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Challenges Confronting Rural Dwellers in Accessing Health Information in Ghana: Shai Osudoku District in Perspective

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Abstract: The focus of the study was to investigate health information seeking behavior as well as the barriers to health information seeking among rural dwellers in Ghana using Shai Osudoku District as a case study. The convenient and purposive sampling technique was used to sample 210 community members within Shai Osudoku District. The Statistical Package for Social Sciences (SPSS) version 21.0 was employed to process the quantitative data. The data was processed into statistical tables and charts for interpretation and discussion. The outcome of the study revealed that the most common sources of health information seeking among rural community members in the district of investigation are posters, health care providers and families/friends, with radio being the most used platform. It was also revealed that those respondents with higher level of education are more likely to use the Internet and television in accessing health information (p = 0.001 and 0.000 respectively). Similarly, respondents with primary education or informal education were more likely to contact family members for health information (p = 0.001) The outcome of the study also shows that many rural communities in Ghana, particularly rural dwellers of Shai Osudoku District, face numerous challenges in accessing health information. Notable among them are language barrier, location of the villages and inaccessibility to emerging technologies such as mobile phones and television sets. We conclude that, policies for improving health information access and reducing barriers to health information seeking in rural communities should be designed and implemented by Ghana health service. Also, education on how to access health-related information with easily accessible sources either free or at low-priced could be a way to help people in rural settings in Ghana with limited health information.

Keywords: health information; rural dwellers; media; technology

1. Introduction

The recent revolution in information and communication technology has prompted the creation and sharing of health-related information, which has permitted people to live in a flood of health-related information (Braa et al. 2007). Low quality and credibility of health information may negatively influence the health status of individuals who use that information (Eysenbach et al. 2002). Failure to appropriately acquire or understand health-related information has negative impacts on an individual's health and can lead to health disparities (Custodio et al. 2009). Health disparity is a challenge that many countries, particularly developing countries, face (Aryee 2014). To eliminate health disparities and improve the health of individuals, people should have access to credible

and high-quality health-related information, and be capable of interpreting and understanding that information properly (i.e., have adequate health literacy).

Health literacy is a crucial factor in health and well-being (Weinstein and Lopez 2014). Health literacy is defined as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" and it is vital to "opening doors to health and wellbeing" (U.S. Department of Health and Human Services 2011). Inadequate or limited health information has been shown to be related to lower health status, negative health outcomes, higher healthcare costs, and lower quality of care (Nurmi and Oksanen 2013; Rimal and Lapinski 2009).

Currently, research into health information seeking and its associated challenges has moved beyond a focus on the individual and towards the interaction between the demands of health systems and the skills of individuals (Sørensen et al. 2012). Therefore, health information must be considered on the national level. Interest in health information seeking behavior has considerably increased since the introduction of Healthy People 2010 by the U.S. Department of Health and Human Services (U.S. Department of Health and Human Services 2011), and many research papers have been published in Western countries on this issue (for example, Case and Given 2016; Yardley et al. 2015; Lima-Pereira et al. 2012). Health information has been assessed on the national level in a few countries, such as the U.S. (Kutner et al. 2006), and the results have been or can be used for planning and instituting health-related guidelines, strategies, and policies. However, empirical research on health information seeking and it related challenges in Ghana, particularly among rural dwellers, is limited. Apart from the study done by Bosompra in 1987 to access the sources of health information among rural dwellers in Ghana, no other studies have been conducted. Also, few studies on health information seeking have been done in Ghana generally, however, they were restricted to the aged (Apt 2013), urban communities, (Owusu-Addo et al. 2016), among pregnant women (Gyesaw and Ankomah 2013) and among adolescents (Borzekowski et al. 2006). A number of studies have been done on rural health practices in Ghana (see Gyasi et al. 2011; Andreatta et al. 2011; Tindana et al. 2011), but none of these have focused on how the indigenous or modern media systems can be used to transmit health information to ruralites. The purpose of this study is to find out about the communication sources that rural dwellers Ghana use to obtain information about health issues as well as the associated challenges. Thus, this study would contribute to the bridging of this gap in the literature to which we now turn our attention. A major benefit of this study is that it would help unearth the communication channels that would be most effective in carrying the health message across to Ghana's ruralites. To illustrate its claims, this paper will be guided by four main research questions. The four questions that this paper seeks to answer are: what channels do rural dwellers use for obtaining health information in Ghana? Which sources of information are they likely to contact first regarding any health-related question-family member, friend, physician etc.? What are the barriers to accessing health information by rural communities in the Shai Osudoku District? Which sources of health information format would rural communities prefer institutions and Ghana health service to disseminate health information to their respective villages? Does educational level of respondents affect their choice of health information seeking? These questions will serve as guidelines for the entire study.

