

## Research Paper

# Individual causes and effects of hypertention among the elderly persons in Kiruddu Referral Hospital, Kampala District

D. Mercey Kemigisa<sup>1\*</sup>, A. Mugeere<sup>2</sup>, S. Mirembe<sup>3</sup>

<sup>1</sup>Department of Sociology, College of Humanities and Social Sciences, Makerere University, Kampala, Uganda

<sup>2</sup>Department of Sociology and Anthropology, Makerere University, Kampala, Uganda

<sup>3</sup>Population and Social Development Institute, Ntinda - Kampala, Uganda

\*Corresponding Author: [mirembesannie@gmail.com](mailto:mirembesannie@gmail.com)

**Received:** 15/May/2023; **Accepted:** 12/Jun/2023; **Published:** 31/Jul/2023

**Abstract**— Globally there is a shift in disease pattern from infectious to chronic diseases due to an increasingly westernized lifestyle and urbanization. A healthy lifestyle improves health and leads to a high perception of wellbeing while an unhealthy lifestyle leads to depression and isolation. Unhealthy behaviours such as smoking, alcohol abuse, overeating in combination with high levels of stress [1]. The study adopted a cross-sectional research design which included both survey and key informant methods. Data was collected from 151 respondents at Kiruddu Referral Hospital and six key informants at a single point in time. Quantitative and qualitative analysis was done using SPSS, Jamovi and thematic approach respectively. Unhealthy lifestyles such as high levels of stress and smoking were stated as leading risk factors associated with hypertension among elderly persons. Healthy lifestyle modifications such as eating a balanced diet, following doctor's instructions, exercising and avoiding stress were noted as ways to decrease prevalence of hypertension among 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. Hypertension exists among the elderly population especially those residing in urban areas. Therefore there is need for lifestyle modification, drug therapy, the study also recommends the creation of awareness about hypertension amidst other several hypertension reduction approaches.

**Keywords**— Prevalence, morbidity, Individual, Hypertension, Elderly, Hospital

## 1. Introduction

Globally, there is a shift in disease pattern from infectious to chronic diseases due to an increasingly westernized lifestyle and urbanization [2]. Although there has been an increase in the overall funding for global health which has grown steadily at a rate of US\$20 billion per year, much of this money has been directed towards the treatment and prevention of epidemics such as malaria, COVID 19, HIV/AIDS and limited funds have been directed towards the treatment and prevention of non – communicable diseases especially Hypertension [3]. According to World Health Organization (WHO), “health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”[4].

Lifestyle is defined as the way a person or a wider group of people choose to live, this may be referred to as the economic, occupational level and type of activities practiced during leisure. Lifestyle can be healthy or unhealthy, in terms of diet, level of exercise, habits and mode of activity alternated with periods of relaxation. Lifestyle can be used to predict an individual's future health status because unhealthy

life styles such as smoking, limited body exercises, frequent eating of jerk foods makes one susceptible to developing non – communicable diseases while healthy life styles such as frequent body exercises, eating of health foods such as fruits, vegetables, unfried foods, frequent drinking of water enable one to have a health body and free from non – communicable illnesses [1].

The paper is organized in such a way that; Section I contains the introduction of the study which gives background information about the study, the definition of key terms 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 gives details of the measures undertaken to conduct the study such as the study design, study area, study population, sample size, sampling methods and the analysis of the data. Section 4 contains the results of the study displayed in tables as well as the discussion of the results. Section 5 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

Health is both a medical and social phenomenon [5] while lifestyle is a social phenomenon which has impacts to the health status of an individual. Difficulty debated and disputed, today lifestyles make careers in fields different from those in which it arose (the sociological and anthropological). Lifestyle can be healthy or unhealthy, in terms of diet, level of exercise, habits and mode of activity alternated with periods of relaxation. Unhealthy behaviours such as smoking, alcohol abuse, overeating, in combination with high levels of stress, in the short and long term lead to many diseases [1].

