

## Media and Old Age: Health Information-Seeking among Elderly Slum Dwellers in Kenya

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### ABSTRACT

**Background:** Investigating health information-seeking behavior among elderly slum dwellers empowers them with vital knowledge, enabling informed decisions and timely healthcare access. Understanding their unique information-seeking patterns aids in tailoring public communication campaigns, ultimately enhancing a healthier and more resilient community. In the Kibera slum, the elderly face a dearth of health information owing to their low socioeconomic status. Limited access to resources, including accessibility to various health information sources, exacerbates their informational gap. This hinders their ability to make informed decisions, potentially leading to delayed or inadequate healthcare, further compromising their well-being. The study presents findings on patterns of media use and health information seeking among the elderly in one of Africa's biggest slums, Kibera. Patterns of media usage for health information among elderly slum dwellers based on age group, income, education level, and geographical location were investigated. **Aims:** This study's primary objective was to assess media use patterns for health information among elderly slum dwellers. **Method:** Interviews, focus group discussions, and key informant interviews targeting the elderly living in the Kibera slum were conducted. Qualitative findings identified Radio, Phone calls, WhatsApp, SMS, Email, Video calls, Television, Online Radio, Online Television, Facebook, Twitter, and Websites as health information sources across different demographic backgrounds. **Results:** These channels empowered elderly slum dwellers with knowledge, promoting positive lifestyle changes such as healthy eating. **Conclusion:** Recommendations to enhance these media channels include tailoring radio broadcasts to address the specific health concerns of older adults, innovative interpersonal communication approaches, and user-centered online media design which enhances accessibility. **Conclusion:** These results provide significant findings on media usage patterns for health information among elderly slum dwellers from different demographic backgrounds. The study identifies media usage patterns for health information, the types of health information sought from these channels, the behaviors promoted by these sources, and provides recommendations on how to improve these media channels.

**Keywords:** elderly slum dwellers, Health, information-seeking behavior, Kenya, Sustainable Development Goals

### INTRODUCTION

Most studies have investigated how communities seek health information related to chronic conditions such as cancer (Dean *et al.*, 2017; Ramasamy *et al.*, 2016; Zare-Farashbandi *et al.*, 2016). Both online health information users and nonusers regularly seek health information offline from health experts (Hall *et al.*, 2015). Health information seeking among elderly slum dwellers is influenced by social determinants as outlined in the Sustainable Development Goals (SDGs). SDGs 1 (No Poverty) and 10

(Reduced Inequality) emphasize the challenges posed by poverty, social exclusion, economic constraints, and low literacy. Digital technology, supported by SDG 9 (Industry, Innovation, and Infrastructure), can improve health information access through mobile phones, internet centers, and digital literacy training. Community-based approaches are crucial, as highlighted by SDG 11 (Sustainable Cities and Communities), with community health workers providing tailored health information, education, and assistance in navigating healthcare services, thereby

enhancing communication and utilization of health information to curb deviant health behaviors (United Nations, 2020).

Additionally, studies have highlighted the significance of seeking health information through media among the elderly (Chaudhuri *et al.*, 2013; Feltwell & Rees, 2004). For example, Chaudhuri *et al.* (2013) argues that formulation of good health policies can be enhanced by information on the elderly's health information seeking behavior. Feltwell and Rees (2004) additionally asserted that seeking health information through media lowers the degree of precariousness. Furthermore, health information seeking through media enhances health care seeking among communities (Shi *et al.*, 2004). The population of the elderly is projected to be increasing up to 2.8% compared to the entire population (0.7%) per year by 2025-2030 (United Nations, 2013). The pattern is replicated in urban areas of undeveloped regions such as Kenya's urban informal settlements. For example, in 2005, the difference between the elderly inhabiting urban areas globally (51.5%) and their counterparts in developed countries (25%) is estimated to be around 25% (United Nations, 2013). In Kenya, the number of individuals aged 60 and above, has grown from 385,000 in 1950, (Haub & Kent, 2009) to about 1,396,125 (National Bureau of Statistics. Economic survey, 2010). By 2030, looking at the 2.6% population growth rate per year, there will be 3,473,000 elderly persons (United Nations, 2013).