2. Literature Review

2.1. Media for Health Information Dissemination in Africa

Rural communities in Ghana faces several health-related challenges including limited healthcare facilities, poor road conditions and poor health information provision that make access to health care and health facilities difficult (Aryee 2014). Irrespective of the challenges rural dwellers go through in accessing health information, little attention has been paid to them by scholars. The only available scholarly literature in Ghana on the subject under investigation was done in 1987 by Bosompra in two rural communities in Ghana. Bosompra's study examined the use, in Primary Health Care, of such information channels as conversation, the town crier, the market place, churches, schools, health officers,

and the radio. The findings of this paper showed that conversation was the most popular but least trusted source of health information. Radio came second both in terms of popularity and credibility. Apart from this study by Bosompra, no other study has been conducted in rural Ghana that examines sources and barriers to health information seeking; however, literature is abundant in many African countries, for example Tsehay (2014) in Ethiopia, Mooko (2006) in Botswana; Naanyu et al. (2013) in Kenya; Omogor (2013) and Nwagwu and Ajama (2011) in Nigeria.

The study by Tsehay (2014) explored the maternal health information sources of women residing in five villages in Ethiopia. A qualitative research paradigm was used and focus group discussions and in-depth interviews were utilized. The study documents how women have sought and used varieties of interpersonal and media related sources to meet their maternity information needs during the process of their reproductive life. Also, all maternity sources, health extension workers and health professionals were identified as the most usually and frequently used and reliable sources of health information.

In a study that investigated the information needs and information-seeking behavior of rural dwellers residing in three non-urban villages in Botswana, Mooko (2006) found that rural dwellers need various kinds of information on socioeconomic issues including health care services, poverty and economic development and their needs seem to reflect the overall situations that women were facing in the society. The study also found out that among rural folk, medical practitioners were mostly consulted in case they want to seek information on health whereas printed materials, political leaders and sales representatives were the least consulted (Mooko 2006). Interestingly, Naanyu et al. (2013) in their study in Kenya found that respondents used public media and health care providers as their major sources of health information for family planning issues. Omogor (2013) also conducted a similar study in Nigeria to explore the channels of health information acquisition and dissemination among the rural dwellers. The descriptive research approach was employed in the study. It revealed that town-criers, marketplaces, sociopolitical meetings, traditional festivals, lectures and exhibitions, TV, radio, and newspapers are vehicles of information that are used to get and distribute health information among rural inhabitants.

In addition to the above studies on the African continent, Nwagwu and Ajama (2011) carried out a study in Nigeria to address the health information needs, sources, and information-seeking behavior of women living in a rural palm plantation community. The survey exposed that nine out of every ten of the respondents reported that they needed health information about malaria, which they obtained mainly from friends, families or chemist shops. The survey also reported that women relied on traditional sources of information, and practiced self-medication guided by prior diagnosis and visited the hospital when their health condition deteriorated.

2.2. Challenges Confronting Rural Dwellers in Accessing Health Information in Africa

Empirical evidence on the challenges facing rural dwellers in accessing health information have been carried out in different countries. These studies found that the main barriers to access to information by rural dwellers in most African countries include language, timing of messages, mobile network fluctuations, lack of financial incentives, geographical, organizational, personal, economic, educational status and time (Momodu 2002, Andualem et al. 2013, Déglise et al. 2012, Kwon and Chidambaram 2000, Cline and Haynes 2001, Ojo 2006, Mtega and Ronald 2013).

Research undertaken by Momodu (2002) examines the Nigerian rural communities' health information needs and their information-seeking behavior in Edo State. Information sources identified in the Edo State rural communities include radio, television, newspapers, health extension workers and health agents (Momodu 2002). In a cross-sectional quantitative study by Andualem et al. (2013), the majority of the respondents acknowledged the need for health information to their normal activities. About 54.0% of respondents did not have access to health information. Only 42.8% of respondents had access to health information on the Internet. (The following are considered as important barriers to information accessibility: geographical, organizational, personal, economic, educational status

and time). The study revealed that barriers to access to health information by rural dwellers in the Edo State of Nigeria were illiteracy and language. A systematic literature review conducted by Déglise et al. (2012) on the use of the SMS feature for disease prevention in developing countries such as India, Kenya, and South Africa, identified main barriers to health information as language, timing of messages, mobile network fluctuations, lack of financial incentives and data privacy.

