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FACTORS ASSOCIATED WITH PREVALENCE OF HYPERTENSION AMONG ADULTS AGED 30-79 YEARS ATTENDING THE HYPERTENSION CLINIC AT HOIMA REGIONAL REFERRAL HOSPITAL. A CROSS-SECTIONAL STUDY

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Abstract

Background:

Hypertension also known as High or Raised blood pressure is a condition in which the blood vessels have persistently elevated blood pressure. This study, therefore aimed at assessing factors associated with the prevalence of hypertension among adults aged 30-79 years attending the hypertension clinic at Hoima Regional Referral Hospital.

Methodology:

A descriptive cross-sectional study design was employed involving both qualitative and quantitative methods of data collection. Kish and Leslie's method was used in determining the sample size of 75 respondents who were obtained by simple random sampling technique.

Results:

The majority 27(30%) of the respondents with hypertension were aged 60-69 years followed by 20(26.7%) aged 50-59 years, 50(86.7%) were females, 35(46.7%) attained at most primary level of education while 20(26.7%) had no formal education and 48(64%) were living in rural areas. Furthermore, the majority 70(93%) of the respondents did not smoke a cigarette or have a history of cigarette smoking, more than half 40(61.5%) regularly ate vegetables more than 3 times a week, 52(69.3%) did not take alcohol, 72(96%) agreed to stress increasing one's chances of developing hypertension and 28(37.4%) were classified as being overweight while 27(36%) were obese. There was no significant difference between participants having a relative with hypertension and those who did not.

More than half 50(66.7%) identified stress as a risk factor for hypertension while the rest of the risk factors were known to a few of the participants. Knowledge regarding the signs and symptoms of hypertension was good and health workers 45(60%) were identified as the major source from which the respondents had ever first got to hear about hypertension.

Conclusion:

The overall level of knowledge about hypertension among the respondents was average.

Recommendations:

The government in conjunction with the administration and health workers at HRRH should organize regular and comprehensive health education programs and campaigns regarding hypertension.

Keywords: Prevalence of Hypertension, Adults, Aged 30-79 Years, Hypertension Clinic, Regional Referral Hospital., Submission: 2023-04-13 Accepted: 2023-05-13

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1. Background.

Hypertension also known as High or Raised blood pressure is a condition in which the blood vessels have persistently elevated blood pressure. Hypertension is diagnosed if when measured on 2 different days, the systolic readings on both days are greater than or equal to 140mmHg or and/or diastolic pressure is greater than or equal to 90mmHg.

The American College of Cardiology/ American Heart Association defines hypertension as systolic BP of 130mmhg or greater or diastolic BP of 80mmhg or greater.

In addition, Hypertension can also be defined as having systolic blood pressure of 140mmhg or greater, diastolic blood pressure of 90mmhg or greater, or taking medication for hypertension. The global estimation of adults aged 30-79 years having hypertension is 1.28 billion, with 2/3 being in low- and middle-income countries (LMICs).

In addition, an estimated 46% of adults with hypertension are unaware they have the condition, and less than half of the adults (42%) with hypertension are diagnosed and on treatment. Approximately, 1 in 5 adults (21%) with hypertension have it under control. (WHO,2023)

Hypertension is the leading cause /risk factor of cardiovascular diseases and premature death worldwide. Estimates suggest that 31.1% of adults (1.39 billion) had hypertension in 2010. The prevalence among adults was higher in low- and middle-income countries (31.5%, 1.04 billion people) than in high-income countries (28.5%, 349 million people). (Katherine T Mills, 2020). Variations in the level of risk factors for hypertension such as high sodium intake, low potassium intake, obesity, alcohol consumption, physical inactivity, and unhealthy diet may explain some of the regional heterogeneity in hypertension prevalence. Despite the increasing prevalence, the proportions of hypertension awareness, treatment, and control are low, particularly in LMICs. (Katherine T Mills, 2020)

Furthermore, Hypertension is considered one of the most significant health problems which are quickly prevailing around the world and in developing countries in particular. Four million patients die annually from direct consequences of hypertension. Hypertension is usually symptomless and is not seriously attended to until it causes some chronic complications. Lack of knowledge regarding hypertension is one of the most important reasons for ignoring high blood pressure. Fateme Chajaee, et al, 2018)

The African region of the World Health Organization (WHO) has the highest prevalence of hypertension at 27%. The increase in hypertension in Low middle-income countries (LMICs) is due mainly to a rise in hypertension risk factors in their populations. Current evidence shows that gaps in hypertension management were attributable to socio-demographic determinants and lifestyle factors. An earlier study suggested that demographics and lifestyle variables determined the racial differences in hypertension prevalence.

In addition, urbanization on the African continent has contributed to the change in lifestyle such as diet and physical activity, which may increase the risk for cardiovascular diseases. In regards to this, there is a lack of sufficient data from the African continent on hypertension and its association with a sedentary lifestyle. (Twinamasiko Bruce, et al, 2018)

In sub-Saharan Africa alone, more than 125 million people are expected to have hypertension by 2025.

(David Semberye, 2018) Following a study carried out in Nigeria, an estimated 57 million Nigerians were diagnosed to be hypertensive with many still not diagnosed. It is a disease in which unknown morbidity exceeds known morbidity and current data indicate that cases of hypertension seen in hospitals are ''just a tip of the iceberg.' Results from the study showed that about an average of the respondents of the study did not know the definitive value of hypertension considering the educational level of the respondents. Respondents demonstrated poor knowledge of certain risk factors such as salt and red meat con-

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sumption, alcohol intake, and being overweight despite being aware of its complications.

