from hypertension in your family) and the knowledge of G.N.M 2nd year students. Chi-square test was done to find out the association between knowledge and selected demographic variables of the study at 0.05 level of significance. There was not significant association between knowledge and selected demographic variables.

Conclusion:

It was found that knowledge of students about, high blood pressure in obesity, less physical activity, high sodium and fat intake, cholesterol and other risk factor like smoking, alcohol intake, is lacking. Students were unaware of the risk factors, complications and hazards of high blood pressure. Low proportion of persons with hypertension or having many risk factors expressed the wish to reduce the corresponding detrimental condition. A high proportion of the participants were of the opinion that there is no need for follow-up until one is symptomatic, when One is taking anti-hypertensive medications and a few of those who were knowing the detrimental life style habits seriously thought and tried to make modifications in their life style.

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TABLE-1

S.no.	Gender	No. of students	Percentage
1	Male	46	46%
2	Female	54	54%
	Total	100	100%

Table -1 Showing majority of students' gender

TABLE-2

s.no	Age	No. of students	Percentage
1	17-18 yrs.	20	20%
2	19-20 yrs.	23	23%
3	21-22 yrs.	23	23%
4	23-24 yrs.	34	34%
	Total	100	100%

Table-2 Showing majority of students' age group

TABLE-3

s.no	Living area	No. of students	Percentage
1	Rural	22	22%
2	Urban	30	30%
3	Semi-urban	27	27%
4	Semi-rural	21	21%
	Total	100	100%

Table-3 showing majority of students' living area

TABLE-4

s.no	Religion	No. of students	Percentage
1	Hindu	60	60%
2	Muslim	5	5%
3	Sikh	2	2%
4	Christian	33	33%
	Total	100	100%

Table-4 Showing majority of students' religion

TABLE-5

s.no	Subjects in 12th class	No. of students	Percentage
1	Biology	30	30%
2	Mathematics	15	15%
3	Commerce	10	10%
4	Art	24	24%
5	Agriculture	21	21%
	Total	100	100%

Table-5 Showing majority of students' Subjects in 12th class

TABLE-6

s.no	family income per month	No. of students	Percentage
1	10000-15000	10	10%
2	16000-20000	30	30%
3	21000-25000	20	20%
4	26000-above	40	40%
	Total	100	100%

Table-6 Showing majority of students' family income per month

TABLE-7

S.no	Source of knowledge	No. of cases	Percentage
1	Self-study	25	25%
2	Media	30	30%
3	Family	15	15%
4	College	30	30%
	Total	100	100

Table-7 Showing majority of students' source of knowledge.

TABLE-8

s.no	Any person suffered from hypertension in Family	No. of cases	Percentage
1	Yes	59	59%
2	No	41	41%
	Total	100	100%

Table-8 Showing majority of any person suffered from hypertension in students' family

TABLE-9   **N=30**

Blood pressure value	Frequency	Percentage	Mean
120/80 mmHg	12	12%	
130/90 mmHg	19	19%	
110/70 mmHg	35	35%	25
100/60 mmHg	34	34%	
	100	100%	

Table-9 Showing majority of students' knowledge about normal blood pressure value.

TABLE-10

s.no	Hypertension value	Frequency	Percentage	Mean
1	110/70 mmHg	20	20%	
2	120/80 mmHg	23	23%	
3	140/90 mmHg	23	23%	**25**
4	130/90 mmHg	34	34%	
		100	100%	

Table-10 Showing majority of students' knowledge about hypertension value

TABLE-11

N=60

s.no	Hypotension value	Frequency	Percentage	Mean
1	120/80 mmHg	22	22%	
2	130/90 mmHg	21	21%	
3	110/90 mmHg	27	27%	25
4	90/60 mmHg	30	30%	
		100	100%	

Table-11. Showing majority of students' knowledge about hypotension value

TABLE-12

s.no.	force exerted by blood against	Frequency	Percentage	Mean
1	Brain	30	30%	
2	Artery wall	40	40%	
3	Kidney	14	14%	25

4	None of the above	16	16%	
		100	100%	

Table-12. Showing majority of students' knowledge about blood pressure is the force exerted by blood against by which organ.

