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NCD LITERACY IN RURAL GHANA: AFIGYA-KWABRE SOUTH DISTRICT CASE STUDY

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Article Info

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Abstract

Non-communicable diseases (NCDs) have emerged as a global health crisis, responsible for a significant portion of annual deaths worldwide. Despite the preventable nature of many NCDs, a lack of community-level knowledge and awareness exacerbates the issue. While extensive research has explored various facets of NCDs, there remains a noticeable gap in the literature pertaining to the knowledge and perceptions of NCDs in rural communities, particularly within the Ashanti region of Ghana. To address this gap, this study endeavors to assess the knowledge status and its impact on lifestyle choices among community members in the Afigya-Kwabre South District.

Introduction

Non-communicable diseases (NCDs) have become the primary health concern for most countries around the world (Kohori-Segawa et al., 2020; WHO, 2023). More than 36 million people worldwide die from non-communicable diseases each year(Coll-Seck, 2018; Abdulkadri, et al. 2021). This accounts for 63% of annual global deaths. The gravest aspect of these deaths from NCDs is that most of them could have been prevented if there was adequate knowledge of the NCDs at the community level. Many studies have been conducted elsewhere on risk factors of NCDs, clinical management, disabilities, and economic consequences (Baker, Kay, and Walls, 2014; Bluse, Tanaka, and Hawkes, 2017; Mills, 2018; Gbadamosi and Tlou, 2020) with few studies focusing on knowledge and perception. Therefore, very little has been done to assess the knowledge of NCDs and their effects on lifestyles in rural communities. A search through the literature could not locate many studies on community knowledge especially in the Districts in the Ashanti region in Ghana. Therefore, the knowledge status and associated lifestyle among community members in the Ashanti region are missing. This study seeks to ascertain the knowledge levels of community members on NCDs in the Afigya-Kwabre South District in the Ashanti region. The magnitude of NCDs' afflictions keeps surging despite numerous studies conducted in this area (Bign and Noubiap, 2019; Gouda et. al., 2019; Gyasi & Philips, 2020). At a global level, 7 of the 10 leading causes of death in 2019 were non-communicable diseases. (WHO, 2019). These seven causes accounted for 44% of all deaths or 80% of the top 10. All non-communicable diseases together accounted for 74% of deaths globally in 2019 (WHO,

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2020). Equally, in Ghana, the pattern of NCDs related mortality is not different from the global trend (Gyasi and Philips, 2020).

Aside from the high prevalence of morbidity and mortality, NCDs such as diabetes, strokes, hypertension, and cancers among others have caused a global financial burden hovering around an estimated cost of 6.3 trillion US dollars as of 2010 (Beaglehole et al., 2011; Malik, Willet and Hu, 2013; Collins et al., 2018). This burden is expected to increase to 13 trillion US dollars by the year 2030. Other studies have added that, to reduce the prevalence of non-communicable diseases, public health needs to engage more actively in the shaping of policies as well as education to influence health status within the communities (Ruby et al., 2015). Achieving this would very much depend on knowing the knowledge status of community members which would impact the nature of the education to be conducted in the population.

In this study, knowledge has been conceptualized as a simple awareness of an issue (a dichotomous measure) and as in-depth information (continuous variable). Literature seems to suggest that, there is an association among knowledge of non-communicable diseases, their prevention, and the lifestyle of the populace (Cioe et al., 2014; Biraguma et al., 2019; Gbadamosi and Tlou, 2020). Knowledge of the characteristics of non-communicable diseases is very critical in designing an effective noncommunicable disease prevention program. For instance, studies have found that the overall knowledge of non-communicable diseases is relatively low (Matheson et al. 2013; Jain et al. 2018; Gamage and Jayawardana, 2017). Again, studies such as Gamage and Jayawardana (2017) have acknowledged that knowledge about non-communicable diseases and healthy lifestyle practices is poor among the youth. Ramegowda et al. (2019) found a shred of contradicting evidence that states that young people are more aware of non-communicable diseases. This shows inconsistency in findings and further studies are needed to complement or contradict these findings. The ultimate aim of understanding the link between knowledge and NCDs is to shape the lifestyles of people. Having adequate information about community-modifiable lifestyle status is therefore important. For instance, a study by Jain et al. (2018) and WHO (2022) revealed that most of the participants have average knowledge of modifiable risk factors for non-communicable diseases. Therefore, this study seeking to ascertain the links among knowledge, social demographic status and modifiable lifestyle of community members would inform policy on measures to control NCDs, especially in low-resource economies like Ghana.