Recent literature showed the problem to be higher among individuals over 40 years of age, Africans, and those with a family history of hypertension or diabetes. There are several modifiable, lifestyle factors associated with hypertension including obesity, overweight, cigarette smoking, alcohol, and low physical activity. And there are some reports of an association between hypertension and HIV although this may be due to the use of anti-retroviral drugs which may cause increase blood pressure. In line with the above, a study conducted in Northwest Tanzania showed that there was a higher prevalence of hypertension at older ages among females compared to males. Overweight, obese, and diabetic individuals had a higher risk of hypertension while HIV-positive participants had a lower risk of hypertension. (Neema R. Mosha, *et al*, 2017)

In Uganda, hypertension took the forefront of the rest of the non-communicable diseases (NCDs) having an estimated overall prevalence of 26.4%. The prevalence of hypertension in Uganda was high with no significant differences in distribution by geographical location. Only 7.7% of persons with hypertension were aware of their hypertension, indicating a high burden of undiagnosed and uncontrolled high blood pressure. Thus, a big percentage of persons with hypertension were at risk of hypertension-related cardiovascular NCDs. The only modifiable factor found to be associated with hypertension was higher body mass index and older age was identified as the unmodifiable factor. (David Guwatudde, et al, 2015). Therefore, the aim of this study is to assess factors associated with hypertension among adults aged 30-79 years attending the hypertension clinic at Hoima Regional Referral Hospital.

2. Methodology

2.1. Study design

The study employed a descriptive cross-sectional study design as it facilitated the collection of adequate data despite the limited timeframe that was allocated as well as the limited resources that were available for the study.

2.2. Study area

The study was conducted at Hoima Regional Referral Hospital, a government hospital located in the city of Hoima. It serves people from various districts such as Bulisa, Kagadi, Kakumiro, Kikuube, Hoima, Kibaale, Kiryandongo, and Masindi.

2.3. Study population

The study population comprised patients attending the hypertension clinic at Hoima Regional Referral Hospital that are aged 30-79 years between January 2023 and February 2023.

2.4. Sample size determination

The sample size was used to determine using Kish Leslie's (1965) formula

$N = Z^2PQ/e^2$

Where; n = sample size required

E = acceptable error/ required precision of the estimate = 0.1

Z = the standard variate (normal Z-score) corresponding to the confidence interval i.e., for the confidence interval of 95% Z = 1.96

P = the estimated prevalence of hypertension among adults in Uganda is 26.4%. (Guwatudde David, et al, 2015)

$N = Z^2PQ/e^2$

$N = (1.962 \times 0.264 \times 0.736)$

0.12

N = 75 respondents

Hence, the study involved 75 respondents.

2.5. Sampling technique

A simple random probability sampling technique was used to select hypertensive patients to participate in the study as this gave all patients attending the hypertensive clinic equal chances of being selected to participate in the study.

2.6. Sampling procedure

The researcher employed the lottery method of simple random sampling. Here each patient attending the hypertension clinic was assigned a registration number, which was written down on similar pieces of paper. The papers were folded, placed in a bowl, and thoroughly mixed. While blindfolded, the researcher selected one paper at a time without replacement, until she obtained the required number of respondents for the sample.

2.7. Data collection method

The questionnaire method, using pre-tested questionnaires was used for data collection in the study. This method is simple, time-saving, and cheap as many questionnaires were administered to various respondents simultaneously. Record keeping and retrieval for future reference are also made possible.

2.8. Data collection tool

Data was collected from correspondents using the self-administered questionnaires that encompassed both open and close-ended questions. These were printed on papers in English and a copy was handed over to the respondents. Questions addressing information regarding factors associated with the prevalence of hypertension and the level of knowledge of hypertension among adults aged 30-79 years attending the hypertension clinic were to be sought. Brief characteristics regarding the characteristics of the participants were also obtained. Respondents were guided on how to fill them using either a pen or pencil. Writing materials such as pens or pencils were provided to the participants. Parcels for proper storage of the questionnaire forms were used before and after the study.

2.9. Data collection procedure

Data was collected from hypertensive patients attending the hypertension clinic at Hoima Regional Referral Hospital. The respondents were informed about the content and intent of the study and informed consent was sought. The questionnaire forms were then handed to the respondents and given instructions on how they are to be filled.

For participants unable to read and write, help in answering the questions was availed to them by the researcher or research assistant through thorough interpretation and even noting down answers for those where writing is not possible. The time of collection of the questionnaires was communicated to the respondents. Upon filling out the questionnaires, the forms were returned to the researcher. Data was collected once every week when the hypertension clinic operated while interacting with about 25 participants on each occasion until the required sample was obtained.

Other relevant information about the participants such as blood pressure, weight as well as BMI measurements were obtained from the participants' treatment forms/books.

Later on, a compilation of the questionnaires was made for analysis and interpretation.

A participant who refused to consent to the study or failed to fill out the questionnaire form was eliminated from the sample and was replaced by another respondent. In case of loss of the questionnaire by a respondent, another copy was supplied to him/her at the expense of the researcher. This was catered for by obtaining a surplus of copies of the forms that were retained by the researcher.

2.10. Study variables

This will include the dependent and independent variables

2.10.1. Independent variables

The independent variables of the study included demographic, Individual lifestyle, and biophysiological factors associated with the prevalence of hypertension and Level of knowledge of hypertension among adults aged 30-79 years attending the hypertensive clinic at Hypertension clinic at Hoima Regional Referral Hospital.

2.10.2. Dependent variable

The dependent variable was the prevalence of hypertension among adults aged 30-79 years at-

tending the hypertension clinic at Hoima Regional Referral Hospital.

2.11. Pilot study

A pilot study was carried out a week before the start of the actual data collection at the hypertension clinic, Hoima Regional Referral Hospital. This was relevant to the study as it assessed whether the required research and information was available from the population hence ascertaining the area feasible for the study.

2.12. Quality control

The data collection tool i.e., the questionnaire was pretested by selecting randomly a few respondents from the hospital attending the hypertension clinic and administering it to them. The answers were then analyzed and checked for their feasibility. The questionnaires were also checked for errors and omissions to ensure completeness and accuracy in filling them and necessary adjustments were made.