In the past decade, new Information Communication Technologies have revolutionized health information seeking behavior among the elderly in slums. Online media has been utilized by the elderly for apprehending medical indicators, navigating health concerns, and doctor consultations (Chi *et al.*, 2020). Online media is rarely used by the elderly to seek health information despite their higher susceptibility to chronic diseases because they do not trust these channels (Sheng & Simpson, 2015). However, there has been continuous research assessing online health information seeking among the elderly in slums (Zhao *et al.*, 2022).

Social media enables elderly and communities to share health information using text, voice, and images (Haris *et*

*al.*, 2015). It enhances mental well-being by boosting social interaction and health information exchange in online communities.

Traditionally in Sub Saharan Africa, the elderly been appreciated for their wisdom and responsibilities as family heads. However, in contemporary times, societal changes especially in regard to rural-urban migration have weakened social ties thereby reducing interpersonal sources of health communication that existed in conventional communities. In Kenya, the elderly have been left out in numerous country's policies and programmes although there is significant change recently (Kyobutungi *et al.*, 2008). Kenyan government has purposed to publicize the significance of quality life amongst the elderly (Olum, 2003). However, the elderly living in urban informal settlements such as Kibera slum, experience poorer health and thus lower quality of life compared to older population in rural areas (Kyobutungi, Egondi, Ezech, 2010; Chepngeno & Ezech, 2007). The significance of acquiring data regarding health information seeking behavior of the elderly inhabiting informal settlements will have a great impact in filling the evidence gap. In this paper, we focus on assessing patterns of media use for health information among elderly slum dwellers, and provide recommendations on how to improve these channels.

## METHODS

Qualitative research helped center attention towards patterns of health information seeking behavior among the old in Kibera slum. The main aim of the approach was to formulate a description of media use for health information among elderly slum dwellers in Kenya. Basically, the old with first-hand knowledge on seeking health information through media were selected through purposive sampling and interviewed. The data was then interpreted and analyzed thematically. Through this process the study was able to construct a universal conceptualization of media used for health information seeking among elderly slum dwellers.

This study used purposive sampling to pick a sample of 30 old persons from all the five wards in Kibera slum, identified

through the Sub County ward administrator. Two public health centers and two level 4 healthcare facilities were purposively selected. The choice of these health facilities was based on the fact that they are most frequented by the old with low incomes in the slum. However, a variety health facilities, individuals and groups were significant in this study.

The 30 old persons comprised of 6 old persons of equal gender representation in each of the 5 wards. Personal interviews were conducted for all the 30 old persons. In addition, the sample included 6 Key Informants and 3 Focus Group Discussions. The Key informants comprised of a doctor, pharmacist, social health worker, an official from the ministry of health, dietician, and a communications expert working on a health project related to the old in Kibera slum. Each Focus Group Discussion comprised of 4 males and 4 females. Respondents were identified through the Sub County ward administrator.

Data gathering is crucial in research, as the data is meant to contribute to a better understanding of a theoretical framework. It then becomes imperative that selecting the manner of obtaining data and from whom the data will be acquired be done with sound judgment, especially since no amount of analysis can make up for improperly collected data. The purposive sampling technique, also called judgment sampling, is the deliberate choice of a participant due to the qualities the participant possesses. It is a nonrandom technique that does not need underlying theories or a set number of participants. Simply put, the researcher decides what needs to be known and sets out to find people who can and are willing to provide the information by virtue of knowledge or experience. It is typically used in qualitative research to identify and select the information-rich cases for the most proper utilization of available resources.

Data was collected through interviews, focus group discussion (FGD) and key informant interviews (KIs). 3 focus group discussions were conducted. Each focus group discussion comprised of 6 elderly persons (Male and Female) per ward, representing each information seeker typology.

In keeping with the qualitative research design of this study, data analysis was conducted using thematic analysis. Manual thematic analysis was used to analyze the data from the focus group discussions. The data was coded inductively and presented in form of narrative notes that clearly showed patterns of media use for health information among elderly slum dwellers. The research was carried out in accordance to ethical guidelines of research. The identities of the respondents were kept anonymous. For good and fair research, letters from the University's research office and National Commission of Science and Technology were obtained before embarking on the study. Furthermore, consent forms were provided to the study participants to allow them make the critical decision to participate in the study. Other ethical aspects that were considered for this study were language, participant consent, recording, and accessibility of the venues that was used for the FGDs.