The Rationale of the Study

This study creates awareness of how knowledge levels of non-communicable diseases among community members could help control their occurrence. It also educates the community members on modifiable lifestyles which could help to reduce NCDs. The findings of this study may serve as a reference for researchers, particularly, those interested in rural communities studies.

Lastly, the validation of the research outcomes to the community members would guide them to shape certain lifestyle practices to promote healthy living.

Conceptual Framework

The study was conceptualized on knowledge, risk factors of NCDs, characteristics of NCDs and sociodemographic factors. These variables negatively or positively influence modifiable lifestyles taking cognizance of all confounders as shown in Fig.1.

Conceptual Framework on Knowledge of NCDs and Modifiable Lifestyle of Community Members

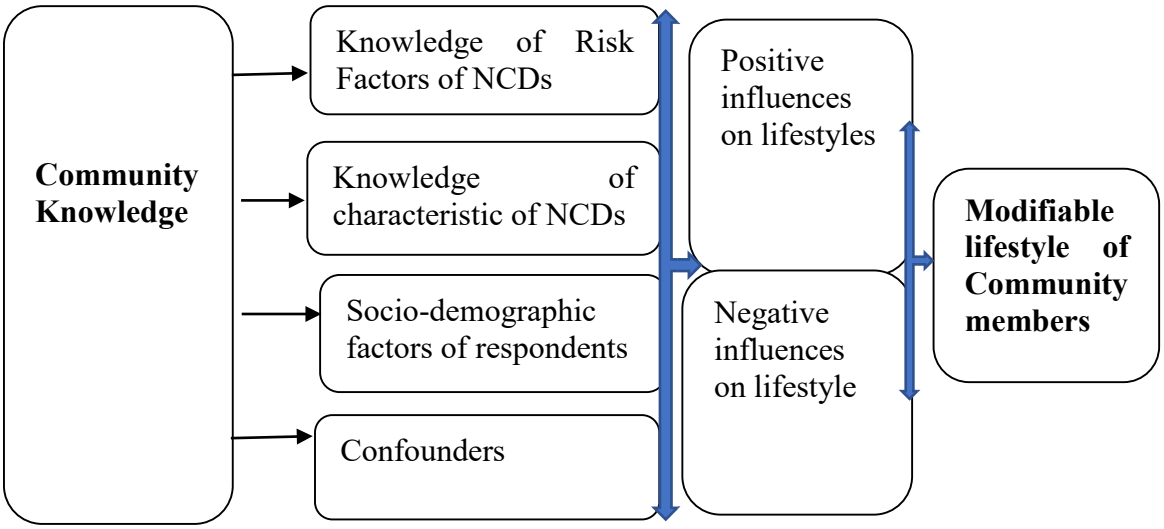

Figure 1: Knowledge of NCDs and Modifiable Lifestyle of Community Members

Theoretical Perspective The Theory of Knowledge Gaps

The knowledge gap theory was first proposed by Philip Tichernor (1970). The theory states that knowledge is distributed unevenly throughout society. The proponent posited that information is more accessible to the wealthier and more educated people than the poor people. The theory proposes that as more and more information is disseminated into a social system such as a community or a nation the "haves" gain more knowledge faster than the "have nots" so that relative differentials in knowledge between them increase, both at one point in time and over time causing knowledge gap (Gaziano, 2016). Earlier studies such as Viswanath et al. (2006) used this theory to examine cancer knowledge and disparities in age. Others such as Fernando et al. (2020) found that the theory of knowledge gaps was a key theory in studying the impact of microfinance on non-communicable disease health indicators and outcomes. The theory of knowledge gaps was used to apply to this study since the study assumes that, a significant knowledge gap exists about non-communicable diseases among community members in their locality. We are not sure about the gap in knowledge on NCDs among community members in AfigyaKwabre District. By conducting this study, the knowledge level would be ascertained to inform policy.

Materials and Methods Data Setting

The study was carried out in five (5) communities in Afigya-Kwabre South District from August 2021 to June 2022.

Study Design and Research Approach

The study was a cross-sectional study with a quantitative approach involving 504 participants.

Study Population

The study population comprised all the residents in the five (5)communities in Afigya-Kwabre South District in Ashanti Region.