Technological features and service impacts, cultural beliefs and practices about health including: (a) individuals' beliefs about health care in general; and (b) beliefs about access to health information and socioeconomic factors, according to Kwon and Chidambaram (2000), are major mediating factors that may influence the adoption of various media platforms for accessing health information by many rural dwellers in developing countries, particularly in Africa. Cline and Haynes (2001) sum these variations of access to health information on the basis of socio-economic factors and name this factor "the digital divide". In addition, Ojo (2006) states that a high level of illiteracy, poverty and absence of basic infrastructure prevents most people from adopting most new media device for accessing health information.

Finally, Mtega and Ronald (2013) also investigated the factors influencing accessibility of rural information services in Tanzania. Categorically, the study revealed the kinds of information services provided in rural areas, identified the sources of information used by rural people and determined the hindrances to accessibility of information services in rural areas in Tanzania. It was found that there were several information sources used in rural areas starting from simple face-to-face communication to modern interactive ICTs including the mobile phones. Even though there is a considerable number of sources of information available, several factors limited the accessibility of information services in rural areas. Findings of the study show that high illiteracy levels, poor/unreliable information infrastructure, low income, absence of electricity and high cost of ICTs have negatively affected the accessibility of information services in rural areas. The usage of technical languages in repackaging information, inadequacy of time to access information as well as geographical isolation also serve as barriers to accessing of health information services in rural areas.

3. Materials and Methods

3.1. Shai Osudoku District

Shai Osudoku is a rural district in the greater Accra region. Latest census figures from Ghana Statistical Service (2014) indicate that there are 96,809 persons within the district. Out of this, 46,550 (48.2%) are males and 50,259 (51.8%) are females. The district's proximity to Accra, the national capital and Tema, the harbor and industrial city helps its growth. This high percentage denotes that increased supply of technical and social infrastructure (especially those related to education and health) would be required to cope with extra demands of the dependent population. In 2000, 43% of persons over 6 years in the District have never been to school, while 50% of persons above 15 years were not literate. However, this picture is different now, especially with the introduction of the capitation grant and the school-feeding program as the numbers keeps swelling at the time of writing this report. For administrative purposes, and to facilitate health service delivery, the district has been sub-divided into four health sub-districts, which coincide broadly with the traditional areas namely; Dodowa, Prampram, Great Ningo and Osudoku sub-districts. Dodowa, New Ningo, Afienya, Asutsuare, Lekpongunor, Ahwia, Doryumu, Kordiabe Mangochonya, Agomeda, Ayikuma, Asutsuare, Mataheko, Osuwem, Natriku Ayetepa, Atrobinya, Agbekotsekpo. Volisv, Natriku are all communities under the district. To improve the health delivery system in the district, a number of health facilities have been strategically established in the district to increase accessibility to health care facilities and services. There are 28 health facilities in the district (Ghana Statistical Service 2014). These comprise a District Government Hospital at Dodowa, CHPS Zones located at Kordiabe, Doryumu, Sota, Mokomeshitamohe, Kadjanya, Asutsuare SDA, Volivo, Agbekotsekpo, Abuvienu and Adakope respectively and CHPS compounds at Ayikuma, Ayenya, Agomeda, Asutsuare junction (Lorlorvor), Osuwem, Tokpo, Agortor, Natriku,

Kasunya, Chebitenya, Odumse and Dodoowa Zonngo. There are Health Centers at Asutsuare and Osuwem. The District also has private Maternity Home at Dodowa as well as a Quasi-Government Clinic at Kordiabe.

3.2. Research Design

A descriptive quantitative case study approach using the convenient and purposive sampling technique was used to sample community members within Shai Osudoku District. The main reason for considering this design is because it allowed the use of structured interviews and questionnaires for data collection with the view of generalizing from the sample population. In this study, a descriptive case study approach was adopted.

3.3. Sampling of Subjects

The research was undertaken using the convenient and purposive sampling technique. The convenient sampling technique was used because the researcher had a specific population in mind and also knew the location of the population, which was the health facilities and the communities selected for the study. The researcher went to the location of the population and sampled the participants for the study. Purposive sampling was used because the researcher had a specific purpose in mind and as such selected the sample for the study based on this purpose. In this regard, only health workers in the community or residents in the community were included in the study. In all, two hundred and ten (210) community members were selected for the study (see Table 1 for details).