## RESULTS AND DISCUSSION

### Patterns of media usage for health information among elderly slum dwellers based on age group

#### Online Media, Phone calls and Radio

Elderly aged 60-64 used these channels for updated health information, aiding emotional management and promoting healthy eating.

L03, a 60-year-old respondent noted stated:

*“Facebook (health talk) and Twitter (Institute for global health and infectious disease) aided in coping with emotions related to Arthritis and Diabetes. Phone calls with children and the radio show Afya Bora (Good health) on Radio Pamoja further support emotional management.”*

L06, a 63-year-old stated:

*“World Health Organization website provides information on nutritious foods through phone calls with my children.”*

### Radio, Television, WhatsApp video calls, and WhatsApp messages

These channels provided visual and auditory learning for 65-70-year-olds. WhatsApp video calls were used for content verification and communication with friends and nurses improving healthy eating habits.

S08, 68 -years -old respondent stated that:

*"...NTV's (A leading Television Station) "Health Diary" programme that airs every Sunday at 6:30 pm and hosted by Gladys Gachanja provides tips on meal planning and preparation. WhatsApp video calls with friends and WhatsApp messages with nurses help verify health information."*

### Radio, Television, Phone calls and Email

Radio and television provided elderly aged 70 to 74 years updated information on chronic diseases and nutrition through phone calls with children. Email consultations with doctors ensure reliable guidance, promoting healthy eating for chronic disease management.

L01 a 70-year-old respondent stated that:

*"...Bora Afya (Good health) radio program hosted by Solomon Zully that airs on Radio Kaya on Wednesday from 10pm to midnight provides nutritional tips for managing hypertension. Hospice workers emails also provide nutritional tips. Additionally, 'My doctor' that airs ever Tuesday at 8:00 pm on Ebru TV hosted by Dr. George Kapiyo provides chronic disease management information through phone calls with my children who frequently view this program."*

L02, a 74- years- old respondent indicated that:

*"...Phone calls with my children who source quality health information from an online radio station known as Doctor explain FM, provides nutritional tips for managing hypertension."*

### Television, Phone calls, and Online media

These sources were favored by ages 75-79, offering multimodal learning. This boosted information accessibility and promoted healthy habits like eating and handwashing.

LS02, a 76-year-old participant stated that:

*"NTV's Health Diary show, which airs every Sunday at 6:30 pm, hosted by Gladys Gachanja provides nutritional guidelines for managing low blood pressure. Additionally, Phone calls with my children help me access online media for health information."*

L04, a 77-year-old respondent noted that:

*"...Facebook (health talk) and twitter (Institute for global health and infectious disease) help me remember to always wash my hands before taking meals. Through phone calls with my children, I have learnt how to access these social media channels."*

### Phone calls, SMS, Emails, WhatsApp, Radio and Television

These interactive media offered real-time health updates and immediate responses for health information among elderly aged 80 years and above. They encouraged healthy eating, physical exercise, stress management, and taking vaccinations.

LS04, an 80-year-old respondent stated that:

*"Phone calls with children and SMS with neighbors guide on nutrition and diabetes management. Emails with doctors advise on nutrition and exercise to reduce anxiety. WhatsApp messages with social health workers provide vaccination information. TV programs, like Health Diary on NTV every Sunday at 6:30 pm, address anxiety, stress, depression, and mood disorders."*

KM03, an 81-year-old respondent stated that:

*"Radio Citizen (A leading radio station) Jambo Kenya programme that airs daily from 7am to 8 am, hosted by Vincent Ateya and Melody Sinzore"*

*provides me with information on managing diabetes and hypertension through healthy eating."*

A doctor who was a key informant emphasized on a mixed media approach for health information to elderly slum dwellers, combining traditional methods and technology to bridge gaps and ensure widespread understanding and access.

Diverse age-related media preferences underscored the necessity for tailored health communication. Understanding these patterns informs targeted interventions for specific age groups.

#### **Patterns of media usage for health information among elderly slum dwellers based on gender**

Elderly slum dwellers' media preferences varied by gender. Women favored radio, WhatsApp, calls, and television for personalized health communication. Men preferred vernacular radio and email due to language and trust. These channels promote healthy eating, proper medicine storage and stress management.

