Research Paper

Prevalence and trend of hypertension among the elderly persons in Kiruddu Referral Hospital, Kampala District

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Abstract— The study mainly examines the prevalence and trend of hypertension among elderly persons in Kampala. The study adopts a cross – sectional research design. The study collected both quantitative and qualitative information. Data was collected from 151 respondents at Kiruddu Referral Hospital and six key informants at a single point in time. Quantitative data analysis was done using SPSS while qualitative analysis was done using Jamovi and thematic approach. Findings show that majority (87%) of respondents reported that the rate of hypertension is high among the elderly persons. The study also observed that hypertension is a leading killer disease among elderly persons and is further responsible for disabilities, stroke, heart disease, and kidney failure. Therefore the study concludes by suggesting that there is need for a life course approach to hypertension prevention and also there is need to create awareness about hypertension amidst other several hypertension reduction approaches.

Keywords— Prevalence, Hypertension, Hospital, elderly, mortality, morbidity

1. Introduction

For the past decades, there has been an increase in the number of elderly people struggling with the problem of hypertension. With the increased advancement in technology and improved standards of living of the people. There has been a remarkable decline in the incidence of mortality from communicable diseases and an increased burden of non-communicable diseases [1]; [2]. Globally, the burden of diabetes and hypertension are considered as the two leading drivers of Chronic Kidney Disease (CKD) which has increased significantly over the past several decades [3]. Hypertension has been identified as the leading risk factor for death and disability among the elderly persons [4]. Literature reveals that hypertension is the leading risk factor to other illnesses like kidney failure, premature mortality and morbidity in the short run and eventually leads to disability and death in the long run [5]. [6] add that hypertension (HTN) is also the leading risk factor for cardiovascular and cerebrovascular mortality worldwide. Hypertension is also believed to contribute to 45% of deaths due to heart disease and 51% of deaths due to stroke in 2013 [7]; [8]. The age-adjusted adult prevalence of hypertension in Sub-Saharan Africa is the highest in the world at approximately 46% [8].

Hypertension is projected to cause 61% of total mortality in Sub – Saharan Africa by 2030 [9]; [10]. In Sub - Saharan Africa, much attention has been paid to communicable diseases yet the burden of hypertension is also increasing rapidly in most parts of the region [11]; [12]; [13]; [14]. In the sub-continent of Sub – Saharan Africa, different countries have different hypertension prevalence rates, in countries like Niger, the hypertension prevalence rate has increased to 15% which rate is quite high [15]; [16]; [17]. In Uganda, hypertension, obesity, and overweight are the common risk factors for diabetes [18]; [19]. However, the country is one of those still affected by infectious diseases such as HIV/AIDs and Malaria is one of the leading causes of death not only in children and pregnant women but also in other vulnerable populations such as the elderly especially those living in the remote rural areas. The fact that there is an increasing burden of morbidity and mortality due to non – communicable illnesses, has posed such a peril to the health system of the country so as to address the double burden of both communicable and non – communicable diseases amidst the scarce available resources [20]; [21]; [22].

The paper is organized in such a way that; Section I contains the introduction of the study which gives background information about the study and the organization of the paper.

Section 2 contains the related work of other scholars, details the problem statement of the study and the objectives of the study. Section 3 contains the theory used in the study. Section 4 gives details of the measures undertaken to conduct the study and the analysis of the data. Section 5 contains the results of the study displayed in tables as well as the discussion of the results. Section 6 contains the conclusion which also details the recommendations of the study and areas of further research. Other sections also include the conflict of interest, funding source, author's contributions, acknowledgements and references of the study.

2. Related Work

The prevalence of hypertension accounts for approximately 50% of coronary heart disease and 67% for the cerebrovascular disease burden worldwide [23]. [24] Argues that hypertension is a major risk factor and a public health concern that attracts significant attention [5]. In Uganda, awareness of hypertension largely depends on the capacity of the health system to provide diagnostic services for hypertension to the general population [25]; [26]. Unfortunately, the healthcare system in Uganda is largely constrained by limited equipment, trained personnel, resources and many more [27]. Hypertension in the country is longer a myth as a number of studies that have been conducted in the various regions of the country show that the hypertension incidence is too high [28]; [29]; [30]; [31]. Therefore, the study examines the prevalence and trend of hypertension among elderly persons in Kampala district, Uganda.

