Record and Library Journal
https://e-journal.unair.ac.id/index.php/RLJ

Volume 10, No. 2, 2024
e-ISSN: 2442-5168

Strengthening health information dissemination methods for fisherfolk in rural communities in Ghana

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Paper Type:

Research Paper

Submitted: 27 March 2024
Revised: 27 May 2024
Accepted: 6 August 2024
Online: 4 December 2024

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Abstract

Background of the study: Fisherfolk are often exposed to physical hazards, environmental changes, economic fluctuations, and policy/regulatory changes while contributing to food security and economic development.

Purpose: The study aimed to explore challenges in and ways to strengthen health information dissemination methods for fisherfolk in rural Ghana.

Method: This study utilised a case study design with 26 participants from three rural fishing communities in Ghana's Keta Municipal District. Qualitative data was collected through interviews with five public health workers as well as focus group discussions with 21 fisherfolk. The study employed purposive and convenience sampling methods for the selection of participants. Data collected from the participants were analysed through the use of thematic analysis.

Findings: The study revealed that fisherfolk depended on interpersonal and media sources to meet their multidimensional health information needs. Public health officials also leveraged interpersonal approaches to disseminate information to these communities. However, the fisherfolks encountered infrastructural and other barriers that hindered their ability to obtain health information.

Conclusion: The study highlights the need to tailor health information dissemination approaches to the needs and preferences of fishing communities while strengthening the rural information infrastructure by the Ghana Health Service to more effectively disseminate and expand access to health information in these settings.

Keywords: Health information, dissemination, fisherfolk, rural communities

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Introduction

Fisherfolk are often exposed to physical hazards, environmental changes, economic fluctuations, and policy/regulatory changes while contributing to food security and economic development. These challenges have implications for their health and well-being (Woodhead et al., 2018). They also face price fluctuations in catch and fishing inputs, impacting incomes (Abernethy et al., 2010; Davis, 2012). Diarrheal diseases from poor hygiene are a major cause of fisherfolk deaths at sea (FAO, 2010). Infectious diseases like HIV/AIDS, sexually transmitted diseases (STDs), and malaria are also more frequent in fishing communities (FAO, 2010; Woodhead et al., 2018).

As Rodiah et al. (2019) state, while healthcare is essential for quality of life, not all fisherfolk, especially in rural Ghana, are aware of or access healthcare. Rural Ghanaian fisherfolk need health information not just for awareness but to meet health needs (Neethiselvan et al., 2021). Health information dissemination actively spreads evidence-based information through planned strategies and channels to provide quality care (Elwy, 2018). Timely, accurate information is crucial for health delivery (Sokey et al., 2018). Beyond awareness, effective dissemination improves prevention and living conditions.

Fisherfolk in rural Ghanaian communities face unique health vulnerabilities due to hazardous working conditions and constrained healthcare access. Their occupation exposes them to risks like injuries, infections, and chemical poisoning (Obeng, 2018). Compounding this is limited health infrastructure in remote areas and challenges reaching facilities. However, disseminating health information to mitigate risks and empower this marginalized population has seen barriers. Studies indicate factors like low literacy levels, language differences between health communicators and local dialects, lack of digital/internet connectivity and roads, and social exclusion of fishing groups impede their ability to access, comprehend, trust and utilize health information (Townhill et al., 2023). For instance, print materials may be ineffective for those with limited literacy. Top-down messaging rarely accounts for community contexts, needs and languages. Remote access and marginalization also lead to health information gaps. This highlights the need to strengthen targeted, localized communication strategies that account for fisherfolk's constraints, leverage appropriate language/media and directly engage communities.

As a core public health priority, rural Ghanaian fisherfolk need timely access to comprehen-sive, reliable health information tailored to their needs and constraints. Despite efforts by the Ghana Health Service's health promotion teams, awareness and health access remains low in such remote areas (Polychronis, 2015; Sulemana & Dinye, 2014). Barriers like inadequate facilities, transportation, staff and high costs hinder access (Lu et al., 2010). Specific diseases remain a concern. Communicable diseases like cholera, HIV and malaria are common among fisherfolk (Aturinde et al., 2019), as are non-communicable like cardiovascular conditions, smoking, and stress (Asumeng & Folitse, 2019). The growing burden of non-communicable diseases in Ghana poses a significant risk to achieving the Sustainable Development Goal (SDG) target of reducing premature mortality, as highlighted by the Ministry of Health (2022) and the Republic of Ghana and United Nations (2022). Existing studies reveal several challenges and opportunities in health information dissemination within rural communities across Ghana and Africa. Studies by Bosompra (1989), Aryee (2014), Kyeremeh (2016), Sokey and Adisah-Atta (2017), and Kankam et al. (2024) have explored various aspects of this issue within the Ghanaian context.