Inclusion and exclusion criteria

All residents in Afigya-Kwabre South District who are adults over 30 years and consented to participate in the study. The exclusion is people who are not staying in Afigya-Kwabre South District. Again, people who are less than 30 years old were also excluded. The study also excluded people who did not consent to be participants.

Sample Size and Sampling Technique Sample Size

The sample size was determined using Yamane (1967)'s formula that is with □5% precision. That is

$$n = \frac{N}{1+N(e)^2} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1)$$

Where n = sample, N = pupolation size,

e $(sampling error)$ *also called level of precision* = error limit or the critical value of the observation.

For the population of N= 1800, n=1800 /1+100 $(0.05)^2$ =500.

= 1800, n=1800 /1+100 (0.0025)

= 1800, n=1800 /1+0.25

1800 / 1.25

n = 1,440

We then decided to cover 35% due to financial constraints as the study is been financed by the authors themselves.

Therefore n = $\frac{35}{100}$ x1440

n = 505 respondents

Sampling Technique

All the communities in the district were written on pieces of paper and a random selection of five (5) communities was done. The researcher divided the sample size of 505 by 5 communities to get 101participants. This means that 101participants were interviewed in each community. Within the communities, individuals were interviewed based on chance. Interviews were conducted in streets, shops, houses, workplaces, and markets among others.

Study Variables

The study investigates the socio-demographic factors, knowledge of NCDs, prevalence of NCDs, categories of NCDs, health care options for NCDs, challenges of seeking health care for NCDs, and impact of knowledge of NCDs on the lifestyle of community members.

Ethical Consideration

Ethical clearance was sought from the Committee on Human Research, Publications, and Ethics (CHPRE) of the Kwame Nkrumah University of Science and Technology (Ethics number CHRPE /AP/437/22. The researcher first explained the purpose of the research to the participants. The study participants were assured of anonymity and any information given was not disclosed to a third party. They were informed that taking part in the research was voluntary and they can opt out when necessary. Those who agreed to participate in the research were given consent forms to sign and date. The questionnaires for the study were identified by codes to ensure anonymity.

Data Collection Instrument

The study used closed-ended questionnaires. The questionnaire had four sections: Section A: socio-demographic factors, section B: knowledge level of non-communicable diseases, section C: how the knowledge level of non-communicable diseases shapes the modifiable lifestyle of community members, section D: how knowledge level of NCDs shapes their health-seeking behavior.

A pre-test was conducted in one (1) community within the district and this community was excluded during the actual fieldwork. Some of the questions were then amended based on our experiences from the pre-testing.

Data Management

The questionnaire was put in a google forms format with the link. The researchers knew that not all residents have smartphones and also are literate to use google forms. So, Research Assistants were trained to collect the data based on the responses of the participants. After the interviews, data cleaning was done. Since the data was in Excel format already, it was imported into STATA version 14.0 (Stata Corp LP, College Station, Texas, USA) for statistical analysis and results. Only the research team had access to the data. Data would be discarded 3 years after the publication of the research findings.

Data Analysis and Presentation of Result

Descriptive statistics were used to analyze the data. Frequencies and their corresponding percentages were shown. The analyzed data were presented in the form of Tables and Charts.

Limitations of the Study

The study was narrowed to community members whose expectant knowledge levels were low. Geographically, it would have been more helpful if the study was done in two or more districts to enable comparison and also to get a larger sample size to fit into the generalization of the results. To deal with these limitations, the study used questionnaires that were objective for all respondents to reduce their perceptions. To manage these limitations, time and resources were used effectively to achieve the study objectives within the stipulated time for completing the study.

RESULTS Sociodemographic Characteristics

The study found that the age category 46-50 years was the majority representing 27.0%. Females accounted for 58.4% and the educational completion category 'Primary' accounted for 31.7% of the respondents. Also, 60.4% were married with a parity of 1-3 times accounting for the majority (56.5%). In terms of occupational status, a little over two-thirds were in the informal sector as shown in Table 1.