3. Theory

The Health Belief Model (HBM) has been selected because it contributes to understanding the adoption of a healthier lifestyle. It focuses on adherence to treatment and identification of issues in the nurse-patient relationship. More effective care can be obtained when beliefs about susceptibility, severity of the disease, benefits and barriers to care are considered and direct patients' approach, assisting in the identification of their lifestyle and improving their quality of life. The Health Belief Model is divided into four areas: perception of vulnerability or susceptibility, which is the subjective perception of personal risk of contracting a disease; severity, when the individual associates the disease with serious consequences; benefits, in which the subject believes in the effectiveness of the action and correct use of medicines, and its positive consequences; and perceived barriers, which are the difficulties for not following the recommended treatment [31]; [32].

Given the above, one can see that systemic hypertension worries health professionals and people affected by it due to the possibility of complications, physical and psychological sequelae, or even death of hypertensive patients. In this context, it was questioned: `What are the health behaviours developed by hypertensive patients assisted in health centres? What are the beliefs related to the disease's severity and susceptibility, and the perceived benefits and barriers? Thus, the study aimed to know the lifestyle of hypertensive patients, focusing on understanding the prevalence of hypertension among the elderly persons in light of the health belief model. Therefore the theory has been chosen for this study because of the changing pattern and trend of the burden of hypertension in Uganda; and also the dynamics and the intertwines of the factors responsible for hypertension.

4. Experimental Method/Procedure/Design

Study Design
This study adopted a cross-sectional research design. This research design was chosen because the data was collected from a proportion of the elderly persons with hypertension in Kiruddu Referral Hospital, Kampala at the same time and this information was later generalised to all the districts in Uganda.

Study Area
Kiruddu Referral Hospital which is a branch of Mulago National Referral Hospital (MNRH) is found in Kampala District. The district is bordered by Mukono District in the East and Wakiso 16 to the south, north and west. Kampala has a population of 1.35 million as of 2016 [4]. The study area was chosen because urban areas tend to have higher hypertension prevalence than rural areas, even within the same country [33]; [34].

Study Population
The study targeted the elderly persons attending the hypertension clinic in Kiruddu Referral Hospital, which is a branch of Mulago National Referral Hospital (MNRH) in Kampala district in regards to their understanding of the prevalence of hypertension. The study comprised of both male and female old people. Age was the selection criteria of the study respondents. For this regard, the study only considered people who were aged 60 years and above. This is so because according to the constitution of Uganda, an old person is the one aged 60 years and above [35].

Sampling Design
According to the daily population estimate of elderly persons visiting hypertension clinic in Kiruddu Referral Hospital, the hospital receives on average of 250 patients per day [36]. Therefore, using Krejcie and Morgan table formula [35] where the total 17 population (N) on the table (250) indicated that the final sample size (S) for this study is 152 respondents as shown in appendix VI [36]. Essentially, this study covered two groups of respondents, namely those who were randomly selected through the use of exit random sampling method from Kiruddu Referral Hospital in Kampala whether admitted or just in for treatment of hypertension as evidenced with their medical forms and those who were purposively selected based on their knowledge of the subject matter. Concerning those who were purposively selected included participants whom the researcher had considered as knowledgeable and relevant to the study.

Purposive sampling was used to select top management officials of Mulago National Referral Hospital Kampala

district especially those in charge of health, for instance, physicians and nurses, significant others of elderly persons, and administrators, Local Council leaders, and community leaders at various levels. According to [35], purposive sampling is advantageous in that it enabled the researcher

to come up with the most relevant and critical information pertaining to the health and lifestyle of persons with hypertension in Kampala and these participants included, three health workers handling hypertension cases in Kiruddu Referral Hospital, Two Division leaders most especially the officials from the health department of Makindye, two Local Council Leaders, and one Religious leader among others.

Data collection methods and instruments
The survey method was used whereby quantitative data was gathered through questionnaires that were carefully developed and structured to provide the researcher with numerical data that can be explored statistically and yield a result that can be generalised to some larger population. It is highly valued due to its ability to provide insights that cannot be obtained by using any other means [35]. The questionnaire was administered to 152 randomly selected respondents who was found during the time of data collection. The questionnaire was organized in themes as per the specific objectives under four sections that is to say, the socio-demographic characteristics, the prevalence and trends of hypertension, the individual lifestyle and finally the effects of hypertension among the elderly persons in KRH, Kampala district.