Notably, Aryee (2014) investigated the potential of mobile phones for health information access in rural Ghana, identifying barriers such as lack of funds, poor network coverage, limited electricity, and low literacy levels. Kyeremeh (2016) emphasized the importance of culturally relevant communication methods like storytelling and proverbs over

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technologically mediated channels for reaching rural women. Sokey and Adisah-Atta (2017) highlighted language barriers, geographical isolation, and limited access to technology as major challenges for rural dwellers seeking health information. Kankam et al. (2024) explored effective dissemination methods for market women in rural Ghana, emphasizing the use of local dialects, interpersonal channels, mass media, and community influencers.

Beyond Ghana, studies like Ifukor and Omogor (2013) in Nigeria and Tsehay (2014) in Ethiopia have also shed light on health information dissemination challenges in rural communties. These studies identified barriers such as lack of understanding of community needs, poor coordination of information systems, reliance on urban-focused channels, illiteracy, and cultural barriers.

However, while existing research has provided great expositions into health information dissemination for rural communities and women, there remains a significant gap in understanding the specific challenges faced by fisherfolk. This study aimed to address this gap by focusing on the health information needs of fisherfolk in rural Ghana, a marginalized and often overlooked group. By examining the distinct barriers they face and identifying effective solutions, this study sought to introduce a novel approach to health education and literacy tailored to the specific needs of this community.

Strengthening localized, context-specific health information dissemination to fisherfolk can thus improve knowledge, prevention and access to care (Béné, Devereux & Roelen, 2015). This aligns with other SDGs on poverty, hunger, education and economic growth. Investigating targeted mechanisms to address barriers and meet fisherfolk needs is vital. Prior evidence reveals considerable gaps in health information access among rural Ghanaian fisherfolk, worsened by infrastructural and socio-cultural barriers that have been well documented (Obeng, 2018). Remote areas grapple with poor road connectivity, lack of electricity, low digital access and limited health facilities - all constraining both the delivery and uptake of health information. Additionally, differences in language, literacy, cultural beliefs and marginalization of fishing groups impacts the ability to understand, trust and apply communicated health information.

Yet there remains a lack of in-depth investigation into context-specific, community-centred solutions to address these barriers among fisherfolk populations. This presents a critical problem that urgently needs redress. The purpose of the study was to explore the challenges faced in getting and ways to strengthen health information dissemination methods for fisherfolk in rural Ghana. The study was designed to answer the following research questions:

1. What are the challenges fisherfolks face in receiving or accessing health information?
2. What are some of the ways of strengthening health information dissemination methods for fisherfolks in rural Ghana?

Literature Review

Challenges in accessing health information

Studies on information sources used by most information seekers, especially in Africa, have cited the following variety of sources used for accessing or receiving health-related information: health workers, television, radio, magazines, seminars (Bosompra, 1989; Jimam and Teyiremi, 2015); town criers, markets, churches, information centres, socio-political meetings, outreach, posters, lecture demonstrations and shows, audio-visual channels, and rural libraries (Bosompra, 1989; Ifukor and Omogor, 2013; Etebu, 2020).

In the process of accessing or receiving health information, certain challenges are encountered, and many scholars have discussed these challenges extensively. Internet-connected appliances and applications used for the diffusion of health information have developed and evolved at a pronounced and rapid pace over the past few decades and have also become more widely available as sources for accessing or receiving health information

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(Berkowsky and Czaja, 2018). In the developed world, mobile phone apps and digital information and communication processes related to health, wellness, and healthcare are used for managing health and making healthcare decisions (Berkowsky & Czaja, 2018; Czaja et al., 2018).

In the developing world, Clifford et al. (2008), as cited in Sokey & Adisah-Atta (2017), found that access to modern communication technologies and medical assistance is a challenge for most people, particularly in rural communities, where Lu et al. (2010) highlighted limited healthcare facilities, long distances to health facilities, a lack of effective and efficient transportation networks, a lack of health workers, and the inability to afford the cost of health services as primary barriers to receiving health services. Meanwhile, Achampong (2012) stated that most of Ghana's rural residents access the internet via mobile phones or not at all. Furthermore, internet penetration in rural Ghana is estimated to be under 1%.

Similarly, in a study conducted by Seidu et al. (2020) on the challenges women in Ghana face in accessing health, more than half (51%) of the women reported having at least one type of obstacle to receiving healthcare. Approximately 42% of the women said that collecting money for treatment was a barrier to getting healthcare. Additionally, 25% cited distance to a health institution as a barrier; 16% said they preferred not to go alone, while 6% revealed they needed permission every time they sought treatment.