For quality data collection three research assistants were selected from the hospital of which the principal researcher was not part. These were trained on how to treat respondents ethically, and how to translate any question in the questionnaires for the respondents. Ample time was also given to the respondents, to allow them to provide adequate information. All the above was carried out while adhering to the facility's rules and regulations.

2.13. Inclusion criteria

All adults aged 30-79 years attending the hypertension clinic at hoima regional referral hospital and consent were eligible to participate in the study. Exclusion criteria

Adults who were below 30 years of age and above 79 years of age attending the hypertension clinic were not eligible for the study.

Adults who did not consent did not participate in the study.

2.14. Ethical consideration

A letter of introduction of the researcher from the training school, Medicare Health Professional's College was written and addressed to the director of Hoima Regional Referral Hospital to allow the researcher to carry out research in the same hospital. Letters of request to conduct the study were also presented to the head of internal medicine and the in charge of the hypertension clinic in their areas of jurisdiction.

The respondents were availed a high level of confidentiality by the researcher and his team. This was ensured by the use of numbers instead of names on questionnaire forms to ensure anonymity. The respondents were also informed of their right to refusal to be enrolled in the study and their right to withdraw from the study at any time along the way without any repercussions.

Informed consent shall be sought from the respondents by presenting to them a consent form to sign after a thorough explanation of the study. The researcher and his team shall observe and respect the expectations of the respondents.

3. RESULTS

3.1. Social-demographic factors of respondents associated with the prevalence of hypertension.

The majority 27(30%) of the respondents were aged 60-69 years, and 20(26.7%) belonged to the 50-59 years age group. 14(18.7%) were aged 40-49 years, while 10(13.3%) were aged 70-79 years with the least 4(5.3%) of the respondents aged between 30-39 years.

The majority 65(86.7%) were females compared to their male counterparts,10(13.3%). The majority 65(86.7%) were females compared to their male counterparts,10(13.3%).

The majority 35(46.7%) at most had attended primary school with 15 (20%) having reached secondary school. 20(26.7%), had no formal education and only 5(6.6%) had attained tertiary level of education. The highest number 40(53.3%), of the respondents were Catholics followed by protestants,20(26.7%), and Muslims,8(10.7%). Most 48(64%) of the respondents

Table 1: showing socio-demographic factors of respondents (n=75)

CHARACTERISTICS	VARIABLE	FREQUENCY (f)	PERCENTAGE (%)
AGE	30-39	04	5.3
	40-49	14	18.7
	50-59	20	26.7
	60-69	27	36
	70-79	10	13.3
SEX	Female	65	86.7
	Male	10	13.3
LEVEL OF EDUCATION	No formal education	20	26.7
	Primary	35	46.7
	Secondary	15	20
	Tertiary	05	6.6
RELIGION	Catholic	40	53.3
	Protestant	20	26.7
	Born again	05	6.6
	Muslim	08	10.7
	Others	02	2.7
PLACE OF RESIDENCE	Rural	48	64
	Urban	27	36
MARITAL STATUS	Single	20	26.7
	Married	30	40
	Widow	15	20
	Separated	10	13.3
JOB STATUS	Employee	10	13.3
	Self-employed	30	40
	Unemployed	27	36
	Retired	08	10.7
WEEKLY EXPENDITURE	Less than 20,000	25	33.4
	20,000-60,000	40	53.3
	More than 60,000	10	13.3
Total		75	100

were rural dwellers compared to those from urban centers,27(36%).

Most 30(40%) of the respondents were married, 20(26.7%) were single,15(20%) were widowed and those separated were 10(13.3%).

The majority 30(40%), were self-employed with most of them reporting to be farmers on a small scale. 27(36%) were unemployed and about half reported staying at home as housewives not doing any significant job besides taking care of children. Those employed in the formal sector were about 10(13.3%) while those that retired were 8(10.7%).

The majority 40(53.3%) of the respondents had a weekly expenditure between Ug shs 20,000-60,000, those with an expenditure of less than 20,000 were 25(33.4%), and those spending more than 60,000, were the least being about 10(13.3%).

Figure 1: Showing distribution of respondents regarding smoking (n=75)

3.2. Individual and bio physiological factors associated with prevalence of hypertension.

Majority 70(93%) of the respondents did not smoke or have any history of smoking. Only 5(7%) had ever smoked cigarettes.

The majority 65(86.7%) of the respondents usually ate vegetables while only 10(13.3%) did not eat vegetables regularly. Of the 65 participants, 25(38.5%) ate vegetables 1-3 times a week and 40(61.5%) ate vegetables more than 3 times a week.

Most 52(69.3%) of the respondents reported not have anything to do with taking alcohol while 23(30.7%) reported taking alcohol or had past history of taking alcohol.

Highest number 72(96%) of the respondents agreed that stress increased one's chances of developing hypertension while only 3(4%) did not agree.

Most 43(57%) of the respondents had at least one relative with hypertension while 32(43%) did not have a relative suffering from hypertension.

The Highest number 28(37.4%) of respondents were classified as being overweight (BMI< 25-30kg/m2) while 27(36%) were obese. 13(17.3%) had BMI of 18.5-25kg/m2 with the least 7(9.3%) having BMI<18.5kg/m2.

4. Level of knowledge of patients about hypertension.

The majority 35(46.7%) of the respondents did not know any measurement readings about defining hypertension. 18(24%) considered BP 160/100 or higher while 15(20%) regarded it to be BP between 120-139 and 80-99 and 5(6.7%) defined hypertension as BP<120/80. Only 2(2.6%)

More than half 50(66.7%) of the respondents pointed to stress as the major risk factor associated with hypertension, 11(14.6%) pointed to too much salt intake, 5(6.7%) outlined age and other 5(6.7%) did know risk factors to hypertension. About 4(5.3%) outlined other factors like pregnancy and family planning.

Most 25(33.3%) of the respondents identified headache as one of the symptoms of hypertension, 20(26.7%) of the respondents mentioned awareness of their own heartbeat while 15(20%) mentioned paralysis. 9(12%) mentioned other symptoms such as blurred vision and sweating with the least 6(8%) identifying general body weakness.