Table1: Sociodemographic characteristics

Variables	Frequency	Percent
Age		
30-35	56	11.3
36-40	75	15.2
41-45	119	24.0
46-50	135	27.0
51-55	83	17.0
56-60	27	5.5
61+	83	17.0
Gender		
Male	289	58.4
Female	206	41.6
Education		
None	113	22.8
Primary	157	31.7
MSLC / Secondary	153	30.1
Tertiary	72	14.5
Marital Status		
Single	79	16.0
Married	299	60.4
Separated	50	10.0
Divorced	38	7.7
Widowed	29	5.9

Parity (Child Birth)		
None	48	9.7
1-3 Times	280	56.5
4-6 Times	149	30.1
7+ Times	18	3.6
Previous Employment		
Formal	151	30.5
Informal	344	69.5
Ethnicity		
Akan	339	68.5
Northerners	83	16.8
Ewes	38	7.7
Ga	31	6.3
Others	4	0.7

***Data has been presented in absolute and percentages**

Knowledge level of non-communicable diseases among community members

The study found that 77.7% of the respondents know that, NCDs are not transmissible from one person to another, 93.3% are aware NCDs can occur in males and females and can affect both the rich and poor (94.3%). Also, 95.4% of the respondents rightly mentioned that NCDs may occur due to unhealthy dietary behavior. It was noted that more than half of the respondents' right mentioned the correct answers as shown in Table 2.

Table 2:Knowledge level of non-communicable diseases among community members.

Knowledge of NCDs among Community Members		
Knowledge Statements	Yes (%)	No (%)
NCDs can be transmitted from one person to another	110(22.3)	385(77.7)
NCDs can affect both Males and Females	462(93.3)	33(6.7)
NCDs are prevalent among rich people	466(94.3)	28(5.70)
NCDs can occur among people in all categories of employment	475(96.0)	20(4.0)
NCDs are prevalent among young people	416(84.0)	79(16.0)
I have realized most people have NCDs in your community	403 (82.0)	92(18.0)
NCDs can occur due to unhealthy dietary behavior	472(95.4)	23(4.6)
When people are physically inactive, NCDs can occur	417(84.2)	78(15.8)
NCDs can occur through excessive smoking	474(95.7)	21 (4.3)
NCDs can occur through excessive alcohol intake	465 (93.9)	30(6.1)
One major cause of NCDs is spiritual forces	152(30.8)	343(69.2)
NCDs are more prevalent than communicable diseases (CDs)	400(81.0)	91(19.0)
NCDs cause more hospital admissions than CDs	400(81.0)	91(19.0)
NCDs cause more disability than communicable diseases CDs	386(78.0)	109 (22.0)
NCDs cause more deaths than communicable diseases CDs	371(75.0)	74(15.0)

***Data is presented in absolute figures with their corresponding percentages in brackets**

Knowledge of NCDs occurrence among occupational categories within communities

The respondents mentioned that NCDs occur most among unskilled individuals who are in the category of government employed (31.6%) and self-employed-unskilled (43.0%) as shown in Table 3.

Table 3: Knowledge of NCDs occurrence among occupational categories within communities

Employment Categories	Frequency (%)
Government Employed (Skilled)	61 (12.4)
Government Employed (Unskilled)	162 (31.6)
Self-Employed (Skilled)	66 (13.0)
Self-Employed (Unskilled)	215 (43.0)

Knowledge of the occurrence of NCDs and healthcare options

Knowledge of health care avenues available to NCDs inflicted persons were assessed. The study found that 41% of the respondent used herbal base options, 33% opt for faith-basedcenters, 19% visited the hospital and 7% believe in traditional medicine as shown in **Figure 2.**