In Tanzania, a study by Mtega and Benard (2013) reported several factors limiting the accessibility of information services in rural areas. These included high illiteracy levels, poor or unreliable information infrastructure, low income, a lack of electricity, and the high cost of ICTs. Other limitations reported by the study were the use of difficult languages when repackaging information, a lack of time to access information, and geographical isolation, which also limited some from accessing information services in rural areas.

Sokey et al. (2018) also listed network issues as one of the main obstacles to providing and accessing health information between health personnel and patients in Ghana. Moreover, Sokey (2016) reported that people in the Shai Osudoku District in the Greater Accra Region faced many barriers in their efforts to access health information. These challenges included a lack of energy to power up phone batteries or watch television, poor network connectivity, and a lack of finances. Other barriers included age, gender, level of education, and individual innovativeness.

Again, Ikoja-Odongo and Ocholla (2003) reported that Ugandan fishermen had a difficult time accessing information due to illiteracy. Other barriers to information access mentioned were not knowing where or how to obtain the necessary information and unreliability. According to Anasi (2012), revealed obstacles to access information to be insufficient finance, the high cost of ICT equipment and Internet connectivity, the issue of electricity supply, and a high prevalence of illiteracy. Similarly, Peprah et al. (2020) identified several challenges to accessing healthcare using mHealth; these included illiteracy, quality of service, and mobile network connectivity, among others.

Theoretical Framework

This study was underpinned by the Health Belief Model (HBM) which is extensively utilised in health behaviour research to understand people's perceptions and attitudes driving health actions (Champion & Skinner, 2008). The HBM comprises six key variables - Perceived Susceptibility, Perceived Severity, Perceived Benefits, Perceived Barriers, Self-Efficacy and Cues to Action (LaMorte, 2022). It was relevant for the study goals due to the following constructs:

Perceived Barriers emphasised obstacles to health behaviours. This aligned with identifying fisherfolks' challenges in accessing health information, so interventions could

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address these barriers. Perceived Benefits and Self-Efficacy related to personal beliefs about the positives and personal ability to take action. These shaped communication strategies to highlight benefits and bolster fisherfolks' confidence in seeking out health information. Cues to Action are triggers prompting health decisions - identifying these cues helped formulate dissemination methods resonating with the community. As shown in Figure 1, the HBM enabled a well-rounded perspective on fisherfolks' attitudes influencing health information behaviours to pinpoint tailored solutions centred on their needs and perspectives.

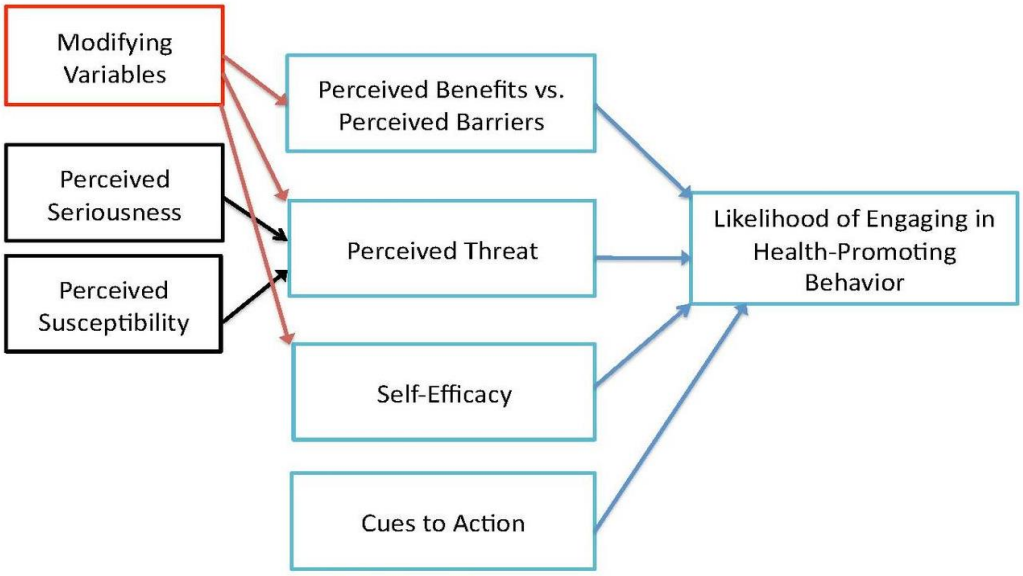

Figure 1: Health Belief Model Urich (2017)

Method

Research Type

The study employed a case study research design to gain an in-depth understanding of the specific context of health information dissemination among fisherfolks in rural Ghana. The qualitative methodology, underpinned by an interpretivist paradigm, was chosen to explore the participants' perspectives and experiences deeply.