All 75(100%) of the respondents agreed that hypertension is a serious disease with 48(64%) pointing to death as a complication, 18(24%) mentioning stroke as a complication and 9(12%) outlined vision impairment.

More than half 45(60%) of the respondents got to first hear about hypertension from a health

Table 2: Showing distribution of respondents regarding consumption of vegetables (n=75)

		Frequency(f)	Percentage (%)
Eat vegetables	1-3 times	25	38.5
	More than 3 times	40	61.5
	Subtotal	65	86.7
Do not eat vegetables		10	13.3
	TOTAL	75	100

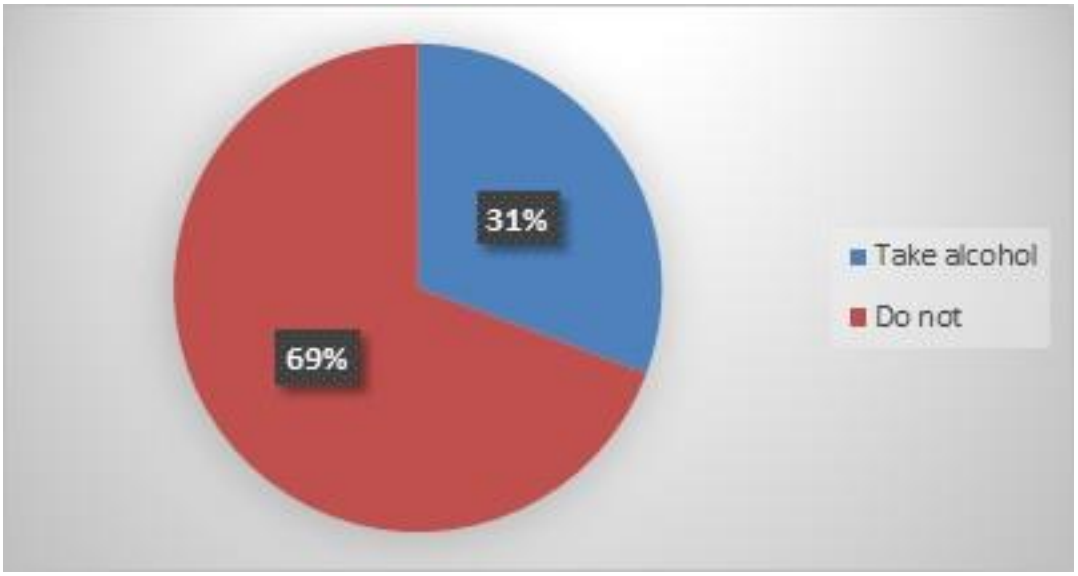

Figure 2: Distribution of respondents regarding alcohol intake (n=75

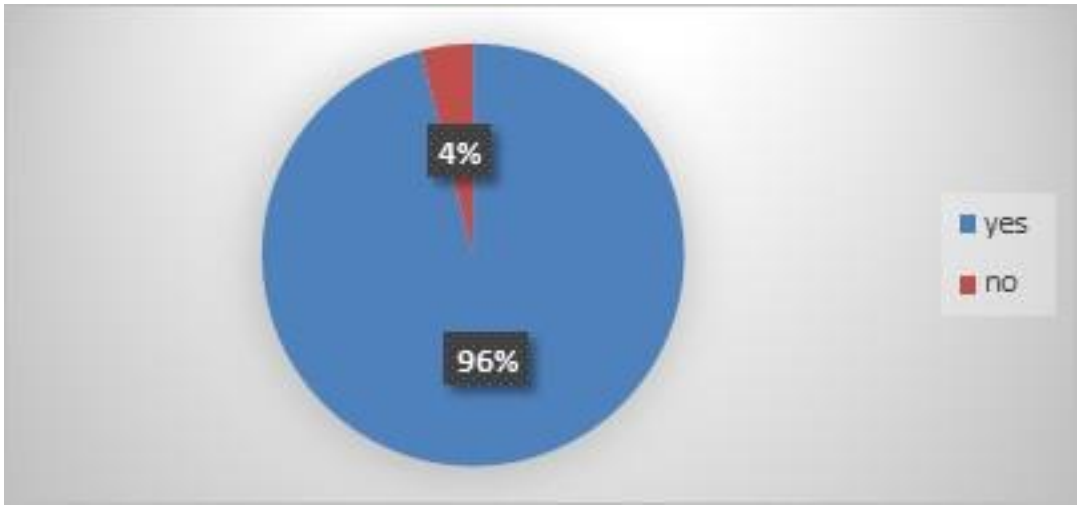

Figure 3: Distribution of respondents in regards to stress contributing to hypertension (n=75)

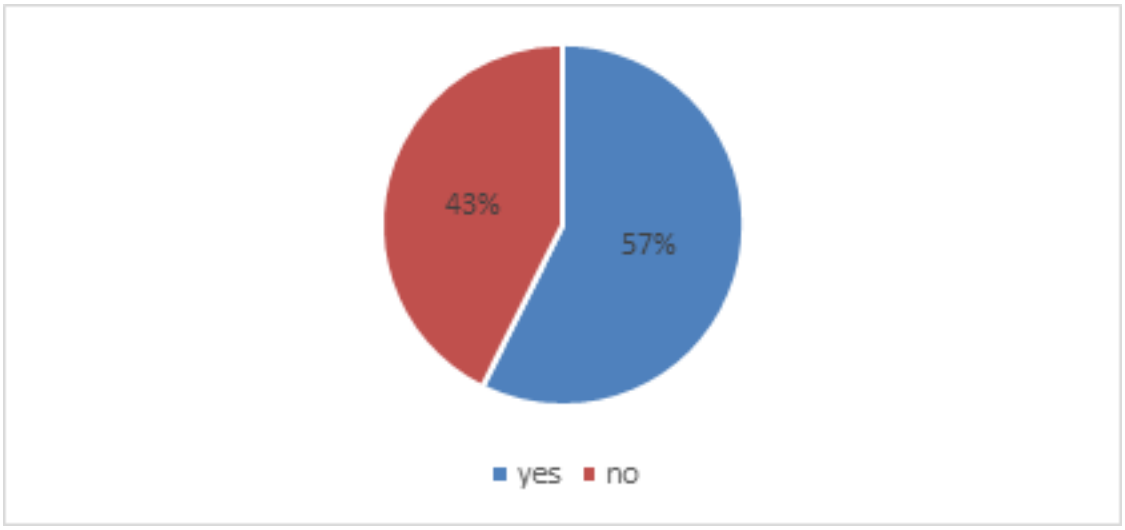

Figure 4: distribution of respondents regarding family history of hypertension (n=75)