Hypertension and other cardiovascular diseases are becoming increasingly frequent as causes of mortality and morbidity in all developing countries [6]. In Sub-Saharan Africa, much attention has been paid to communicable diseases yet there is evidence to suggest that the burden of hypertension is increasing rapidly in most parts of the region [7]; [8].

In Uganda, studies conducted unlike in other regions, estimated prevalence and burden of hypertension were in small geographical areas. The studies include three conducted in the western districts of Rukungiri [9], Mbarara [10], and Kasese [11]. Others were conducted in the south western district of Masaka [12] and more recently another study was also conducted in the central districts of Buikwe and Mukono [13] about the prevalence and burden of hypertension. Research about hypertension has been conducted in Kampala [14]; [15]; [16]; [17]. However there is need to assess the individual causes and effects of hypertention among the elderly persons in Kampala since their age and life style makes them susceptible to non – communicable illness.

## 3. Experimental Method/Procedure/Design

### Study Design

A cross-sectional research design was adopted. 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

The study was conducted in Kiruddu Referral Hospital which is a branch of Mulago National Referral Hospital (MNRH). The hospital is found in Kampala District. The study area was chosen because there are high hypertension prevalence rates in urban areas.

### Study Population

The study targeted both male and female elderly persons attending the hypertension clinic in Kiruddu Referral Hospital. The study only considered people aged 60 years and above.

### Sampling Design

The study sample was obtained by using Krejcie and Morgan table formula [18]. With such a formula, the final sample size (S) for this study was 152 respondents. The study collected

information from respondents 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.

### Purposive Sampling

This 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. Therefore, 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

#### Survey Questionnaire

This was used to collect quantitative data. The questionnaires were carefully developed and structured to provide the researcher with numerical data that could be explored statistically and yield results that could be generalised to a larger population. This questionnaire was administered to 152 randomly selected respondents. The questionnaire was organized in themes such as 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.

### Key Informant Interview Guide

This was 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. 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 behaviours, lifestyle modification, and challenges. The researcher analysed the adequacy of information in answering the research questions through identifying categories that emerged in response to the study variables. While analysing 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 sought 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 sought 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.

## 4. Results and Discussion

### Socio - demographic characteristics of the respondents

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

Characteristics	Frequency (n=151)	Percentage
<b>District of Origin</b>		
Kampala	72	47.7
Wakiso	37	24.5
Mukono	7	4.6

Mpigi	6	4.0
Others	29	19.2
<b>Age</b>		
60 - 65	81	53.6
66 - 70	14	9.4
71 - 75	28	18.5
76 and above	28	18.5
<b>Sex of respondents</b>		
Male	38	25.2
Female	113	74.8
<b>Marital Status</b>		
Never Married	50	33.3
Married	84	56.0
Ever married	16	10.7
<b>Years in Marriage</b>		
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
<b>Level of Education</b>		
None	32	21.2
Primary	36	23.8
Secondary	62	41.0
Tertiary	21	14.0
<b>Religion</b>		
Roman Catholic	89	58.9
Anglican	33	21.9
Muslim	17	11.2
Pentecostal	11	7.3
Others	1	0.7
<b>Work status</b>		
Actively working	100	66.0
Retired	47	31.0
Non - response	4	3.0

Results show 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. Most 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. Also most of old people were females 113 (74.8%) while 38 (25.2%) were males.

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. 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.

Most 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.

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. 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.

### Individual Lifestyle to Hypertension among the Elderly Persons

#### Conceptualization of lifestyle

In the study it was observed that the respondents presented varied conceptualization of lifestyle among such as; way of life of a person, that is to say, what they do daily, a way how a person lives his or her life, daily activities an individual indulges in that contribute to their health, and as the way an individual chooses to live their life. From the above definitions, it was clear that lifestyle was viewed by 80 percent of the respondents in terms of the way one lives in a particular environment.