LO1 a female respondent stated that:

*"Bora Afya program on Radio Kaya hosted by Solomon Zully every Wednesday from 10pm and WhatsApp messages with health workers aid diabetes management and diet. "My Doctor" on Ebru television hosted by Dr. George Kapiyo, shared through phone calls by children, provides valuable health information."*

M06, a male respondent noted that:

*"Arahuka (Wake up) show on Kameme FM hosted by Muthee Kiengei and Gatonye wa Mbugua imparts knowledge on medicine storage and stress management. Emails with local doctors complement information from radio."*

LS02, female respondent stated that:

*"NTV's Health Diary show, hosted by Gladys Gachanja every Sunday at 6:30 pm, aids in managing low blood pressure through nutrition tips. Phone*

*calls with children also provide access to the Ministry of Health website."*

Gender influenced media preferences among elderly slum dwellers. Women valued personal connections, opting for phone calls and face-to-face interactions. Men preferred radio and emails for convenience.

#### **Patterns of media usage for health information among elderly slum dwellers based on income**

Income influenced media use. Affluent elderly accessed diverse channels including online media, while those with limited means favored cost-effective options like vernacular radio. These sources encouraged doctor consultations, taking immunizations, proper medication storage, and physical exercise.

S02, who was a retiree stated that:

*"Emails from doctors in nearby hospitals offer medical advice for arthritis and diabetes. Radio, television, and online media complement this information. Programs like NTVs Health Diary hosted by Gladys Gachanja every Wednesday from 1-2 pm and Radio maria's Health show every Wednesday from 1-2 pm provide additional guidance. The Kenyatta National Hospital website offers details on immunizations and vaccines."*

KS03, a vegetable vendor at Woodley ward stated that:

*"Emails with doctors, WhatsApp messages with nurses, and SMS with neighbors are my covered various aspects of health including medicine storage and exercise."*

S02, unemployed respondent stated that:

*"Inooro Rucini (morning show), through "Ugima wa Mwiri" (Healthy body) program hosted by Wambui Wa Muturi offers tips on heart health and body exercises such as walking."*

Tailoring health communication for income-based media preferences ensured accessibility and effectiveness for all

elderly slum dwellers, promoting inclusivity.

### Patterns of media usage for health information among elderly slum dwellers based on education level

#### WhatsApp messages, radio and phone calls

Local language used in these sources aided accessibility and relatability for uneducated elderly. They encourage vaccinations, doctor consultations, and proper medicine storage.

M02 stated that:

*“WhatsApp messages with nurses and Community Health Volunteers (CHVs) offer crucial vaccination information. Phone calls from children serve as reminders for vaccinations.”*

M03 stated that:

*“Radio Citizen’s (A leading radio station) “Jambo Kenya” (Hallo Kenya) program, hosted by Vincent Ateya and Melody Sinzore, urges regular clinic visits for monitoring chronic conditions.”*

M06 stated that:

*“Arahuka (Wake up) show on Kameme FM hosted by Muthee Kiengei and Gatonye wa Mbugua educates me on proper medicine storage and cognitive fitness.”*

#### Television, online media and phone calls

These channels were preferred by secondary school dropouts because of real-time health updates, ensuring timely information dissemination. They encouraged medication adherence and healthy eating.

LS06 stated that:

*“Ebru TV’s (A local television station) program ‘My Doctor’ and Doctor Explain FM online radio remind me on medication adherence. Kenyatta National Hospital website, aided by my children’s calls, guides me on nutritious foods.”*

#### Radio, Online media and Television

These channels provided diploma and degree-holders varied health content formats like videos and interviews, supporting diverse learning styles. They encouraged healthy eating and vaccinations.

LS05 who was a degree graduate stated that:

*“Radio Ramogi’s (A leading vernacular station) ‘Women’s Voice’ program aired every Saturday from 9am to 11 am educates on leafy greens for cognitive health. WHO online platforms remind me about balanced diets. NTV’s ‘Health Diary’ offers meal planning tips.”*

L04 who was a diploma graduate stated that:

*“...Facebook (health talk) and twitter (Institute for global health and infectious disease) provide vaccination tips”*

SKI03, a Communication Expert, highlighted accessibility as a key hurdle for elderly slum dwellers in using online media, and emphasized on the need of user-friendly interfaces.