Qualitative Data Collection - Key Informant Interview Guide
The guide was largely organized under three (3) themes, namely the prevalence and trend, the individual lifestyle and finally the effects of hypertension on the elderly persons in KRH. Under each theme, there were some guiding questions whose order and wording at times were not to be strictly followed. In the same light, the researcher at times rephrased the questions so as to enable the interviewees to understand the questions clearly. This form of face to face interview was marked with probing and flexibility that enabled the researcher to elicit adequate amount of data from the key informants. These key informants included; health workers handling hypertension cases in Kiruddu Referral Hospital, KCCA division leaders most notable the officials from the division health department, Local Council Leaders, Religious leaders, and significant others among others.

Data analysis
Qualitative data was sorted and grouped into themes. Such as the prevalence, trends, risky behaviors, lifestyle modification, and challenges. The researcher analyzed the adequacy of information in answering the research questions through identifying categories that emerged in response to the study variables [35]. While analyzing qualitative data, summaries were made on how different themes/variables are related. Narrative statements were used as well as verbatim quotations from the key informants.

Quantitative data was entered in the Statistical Package for Social Scientists (SPSS) tool and analysis was done using Jamovi software and SPSS since both software follow the same principle. Descriptive statistics were used to analyse socio-demographic characteristics like age, level of education, income, marital status and occupation. Frequency tables were generated to represent the results.

Ethical Considerations
The researcher had to seek permission from the department of Sociology and Anthropology, Makerere University where a letter of introduction was obtained. Furthermore, permission to conduct research in Kampala divisions was sought from Mulago National Referral Hospital and also KCCA office in charge of health after presenting an introductory letter from College of Humanities and Social Sciences (CHUSS).

The researcher also had to get ethical approval from the research ethics committee of Mulago hospital before the researcher could proceed to Kiruddu Referral Hospital for actual data collection. The proposal and study tools were both checked and approved by the ethics committee and ethics clearance was given to the researcher.

The researcher also had to seek for the consent of the respondents/participants through explaining to the respondents/participants about the purpose of the study before they took part. The researcher accomplished this step by including opening and introductory remarks on the questionnaire. The respondents were requested to read the information before they fully participate in the study. The consent form was translated into Luganda and Runyakitara since the majority of the respondents and informants do understand those languages. In addition, the privacy of the respondents was ensured. Sharing of protected information or receiving unwanted information was also maintained at all times.

Confidentiality of the responses was also ensured through use of codes and not names. The researcher explained the purpose of the study, what was to be done with the data and gave further assurance since the research instruments (questionnaire and interview guide) did not include the names of any respondent that the information was solely for academic purpose. The questionnaire was made anonymous while pseudonyms were used in the analysis of responses from the interviews. Besides, the security of the data was equally guaranteed. This was maintained by using lockable cabinets and password protection for data and information. The researcher took the obligation of using the data appropriately, without doing harm or wrong. This was accompanied by giving a pledge to the participants/respondents.

5. Results and Discussion

Background characteristics of the respondents
Table 1: Socio - Demographic characteristics of the respondents.

Characteristics	Frequency (n=151)	Percentage

District of Origin		
Kampala	72	47.7
Wakiso	37	24.5
Mukono	7	4.6
Mpigi	6	4.0
Others	29	19.2
Age		
60 - 65	81	53.6
66 - 70	14	9.4
71 - 75	28	18.5
76 and above	28	18.5
Sex of respondents		
Male	38	25.2
Female	113	74.8
Marital Status		
Never Married	50	33.3
Married	84	56.0
Ever married	16	10.7
Years in Marriage		
1 day to 12 months	1	1.0
1 – 10 years	15	10.0
11 – 20 years	42	28.0
21 – 30 years	29	19.0
31 – 40 years	29	19.0
41 – 50 years	27	18.0
60 years and above	8	5.0
Level of Education		
None	32	21.2
Primary	36	23.8
Secondary	62	41.0
Tertiary	21	14.0
Religion		
Roman Catholic	89	58.9
Anglican	33	21.9
Muslim	17	11.2
Pentecostal	11	7.3
Others	1	0.7
Work status		
Actively working	100	66.0
Retired	47	31.0
Non - response	4	3.0

Source: Field Data

District
Results in Table 1 above shows that majority of the respondents were from Kampala district 72 (47.7%), followed by 37 (24.5%) who were coming from Wakiso while only 6 (4.0%) of the respondents were coming from Mpigi district.