Population

The population for this study was drawn from the Health Promotion Division of the Municipal Health Directorate of the Ghana Health Service and rural fishing communities in the Keta Municipal District. According to the Keta Municipal Health Directorate, the total population of fisherfolk in the fishing villages within the Keta Municipal District is approximately 9,402 as of 2021.The total number of public health workers in the Health Promotion Division was six (6), including the head of the unit.

Sample

The study focused on fisherfolks in three rural fishing communities within the Keta Municipal District in Ghana. The sample included 26 individuals: five public health workers and 21 fisherfolks. The health workers were selected using purposive sampling, while convenience sampling was used for the fisherfolks.

Research Location

The research was conducted in three rural fishing communities within the Keta Municipal District in Ghana; Afiadenyigba, Havedzi, and Kedzi. These locations were chosen

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due to the vital role of fishing in the local agricultural economy and the presence of health services provided by the government through the Ghana Health Service and Christian Health Association of Ghana.

Data Collection

Data were collected through semi-structured interviews with public health workers and focus group discussions among the fisherfolks. These methods allowed for a flexible and interactive approach to gather rich qualitative data about the participants' health information needs and experiences.

Data Analysis

The collected data were analyzed using thematic analysis, following established guidelines to ensure rigor and validity. The analysis focused on identifying patterns and themes related to health information dissemination practices and challenges in the studied communities. To maintain confidentiality, participants were assigned code names during the analysis process.

This study focused on enhancing health information dissemination methods for fisherfolks in rural Ghana, specifically within three rural fishing communities in the Keta Municipal District.

To avoid confusion and conceal the identities of the participants during the analysis, all of them were given code names to help identify each of them and how they responded to the questions. The five participants for the interviews, that is, public health workers with the GHS, were called P1, P2, P3, P4, and P5. The 21 participants for the focus group discussions—that is, fisherfolk—were called F1, F2, F3, F4, F5...F21.

Result and Discussion

The study involved 26 participants, including 21 fisherfolk and five public health workers. The fisherfolk were aged 27–60, with 14 males and 7 females. They had varying education levels and years of fishing experience. The public health workers were 36–48, all married except one, and had tertiary-level education. Their experience ranged from 9 to 14 years.

RQ1: What are the challenges of fisherfolk in accessing/or receiving health information?

Individuals in Ghana's rural communities (Aryee, 2014) lack access to healthcare services and vital health information due to numerous factors, including a lack of healthcare facilities and a poor road network. Identification of the challenges fisherfolk face when accessing health information serves as a yardstick for evaluating or measuring the progress or impact of the health information disseminated to them as well as the methods used. This theme describes the challenges fisherfolks face when accessing health information. During the focus group discussions, the participants enumerated the challenges they face in accessing health information. These included the following:

Financial constraint: Several participants stated that due to limited access to cash, which is needed to cope with health costs, they find it difficult to access information.

"Financial challenges, when something is happening to someone, going to the hospital is the only way we will be able to solve the problem and it is challenging due to money issues. Because of that, he will not go. So we rely on the lady who sells drugs for health information and sometimes it brings about self-medication." F1 opined

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Participant F9 added:
"I will say the challenge is koba [money]. *Because over here, our hospital is far away. When....there is no money, you can't go to the hospital because...it is the car that will take us there. When you stand by the roadside, the vehicle will take you there, but the money is the challenge... unfortunately, we rarely get them to educate us on health issues"*

Access to health service and health personnel during emergencies: Participants expressed their frustration with the National Health Insurance Scheme. According to participants, they have registered for the NHIS Card to receive healthcare. But when they visit the hospital, those who do not have the card but are ready to pay for healthcare are attended to immediately before those with the card. They also complained about the absence and sale of medicine by some health workers.

"They asked us to register for health care, which we have done, but when we get to the hospital, they will not pay attention to us, so we spend long waiting times. Those who are ready to pay out of their pockets are attended to immediately before those of us." F2 explained

Additionally, participant F21 highlighted that:
"...health [NHIS Card] *has woefully failed to serve the purpose for which it was created. The less said about health dissemination efforts by the scheme, the better. The way they asked us to register for health is not working the way the look into health needs. Because of that, you must think twice before going to the hospital."*

These findings are in line with the findings of Alhassan et al. (2016), who conducted a study to explore the financial and operational sustainability threats to the National Health Insurance Scheme (NHIS) in Ghana. The researchers alluded to the differential treatment of NHIS-insured and non-NHIS-insured clients. That is, the general perception among NHIS-insured clients that they were not getting good-quality health care like their counterparts paying out of pocket, coupled with longer waiting times and poor attitudes of health workers towards clients. Other participants also reported that the community has a clinic, but health personnel working there have no accommodations in the community. Because of this, they do not stay with members of the community to attend to emergencies.