TABLE-13

s.no.	Blood pressure is measured in term of	Frequency	Percentage	Mean
1	mmHg	51	51%	
2	mnHg	15	15%	
3	cmHg	10	10%	25
4	Hg	24	24%	
		100	100%	

Table-13. Showing majority of students' knowledge about blood pressure is measured in which term

TABLE-14

s.no	control high blood pressure	Frequency	percentage	Mean
1	Avoid alcohol	20	20%	
2	Avoid smoking	24	24%	
3	Regular exercise	22	22%	25
4	All the above	34	34%	
		100	100%	

Table-14. Showing majority of students' knowledge about high blood pressure is controlled by which strategy

TABLE-15

s.no	any person can suffer from	Frequency	Percentage	Mean
1	High blood pressure	30	30%	
2	Low blood pressure	20	20%	
3	Both	40	40%	25
4	None of them	10	10%	
		100	100%	

Table-15. Showing majority of students' knowledge about any person can suffer from which type blood pressure

TABLE-16

s.no.	Contracting ventricle is called	Frequency	percentage	Mean
1	Systolic blood pressure	30	30%	
2	Diastolic blood pressure	15	15%	
3	Both	10	10%	25
4	None of them	45	45%	
		100	100%	

Table-16. Showing majority of students' knowledge about what is called contracting ventricle.

TABLE-17

s.no.	Low blood pressure is called	Frequency	percentage	Mean
1	Hypertension	25	25%	
2	Hypotension	40	40%	
3	Both	15	15%	25
4	None of the above	20	20%	
		100	100%	

Table-17. Showing majority of students' knowledge about what is called low blood pressure.

TABLE-18

s.no	Blood pressure changes throughout the day	Frequency	percentage	Mean
1	Morning	20	20%	
2	Evening	24	24%	
3	Walking	22	22%	25
4	All of the them	34	34%	
		100	100%	

Table-18. Showing majority of students' knowledge about which time blood pressure changes throughout the day

TABLE-19

S.no.	If high blood pressure is not treated it may lead to	Frequency	Percentage	Mean
1	Kidney damage	21	21%	
2	Heart attack	27	27%	
3	Stroke	22	22%	25
4	All of the above	30	30%	
		100	100%	

Table-19. Showing majority of students' knowledge about If high blood pressure is not treated what it may lead

TABLE-20

s.no	drug used to treat high blood pressure	Frequency	Percentage	Mean
1	ACE inhibitor	20	20%	
2	Diuretic	23	23%	
3	Calcium channel blocker	23	23%	25
4	All of the above	34	34%	
		100	100%	

Table-20. Showing majority of students' knowledge about which drug used to treat high blood pressure

TABLE-21

s.no	In 120/80 mmHg which number indicates systolic pressure	Frequency	percentage	Mean
1	80	34	34%	
2	120	19	19%	
3	120 plus 80	35	35%	25
4	120 minus 80	12	12%	
		100	100%	

Table-21. Showing majority of students' knowledge about which number indicates systolic pressure

TABLE-22

s.no	Hypertension is commonly called.	Frequency	percentage	Mean
1	The silent killer	25	25%	
2	The stunt killer	21	21%	
3	The stealthy killer	14	14%	25
4	The secret killer	40	40%	
		100	100%	

Table-22. Showing majority of students' knowledge about what is hypertension commonly called

TABLE-23

s.no.	High blood pressure prevented by	Frequency	percentage	Mean
1	Normal weight daily exercise	19	19%	
2	Avoid smoking alcohol	21	21%	
3	Healthy food	28	28%	25
4	All of the above	32	32%	
		100	100%	