Age
The majority 81 (53.6%) of the respondent were between the ages of 60-65. This was followed by 28 (18.5%) who were aged 71 – 75 years and those aged 76 years and above while only 14 (9.4%) were aged 66 – 70 years.
Sex

From a total of 151 respondents that participated in this study, the majority of old people were females 113 (74.8%) while 38 (25.2%) were males.

Marital status
The findings reveal that more than half, 84 (56.0%) of the respondents were married, followed by 50 (33.3%) who were never married while 16 (10.7%) of the respondents had ever married.

Years in marriage
Majority of the respondents 42 (28.0%) had spent between 21-30 years in marriage. This was followed by 29 (19.0%) of the respondents who had spent between 21 – 30 years and 31 – 40 years in marriage whereas only 8 (5.0%) were aged 60 years and above.

Level of Education
Majority of the respondents 62 (41.0%) had acquired secondary level education, followed by 36 (23.8%) of those who had acquired primary level education, 21 (14.0%) of the old people had acquired tertiary level education while 32 (21.2%) had never been to school.

Religion
Most of the respondents 89 (49.0%) were Roman Catholics, followed by 53 (15.0%) who were Anglicans, 27 (11.3%) were Muslims while only 9 (6.0%) belonged to other regions.

Work status
Majority of the respondents 100 (66.0) were actively working, 47 (31.0%) had retired whereas only 4 (3.0%) did not give any response as regards to work status.

Prevalence and Trend of Hypertension among the Elderly Persons

Table 2: Respondent's perception of the prevalence of hypertension

Prevalence of Hypertension	Frequency	Percentage
High	128	86.4
Moderate	10	6.8
Low	5	3.4
Do not know	5	3.4
Total	148	100

Source: Field Data

The findings from the above table shows that the majority of the respondents see the prevalence of hypertension as being high 128 (86.4%). The survey findings are also associated with the findings from key informants of the In-charge Kiruddu Referral Hospital. The available data at the hospital indicates that the number of those at 40 years and above who are diagnosed with hypertension is increasing especially among the more elderly persons. Where the patient records from 2014 to 2018 shows an average increase in the reported cases of hypertension over the years.

In one of the key informant with the ministry of Health official, he reported that; "*The prevalence is likely to be high*

*but many patients may not be aware that they have hypertension". (**Male Participant from Ministry of Health, Kampala).***

The above finding reveals that there is a discrepancy between the reported cases of hypertension and the actual prevalence of hypertension. This calls for continued awareness campaigns in order to encourage elderly persons to check for hypertension. This enables health officials to get the actual prevalence of hypertension in Kampala.

Respondent's perception of the trend of hypertension among the elderly persons

Table 3: Perception of the trend of hypertension

Levels of Hypertension	Frequency	Percentage
High	128	86.5
Moderate	11	7.4
Low	3	2.0
Do not know	6	4.1
Total	148	100

The findings indicate that the trend of hypertension among the elderly persons is high (86.5 %). The findings from the key informants (Female Nurse, KRH) further indicated that it is not only increasing among the elderly persons but also those of other age groups, that is to say; it is increasing lately among all age groups. However, the In-charge of KRH observed that hypertension is increasing among the elderly persons and older women are more susceptible. This increasing trend has been as a result of a number of factors. However, one of the officials from Ministry of Health noted that;

*The Trend could be going up because of the lifestyle such as lack of exercise, sedentary lifestyles and bad eating (**Male Participant from Ministry of Health, Kampala).***

The above finding reveals that the trend of hypertension among the elderly persons in Kampala is increasing and this, therefore, calls for more effort by those engaged in the treatment and management of hypertension to help curb the trend. The increasing trend of hypertension places a heavy burden on both the patients and the government in terms of costs entailed in the treatment of hypertension.

The prevalence and trend of hypertension based on the socio-demographic factors

Table 4: The prevalence and trend of hypertension based on the socio-demographic factors

No	Socio-demographics	High	Moderate	Low	Don't know
1	**Age**				
	Prevalence	116	4	2	3
	Trend	117	2	3	4
2	**Sex**				
	Prevalence	105	8	2	7
	Trend	104	10	2	7
3	**Religion (prevalence)**				
	Roman catholic	6	1	1	48
	Anglican	6	1	1	27
	Muslim	2	1	2	12
	Pentecostal Christians	5	4	2	15
	Others	1	0	1	3
	Religion (Trend)	17	5	7	94
4	**Marital Status**				
	Prevalence	45	9	7	60
	Trend	46	9	7	61
5	**Level of education**				
	Prevalence	20	5	9	84
	Trend	19	5	10	85