Customizing health communication is vital to engage all elderly slum dwellers, regardless of education level to ensure accessibility and comprehension.

#### Patterns of media usage for health information among elderly slum dwellers based on marital status

##### Radio, online media and phone calls

These channels were used by married older individuals because they trusted specific health experts and children. These sources promoted safety measures like handwashing and mask-wearing.

L04 stated that:

*“Facebook (health talk) and Twitter (Institute for global health and infectious disease) provide guidance on safe water and disease prevention. Phone calls remind with my children remind me to wash hands to prevent Covid-19 infection.”*

L05 stated that:

*“Doctor explain FM, WHO website, and Facebook (Health groups program) through phone calls with children provide health information. Calls remind me to wear masks to prevent Covid-19 infection.”*

#### Radio and television

These sources provided private and anonymous sources for health info among single elderly encouraging healthy eating for chronic disease management.

L01 noted that:

*“Radio Kaya’s (Leading vernacular radio) ‘Bora Afya’ program hosted by Solomon Zully every Wednesday from 10pm till midnight offers meal planning tips. Ebru TV’s ‘My Doctor’ with Dr. George Kapiyo every Tuesday 8.00 pm aids diabetes management.”*

#### Radio, SMS, phone calls, and online media

These media channels were used by the divorced elderly because they provided personalized, interactive experiences. They encouraged balanced diet consumption, offering real-time interaction and immediate clarification.

LS01 stated that:

*“Radio Maria’s (Christian station) ‘Health Show’ aired every Wednesday from 1pm to 2 pm and SMS with friends aid in preparing special diets for diabetes. Phone calls and digital patient podcast offered balanced diet updates.”*

#### WhatsApp and SMS

These direct communication channels were preferred by separated elderly promoting medication adherence and healthy eating without face-to-face interaction.

R05 stated that:

*“WhatsApp messages with volunteer health workers, SMS with neighbors, and WhatsApp video calls*

*with friends remind to adhere to medication and eat healthily.”*

#### Emails, phone calls, WhatsApp, and online media

These sources were trusted by widowed elderly, improving bedtime routines and promoted vaccination without requiring physical mobility.

M01 stated that:

*“Emails with social health workers advise on bedtime routines for better sleep. Phone calls with children help navigate websites, while WhatsApp video calls offer physical exercise tips from friends.”*

M02 from Makina ward, stated that:

*“WhatsApp messages with nurses and Community Health Volunteers (CHVs) provide updates on vaccinations.”*

MOHKI01, key informant from the ministry of health noted that the Ministry of Health always emphasizes on understanding media preferences based on age among elderly slum dwellers to tailor effective health communication strategies for improved outreach and accessibility.

Tailoring health communication based marital status aids engagement among elderly slum dwellers, promoting accessibility and relatability.

#### Patterns of media usage for health information among elderly slum dwellers based on geographical location

##### Emails and Radio

These sources were favored by Makina ward elders acting as an alternative to hospital visits, encouraging bedtime routines and healthy eating.

M01 stated that:

*“Emails from social health workers offer emotional support and advice on managing terminal illness and sleep patterns.”*

M03 stated that:

*“Radio Citizen’s ‘Jambo Kenya’ program, hosted by Vincent Ateya and*

*Melody Sinzore daily from 7am to 8 am, gives guidelines for managing hypertension through healthy eating."*

These channels were also primary sources of health information among the old in Woodley ward.

W01 stated that:

*"Doctors' emails offer diabetes management tips through healthy eating. Mulembe FM's (leading vernacular radio) 'Bukha Bushiere' (Wake up in the morning) with Omar Bakuli provides daily disease management news."*

#### Radio and online media

These sources provided privacy among Woodley ward elderly without requiring face-to-face interaction with doctors. They encouraged healthy eating.

LS01 stated that:

*"Radio Maria's health show offers special diet tips for diabetes and heart disease management."*

#### Phone calls and radio

These familiar media sources brought comfort to Lindi Ward elderly, promoting healthy eating habits.