Table 3: Showing distribution of respondents regarding body mass index (n=75)

	Frequency(f)	Percentage (%)
Underweight (BMI <18.5kg/m2)	07	9.3
Normal weight (BMI18.5-25kg/m2)	13	17.3
Overweight (BMI>25-30kg/m2)	28	37.4
Obese (BMI>30kg/m2)	27	36
Total	75	100

Table 4: distribution of respondents regarding definition of hypertension (n=75)

	Frequency(f)	Percentage (%)
BP<120/80	05	6.7
BP between 120-139 and 80-99	15	20
BP 140/90 and above	02	2.6
BP 160/100 or higher	18	24
Don't know	35	46.7
Total	75	100

Table 5: distribution of respondents regarding whether hypertension is a serious disease (n=75)

	How (complications)	Frequency(f)	Percentage (%)
Yes	Death	48	64
	Stroke	18	24
	Vision impairment	09	12
No		0	0
Total		75	100

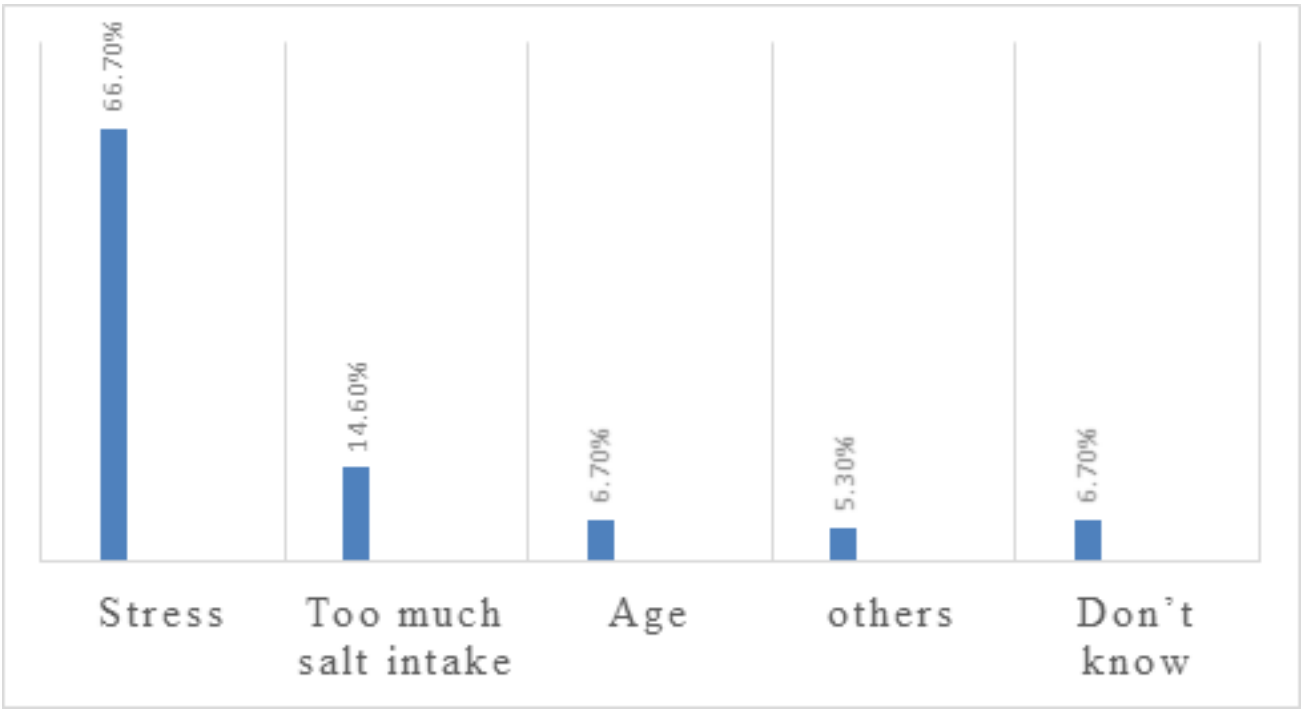

Figure 5: distribution of respondents regarding identification of risk factors of hypertension (n=75)