Table 1. Sampled Communities.

Communities sampled for the study	Frequency	Percent
Kodiabe	15	7%
Ayikuma	15	7%
Doryumu	15	7%
Ayenya	16	8%
Agomeda	17	8.2%
Dodowa	130	63%
Total	208	100.000

3.4. Data Collection Instruments and Analysis of Data

To collect data, a structured questionnaire was used. The questionnaire was designed by the researchers and based on the purposes of the study. It consisted of five main parts. Section A dealt with demographic data such as age, gender, etc.; Section B of the questionnaire dealt with respondent's views about health and health literacy. Section C also asked questions related to health information-seeking behavior of respondents, channels for obtaining health information and sources most likely to contact first concerning health question. Section D also asked questions regarding challenges in accessing health information whiles Section E asked questions related to preferred format for health information dissemination (see Appendix A for details of the questionnaire). Administered questionnaires were examined to check completeness, accuracy and consistency of the responses in order to detect and eliminate errors. The Statistical Package for Social Sciences (SPSS) version 21.0 was employed to process the quantitative data. The data was processed into statistical tables and charts for interpretation and discussion.

3.5. Ethical Consideration

Before starting the study, we asked the participants to give informed consent and announce their agreement with participating in this survey. No incentives were given to the participants for the study. They were asked to return the questionnaire blank if they did not agree with participating in the study. In the questionnaire, we were committed to the respondents to keep secret the personal information,

and using the information in general. The study was confirmed by the ethics committee of the district health directorate of the Ghana Health Services in Shai Osudoku District for its ethical warrantee.

4. Results and Discussions

4.1. Demographic Characteristics of Respondents

A total of 210 questionnaires were administered, of which 208 were filled in and returned. This meant that only two (2) of the questionnaires were not returned. This indicates that the questionnaire had a very high response rate. As illustrated in Figure 1 below, out of 208 respondents, 107 of them were males, representing approximately 51.4%, while the remaining 101 respondents representing 48.6% were females. Looking at the number of the respondents presented above, it is very clear that the representation of the study for both males and females are not much varied, indicating fair gender balance in a male-dominated society.

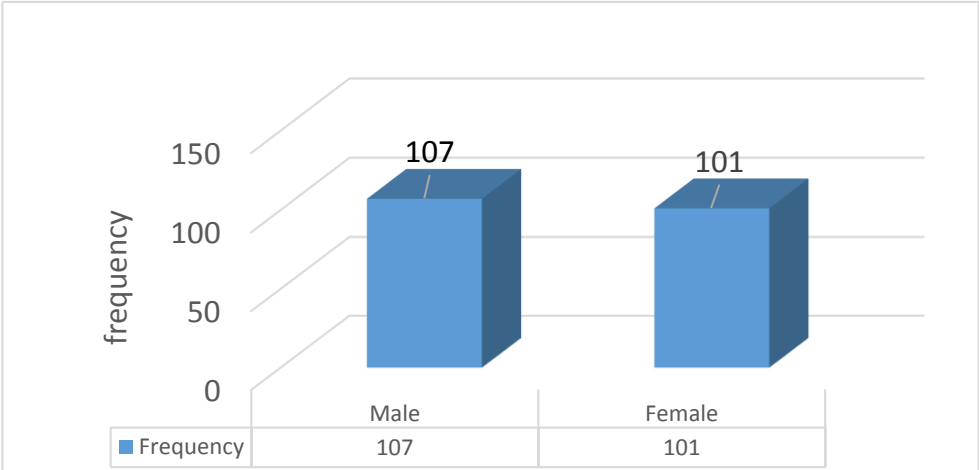

Figure 1. Gender of Respondents. Source: Field Data, 2016.

Out of the total of 208 respondents, 88 respondents, representing 42.3%, were between the ages of 18 and 30, 47 respondents, representing 22.6%, were between the ages of 31 and 40, 49 respondents, representing 23.6%, were between the ages of 41 and 50, and 24 respondents, representing 11.5%, were over 50 years old. Hence, the majority of the respondents were between the ages of 18 and 30, showing a very youthful population. Regarding the marital status of the respondents, 112 respondents were married, 11 were separated, 16 were divorced, and 69 respondents were never married. Thus, the majority (112 out of 208) were married.