L02 indicated that:

*"Children's phone calls with health information from Doctor Explain FM help manage asthma and diabetes through balanced diets."*

LKI02, a pharmacist, highlighted online media's role in the health industry, while cautioning against misinformation spread. This view was supported by MK104, a dietician who noted that online media plays a significant role in providing dietary guidelines, but it is crucial to avoid misleading information and promote accurate nutritional advice for better health outcomes. Additionally, a communication expert who was a key informant noted that online media offers significant health information to the elderly on various topics, but its major drawback is the prevalence of misinformation.

#### WhatsApp and Phone calls

These sources used local language and provided real-time interaction improving understanding and clarifications. They also promoted healthy eating and proper wound care.

S01, noted that:

*"WhatsApp messages from nurses give tips on low blood pressure management with whole grains."*

S04 indicated that:

*"WhatsApp messages with health experts from Kenyatta National Hospital help manage recurring wounds because am diabetic."*

Across focus groups, it was noted that phone calls with children broaden access to reliable, quality health info on chronic disease diets.

Tailoring communication for location-based media preferences aids in engaging elderly slum dwellers in diverse settings.

#### Patterns of media usage for health information among elderly slum dwellers based on ethnicity

##### Radio

Ramogi radio, preferred by Luo elders, bridged language gaps for better health comprehension. It promoted healthy eating and physical activities.

LS05 stated that:

*"Radio Ramogi's 'Women's Voice' program advises on brain-boosting foods."*

Kiswahili health programs on radio were favored by elderly Nubians for information.

M03 stated that:

*"Radio Citizen's 'Jambo Kenya' program with Vincent Ateya and Melody Sinzore educates on portion control to prevent overeating."*

Musyi FM was used by elderly from Kamba community as depicted by S05 who stated that:



*"Musyi FM's (A leading vernacular station) 'Thome wa Mukamba' (Kamba session) program hosted by Wavinya Mwiitu wa Muthiani emphasizes physical activity for chronic disease management."*

### Radio and WhatsApp

Radio offered affordable health tips, WhatsApp gave instant local health advice, promoting elderly's physical exercises and medicine adherence.

S02 from Kikuyu community stated that:

*"Inooro Rucini's (Morning show) 'Ugima wa Mwiri' (Healthy body) hosted by Wambui wa Muturi imparts heart health tips and body exercises. Nurse's WhatsApp messages from nurses aid hypertension medication."*

### Radio and emails

Vernacular radio and doctor emails provided health information among elderly from the Luhya community, promoting healthy eating and taking vaccinations.

M06 stated that:

*"Mulembe FM's (A leading vernacular station in Kenya) 'Bukha Bushiere' (Wake up in the morning) with Omar Bakuli from Monday to Friday, 6-10 am imparts vital nutrition tips. Doctor emails update me on vaccinations."*

M07 stated that:

*"Ingo FM's (A leading vernacular station in Kenya) 'Obulamu bwefwe' with Branice Abwalaba imparts vital daily nutrition insights, except on Tuesdays."*

LSBK101, a social worker, noted that recognizing and understanding media preferences based on ethnicity is crucial for effective health information dissemination among underserved elderly slum dwellers, promoting inclusivity and accessibility.

Understanding ethnic media preferences in communication guides

effective health outreach to diverse elderly slum residents.

### Patterns of media usage for health information among elderly slum dwellers based on age group

Negative health worker attitudes and language barriers deter elderly from seeking health information (Efe, 2020). In this study, vernacular radio and television broadcasts eased language barriers in accessing health information. Elderly rely on face-to-face interactions for valuable health information (Walker *et al.*, 2017). Family and friends (FF) act as online media search surrogates. Only 7% of elderly normally ask FF for help while seeking health information, while 54% of FF seek for them. In this study, children, grandchildren, and friends used phone calls and WhatsApp for sharing online health information with elders.