It is important to note that lifestyle can be healthy or unhealthy, in terms of diet, level of exercise, some habits and mode of activity alternating with periods of relaxation. Therefore, [1] defined a healthy lifestyle as correlated with good health and a high perception of well-being. The definition by Dima-Cozma and others were not any different from that of the respondents, for instance, they defined a healthy lifestyle as a lifestyle in which a person eats healthy and has adequate sleep, a lifestyle in which a person is active, being very careful; watching one's kind of food that He /She eats, and finally, that lifestyle is stress free and involves high physical activity and is good. Hence, from the above definitions, it was clear that healthy lifestyle was understood as wellbeing of a person in society. When it comes to healthy lifestyle modification that decreases the risk of hypertension in the elderly persons, the findings revealed that there were a number of healthy lifestyle modifications that was stated by the respondents as associated with decreasing the risks of hypertension such as eating a lot of fruits and vegetables, doing physical exercises, eating a balanced diet, being able to control stress, going for regular medical check-ups, feeding on health foods such as eating boiled foods, and following doctors advise among others. It was rather vivid from the findings that the respondents knew the healthy lifestyle modification that lowers the risks of hypertension among the elderly persons in Kampala. Concerning unhealthy lifestyle, while an unhealthy lifestyle leads to depression and isolation, according to [1] unhealthy behaviours such as smoking, alcohol abuse, over-eating, in combination with high levels of stress, in the short to long term may lead to many diseases.

However, it was stated by the respondents that unhealthy lifestyle modifications that increase the risk of hypertension in the elderly persons in Kampala includes the following;

smoking and alcohol abuse, over consumption of fats, oil, sugar and salty foods, stress, and poverty among others. When it comes to the most serious health risks associated with hypertension, it was indicated by the majority (94) of the respondents that a high level of stress was the major risk associated with hypertension as presented in table eight below. For instance, one female nurse narrated that;

*"When we interact with these patients, you hear them mentioning that they are over stressed as a result of not only having hypertension but also as a result of the high cost of living in Kampala that sometimes makes it difficult for them to be able to buy medication"* (Female Key Informant, Kiruddu Referral Hospital).

Stress comes from a number of factors such as pressure itself, the economic conditions and high levels of poverty. This has resulted in an increase in hypertension cases among the elderly persons in Uganda. Therefore, there is need to find ways on how to help those with hypertension to cope up with life challenges without stress since stress is a risk factor for hypertension.

### Discussion

#### Individual Lifestyle to Hypertension among the Elderly Persons.

Concerning unhealthy lifestyle modifications that increase the risk of hypertension in the elderly persons, the findings revealed that overeating, high levels of stress, smoking, alcohol abuse, and over consumption of fats, oil, sugar and salty foods among others are responsible for the current prevalence and trend of hypertension among the elderly persons in Kampala. The predominance of hypertension in central Uganda may be due to the rapid and important urbanization in this region that host the most important city of the country [19]. Indeed [20] argues that urbanization causes changes in lifestyle (sedentary lifestyle, consumption of industrial food ready for consumption) and exposure to several risk factors in towns. The relative low prevalence in rural areas may be in contrary due to persistent traditional lifestyle and eating patterns and lesser exposure to risk factors for hypertension. This predominance of hypertension in urban centers as compared to rural settings was reported by several studies in Africa [19] [20].

However, [20] have revealed that well documented risk factors for HBP comprise non-modifiable factors such as age, sex and family history of HBP; behavioral risk factors such as salt intake, alcohol consumption, smoking, physical inactivity; socio - demographic factors such as the place of residence, educational level, economic status, marital status; and metabolic factors such as diabetes, obesity, and dyslipidemia. The context specificity must be accounted for and each country should identify risk factors that are overriding in its context to better guide public health policies, especially countries with limited resources like Burkina Faso [20]. Metabolic risk factors such as BMI (Overweight, obesity), dyslipidemia (high cholesterol and low HDL-cholesterol) also showed association with HBP as it was previously reported in Burkina Faso and Africa. The association between overweight, obesity and hypertension is well known and reducing BMI is part of the advice provided

in the treatment of hypertension. Increasing BMI is often associated with metabolic and endocrine disorders, which increase the risk of occurrence of hypertension [20].