Table 2 represents the highest level of education of the respondents. Regarding level of education, out of 208 respondents, 65 (31.3%) respondents' highest level of education was graduate education, 76 respondents', representing 36.5%, highest level of education was secondary education, 28 of the respondents' highest level of education was primary education, representing 13.5%, 23 of the respondents, thus 11.1%, had informal education and the remaining 16 (7.7%) respondents had no schooling. With a critical look at the figures presented above on the level of education of the respondents, one would not be wrong to say that the people are educated. Thus, 169 persons out of 208 had some form of formal education, 23 of them with informal education and the remaining 16 had no formal education.

Table 2. Educational Level.

Level of education of respondents	Frequency	Percent
Graduate education	65	31.3
Secondary education	76	36.5
Primary education	28	13.5
Informal education	23	11.1
No formal schooling	16	7.7
Total	208	100.0

Source: Filed Data, 2016.

4.2. Health Information Seeking Behavior of Respondents

As can be seen in Table 3 below, in rating respondents' ability to look for health information to prevent them and family from contracting unwanted diseases and illness, 14 (6.8%) respondents said it was poor, 30 (14.6%) rated their ability as fair, 68 (33.0%) said it was good, 61 (29.6 %) respondents said it was very good and 33 (16%) rating their ability to look for health information as excellent.

Table 3. Ability to Search for Health Information.

How well are respondents able to search health information	Frequency	Percent
Poor	14	6.8
Fair	30	14.6
Good	68	33.0
Very Good	61	29.6
Excellent	33	16.0
Total	208	100.0

Source: Filed Data, 2016.

Regarding (Table 4) below, respondents were asked whether they have used any of the following: hospital/physician/nurses/public health, friends and families, radio/television, posters and bill boards. The responses were yes, no and don't know. Concerning hospital/physician/nurses/public health, 188 out of the 208 said yes, 19 said no and the remaining 1 person didn't know.

Table 4. Channels for obtaining health information.

Channels for health information seeking	Responses	Frequency	Percent
hospital/physician/nurses/public health (n = 208)	Yes	188	90.4
	No	19	9.1
	Don't know	1	0.5
friends and families (n = 207)	Yes	179	86.5
	No	27	13.0
	Don't know	1	0.5
radio/television (n = 205)	Yes	193	94.1
	No	10	4.9
	Don't know	2	1.0
Posters (n = 207)	Yes	100	48.3
	No	94	45.4
	Don't know	9	4.3
	Not applicable	4	1.9
Bill boards (n = 207)	Yes	114	55.1
	No	80	38.6
	Don't know	9	4.3
	Not applicable	4	1.9

Source: Filed Data, 2016.

With regards to using friends and families as source, out of 207 respondents, 179 said yes, 27 said no and 1 person didn't know. As to obtaining information on health on the radio/television, 193 out of the 205 respondents said yes, 10 said no and 2 said they didn't know. Also, in response to obtaining health information posters, 100 out of the 207 respondents said yes, 94 said no, 9 said they don't know and the remaining 4 said not applicable. Finally, out of 207 respondents asked about whether they use billboards to obtain health information, 114 said yes, 80 said no, 9 said they didn't know and the remaining 4 respondents said not applicable.

In Table 5 below, when asked which of the following sources are you most likely to contact first when you have any questions about your health, out of 208 respondents 77 (37%) respondents said they are most likely to contact a family member first when they have any questions about their health, 75 respondents representing 36.1% said they will fist contact a healthcare provider, 33 of them thus 15.9% said they will first contact the Internet, 15 (7.2%) said they will consult a health brochure whereas the remaining 8 (3.8%) said they will contact their friends. This implies that family members and healthcare providers were seen to be the main sources of information to the respondents.

Table 5. Sources Most Likely to Contact First Concerning Health Question.

Sources of health information for respondents	Frequency	Percent
Health brochure	15	7.2
A family member	77	37.0
A healthcare provider	75	36.1
A friend	8	3.8
Internet	33	15.9
Total	208	100.0

Source: Filed Data, 2016.

Considering the level of education of the respondents where the majority of the respondents had secondary education, it was expected that they would resort to other platforms or media rather than family members for health information. This was not the case but rather the direct opposite, where other media platforms such as Internet, among others, were not much utilized.