Elderly aged 65-69 are more likely to use online media for health information compared to those aged 80 and older (Anderson & Perrin, 2017). Similarly, elderly slum dwellers aged 60-70, educated with higher socio-economic status, preferred online media. Those above 75 and less educated, used traditional channels like radio. Young, educated women are most active in using social media for health info (Pálsdóttir, 2014)

Assistive tech eases online health information access among the elderly, overcoming unfamiliarity. (Fischer *et al.*, 2014). In this study, elderly made numerous phone calls with their children to source online health information (Turner *et al.*, 2018). Chinese elderly also use online media to address medical concerns (Xiong *et al.*, 2021). Customizing health apps for elderly slum dwellers enhances its usability (Isaković *et al.*, 2016). Elderly slum dwellers using health apps respond well to public health campaigns (Guo *et al.*, 2023). In contrast, elderly slum dwellers did not use health apps but mostly relied on WhatsApp and SMS.

### Patterns of media usage for health information among elderly slum dwellers based on gender

Men's greater online health information use boosts mHealth adoption intentions (Zhang *et al.*, 2014) Gender differences also affect media usage

(Kimbrough *et al.*, 2013). Elderly slum dwellers used vernacular radio programs for health information.

Online media was frequently used by postmenopausal women aged 65 years and above registered in a Women's Health Initiative (WHI) (Sedrak *et al.*, 2020). Online media is less likely to be used for health information among women although recent cancer diagnosis increases reliance on this channel (Mattsson *et al.*, 2017). In Kibera slum, Radio, television and phone calls were preferred channels among women, while men preferred radio and emails. Generally, men and women seek online media for disease prevention, but women in poorer health turn to it frequently (Nikoloudakis *et al.*, 2018).

Media use among Finnish elderly women led to less alcohol consumption promoting healthy eating (Eriksson-Backa *et al.*, 2018). Similarly, media use in Kibera slum promoted positive lifestyle among the elderly such as healthy eating, medical adherence and physical exercises. Previous research has indicated that women are active health information seekers (Enwald *et al.*, 2016; Pálsdóttir, 2014). Similarly, online health information was frequently used by elderly Serbian men promoting healthy habits (Gazibara *et al.*, 2016)

#### **Patterns of media usage for health information among elderly slum dwellers based on income level**

Elderly in Ghana with low incomes seek health info from various sources including health experts, family, mass media, and friends promoting healthy eating and medication adherence. (Agyemang-Duah *et al.*, 2020). Similarly, in this study elderly slum dwellers used family, friends and mass media to get information on healthy eating, physical exercise, stress management, and taking vaccinations. Ongoing efforts are crucial for ensuring easy online health information access, especially for diverse populations like elderly slumdwellers (Finney Rutten *et al.*, 2019)

In most developed countries, online health information is now easily accessible (Prestin *et al.*, 2015) and elderly, caregivers often seek health information online (Cutrona *et al.*, 2015). Online health information access is increasingly becoming vital for effective

health management (Finney Rutten *et al.*, 2019). However, online health search experiences vary by sociodemographic characteristics (Prestin *et al.*, 2015; McCloud *et al.*, 2016; Nguyen *et al.*, 2017) For example, elderly and slum dwellers struggle finding health info online due to low social economic statuses and lack of digital literacy skills (Nguyen *et al.*, 2017). However, some elderly slum dwellers with low incomes are slowly acquiring smart phones which enable them to receive and share online health information especially on WhatsApp, SMS and email.

In middle- and high-income countries, about 44% in Malaysia and 45% in Singapore seek health information through mobile phones. Singaporeans show higher receptiveness to online media use compared to their Malaysian counterparts (Lee *et al.*, 2020). M-health has the capacity to enhance elderly slum dwellers' health information access, simplifying health care and cutting costs. (Quosar *et al.*, 2018)

#### **Patterns of media usage for health information among elderly slum dwellers based on education level**

Higher education and online media familiarity impacted health information seeking in Chinese elderly (Nguyen *et al.*, 2017). In this study phone calls with children who had digital literacy skills, and formal education, aided online media use. Smartphone use for health information was predicted by younger age, higher education and health literacy among Korean elderly (Oh *et al.*, 2018).