Table-23. Showing majority of students' knowledge about high blood pressure prevented by which strategy

TABLE-24

s.no.	Hypertension may be due to	Frequency	Percentage	Mean
1	Hereditary	12	12%	
2	Excess weight gain	19	19%	
3	Un healthy food & habit	34	34%	25
4	All of the above	35	35%	
		100	100%	

Table-24. Showing majority of students' knowledge about hypertension may be due to which risk factor

TABLE-25

s.no.	High blood pressure treated by	Frequency	percentage	Mean
1	Medical treatment	15	15%	
2	Regular exercise & healthy food	20	20%	
3	Avoid smoking & alcohol	25	25%	25
4	All of the above	40	40%	
		100	100%	

Table-25. Showing majority of students' knowledge about high blood pressure treated by which strategy

TABLE-26

s.no.	What do you do if you have high blood pressure	Frequency	percentage	Mean
1	Consult with physician	25	25	
2	Self-treatment	30	30	
3	Nothing to do	15	15	
4	All of above	30	30	25
		100	100%	

Table-26. Showing majority of students' knowledge about what do you do if you have high blood pressure

TABLE-27

s.no.	who is at risk of hypertension	Frequency	percentage	Mean
1	Any one	40	40%	
2	Having family history	30	30%	
3	Excessive body weight	20	20%	25
4	Smoker	10	10%	
		100	100%	

Table-27. Showing majority of students' knowledge about who is at risk

TABLE-28

s.no.	first symptom of high blood pressure	Frequency	Percentage	Mean
1	Headache	30	30%	
2	Pain in arm & leg	15	15%	
3	No symptom at all	10	10%	25
4	Unnecessary feeling	45	45%	
		100	100%	

Table-28. Showing majority of students' knowledge about first symptom of high blood pressure.

TABLE-29

s.no.	Device used to cheek blood pressure	Frequency	percentage	Mean
1	Barometer	20	20	
2	Sphygmomanometer	33	33	
3	Thermometer	30	30	25
4	None of the above	17	17	
		100	100%	

Table-29. Showing majority of students' knowledge about device used to cheek blood pressure

TABLE-30

s.no.	hypertension can cause damage to the	Frequency	percentage	Mean
1	Eye	22	22%	
2	Brain	21	21%	
3	Kidney	27	27%	25
4	All of above	30	30%	
		100	100%	

Table-30. Showing majority of students' knowledge about hypertension can cause damage to which organ.

TABLE-31

s.no.	management of hypertension involve	Frequency	Percentage	Mean
1	Stop smoking	25	25	
2	Moderate exercise and medication	30	30	
3	Healthy food with limited salt	15	15	25
4	All of the above	30	30	
		100	100%	

Table-31. Showing majority of students' knowledge about management of hypertension involve the measures.

TABLE-32

s.no.	the primary reason for hypertension	Frequency	percentage	Mean
1	Renal disease & diabetes	10	10%	
2	Stress	30	30%	
3	Unknown	20	20%	25
4	All of the above	40	40%	
		100	100%	

Table-32. Showing majority of students' knowledge about primary reason for hypertension

TABLE-33

s.no.	risk factor for hypertension	Frequency	percentage	Mean
1	Smoking	20	20%	
2	Obesity	23	23%	
3	Too much salt in diet	23	23%	25
4	All of the above	34	34%	
		100	100%	

Table-33. Showing majority of students' knowledge about risk factor for hypertension.

TABLE-34

s.no.	High blood pressure should be treated otherwise	Frequency	percentage	Mean
1	It can cause complication in organs like kidney eye heart and brain	45	45%	
2	It makes the person feel very drowsy	23	23%	
3	It causes tremors	12	12%	25
4	None of the above	20	20%	
		100	100%	

Table-34. Showing majority of students' knowledge about high blood pressure should be treated otherwise it may cause complication.