"We have a clinic. However, people working at the clinic have no accommodations in the community. As a result, when they close from work, they leave. When something unfortunate happens in the evening or at night, you have no access to health worker for information. There's a clinic, but there are no health personnel to call on for help in the evening or at night. That is the greatest challenge. It is the first and foremost challenge before getting to the other challenges." F5 asserted

Negative attitude of health personnel: Most participants also lamented the attitude of some health personnel, which discourages them from accessing health information.

"...excuse me when something happens to someone suddenly, and they send the person to the health facility which is not a big one...the clinic can't they work on the person to give her some relief before rushing her...but they "push" that she should rather be sent to the big hospital because they can't treat her...by the time they take her there what would have happened, would have happened...if she will die, she would have died. Such things they have been doing has

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made some of us lose interest in going to the hospital because something that they can do for you to gain some relief, before asking you to go to the big hospital...they don't...My sister...the thing happened to her suddenly. She was rushed to the clinic. They said they couldn't work on her; she was rushed to the big hospital but excuse me, she passed away. Such thing the small hospital [clinic] *in our community have been doing is not fine."* F18

Further, participant F20 added that some individual health personnel are extorting money from them.

"...probably they [health personnel] *have realised that some of us are ignorant of what health* [NHIS Card] *covers and are extorting money from us."* F20

Poor network connectivity

"unreliable network connection..." F15

Poor road network

"Bad road network and access to means of transport..." F14

Other participants added that because of the bad state of the roads, cars are not available to help convey or rush pregnant women in labour to the hospital. They must resort to using motorcycles.

"...our road network; it is not good...motorable. So, when your wife gets pregnant and is in labour because our road network is not good, cars are not available. So, you have to call for a motor to rush the patient to the hospital...it is a problem...there's no maternity facility in the community... unless you have the contact of a nurse before you can get immediate attention." F3

Time constraint: The findings of the study indicate that most participants in the study tend to prioritise opportunities to fish over health. The only time they access health information is when they have deteriorating health conditions. Participants also report that accessing health information is not something they do. They attributed this to their busy work schedule.

"Honestly, to look for health information...I don't...no, because of work...we don't, I don't do it. Not that we do, we don't...not at all." F11

Another participant added that:

"...at times nurses organise durbar here and invite other nurses to talk on health issues. Always when they come, I am with them...in their midst and what they teach,... I learn a lot from them. Most of my colleagues, especially the youth, don't come. I always ask them to sacrifice a day of their working days and come out and at least listen to them...whatever they have for us, but they don't. It is only a few of them that show up." F8

Strengthening methods of health information dissemination

This theme describes ways of strengthening health information dissemination methods for fisherfolks in rural Ghana**.** Sub-themes generated from the analysis of the face-to-face interviews and focus group discussions with the public health workers and the fisherfolks respectively, included the following:

Provide support: A participant outlined that they need support in the form of transportation to enable them to visit the fishing communities and equipment such as public address systems and megaphones. According to the participant, when these supports are provided, they could

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visit the communities often since behaviour change is not a day thing.

"We need support because even from here to the fishing community, you see the distance. So, if we don't get the means of transport to go there... So, those are the means we can go there and anytime, we want to go, we too must prepare our information to send there...a times when you go there, there is light out. Like when we have the err this err...the chargeable public address system...or the megaphone, those things we can do...when there is light out. So, those are the necessary things we need to improve upon our...when there is time, for our side we can be going there often ...non-fishing day to talk to them, and some information we can just start and then we end it...or when we do it, we can go and do it again. So, that they will have...enough explanation and follow. Because...behaviour change is not a one-day job." P1

The use of audio-visual media: Another participant also outlined the use of art, drawings, and catchy jingles to disseminate health messages. The participant also suggested the use of video shows and the theatre arts to send out health messages. Similarly, media like YouTube, Twitter, and Instagram could be used to send out health messages, but the messages should be in the local language, including minority languages.

"...we can use the art, the drawings, the jingles...jingles with nice beats and clear messages. If we get catchy jingles, not jingles that are raw, it doesn't pick, it doesn't catch the audience, then it becomes very difficult and then jingles that will like catch up with the youth, the younger one like the primary school children...with our posters, it is good that we make posters, but some people, most, majority of us cannot read our local language, we can...the truth is, we cannot read. We can read in English. Some, a few people can read in their local language, but you will see the arts, and how it goes. So, if they will do it in a way that, without any writing...to portray the message, I want to carry across, it will be far better than printing err posters and flyers that have a whole lot of words, fewer pictures, more words, that people cannot read, and it becomes a waste in the community. It is just a waste of money, and we can use channels like video shows. It doesn't happen at this place, because here everything bores down with funds. When you are going to do a video show, it must be in the evening...rural communities video shows can work and then maybe, the theatre arts just to send out some health information. But if you want to do the other ones, other media the YouTube, Twitter, and Instagram, we can channel some of our messages there. It will work for us, just to send the message across. But if you are doing it at those channels, it should be in our local language...dialects, minority's languages must be included in our information dissemination." P2

Other participants outlined visiting fisherfolk through home visits, organising an open forum for fishmongers, and meeting market queens to reach fishmongers.