### Effects of Hypertension among the Elderly Persons

Health conditions as a result of hypertension

The findings revealed that there has been a number of serious health conditions as a result of hypertension such as death where 131 the respondents that participated in this study saw it as responsible for death of the elderly persons in Kampala. While 113 the respondents revealed that hypertension is responsible for disability among the elderly persons with hypertension. Out of 133 that reported on heart disease, 83 saw hypertension as being responsible heart disease while almost half (49 percent) said that hypertension is responsible for stroke among the elderly persons. Out of 132 respondents that responded to the question on kidney, majority of them 73 did not know whether hypertension is responsible for kidney failure while only 46 knew it as being responsible. This therefore shows that hypertension is seen by the majority of the respondents as having the highest rate of death of the elderly persons in Kampala.

Other literature [21]; [22]; [23]; [24]; [25] have observed that hypertension is the most common cardiovascular disorder, affecting approximately one billion people globally, and is among the leading contributors to the global burden of disease and premature death, accounting for approximately 9.4 million deaths annually. In 2000 alone, according to [26] there was an estimated 972 million people with hypertension, 65% of whom lived in the developing world. The effects of hypertension if not controlled are devastating, and may lead to a number of Non-Communicable Diseases (NCDs) including stroke, myocardial infarction, cardiac failure, and renal failure among others.

### Challenges faced by people living with hypertension

Traditionally [27], indicate that health care has been hard to access due to poor health service delivery in public facilities, various costly private for-profit hospital settings, and a lack of specialized services for the elderly persons. These hindrances conform to the Andersen health care utilization model that elaborates the effect of predisposing factors such as race, health beliefs, enabling factors such as health financing, and need which refers to the personal and actual need of care. In 2001, the Ugandan government abolished user fees in public hospitals after having instituted the policy for more than 4 years. Nevertheless, health care-related costs still remain a major reason for postponing or abstaining from seeking care among the elderly persons. Other deterrents may include poor accessibility of service points, poor availability of affordable drugs, perceived lack of skilled staff, and overall perceived substandard quality of the care offered.

However, during data collection, the respondents pinpointed a number of challenges they face a result of having hypertension among which are the following; issue of stressing without care, lack of medication, the medicine being too expensive and it's not sustainable, getting all sorts of unexplained illness from time to time and finally, the pressure

keeps on changing from low to high and at times you are caught off guard among others. These views were further observed during the key informant interviews for instance a female physician from Kiruddu Referral Hospital in charge of patients with hypertension observed that;

*"Drugs are expensive, Pill burden – too many pills, some suffer side effects of the drugs"* (**Female Physician, Kiruddu Referral Hospital**).

The above challenges have resulted into a number serious effects among the patients with hypertension such as death, kidney failure, stroke, disabilities among others.

Strategies to reduce hypertension among patients in Kiruddu Referral Hospital

During data collection from both the respondents and participants, it was observed that a lot needs to be done so as help patients with hypertension. For instance; the authorities such as National Drug Authority, National Drug Medical Stores among others need to help provide medicines, the hospital should encourage patients to take their medicine, hospitals should keep checking on their patients, and finally, government should provide free medicine to people who cannot afford. One of the officers in charge of Kiruddu Referral Hospital further stated that;

*"Provide enough drugs, Build hospital facilities recruit more health workers (the available ones are over worked"* (**In-charge Kiruddu Referral Hospital**).

However, the literature reveals that a lot is being done by the government to help curb hypertension among the elderly persons countrywide. For instance, according to [28], the Ugandan government has stepped up in its efforts to address the health needs of the elderly persons through the creation of a policy for elderly persons care, which led to the piloting of the rural based Social Assistance Grants for Empowerment (SAGE) program in 15 districts from 2010 to 2015 and an extension to 40 more districts out of 112 districts in Uganda by 2020. Under this scheme, initially registering any individuals over 65 years and now focusing on the oldest 100 persons in each district, a monthly stipend of 25000 Ugandan shillings (about 8 USD) is given after every 2 months to each elderly persons enrolled in the program. However, this hardly meets the health and financial costs of these individuals.