Sociodemographic factors influenced SMS health information interest in rural Bangladesh. Men, educated, younger, higher social economic status individuals were more likely to access it through their mobile phones, compared to women, elderly people or people with no education (Rahman *et al.*, 2017; Tran *et al.*, 2015) and other low-middle income countries (Free *et al.*, 2013; Zurovac *et al.*, 2013). mHealth aids hypertension management, offering accessible info, promoting healthy habits, and aiding medication adherence for elderly slum dwellers in low-middle income countries, notably effective in China and Brazil (Li *et al.*, 2020; Debon *et al.*, 2020; Debon *et al.*, 2019). In this study SMS with neighbors

was commonly used for health information on nutrition. Elderly slum dwellers also used vernacular radio stations to get vital health information.

#### **Patterns of media usage for health information among elderly slum dwellers based on marital status**

Online health information use is not linked to Marital status, age, and gender among Chronic Obstructive Pulmonary Disease patients' (Stellefson *et al.*, 2018). In contrast, this study showed that marital status influenced the choice of media for health information. Phone calls, WhatsApp, SMS and Email were most sought for health information among married old individuals, because of the larger social support network, including their spouses, children, grandchildren, neighbors, and health experts. Radio, SMS, phone calls, and online media are most preferred channels by the divorced old individuals because of the personalized and accessible nature of these media, providing a sense of companionship and trust.

Women probably look up health topics online not only for themselves, but also for their husbands, (Nölke *et al.*, 2015). Married elderly slum dwellers often used phone calls while navigating social media, while single elderly slum dwellers prefer radio and television due to accessibility.

#### **Patterns of media usage for health information among elderly slum dwellers based on geographical location**

Geographical location shapes media usage patterns for health info among elderly slum dwellers due to access disparities. Online media is slightly used less in rural areas compared to urban among elderly in the United States. (Hadi Mousavi, 2020). In this study, phone calls with children helped the elderly slum dwellers to access online media such as online radio, websites and social media.

Numerous media such as radio, phone calls, television, SMS, WhatsApp among others were used to get health information in different geographical locations in Kibera slum. Low-income African American elderly in Kansas City face challenges in using online media for health information due to perceived difficulty, despite recognizing its usefulness. This skepticism hinders

technology adoption for health-seeking (Seo *et al.*, 2017). In Hong Kong, elderly prefer radio, while chronic diseases drive television health information seeking (Wang *et al.*, 2013)

Study on European Union health info seeking found demographics affect online and offline searches. Women, young, educated, employed, urban, and those with chronic conditions seek more. Surprisingly, even those with good health seek information. This implies that expanding online health information could deepen offline disparities (Zhao *et al.*, 2022)

#### **Patterns of media usage for health information among elderly slum dwellers based on ethnicity**

Traditional media and health experts use for health information was common among the elderly with low internet skills and from Hispanic ethnicity (Jacobs *et al.*, 2017). Similarly, elderly slum dwellers from various ethnic backgrounds such as Luo, Kikuyu, Luhya, and Nubians used vernacular radio stations because they disseminated health information in a language that listeners could easily understand.

Elderly Blacks and Hispanics, use online health information less compared to whites, based on demographic, education, and health factors. They are also less likely to engage in phone calls, health management sites, web searches, and health-related brain games (Mitchell *et al.*, 2019). Americans seek health information more compared to Chinese relying more on mediated communication, while Chinese preferred interpersonal sources (Lu *et al.*, 2020).

Minority status with low socioeconomic status, such as elderly slum dwellers, reduces online media use (Yoon *et al.*, 2020). Social support like family and friends are crucial for disseminating health information among Korean Americans, emphasizing the role of social networks in providing health information to immigrants (Kim *et al.*, 2015).

#### **CONCLUSION**

These results provide significant findings on patterns of media usage for health information among elderly slum dwellers from different demographic

backgrounds. These media channels include Radio, Television, Phone calls, WhatsApp, SMS, Email, and websites. The channels promoted positive lifestyles such as healthy eating, physical exercises and medication adherence. Recommendations such as tailoring radio content, fostering digital literacy and partnering with reputable health care organizations were also identified. Understanding media usage patterns for health information among elderly slum dwellers enhances health communication strategies. It enables targeted interventions, promotes informed choices, and improves overall well-being, addressing unique health challenges effectively through media. This study identifies the patterns of media usage for health information, type of health information sought from these channels, behaviors promoted by these sources, and provides recommendations on how to enhance these media channels. Understanding media usage habits aids tailored health communication, promoting well-being and accessibility for elderly slum dwellers in underserved communities.

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