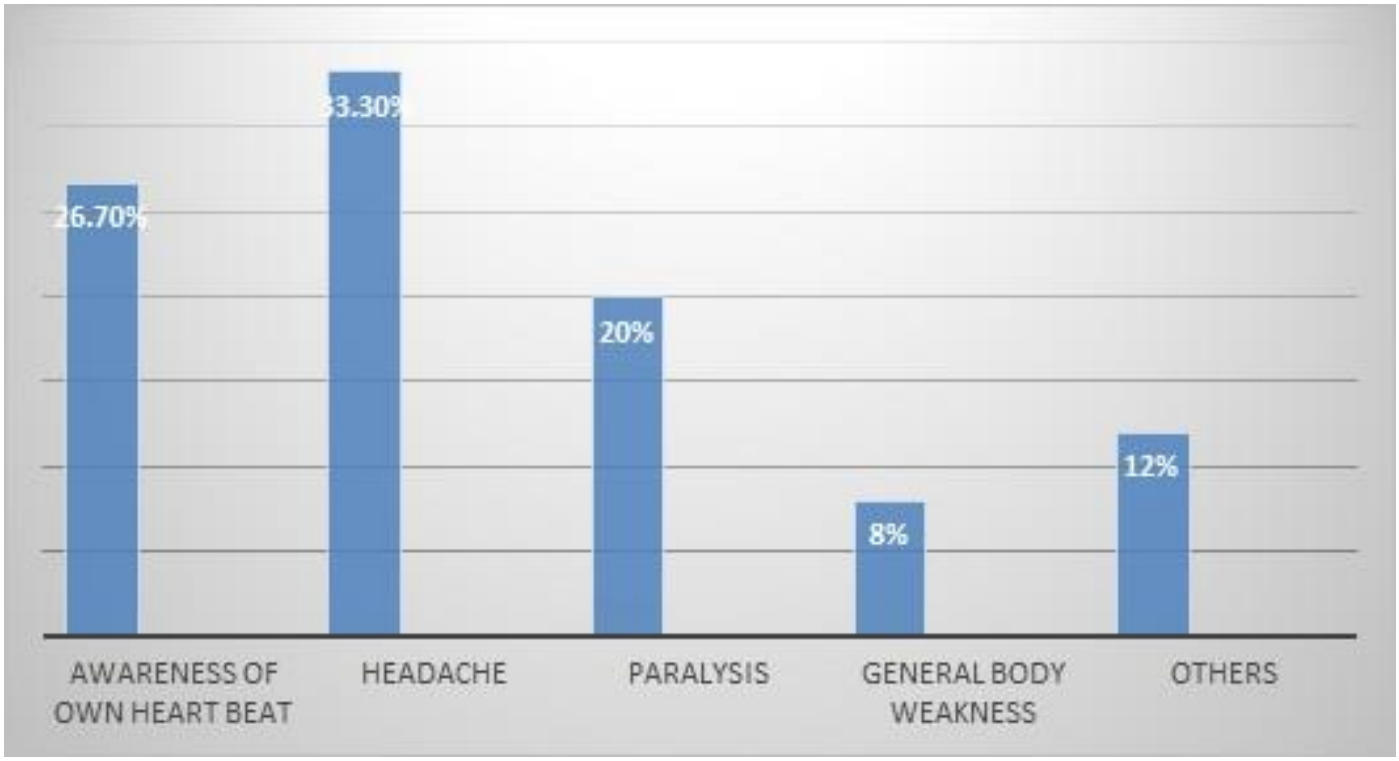

Figure 6: distribution of respondents regarding identification of signs and symptoms of hypertension (n=75)

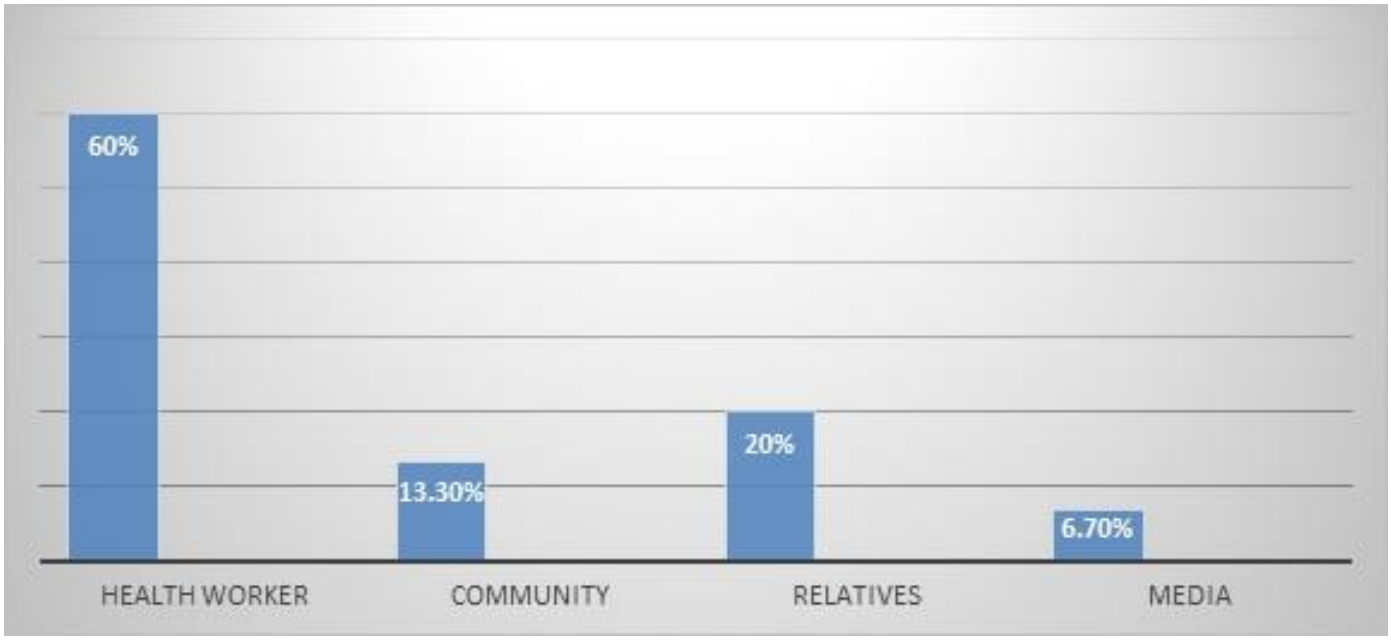

Figure 7: distribution of respondents regarding the first source of information about hypertension (n=75)

worker, 10 (13.3%) from the community, 15(20%) from relatives and only 5(6.7%) from media.