In spite of the above efforts, there is still increasing prevalence of hypertension among the population most especially those in urban centers. For example, according to [19], the prevalence of hypertension is lower in rural residents at 25.8%, compared to urban residents at 28.2%. This therefore calls for more interventions to help curb this phenomenon in Kampala.

## 4. Conclusion and Future Scope

The challenges faced by elderly persons with hypertension included the following; issue of stress as a result of lack or inadequate care, lack of medication, the medicine is too expensive and it's not sustainable, getting all sorts of unexplained illness from time to time, being worried where

one can or will get assistance because some patients are too weak to be able to support themselves, breathing sometimes can be a challenge, the heart is sick and walking is difficult among others.

The management of hypertension among the elderly persons included; counselling on the diet such as low salt intake, life style modification, avoiding some social issues that cause stress, seeking medication and trying to do exercise, following the doctor's instructions, and finally avoiding news that causes shock or scares if possible. It was noted by the study participants that practicing the above can help greatly in the management of hypertension.

Concerning the strategies that can be put in place to help reduce hypertension cases among the elderly persons in Kampala, the researcher recommends that authorities such as National Drug Authority and National Medical Stores need to avail essential drugs to the hospital pharmacy so as to enable persons with hypertension to access the drugs.

### Policy Recommendations

It was also observed that high levels of stress and smoking are serious health risks associated with hypertension. Therefore, zone specific interventions by Ministry of Health division on NCDs are needed given the higher burden in urban centers. Health policies in Uganda must henceforth account for the control of hypertension among the elderly persons.

A life course approach to hypertension prevention is needed to be formulated by the policy makers, donor community, NGOs, and academicians since evidence indicates that atherosclerotic and hypertensive processes begin early in life and are influenced over time by both non-modifiable and potentially modifiable behaviours, risk factors and environmental exposures.

Efforts by Ministry of Health to promote cardiovascular health and reduce the risk and burden of hypertension must extend beyond the level of the individual, and include various contexts from the family to the broader community, and at population-level. This further reiterates the ongoing need for hypertension prevention guidelines aimed at different parts of the life course, that is to say; children, adolescents, adults and the elderly persons since hypertension now affects people of all age categories.

### Recommendations for Further Research

Future researchers need to evaluate the influence of caretakers of hypertension patients in utilization of available medical services in 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.

### Funding Source

The study was not funded by institution or organization.

### 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.

### Acknowledgements

The authors express their appreciation to the college of Humanities and Social Sciences (CHUSS) for giving guidance to the authors on procedures required to collect data for the study and the Population and Social Development Institute (PSDI) for providing a conducive environment during analysis and writing stages of the study. The authors also would like to also thank the field team that worked so hard to ensure that good quality data was collected.