Preferred methods or channels to access health information: The majority of the participants stated that they prefer to receive health information through interpersonal channels, while others prefer radio, and a few of them prefer television.

"I would prefer community engagement where the whole community will assemble for a health talk, visit of health workers." F5

While participant F12 added:
"I`m okay with the current methods. That's community meetings, durbars, radio and TV. If there is any addition, then I would suggest that the teaching [health information]

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is recorded and played at our community centre from time to time to serve as a reminder."

Others also suggested that health personnel should organise house-to-house visits like the political parties do to get their message across to the electorate and that attendance at meetings on health should be made mandatory.

"I will suggest house-to-house visits...and attendance at meetings about health should be made mandatory and penalties imposed on any member of the community who fails to attend." F3

Preferred language to access health information: The majority of the participants preferred to access health information in their mother tongue, Ewe. The reason given is that it is the language they are familiar with and understand well.

"I will say that in our community, Ewe is the language that we speak. So, when Ewe is used, everyone will listen to it. But when it is in English, it will worry some of us... Some of us haven't stepped foot in... before. So, the majority will not understand what the person says." F3

Furthermore,

"The English language is not everything that you will understand; they will not even say everything. When Ewe is used, all of us will understand; we will know what they say, and I don't think anyone will say they haven't heard what was said. We will not need any interpreters. They should use our language, Ewe. That's how it will benefit all of us." F8

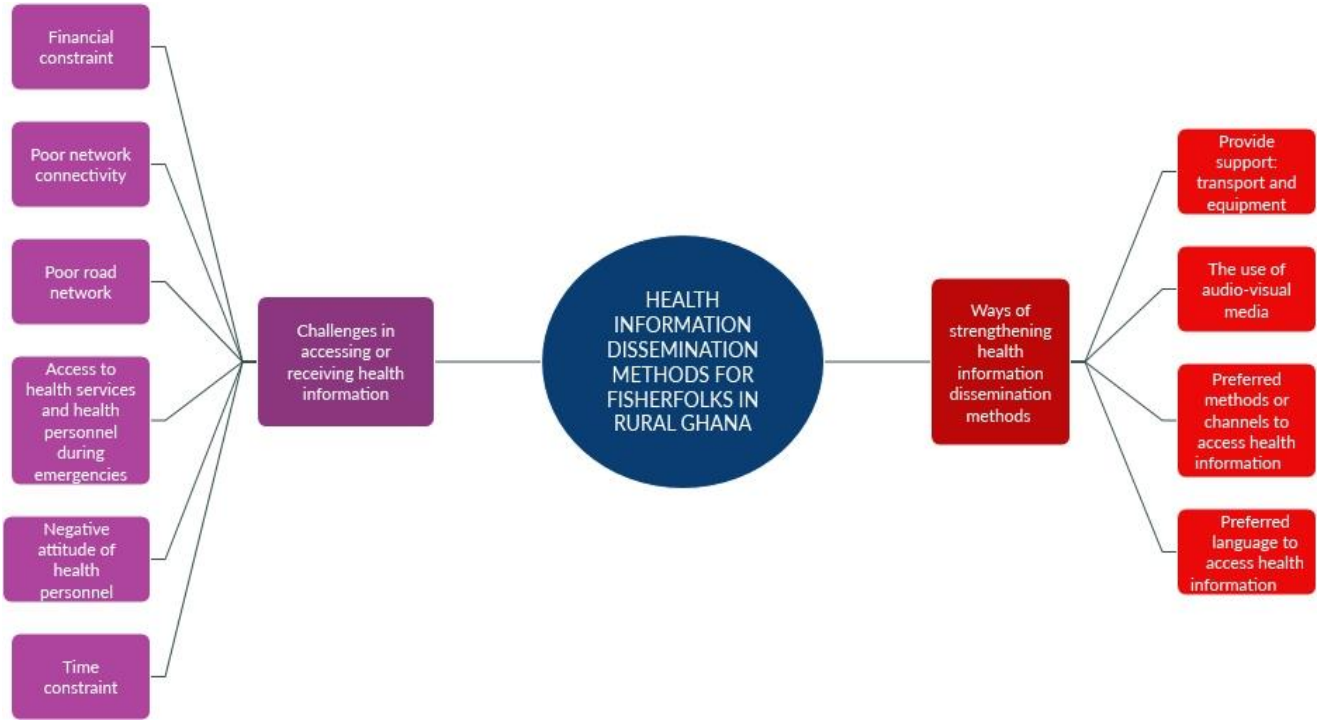

Figure 2. Mind Map Result

The mind map above was developed based on findings from data analysed using NVivo 14. The map presents a summary of the data analysed. The challenges identified by fisherfolks have been listed on the left side of the diagram. These include financial constraints, which likely limit the ability to seek health information and services; poor network connectivity, hindering access to digital health resources; and an inadequate road network, which complicates travel to health facilities. Additionally, difficulties in accessing health services and

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health personnel during emergencies, the negative attitude of health personnel, and time constraints further exacerbate the issue, creating barriers to effective health information dissemination.