Source: Field Data

Irrespective of the respondents' age, majority of the old people agreed that the prevalence and trend of hypertension is affected by one's age among the elderly persons. When it comes to the sex of the respondents, no matter the sex, most of them agreed that the prevalence (105) and trend (104) of hypertension among the elderly persons varies based on sex as shown in the table above. Irrespective of their religion, most of them did not know whether the prevalence of hypertension varies based on religion. Furthermore, even when it comes to the trend, it was noted that the majority of respondents, despite of their religion; they did not know (94) whether religion affects the trend of hypertension among the elderly persons. In the case of marital status, the findings show that the majority of the respondent did not know whether the prevalence (60) and trend (61) vary based on the different statuses among the elderly persons as shown in the table above. And finally, concerning level of education, it was not known by the respondents as affecting either the prevalence or trend of hypertension as shown in the table above.

Discussion

The fact that majority of the respondents are from Kampala followed by those from Wakiso. Also given that Kiruddu Referral Hospital is the among the few referrals hospitals in the central regions of the country. This means that patients from central districts of Kampala, Wakiso and Mukono will often visit the hospital because it is nearer to them. According to the study by Guwatudde and others; results revealed that the prevalence of hypertension was highest in the central region, followed by the eastern region, western region and the northern region. The prevalence of hypertension was lower in rural residents compared to urban residents [37], therefore this can help explain why the majority of the respondents were from Kampala and Wakiso districts.

Additionally, results show that most of the respondents were aged between 60 – 65 years. Study results are in support of studies by [38] have revealed that age and family history were associated with hypertension in urban and rural areas. Aging reduces the elasticity of blood vessels leading to an increase

in blood pressure. Another possible reason is that older people pay less attention to their health or lack financial means for health care. Also, the accumulation of hypertension risk factors increases along with the age of individuals. During the field study, first, according the Ugandan Constitution of 1995, it states that for one to be considered elderly persons, he/she must be an older person as those aged 60 years and above [39]. However, according to the findings, the majority of the respondent were between the ages of 60 to 65 years representing 75 percent of the respondents. This is because in Uganda, the elderly persons constitute least percentage of the entire Population [40]; [41] and life expectancy has increased from 50 to 63 years over the past ten years [42]. This therefore is the reason as to why most of the respondents were in the age bracket of 60-65 years due to recent increase in life expectancy although this is still low compared to that of developed countries. The elderly persons constitute the poorest members of the society in Uganda with majority of them living below the poverty line, with lack of access to regular income and little to no benefit from social security services [43]. Many live in poor housing coupled with poor nutrition and a high risk of suffering from various chronic conditions [41]; [6]; [44] hence very few of them are able to reach 70 years and above.

Majority of the respondents were females while a quarter of the respondents were male. This also reveals that there are more females with hypertension than males. This finding is also in line with [45], that also revealed that there are more women (8%) than men (3%) who suffer from NCDs, specifically high blood pressure. This could also be attributed to the fact that the female population as of 2014 was 17,574 thousand and the male population was 17,061 thousand, as shown in the graph. There has been a steady increase in Uganda's population, with the female population consistently higher than that of males over the years [45].

Also most of the respondents were married. This is so because in Africa and Uganda in particular, we still cherish the idea of marriage until death do us apart and also due to the fact that the majority of the respondents (over 59%) were religious.

In terms of level of education, most of the respondents had attained primary level education. This means that most of the older populations have low levels of education. In line with the study findings, results in one of the reports by UBOS showed that people aged above 60 years of age had low levels of education and most of them were illiterate [45]. The low levels of education have a negative effect on the quality and sustainability of medical care service received by the respondents. This is because low levels of education tend to affect the income levels and this reduces the purchasing powers of the respondents attributing to why most of them indicated that they cannot afford the medication prescribed to them by the physicians. For instance, one female respondent stated that;
No medicines available for free and we do not have money to purchase drugs (**65-year Female Respondent, Wakiso District).**

Such responses as recorded from the respondent and this is attributed to lower education attained by most the respondents since it has a great significance on the chances of getting a well-paying career.

Regarding religion, majority of the respondents were Roman Catholics, followed by those who were Anglicans, Muslims and Pentecostals. Study findings are in line with UBOS report which showed that majority of the people in Uganda are Roman Catholics, followed by Anglicans and Muslims respectively [45].