### References

- [1] C. Dima-Cozma, C. Gavriluță, G. Mitrea, and D.-C. Cojocaru, "The importance of healthy lifestyle in modern society: a medical, social and spiritual perspective," *European Journal of Science and Theology*, vol. 10, no. 3, pp. 111–120, 2014.
- [2] A. Alwan, *Global status report on noncommunicable diseases 2010*. World Health Organization, 2011.
- [3] R. Nugent and A. Feigl, "Where have all the donors gone? Scarce donor funding for non-communicable diseases," *Center for global development working paper*, no. 228, 2010.
- [4] World Health Organization, "Obesity and Overweight," *Media Centre Fact sheet N° 311.*, 2013.
- [5] World Health Organization, "Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference," *Official Records of the World Health Organization*, vol. 2, p. 100, 1946.
- [6] C. J. Murray and A. D. Lopez, "Global mortality, disability, and the contribution of risk factors: Global Burden of Disease Study," *The lancet*, vol. 349, no. 9063, pp. 1436–1442, 1997.
- [7] K. Hofman, A. Ryce, W. Prudhomme, and S. Kotzin, "Reporting of non-communicable disease research in low-and middle-income countries: a pilot bibliometric analysis," *Journal of the Medical Library Association: JMLA*, vol. 94, no. 4, p. 415, 2006.
- [8] M. D. Holmes *et al.*, "Non-communicable diseases in sub-Saharan Africa: the case for cohort studies," *PLoS medicine*, vol. 7, no. 5, p. e1000244, 2010.
- [9] J. F. Wamala, Z. Karyabakabo, D. Ndungutse, and D. Guwatudde, "Prevalence factors associated with hypertension in Rukungiri district, Uganda-a community-based study," *African health sciences*, vol. 9, no. 3, 2009.
- [10] P. Kotwani *et al.*, "Epidemiology and awareness of hypertension in a rural Ugandan community: a cross-sectional study," *BMC public health*, vol. 13, no. 1, pp. 1–10, 2013.
- [11] C. K. MONDO, M. A. Otim, G. Akol, R. MuSOKE, and J. Orem, "The prevalence and distribution of non-communicable

- diseases and their risk factors in Kasese district, Uganda: cardiovascular topics," *Cardiovascular journal of Africa*, vol. 24, no. 3, pp. 52–57, 2013.
- [12] D. Maher, L. Waswa, K. Baisley, A. Karabarinde, N. Unwin, and H. Grosskurth, "Distribution of hyperglycaemia and related cardiovascular disease risk factors in low-income countries: a cross-sectional population-based survey in rural Uganda," *International journal of epidemiology*, vol. 40, no. 1, pp. 160–171, 2011.
- [13] G. Musinguzi and F. Nuwaha, "Prevalence, awareness and control of hypertension in Uganda," *PloS one*, vol. 8, no. 4, p. e62236, 2013.
- [14] A. S. Green *et al.*, "Assessing providers' approach to hypertension management at a large, private hospital in Kampala, Uganda," *Annals of global health*, vol. 86, no. 1, 2020.
- [15] I. Ssinabulya, Y. Nabunnya, B. Kiggundu, C. Musoke, M. Mungoma, and J. Kayima, "Hypertension control and care at Mulago Hospital ambulatory clinic, Kampala-Uganda," *BMC research notes*, vol. 9, pp. 1–7, 2016.
- [16] K. V. Nyombi *et al.*, "High prevalence of hypertension and cardiovascular disease risk factors among medical students at Makerere University College of Health Sciences, Kampala, Uganda," *BMC research notes*, vol. 9, no. 1, pp. 1–6, 2016.
- [17] D. Mercey Kemigisa, A. Mugeere, and S. Mirembe, "Prevalence and trend of hypertension among the elderly persons in Kiruddu Referral Hospital, Kampala District," *International Journal of Scientific Research in Multidisciplinary Studies*, vol. 9, no. 5, May 2023, doi: www.isroset.org.
- [18] R. V. Krejcie and D. W. Morgan, "Determining sample size for research activities," *Educational and psychological measurement*, vol. 30, no. 3, pp. 607–610, 1970.
- [19] D. Guwatudde *et al.*, "The epidemiology of hypertension in Uganda: findings from the national non-communicable diseases risk factor survey," *PloS one*, vol. 10, no. 9, p. e0138991, 2015.
- [20] J. K. Soubeiga, T. Millogo, B. W. Bicaba, B. Doulogou, and S. Kouanda, "Prevalence and factors associated with hypertension in Burkina Faso: a countrywide cross-sectional study," *BMC Public Health*, vol. 17, pp. 1–8, 2017.
- [21] M. E. Hendriks *et al.*, "Hypertension in sub-Saharan Africa: cross-sectional surveys in four rural and urban communities," *PloS one*, vol. 7, no. 3, p. e32638, 2012.
- [22] N. R. Poulter and D. Prabhakaran, "Caulfield M," *Hypertension. Lancet (London, England)*, vol. 386, no. 9995, pp. 801–12, 2015.
- [23] S. Lim, T. Vos, A. Flaxman, G. Danaei, K. Shibuya, and H. Adair-Rohani, "A AlMazroa, M.; Amann, M.; Anderson, HR; Andrews, KG; et al. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: A systematic analysis for the Global Burden of Disease Study 2010," *Lancet*, vol. 380, pp. 2224–2260, 2012.
- [24] F. Ataklte, S. Erqou, S. Kaptoge, B. Taye, J. B. Echouffo-Tcheugui, and A. P. Kengne, "Burden of undiagnosed hypertension in sub-saharan Africa: a systematic review and meta-analysis," *Hypertension*, vol. 65, no. 2, pp. 291–298, 2015.
- [25] S. Bromfield and P. Muntner, "High blood pressure: the leading global burden of disease risk factor and the need for worldwide prevention programs," *Current hypertension reports*, vol. 15, pp. 134–136, 2013.
- [26] S. Mendis, "Challenges for the management of hypertension in low-resource settings," *Ethnicity & disease*, vol. 13, pp. 67–70, 2003.
- [27] F. Nawagi, M. Söderberg, V. Berggren, P. Midlöv, A. Ajambo, and N. Nakasujja, "Sociodemographic characteristics and