5. Discussion of results

5.1. Social-demographic factors associated with hypertension.

The objective of the study was to access the demographic factors associated with the prevalence of hypertension among adults aged 30-79 years attending the hypertension clinic at HRRH. Data analysis and interpretation revealed the following major findings:

It revealed that 4(5.3%) of the respondents were aged between 30-39 years, 14(18.7%) were aged 40-49 years with 20(26.7%) belonging to the 50-59 years age group. Majority 27(30%) were aged 60-69 years while 10(13.3%) were aged 70-79 years. These findings indicate that the prevalence of hypertension is associated with advancement in age. This is probably because aging reduces the elasticity of blood vessels. It could also be because older people have reduced physical activity and lack financial means for healthcare. These findings agree with Shukri F Mohammed, et al, 2018 where the highest prevalence of hypertension was observed in those older than 50 years and those aged 65 years and above respectively. However, in this study, the prevalence of hypertension was slightly reduced among those aged 70-79 years. This is probably because people belonging to this category are unable to reach the health facility and some have probably succumbed to the illness.

Results showed that 50(86.7%) of the respondents were females compared to their male counterparts who were 10(13.3%). These findings indicate that being female is associated with the prevalence of hypertension. This is probably because women are faced with numerous worries about family troubles which build up stress and as well have better health-seeking habits than men. These findings disagree with Nor Azian Mohd Zaki, et al, 2021, where there was no significant statistical difference in hypertension in gender.

In this study, results revealed that of the 75 respondents with hypertension, 20(20.7%) had no formal education, 35(46.7%) had at most attained a primary level of education, 15(20%) had attained a secondary level and 5(6.7%) had reached tertiary level. These findings indicate that no formal education and attainment of only a primary level of education is associated with the prevalence of hypertension.

This is probably because they have had less ex-

posure to information regarding hypertension, its risk factors, and prevention among others. This is in agreement with Hirbo Shore Roba, et al, 2019, where the highest hypertension, 33.61% was observed in those with no formal education.

The findings further revealed that most of the respondents were rural dwellers, 48(64%) compared to those from urban centers,27(36%). These findings indicate that living in rural areas is closely associated with hypertension. This is probably because there are inadequate facilities in such areas for early diagnosis and management of those with hypertension. There could also be little or no awareness campaigns that have been organized to teach about hypertension in these areas. These findings are in disagreement with Joseph Kouesyande Soubeiga, et al, 2017 where results showed that the prevalence of hypertension was highest in urban areas (24.1%) than in rural areas.

Individual lifestyle and biophysiological factors associated with hypertension.

The objective of the study was to assess individual lifestyle and biophysiological factors associated with the prevalence of hypertension among adults aged 30-79 years attending the hypertension clinic at HRRH.

It revealed that the majority of the respondents, 70(93%) did not smoke or have any history of smoking. Only 5(7%) had ever smoked cigarettes. These findings indicate that smoking was not significantly associated with hypertension. This is probably because the majority of the respondents were females who do not usually incorporate smoking into their lifestyle activities. These findings disagree with Shikha Singh, et al, 2017 where tobacco use had higher odds of hypertension.

These findings also revealed that 65(86.7%) of the participants usually ate vegetables while only 10(13.3%) did not eat vegetables regularly. Of the 65 participants, 25(38.5%) ate vegetables 1-3 times a week, and more than half 40(61.5%) ate vegetables more than 3 times a week. These findings indicate that not eating vegetables regularly was not significantly associated with hypertension. This is probably because the majority of the respondents were farmers and hence can easily access vegetables.

In this study, 23(30.7%) of the participants reported taking alcohol or had a past history of taking alcohol while 52(69.3%) reported not having anything to do with taking alcohol. These findings indicate that alcohol use was not significantly associated with hypertension. This is probably because most of the respondents were females and married and had a reduced preference for alcohol. These findings disagree with Shikha Singh, et al, 2017 where alcohol use had higher odds of hypertension.

In this same study, 72(96%) of the respondents agreed that stress increased one's chances of developing hypertension while only 3(4%) did not agree. These findings indicate that stress was significantly associated with hypertension. This is probably because most of the respondents were married with children and were faced with numerous stressful events such as looking for money for taking children back to school and as well take care of the family at large. These findings agree with Febry Istyanto, et al, 2018 where stress was identified to directly and positively influence hypertension.

The findings also revealed that 43(57%) of the participants had at least one relative with hypertension while 32(43%) did not have a relative suffering from hypertension. These findings indicate that a family history of hypertension is associated with hypertension. This is probably because, to some extent, first-degree relatives have similar genetic makeup which could predispose one to hypertension. These findings agree with Brustolin Xavier, et al, 2021, where having at least one relative with a history of hypertension was associated with systemic arterial hypertension.

Lastly, results revealed that 7(9.3%) had of BMI<18.5kg/m2 (underweight), 13(17.3%) were of normal weight (BMI of 18.5-25kg/m2), 28(37.4%) were classified as being overweight (BMI< 25-30kg/m2) while 27(36%) were obese. These findings indicate that being overweight and obese were significantly associated with hypertension. This is probably because a high BMI is associated with narrowing of blood vessels

which in turn builds up pressure resulting in hypertension. These findings agree with Neema R Mosha, et al, 2017 and David Guwatudde, et al, 2015, where overweight (BMI between 25 to 29.9kg/m2) and obese individuals (BMI greater or equal to 30kg/m2) were associated with the highest prevalence of hypertension.

5.2. Level of knowledge about hypertension.

The objective of the study was to access the level of knowledge about hypertension among adults aged 30-79 years attending the hypertension clinic at HRRH. Data analysis and interpretation revealed the following major findings:

It revealed that 5(6.7%) defined hypertension as BP<120/80, 15(20%) regarded it to be BP between 120-139 and 80-99, 2(2.6%) considered it to be BP 140/90 and above, 18(24%) took it to be BP 160/100 or higher while 35(46.7%) did not know any measurement readings in relation to defining hypertension. These findings indicate a poor definition of hypertension by the respondents. This is probably because little information regarding hypertension and its measurements is availed to patients despite being attended to by health workers. As a matter of fact, some respondents aired out that they are just told that their pressure is high or has dropped but never of what the readings mean. These findings agree with Nidal F Eshah, et al, 2016, where lower scores were recorded for the definition of hypertension. However, this is in disagreement with Iama A Bakhsh, et al, 2017, where more than 30% knew the meaning of hypertension.