To address these challenges, several ways to strengthen health information dissemination methods were highlighted on the right side of the diagram including providing support in terms of transport and equipment which help overcome physical and financial barriers. Utilizing audio-visual media is recommended to facilitate better understanding and retention of health information. Furthermore, the findings highlight the importance of using preferred methods or channels to access health information, which might include house-to-house visits, radio broadcasts, or television broadcasts, depending on what is most accessible to the fisherfolks. Lastly, delivering health information in languages preferred by the fisherfolks is crucial to ensure comprehension and engagement with the health information provided.

Discussion

This investigation explored the challenges fisherfolk faced in accessing health information and ways to strengthen health information dissemination methods for fisherfolk in rural Ghana. The results of the investigation are discussed in this section.

Concerning the hurdles faced in receiving or accessing health information, the majority of fisherfolk in the study stated financial hurdles. This result is similar to that of Seidu et al. (2020), who reported that women in Ghana face financial constraints in accessing healthcare. It is also comparable to Peprah et al. (2020), who claimed in their study that most people sought healthcare from informal healthcare providers due to the cost involved in accessing formal healthcare.

The research finding supports previous research that also suggested that access to health in rural communities is constrained by distance to a health institution, the absence of or inadequate health personnel, and inadequate health facilities (Seidu et al., 2020; Lu et al., 2010). The outcome of the investigation is also similar to that by Mtega & Benard (2013), Sanni & Neema (2020), Seidu et al. (2020), Peprah et al. (2020), and Sokey (2016), which reported poor or unreliable information infrastructure, lack of funds, low network connectivity, and distance to a health institution as challenges rural communities faced when accessing health information. Again, the results of this study are similar to those of Mtega & Benard (2013), which revealed a lack of time as a hindrance to accessing information services in rural areas of Tanzania. Ikoja-Odongo and Ocholla (2003) also reported that several Ugandan fishermen in their study perceived accessing information as a waste of time, while others lacked the time to hunt for information.

The outcome of this study seems to suggest that fisherfolks tend to prioritise opportunities to fish over health. It also explains why, in rural communities, access to modern communication technologies like the Internet and medical assistance is a challenge for most people.

Finally, to strengthen health information dissemination methods for fisherfolk in rural communities, the results of this study revealed that public health workers with the Ghana Health Service working in deprived rural communities face logistical and distance challenges in disseminating information. This finding concurs with studies in Tanzania and Ghana (Mtega & Benard, 2013; Peprah et al., 2020), which suggested insufficient basic equipment, distance, and transportation as some challenges faced in disseminating health information to rural communities. This implies that reliable information service infrastructure, which could be physical or electronic, is required for health information to be disseminated from and to rural communities. Indeed, it is critical to strengthen health information dissemination methods for

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fisherfolk in rural communities and rural development activities in general. The results of the study also suggested that since most people cannot read, audio-visual media (i.e., video shows, theatre arts, drawings, or art) could be used in disseminating health information in the language the community is familiar with (Kyeremeh, 2016). This concurs with the study of Bannor et al. (2017) and Sokey (2016), which indicated that people prefer health information to be disseminated in visual form. Since Sokey (2016), most of them are illiterate or do not like reading Bannor et al. (2017). Further, given the predominately low level of literacy in rural communities, audio-visual media (Anasi, 2004) holds the key to effective health information dissemination. Additionally, arts-based approaches to the dissemination of health messages (Bunn et al., 2020) will provide a platform that will facilitate inquiry, achieve significant reach, and support demonstrable health-related change in rural communities. Again, the finding reveals that media like YouTube, Twitter, and Instagram could be used to send out health messages, but the messages should be in the local language. This result seems to be similar to that of Bannor et al. (2017), who reported that health professionals in Ghana see social media as an effective tool for disseminating health-related messages to the public. Fayoyin (2016) also investigated the use of social media for the dissemination of health information in Africa and reported that numerous interventions have been implemented using various social media tools, platforms, and devices. The outcome of this study also attested that one way to appeal to the interests of a targeted audience and thus increase the impact of health information dissemination is to consider their interests and fuse them with health information dissemination activities (Bannor et al., 2017).