Knowledge of the occurrence of non-communicable diseases and healthcare options

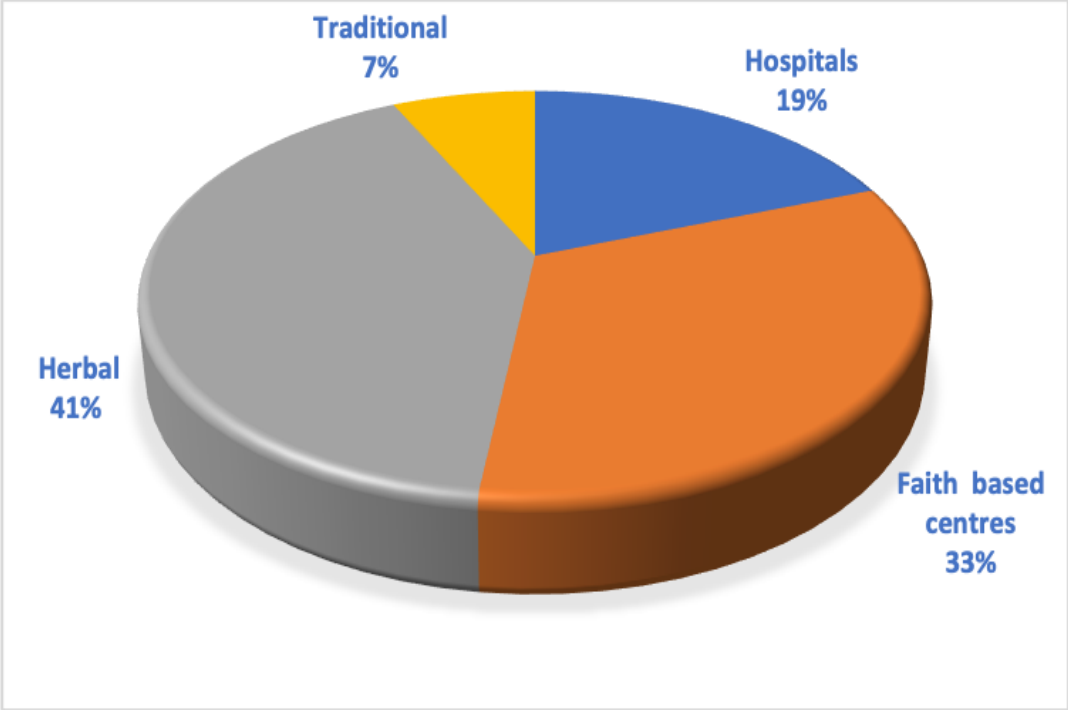

Figure 2: Knowledge of the occurrence of NCDs and healthcare Options

Knowledge of health care avenues and effective health care management

In terms of efficacy of treatment options, 47% of respondents believe that, faith-based centres provide effective treatment option for NCDs while only 6% believes the efficacy of the hospital setting as shown in Figure 3 below.

Knowledge of health care avenues and effective health care management

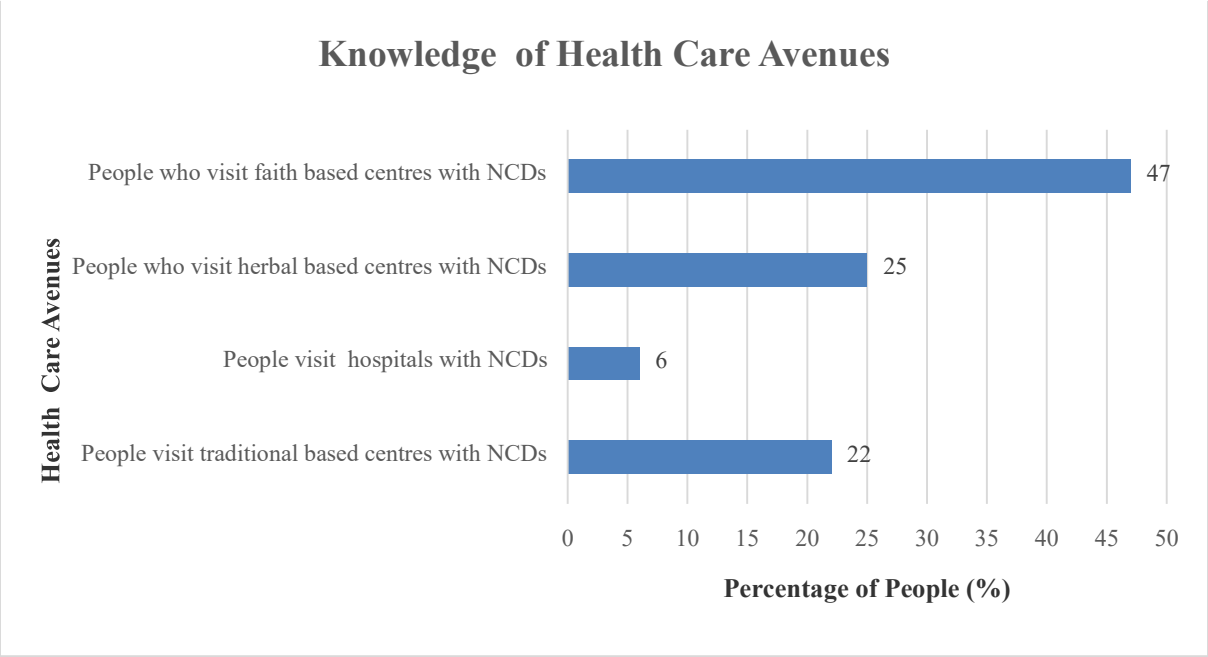

Figure 3: Knowledge of healthcare avenues and effective health care management Knowledge of modifiable lifestyles among community members

The study found that, 31.7% of respondents strongly agreed that, they take a lot of vegetables in a day while only 4.4% strongly agreed that, they take a lot of fruits a day. Again,51.3% of the respondents strongly disagree of eating early for digestion to be affected. We found that, 25.0% and 28.2% of respondents mentioned they agree and strongly agree of taking food with reduced oil respectively.