health profile of the elderly seeking health care in Kampala, Uganda," *Current Gerontology and Geriatrics Research*, vol. 2018, 2018.

- [28] D. Mulumba, "Humanitarian assistance and its implication on the integration of refugees in Uganda: Some observations," 2014.

#### AUTHORS PROFILE

**Divine Mercey Kemigisa** has just accomplished her MA in Sociology. Her first degree was Bachelor of Adult and Community Education from Makerere University.

**Anthony Mugeere** is a faculty member in the Department of Sociology. He has over 10 years teaching experience at the college of Humanities and Social Sciences Makerere University.



**Sandra Mirembe** has MA in Demography. Her first degree was in Population Studies from Makerere University. She is currently working as a research Associate at the Population and Social Development Institute (PSDI) Located in Ntinda – Kampala – Uganda.





Int. J. of Scientific Research in  
**Biological Sciences**

www.isroset.org

Int. J. of Scientific Research in  
**Chemical Sciences**

www.isroset.org

Int. J. of Scientific Research in  
**Computer Science and  
Engineering**

www.isroset.org

World Academics Journal of  
**Engineering Sciences**

ISSN: 2348-635X

www.isroset.org

Journal of  
**Physics and Chemistry of Materials**

ISSN: 2348-6341

www.isroset.org

ISSN: 2349-3178 (Print),  
ISSN: 2349-3186 (Online)

**International Journal of  
Medical Science  
Research and Practice**

Published by ISROSET

Int. J. of Scientific Research in  
**Mathematical and  
Statistical Sciences**

www.isroset.org

Int. J. of Scientific Research in  
**Multidisciplinary  
Studies**

www.isroset.org



Submit your manuscripts at  
[www.isroset.org](http://www.isroset.org)  
email: [support@isroset.org](mailto:support@isroset.org)

[Make a Submission](#)

Int. J. of Scientific Research in  
**Network Security  
and Communication**

e-ISSN: 2321-3256

World Academics Journal of  
**Management**

ISSN: 2321-905X

www.isroset.org

Int. J. of Scientific Research in  
**Physics and  
Applied Sciences**

www.isroset.org

Int. J. of Computer  
**Sciences and Engineering**

www.ijcseonline.org

**Call for Papers:**

Authors are cordially invited to submit their original research papers, based on theoretical or experimental works for publication in the journal.

**All submissions:**

- must be **original**
- must be **previously unpublished research results**
- must be **experimental or theoretical**
- must be in **the journal's prescribed Word template**
- and will be **peer-reviewed**
- may not be **considered for publication elsewhere at any time during the review period**

[Make a Submission](#)