Results also showed that 50(66.7%) of the participants pointed to stress as a risk factor associated with hypertension, 11(14.6%) pointed to too much salt intake, 5(6.7%) outlined age, 4(5.3%) outlined other factors such as pregnancy and family planning. 5(6.7%) did know the risk factors for hypertension. These findings indicate that the respondents have minimum knowledge regarding risk factors of hypertension with the exception of stress. This is probably because the health education provided regarding hypertension is inadequate. These findings agree with Igwe Mirian Nkeiruka, et al, 2021 and Rutagengwa Alfred, 2018 where respondents demonstrated poor knowledge of certain risk factors for hypertension such as salt and red meat consumption, and 216(79.4%) participants reported low knowledge of risk factors for hypertension.

In this study, 20(26.7%) of the respondents mentioned awareness of their own heartbeat as one of the symptoms of hypertension, headache was mentioned by 25(33.3%), paralysis by 15(20%), and general body weakness by 6(8%). 9(12%) mentioned other symptoms such as blurred vision and sweating. These findings indicate good knowledge of respondents regarding signs and symptoms of hypertension. This is probably because of their personal experience as well as experiences narrated to them by their fellows with the same condition. These findings agree with Pugie Tawanda Chimberengwa, et al, 2019 where 64.8% of the respondents stated that palpitations were a symptom of hypertension.

Results further showed that 75(100%) of the respondents agreed that hypertension is a serious disease with 48(64%) pointing to death as a complication, 18(24%) mentioning stroke as a complication, and 9(12%) outlining vision impairment. These findings indicate good knowledge regarding hypertension being a serious disease and its associated complications. This is probably because of the experiences the respondents have seen with their relatives and friends with the same condition. These findings agree with Iama A Bakhsh, et al, 2017 and Hayley M Lynch et al, 2019, where more than half of the participants believed that hypertension is a dangerous disease and most participants viewed hypertension as a serious condition citing long-term effects such as stroke and death respectively.

These findings also revealed that 45(60%) of the respondents got first heard about hypertension from a health worker, 10 (13.3%) from the community, 15(20%) from relatives, and only 5(6.7%) from media. These findings indicate that health workers were the major source of information regarding hypertension. This is probably because most of the patients first got to hear about hypertension on their initial diagnosis of the disease.

These findings agree with Hayley M Lynch, et al, 2019, where participants often received most information from their doctor.

6. Conclusions.

This study specifically sought to access demographic factors associated with the prevalence of hypertension among adults aged 30-39 years attending the hypertension clinic at HRRH. The study established that the majority of the respondents with hypertension were aged greater than 50 years, of the female gender, either had no formal or attained the most primary level of education, and were living in rural areas. In view of these findings, older age of 50 years and above, being of the female gender, having no formal or primary level of education, and living in rural areas were significantly associated with hypertension.

This study also specifically sought to access Individual lifestyle and biophysiological factors associated with hypertension among adults aged 30-39 years attending the hypertension clinic at HRRH. The study established that the major- ity of the respondents with hypertension did not smoke cigarettes, regularly ate vegetables more than 3 times a week, did not take alcohol, agreed to stress increasing one's chances of develop- ing hypertension, and had BMI greater than 25. There was no significant difference between par- ticipants having a relative with hypertension and those who did not. In view of these findings, BMI greater than 25(being overweight or obese) and stress were significantly associated with hyperten- sion while smoking, use of alcohol, not eating veg- etables often, and family history of hypertension were not significantly associated with hyperten- sion.

This same study specifically sought to access the level of knowledge of hypertension among adults aged 30-79 years attending the hypertension clinic at HRRH. The study established that the majority of the respondents could not define hypertension, most identified stress as a risk factor for hypertension while the rest of the risk factors were known to a few of the participants. Knowledge regarding the signs and symptoms of hypertension was good and health workers were identified as the major source from which the respondents had ever obtained information regarding hypertension. In view of these findings, the overall level of knowledge about hypertension among the respondents was average.

7. Recommendations.

From the results obtained from the study, the researcher, therefore, recommends that:

The government in conjunction with the administration and health workers at HRRH should organize regular and comprehensive health education programs and campaigns regarding hypertension. This could be done through health talks over media like radios, at the stadiums as well as schools. This campaign could encompass the measurement of the blood pressure of participants and as well help in the early identification of the individuals at risk within the population.

The administration together with health workers at Hoima Regional referral hospital should organize detailed regular health education talks regarding hypertension so as to provide relevant information regarding risk factors for hypertension especially lifestyle and biophysiological factors such as BMI, family history, and alcohol. This could be carried out at the health facility at the OPD waiting area, in the consultation rooms. In addition, charts and posters can be pinned with information regarding hypertension. While at this, patients should be given an opportunity to ask anything they need to know regarding hypertension.

The government should strengthen the role of community psychologists so as to provide counselling and as well improve stress management skills among people. This will in turn enable individuals to cope with stress that occurs in day-to-day life.

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9. Study limitations.

The researcher encountered several inconveniences during the study which included;

- Inadequate resources such as funds to fully fund the activities involved in the study.
- Non-compliance by some of the respondents was expected.
- In addition, an issue of language barrier arose

10. List of abbreviations.

ACC/AHA : American College of Cardiology/American Heart Association

CVDs : Cardiovascular Diseases

DCM : Diploma in Clinical Medicine and Community Health

BMI : Body Mass Index

HTN : Hypertension

HIV : Human Immune-deficiency Virus

LMCIs : Low- and Middle-Income Countries

MoH : Ministry of Health

UAHEB : Uganda Allied Health Examinations Board

WHO : World Health Organization

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