Moreover, 29.1% and 33.3% have the habit of taking foods with reduced sugar and salt content respectively. The study noted that, only about 24% mentioned that they do not patronize commercially prepared foods. Again, 51%, 54.9%, 52.2% of respondents mentioned that they undertake vigorous exercise, do not consume alcohol and do not use tobacco in any form respectively. About one-third each of the respondents mentioned that go to hospitals when they are unwell and also undertake voluntary health checks practices respectively as shown in Table

Table 4: Knowledge of modifiable lifestyles among community members

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Modifiable Lifestyle Statements	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Dietary Behavior					
I take a lot of vegetables every day	206 (40.9)	109 (21.6)	112 (22.2)	123 (24.4)	160 (31.7)
I take a of fruits every day	262 (51.9)	107 (21.2)	65 (13.0)	48 (9.5)	22 (4.4)
I eat early for digestion before I sleep	259 (51.3)	94 (18.7)	66 (13.1)	69 (13.7)	16 (3.2)
I make sure I eat food with reduced oil	124 (24.6)	94 (18.7)	18 (3.6)	126 (25.0)	142 (28.2)
I make sure I reduce my sugar intake	66 (13.1)	84 (16.7)	71 (14.1)	136 (27.0)	147 (29.1)
I make sure I reduce my salt intake	79 (15.7)	113 (22.4)	23 (4.6)	121 (24.0)	168 (33.3)
I don't often patronize commercially prepared Foods	246 (48.8)	104 (20.6)	33 (6.5)	89 (17.7)	32 (6.3)
Physical Activities					
I make sure I do some level of vigorous activities everyday	101 (20.0)	51 (10.1)	95 (18.8)	133 (26.4)	124 (24.6)
Alcohol Consumption					
I take very little or no alcohol	89 (17.7)	102 (20.2)	36 (7.1)	146 (28.9)	131 (26.0)
Tobacco Use					
I don't use tobacco of any form	96 (19.0)	69 (13.7)	76 (15.1)	126 (25.0)	137 (27.2)
Health Screening Practices					
I go to the hospital anytime am not well	136 (27.0)	76 (18.1)	88 (17.5)	154 (30.6)	35 (6.9)
I do frequent voluntary check-ups	133 (26.3)	121 (24.0)	65 (12.8)	84 (16.7)	101 (20.0)
I take my leisure hours serious	234 (46.4)	113 (22.4)	29 (5.8)	63 (12.5)	65 (12.9)
Health Care Financing					
My NHIS card is always valid to be used in case of ill-health	55 (10.9)	72 (14.3)	41 (8.1)	144 (28.6)	192 (38.1)
Others					
My knowledge of NCDs has shaped my lifestyle	73 (14.5)	68 (13.5)	102 (20.2)	141 (28.0)	120 (23.8)