Prevalence and Trend of Hypertension among the Elderly Persons
As for respondent's perception of the prevalence and trend of hypertension among the elderly persons, the findings revealed that the majority of the respondents see the prevalence of hypertension as being high and the trend of hypertension was also high. This finding also conforms to the study that was done by [5] that observed that the figures relating to hypertension are simply staggering. In 2008, worldwide, less than a half of adults aged 25 or above had been diagnosed with hypertension, with the number of cases rising from 600 million in 1980 to 1 billion in 2008. By 2025, it is estimated over 1.5 billion people will have hypertension. More worryingly, two thirds of those with hypertension live in economically developing countries, where weak health systems mean it is even more likely that a substantial number of people with hypertension are undiagnosed, untreated and uncontrolled [5].

Furthermore, in Sub-Saharan Africa (SSA), many countries still lack detailed basic data on the prevalence and the determinants of hypertension. However, the World Health Organization (WHO) projects the number of hypertension cases in SSA to increase from an estimated 80 million in 2000 to 150 million in 2025 [37].

Uganda being one of the developing countries, the increasing prevalence and trend of hypertension has been attributed to a number of factors among which are the following; smoking and alcohol abuse; over consumption of fats, oil, sugar and salty foods; stress and poverty among others. A case in point, one key informant observed that;
The prevalence is likely to be high but many patients may not be aware that they have hypertension (**Male Participant from Ministry of Health, Kampala).**

This therefore indicated that other than the reported cases that this study relied on, there are other people with hypertension who may not be aware of the conditions or lack the capacity to have the condition diagnosed hence leading to increasing number of complications such as death, disability, heart failure among others as a result of hypertension. The implications of the increasing prevalence and trend of hypertension is a number of effects as indicated by the respondents who noted that hypertension is responsible for death, stroke, kidney failure, disability and heart disease among the elderly persons.

For instance, hypertension is the leading risk factor for death and for disability globally. Aside from contributing to the burden of heart disease and stroke, hypertension also contributes to the burden of kidney failure and premature mortality and morbidity. Over 40% of deaths in people with diabetes are caused by increased blood pressure. It is clear that hypertension is a global public health issue [5].

The prevalence and trend of hypertension among the elderly persons in Kampala based on the socio-demographic factors, the majority of the respondents based on their age indicated that both the prevalence and the trend is high among the elderly persons in Kampala. The area of study being in central Uganda and most of the respondents based on their district, majority being from Kampala, they view hypertension as being high among the elderly persons. This finding is congruent with the findings from [37] that revealed that the prevalence and distribution of hypertension in Uganda varied from region to region for instance, of the 3906 participants, 1033 were classified as hypertensive, giving an overall prevalence of hypertension at 26.4%. Age-standardized to WHO's 2000–2025 world standard population age structure, the prevalence was 19.5%. The prevalence was highest in the central region at 28.5%, followed by the eastern region at 26.4%, western region at 26.3%, and the northern region at 23.3%. This therefore indicates that there are more cases of hypertension in central region (Kampala) than any other parts of Uganda.

Also no matter the sex of the respondents, most of them agreed that the prevalence and trend of hypertension is high among the elderly persons. However, [37] have revealed contrary report that shows the prevalence as being higher among men at 28.3% compared to females at 25.2%. They further noted that hypertension was higher in older age groups, and higher in participants with higher body mass index (BMI). This higher prevalence among the older age group was also ascertained by the views from one of the key informants who noted that;
According to the available data at the hospital: the elder starting from 40 and above are diagnosed with hypertension is increasing more among the elderly persons (**Medical officer, Kiruddu Referral Hospital).**

Compared with the United States, based on National Health and Nutrition Examination Survey (NAHNES) 1999–2002, hypertension prevalence increased from 6.7% in persons 20 to 39 years to 65.2% in persons 60 years or older. In contrast, many non-industrialized countries do not experience increases of blood pressure and hypertension prevalence with age. A common characteristic of these populations is a low dietary salt intake. When these populations become more industrialized or migrate to a more industrialized society, blood pressure and hypertension prevalence do increase with age [46]. This is the case with Kampala being a city, it has almost similar lifestyle with developed countries hence accounting for the increase in the prevalence of hypertension among the elderly persons. Furthermore, in developing countries, the trend is for a rapid increase in hypertension prevalence, and in developed countries, and the previous

trend of a decrease in hypertension prevalence is actually reversing.