4.3. Challenges in Accessing Health Information

As captured in Table 6 below, the majority of the respondents said they have challenges in accessing health information due to a language barrier with responses ranging from always 51 (24.5%), often 22 (10.6%), sometimes 83 (39.9%) and occasionally 29 (13.9%). This implies that a greater majority of the respondents (88.9%) have difficulties in accessing health information due to language problems. Also, a majority of the respondents (91.8%) revealed that they have difficulties in accessing health information due to poor/unreliable information infrastructure from agencies and government institutions. This ranged from always, often, sometimes, occasionally (20.2%, 12.0%, 46.6% and 13.0% respectively). A majority of the respondents (89.5%) also showed that they have difficulties in accessing health information due the factors such as not having mobile phones to access health information, not having televisions to watch health programs and not having any form of the recent emerging technologies. This ranged from always, often, sometimes, occasionally (38.5%, 11.1%, 28.4%, 11.5%, respectively). Finally, geographical isolation/location of a village was viewed as one of the challenges that make it difficult to access health information. Overall, 81.3% of the respondents acknowledged that the location of their villages serves a challenge in accessing health information.

The figures presented above in Table 6 suggest that people normally encounter some challenges accessing health information. Thus, on average, only 12.05% of the respondents said they never experienced the above-mentioned challenges in their quest of accessing health information.

Table 6. Challenges involving access to health information regarding the following statements.

Questions	Responses	Frequency	Percent
Language barrier (n = 208)	Always	51	24.5
	Often	22	10.6
	Sometimes	83	39.9
	Occasionally	29	13.9
	Never	23	11.1
Poor/unreliable information infrastructure (n = 207)	Always	42	20.2
	Often	25	12.0
	Sometimes	97	46.6
	Occasionally	27	13.0
	Never	16	7.7
No access to mobile phone, TV, new technologies (n = 208)	Always	80	38.5
	Often	23	11.1
	Sometimes	59	28.4
	Occasionally	24	11.5
	Never	22	10.6
Geographical isolation/Location of village n = 208)	Always	38	18.3
	Often	27	13.0
	Sometimes	72	34.6
	Occasionally	32	15.4
	Never	39	18.8

Source: Filed Data, 2016.

From Table 7 below, the p-values of television and Internet are 0.001 and 0.000 respectively, which is less than 0.05. This implies that respondents with higher level of education are more likely to use the Internet and television in accessing health information. Similarly, respondents with primary education or informal education were more likely to contact family members or their relatives for health information (p = 0.001).

Table 7. Crosstab and Chi-square test on how educational level influence respondent's choice of health information sources.

Choice of Health Information		Highest Level of Education					Total	p-Value
		Graduate Education	Secondary Education	Primary Education	Informal Education	No Formal Schooling		
Cell phones	yes	31	40	15	12	7	105	0.943
	no	34	36	13	11	9	103	
Television/Radio	yes	41	59	26	22	15	163	0.001
	no	24	17	2	1	1	45	
Internet	yes	49	40	6	6	2	103	0.000
	no	16	36	22	17	14	105	
Contact family member/relative	yes	7	10	18	46	52	132	0.001
	no	28	24	10	8	6	76	

Source: Filed Data, 2016.

4.4. Preferred Format for Health Information Dissemination

In Table 8 below, respondents were asked in which format they would prefer health information, 80.8% of the respondents preferred it in videos format, 53.8% of the respondents preferred cell phone voice and text communication, 33.2% of the respondents preferred books as a format for putting information across, 20.2%, 22.6%, 47.1%, 31.3%, 22.6% of the respondents preferred pamphlets, magazines, audio cassette, newspapers and computers CDs as formats for seeking health information respectively. In summing up everything based on the statistics shown in Table 8 below, more than 50% of the respondents did not prefer the formats suggested for health information seeking.

Table 8. Preferred format of health information.

Question	Responses	Frequency	Percent
would you prefer video as a format for seeking health information	yes	168	80.8
	no	20	9.6
would you prefer books as a format for seeking health information	yes	69	33.2
	no	119	57.2
would you prefer pamphlets as a format for seeking health information	yes	42	20.2
	no	146	70.2
would you prefer audiocassette as a seeking format for health information	yes	98	47.1
	no	90	43.3
would you prefer magazines as a format seeking for health information	yes	47	22.6
	no	139	66.8
would you prefer newspapers as a format for seeking health information	yes	65	31.3
	no	123	59.1
would you prefer computer and CDs as a format for seeking health information	yes	47	22.6
	no	141	67.8
would you prefer cell phone voice and text communication as a format for seeking health information	yes	112	53.8
	no	76	36.5

Source: Filed Data, 2016.