TABLE-35

s.no.	drug like hydrochlorothiazide act by	Frequency	percentage	Mean
1	Causing sodium and water loss	23	23%	
2	Reducing resistance of blood vessels	22	22%	
3	Both of the above	26	26%	25
4	None of the above	29	29%	
		100	100%	

Table-35. Showing majority of students' knowledge about drug like hydrochlorothiazide act by.

TABLE-36

s.no.	In 120/80 mmHg which number indicate diastolic pressure	Frequency	percentage	Mean
1	80 mm hg	26	26%	
2	120 mm hg	37	37%	
3	120 plus 80	21	21%	25
4	120 minus 80	16	16%	
		100	100%	

Table-36. Showing majority of students' knowledge about In 120/80 mmHg which number indicate diastolic pressure.

TABLE-37

s.no.	Hypertension is called silent killer because	Frequency	percentage	Mean
1	It comes without obvious symptoms	43	43%	
2	It is the Greek word for silent killer	26	26%	
3	People with hypertension are homicidal	21	21%	25
4	It causes various symptoms	10	10%	
		100	100%	

Table-37. Showing majority of students' knowledge about hypertension is called silent killer because.

TABLE-38

s.no.	what is hypertension	Frequency	percentage	Mean
1	High stress	19	19%	
2	High blood pressure	32	32%	
3	Increased weight	21	21%	25
4	None of the above	28	28%	
		100	100%	

Table-38. Showing majority of students' knowledge about what is hypertension

TABLE-39

KNOWLEDGE	SCORE	FREQUENCY	PERCENTAGE	MEAN
POOR	1-1O	21	21%	
AVERAGE	11-20	22	22%	
GOOD	21-25	30	30%	25
EXCELLENT	26-30	27	27%	
		100	100	

Table-39. Showing knowledge score of GNM 2nd yr. students

TABLE-40

KNOWLEDGE	SCORE	FREQUENCY	PERCENTAGE	MEAN
POOR	1-1O	10	10%	
AVERAGE	11-20	40	40%	
GOOD	21-25	30	30%	25
EXCELLENT	26-30	20	20%	
		100	100	

Table-40. Showing practice score of GNM 2nd yr. students

TABLE-41

s.no.	Demographic factors	poor	average	Good	Excellence	df	Table value	Chi-square	Significance
1	**Gender**								
	Male	8	10	14	14	3	7.82	0.383	NS
	Female	11	11	18	14				
2	**Age**								
	17-18 year	2	4	8	6	9	16.92	1.254	NS
	19-20 year	2	5	7	9				
	21-22 year	3	4	8	8				
	23-24 year	5	6	12	11				
3	**Living area**								
	Rural	3	4	7	8	9	16.92	1.617	NS
	Urban	4	5	11	10				
	Semi-urban	2	6	8	11				
	Semi-rural	2	5	6	8				

4	**Religion**								
	Hindu	9	11	21	19	9	16.92	3.791	NS
	Muslim	0	1	3	1				
	Sikh	0	1	3	0				
	Christian	5	6	12	10				
5	**Subject in 12th class**								
	Biology	3	6	12	9	12	21.03	8.094	NS
	Mathematics	4	5	5	1				
	Commerce	2	4	2	2				
	Arts	4	5	10	5				
	Agriculture	2	5	8	6				
6	**Economic status**								
	10000-15000	1	3	5	1	9	16.92	3.962	NS
	16000-20000	2	7	13	8				
	21000-25000	3	5	9	3				
	26000-above	5	6	21	8				
7	**Source of knowledge**								
	Self-study	3	4	15	3	9	16.92	4.628	NS
	Media	3	6	14	7				
	Family	2	5	6	2				
	College	3	6	13	8				
8	**Family in hypertension**								
	Yes	10	11	23	15	3	7.82	1.165	NS
	No	7	10	12	12				

Table-41. Showing Findings related to the association of socio demographic data with knowledge score