The findings of this research tend to reinforce earlier research that lack of or poor information infrastructure and geographical isolation hinder information dissemination and access in rural areas. Therefore, there is a need to improve rural infrastructure through accessible road networks and information infrastructure. It also reiterates the fact that in packaging health information for rural communities, the language and media familiar to them should be considered.

Conclusion

In their quest to get information to improve their health, fisherfolk in rural communities access various sources available to them, including interpersonal channels and mass media. However, in accessing the information, the investigation discovered that fisherfolks faced several hurdles, including financial constraints. Other challenges identified included poor network connectivity and a poor road network. The findings also revealed a lack of access to health services and health personnel during emergencies. The negative attitude of health personnel was another challenge participants in the study faced when accessing health information. A few of the respondents indicated a lack of time as a barrier to accessing health information.

To strengthen health information dissemination methods for rural fisherfolks it is necessary to consider their preferred mode (including the language) for accessing health information and fuse them with health information dissemination activities. This would facilitate access and deepen rural fisherfolk's understanding of the health information disseminated. Furthermore, the provision of support by way of transportation and equipment and the use of audio-visual media as well as local language were identified by public health workers of the Health Promotion Division of the Ghana Health Service as ways to strengthen health information dissemination methods for fisherfolk in rural communities.

Implications of the Study

Based on the results of the study, the following recommendations have been proposed

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to help strengthen health information dissemination methods for fisherfolk in rural Ghana:

Inadequate institutional support is a major obstacle to accessing information in rural areas (Mtega & Benard, 2013). Therefore, service providers and relevant government institutions should address the constraints of poor network connectivity and infrastructure (mobile phone networks and rural roads). This will strengthen health information dissemination methods and encourage the use of advanced digital media and communication technology by rural communities as sources of health information. It will also improve information accessibility in rural areas. Consequently, providing rural communities with manifold sources to access health-related information.

Similarly, the use of various digital media and mobile health (or m-Health) tools like MoTeCH (Mobile Technology for Community Health) to aid public health workers in the improvement of healthcare delivery in rural Ghana (Fayoyin, 2016; Sokey, 2016; Peprah et al., 2020) will address the challenges faced in accessing health information due to a lack of access to health services and health personnel. Further, this will not only help public health workers disseminate health information to a wider rural community and aid in health care delivery (Sokey, 2016), but it will also provide rural communities access to relevant, timely, reliable, and accurate health information to enhance their health.

Despite the important roles that public health workers play in providing healthcare services to rural communities in Ghana, particularly those in the most remote places in need of medical attention, public health workers face several challenges working in rural areas, including equipment and transport (Okyere et al., 2021; Sokey, 2016). It is recommended that public health workers in rural communities be provided transport and equipment to help in their effort to disseminate knowledge on health for effective prevention of diseases.

Limitations

The study's focus on three specific fishing communities within the Keta Municipal District might limit the generalizability of the findings to other regions or contexts. The convenience sampling method used for selecting fisherfolk could introduce potential biases in the sample representation. Additionally, the study primarily relied on self-reported data from participants, which might be subject to recall bias or social desirability effects. Nonetheless, researching the phenomenon across a broader geographical scope will involve more individuals and provide a greater understanding of the topic under investigation.

Suggestion for further study

Further studies are recommended to examine the phenomenon among fisherfolk in other rural populations in Ghana, using a larger sample size. These studies should investigate the potential and effectiveness of audio-visual media, particularly the arts, for disseminating health information in contemporary rural Ghanaian communities. Also, further research could explore the impact of implementing the suggested strategies for strengthening health information dissemination in these communities. Longitudinal studies could assess the long-term effects of improved access to health information on health outcomes and behaviors among fisherfolk. Additionally, comparative studies across different regions and fishing communities could provide insights into the diverse challenges and effective strategies for health information dissemination in various contexts. Lastly, further research could also investigate the role of technology and digital platforms in enhancing health information access and utilization among fisherfolk in rural areas.

Acknowledgments

We would like to acknowledge and thank all those who have given valuable

Addo, E., Adjei, E., & Kankam, P. K. (2024). Strengthening health information dissemination methods for fisherfolk in rural communities in Ghana. *Record and Library Journal, 10*(2), 195-211. DOI: 10.20473/rlj.V10-I2.2024.195-211.

contributions to this study.

Authors' Contributions

All authors have contributed to the final manuscript. The contribution of all authors: conceptualization, methodology, formal analysis, writing original draft preparation, writing review and editing. All authors have read and agreed to the published version of the manuscript.

Conflict of Interest

All authors have no conflict of interest related to this study.

Funding

This study did not receive any funding.

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