From Table 8 above, the most preferred media they would want health information to be disseminated is through mobile phones and video via television programs. Since television shows images and actions, it seems to be one of the appropriate platforms in sharing health information to both urban and rural dwellers alike. Mobile technology for health was also recognized as an important tool that will help them get access to information from healthcare providers as well as friends and families.

5. Discussion of Results

This study aimed at investigating the challenges confronting rural community dwellers in Ghana in using the media of their choice to access health information. The study also examined the source of health information media used by rural community dwellers and which media are used frequently.

In line with the above objectives, the findings of the study show that the majority of the respondents have challenges in accessing health information due to a language barrier. This implies that greater majority of the respondents (88.9%) have difficulties in accessing health information due to language problems. Also, a majority of the respondents (91.8%) revealed that they have difficulties in accessing health information due to poor/unreliable information infrastructure from agencies and government institutions. A majority of the respondents (89.5%) also showed that they have difficulties in accessing health information due to factors such as not having mobile phones to access health information, not having televisions to watch health programs and not having any form the recent emerging technologies. Finally, regarding challenges in information access, geographical isolation/location of village was viewed as one of the challenges that make it difficult to access health information. Overall, 81.3% of the respondents acknowledged that the location of their villages serves a challenge in accessing health information. The results above suggest that rural dwellers usually encounter some challenges when accessing health information. Thus, on average, only 12.05% of the respondents said they never experienced the above-mentioned challenges in their quest of accessing health information. The findings of the current study is in support of the previous studies such as Momodu (2002), Andualem et al. (2013), Déglise et al. (2012), Kwon and Chidambaram (2000), Cline and Haynes (2001), Ojo (2006), and Mtega and Ronald (2013), who found that the main barriers to information access by rural dwellers in most African countries were language, timing of messages, mobile network fluctuations, lack of financial incentives, geographical, organizational, personal, economic and educational status, and time.

It was also established that the people mostly use radio sets since radio sets are easily accessible as compared to the other forms of media even though posters, billboards, families and friends as well as physicians were used. According to a previous study done in developed countries, for example South Korea, older individuals, those with lower incomes, those who are less educated and those who live in rural communities usually get health-related information through medical professionals (Bae et al. 2010). Health education has been focused on the content of health-related information, including diseases, treatments, and prevention strategies. The findings of our study suggest that healthcare professionals need to take into account where and how clients seek health-related information. Education on how to access health information should also be provided. As there is a lot of incorrect and low-quality health-related information in the world, the quality and credibility of information sources must be addressed.

Regarding the media via which they would want health information to be disseminated to them, it was revealed that most of the respondents preferred it in video format; others preferred cell phone voice and text communication. This implies that health information should be disseminated via phone and as well as in video form. It was also revealed that respondents with higher level of education are more likely to use the Internet and television in accessing health information (p = 0.001 and 0.000 respectively). Similarly, respondents with primary education and informal education were more likely to contact family members or their relatives for health information (p = 0.001). The Internet is one of the most popular sources of health-related information. As more participants with inadequate health information experienced barriers to obtaining information via Internet than did those with adequate health information in this study, Internet education may be beneficial. However, individuals with limited health information are less likely to use the Internet for health-related information (Sarkar et al. 2010), and Internet use is particularly low in older adults (Jeong and Kim 2016). Therefore, education on how to access health information through other sources for free or at low cost, including books, magazines, health lectures, and health fairs, needs to be provided. Such education might contribute to decreasing economic burden, improving health literacy, and ameliorating health disparities, particularly for individuals with limited or inadequate health information in rural communities in Ghana.

5.1. Conclusions and Recommendations

The focus of the study was to investigate the challenges confronting rural community dwellers in Ghana in using the media of their choice to access health information. The study also examined the source of health information media used by rural community dwellers and which media are used frequently. The Shai Osudoku district in the greater Accra region of Ghana was used as a case study. In connection with participants' sources of health information seeking, accessing, evaluating and implementing health information from a particular source appears to vary among most participants and these sources are also influenced by factors such as demographic, socio-economic status, location and educational background. In summary, from this study, it was discovered that participants use various means or sources, such as radio, family and healthcare personnel, to seek, access, and evaluate health information concerning their health. When it comes to using media such as the Internet, magazines or health brochures for health needs, these sources are mainly employed by individuals with high level of education due to their ability to read and write. However, media forms such as community, family and friends are usually employed by mostly participants with a low level of education. The study documents that many rural communities in Ghana face challenges in accessing health information due to a language barrier, geographical location of villages and inaccessibility to emerging technologies such as mobile phones and television sets.