This is the case with Kampala being a city, it has almost similar lifestyle with developed countries hence accounting for the increase in the prevalence of hypertension among the elderly persons. Furthermore, in developing countries, the trend is for a rapid increase in hypertension prevalence, and in developed countries, and the previous trend of a decrease in hypertension prevalence is actually reversing.

Overall, the worldwide burden of hypertension in 2000 was estimated to be 972 million persons or 26.4% of the adult world population, with 333 million in developed and 639 million in developing countries. It has been estimated that by 2025, 1.56 billion individuals will have hypertension, an increase of 60% from 2000. This therefore means that for a country like Uganda, this trend and prevalence is not about to reverse its course unless drastic measures are put in place, and when respondents and participants were asked about what needs to be done to mitigate that conditions, they stated the following; Provision of enough drugs in hospitals and also making them affordable for those in need of them, building more hospital facilities and recruiting more health workers since the available ones are over worked, and adopting life style modification, among others.

In the case of marital status, the findings show that the majority of the respondent did not know whether the prevalence (60) and trend (61) vary based on marital status among the elderly persons. However, other studies such as [38] Titled, 'prevalence and factors associated with hypertension in Burkina Faso: a countrywide cross-sectional study' shows that marital status was associated with hypertension. For example, the single status may expose individuals to more stress and low socialization while marriage could lead to more security and stability for spouses, with less exposure to stress. Moreover, unmarried individuals may have less control over their diet as they tend to eat meals more often outside the household. Such meals are usually saltier, fattier and contain more spices and broths. Studies have shown that reducing daily salt intake leads to a decrease in blood pressure. An earlier study in the North Central Region in Burkina Faso showed that in rural areas marriage was a protective factor against the occurrence of hypertension. In South Africa, studies also showed a relationship between marital status and hypertension.

6. Conclusion and Future Scope

First, the prevalence of hypertension among the elderly persons in Kampala was found to be high 128 (87 percent) of the respondents that participated in this study viewed the prevalence as being high. The trend of hypertension among the elderly persons by both the respondents and key informants as being high at 87 percent.

Uganda being one of the developing countries, the increasing prevalence and trend of hypertension has been attributed to a number of factors such; smoking and alcohol abuse; over

consumption of fats, oil, sugar and salty foods; stress and poverty among others.

The prevalence and trend of hypertension among the elderly persons in Kampala is based on the socio-demographic factors. It was observed that age, sex, marital status, level of education and religion of the respondent had significant influence on the prevalence and trend of hypertension among the elderly persons not only in Kampala but all over Uganda.

The implications of the increasing prevalence and trend of hypertension has led to negative consequences such as increasing cases of death of the elderly persons, stroke, kidney failure, disability and heart disease among the elderly persons in Kampala.

Center in the provision of hypertension medical services to the elderly persons not only in Kampala but countrywide. Further interest should be on exploring the comparison of provision of hypertension services in developing and developed countries.

There is need for policy makers such as Members of Parliament and other stakeholders such as Ministry of Health in the health sector to institute nationwide population-based strategies to create awareness about the consequences of hypertension on the elderly persons if not controlled and its main risk factors and therefore the need for regular screening.

As regards to areas of further research, there is an urgent need for further investigation for instance by the Health Committee of Parliament and Ministry of Health and resources given by Parliament to understand the prevalence and trend of hypertension among the elderly persons and mitigate the growing burden of hypertension in Uganda and Kampala in particular. Greater partnerships with key players such as Center for Disease Control and Prevention, WHO, and the World Hypertension League should be harnessed to establish essential resources for screening, education, and improved lifestyle as well as understanding other risk factors which is still understudied in the Uganda.

Data Availability
The data can be accessed by writing an email to the authors. However the study was constrained by language barrier especially for patients who did not know English and Luganda. The research team had to reach out to only those patients who could speak Luganda as the local language.

Conflict of Interest
The authors declare no conflict of interest.

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Authors' Contributions
MDK conceived, designed, and implemented the study inclusive of data analysis and presentation, interpretation and discussion of results. AM provided guidance on study conceptualization, data analysis and interpretation of results.

SM guided on study conceptualization and advised on data analysis. All authors participated in drafting the manuscript, read and approved the final version. Conflicts of Interest The authors declare that they have no conflicts of interests.

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