We therefore recommend that guidelines and strategies for improving health information and reducing barriers to obtaining health-related information should be designed. Health fairs or activities need to be provided at the organizational and national level. Education on how to access health information through easily accessible sources for free or at low cost could be a way to improve health information access, particularly for rural communities. The health professionals should also be taken

through adequate training on the MoTech system so that they can better utilize it in the discharge of their medical duties. It is again recommended that in creating health awareness among individuals in both rural and urban communities, there is a need to use health information as ringtones. The only surest way to ensure success and effectiveness of this would be when healthcare agencies collaborate with mobile telecom companies to assign given health-promotional information as ringtones.

5.2. Future Research

Future research must be done on the use of mobile phones by rural dwellers as a tool to seek, obtain and access health information so as to promote health literacy and improve healthcare delivery in rural communities in Ghana. In addition, focus groups are very likely to demonstrate whether challenges with the use of electronics for health activities are peculiar to only rural communities or to both rural and urban communities. For an individual to be in a better position to make generalization on specific practices and challenges in terms of access to health information in rural communities in Ghana, a comparative study between two or more countries is very important. With regard to data analysis, a technique worth employing should be a hierarchical logistic regression; in this case, data is obtained from various groups of people and analyzed hierarchically in a single study. Medical practitioners, farmers, students and lawyers may form part of these groups.

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Appendix A. Questionnaire

Demographic Information

Section A

Please respond to all questions as best as you can

1. Sex

   Male
   Female

2. Age group *(Please check)*

   18–30
   31–40
   41–50
   Over 50

3. Marital status *(Please check)*

   Married
   Separated
   Divorced
   Never married
   Other (please specify)

4. Do you have children?

   Yes → How many
   No

5. Highest level of education *(Please check)*

   Graduate education
   Secondary education
   Primary education
   Informal education
   No formal schooling
   Other (please specify)

6. What is your current employment status?

   Self-employed
   Civil servant
   Unemployed
   Student
   Other (please specify)

7. What other language(s) do you speak apart from your local dialect?

   Akan
   English
   Ga
   Other (please specify)

Section B: Views about health and health literacy

8. Do you value your health?
   Yes
   No

9. A person is considered to be health literate when:

Respondents view on health literacy	SD	D	N	A	SA
Going for regular check-ups					
Reducing drug abuse					
Taking proper medication					
Practicing family planning					

10. When would you say you are practicing a healthy living?

Section C: Views about health information

11. How would you rate your ability to look for health information to prevent you and your family from contracting unwanted diseases and illness? (Please circle one)

Excellent	Very Good	Good	Fair	Poor
5	4	3	2	1

12. Have you used any of the following to obtain health information?

Sources of health information	Yes	No	Do not Know	Not Applicable
Hospital/physician/nurses/public health				
Friends and families				
Radio/television				
Posters				
Bill boards				

Other (please specify)

13. Which of the following sources are you most likely to contact *first* when you have any question about your health?

Health brochure
A family member
A healthcare provider
A friend
Internet

Section D: Challenges facing community members in assessing health information

14. Have any of the following limited you from looking for or receiving health information? Please check ($\surd$)

Challenges of seeking health information	Yes	No	Not Sure	Not Applicable
Language barrier				
Poor/unreliable information infrastructure				
Lack of electricity to recharge phone battery/or use television				
Geographical isolation/Location of village				
No access to mobile phone, TV, new technologies				

15. Please check ($\surd$) the response that best describes your perspective about challenges involving access to health information in regard to the following statements.

Challenges in accessing health information	Always	Often	Sometimes	Occasionally	Never
I need hospital reading materials.					
I have problems learning about my medical conditions.					
I have difficulty understanding written information from a doctor.					
I have difficulty taking the right dosage of my medication(s).					

Section E: Recommendations for Promoting Health Education

16. In which format would you prefer the information?

Videos
Books
Pamphlets

Audiocassette
Magazines
Newspapers
Computers and CDs
Cell phone voice and text communication

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