Challenges of people afflicted with non-communicable diseases

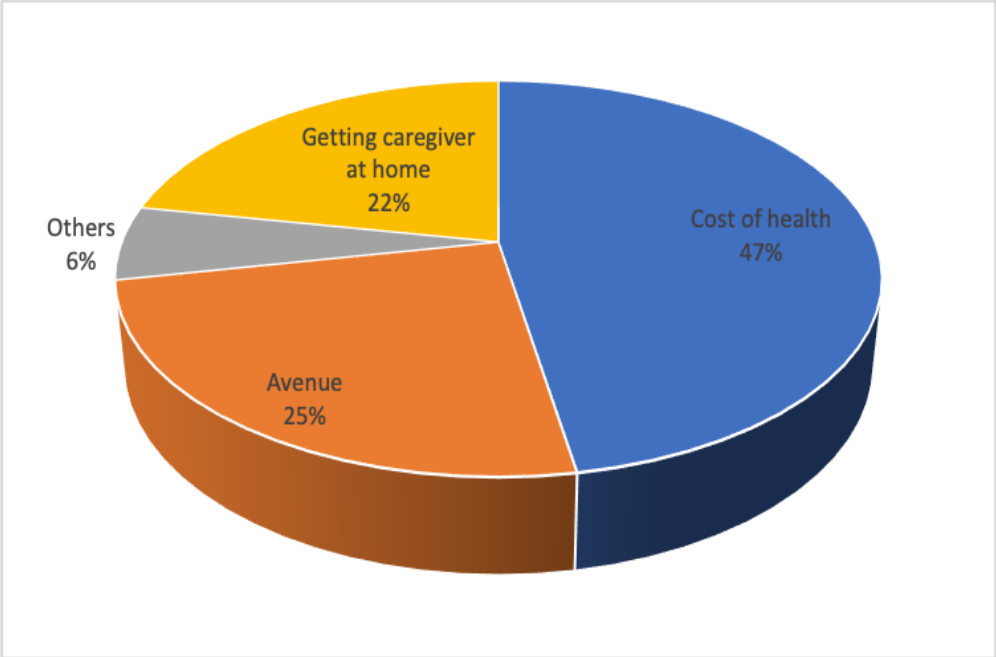

Figure 4: Challenges of people afflicted with NCDs

DISCUSSION

Many of the participants captured were within the age group of 45-50 years accounting for 27.0% of the respondents as shown in Table 1. Males accounted for 58.6% of the respondents and this is not in alignment with the population structure of the district in which females account for 119,600 (51%) and males 115,067 (49%) (GSS, population census, 2021). Again, our total male to female respondents ratio is not in alignment with the Ghana male to female population structure where females account for 15,631,579 (50.7 %) and males totaling15,200,440 (49.3%) per the 2021 population and housing census. In relation to educational status, the primary school completion category recorded the highest of 32.7%, followed by the Middle School Living Certificate / Secondary category with 30.1%. The status of educational completion rate is likely to have a relation with the knowledge status of people in many social, economic, and political issues in Ghana and the world at large. The study found that 60.4% of the respondents were married and the parity (childbirth) was 1-3 times (56.5%). We also found 69.5% of the respondents to be gainfully employed in the informal sector. This is in conformity with the employment structure of Ghana where about 89% are in the informal sector (Baah-Boateng & Vanek, 2020). Again, our assessment of respondents' ethnic affiliation also revealed that 68.5% of them were Akans, followed by Northerners (16.8%). This is so because of the nature of the study site which is one of the indigenous districts in the Ashanti region. Therefore, our ethnic orientation became aligned with Ghana's national ethnic orientation where the Akans form the majority with 47.5% (Ghana Demographic Profile, 2021).

Again, we assessed the knowledge status of community members based on some statements relating to the characteristics of NCDs. We noted that 77.7% of the respondents are aware NCDs cannot be transmitted from one person to another. This is consistent with several publications notifying the population that NCDs are non-infectious and are the results of several factors including genetic, physiological, behavioral, and environmental factors (GBD, 2019; Arboh, 2021; WHO, 2022). Again, 93.3% of respondents mentioned that NCDs afflictions cut across gender (male/female) and can also afflict both the rich and the poor as put forth by 93.4% of respondents. Also, we found that 84.0% of respondents asserted that, NCDs are prevalent among young people.

This is however not consistent or contrary to literature as there is no classified aged cohort defined and noted for NCD occurrence. However, previous studies have reported that people of all age groups, regions, and countries can be affected by NCDs. Usually, NCD conditions are often associated with older age groups, but evidence shows that 17 million NCD deaths occur before the age of 70 years (Ayernor, 2012; WHO, 2022). Children, adults, and the elderly are all vulnerable to the risk factors contributing to NCDs, whether from unhealthy diets, physical inactivity, exposure to tobacco use, harmful use of alcohol, biological disorder, and others. WHO has responded to this course through the inclusion of a target under the sustainable development goal (SDG target 3.4), which seeks to reduce the probability of death from any of the four main NCDs between ages 30 and 70 years by one-third by 2030 (WHO, 2022). Therefore, NCDs are likely to occur within each cohort though there is evidence of a prevalent and growing burden among older cohorts (de-Graft Aikins, et. al., 2012; Gyasi & Philips, 2019). The study found that 82.0% of respondents mentioned, NCD afflictions are prevalent among community members. For instance, a study conducted in Pacific Islands by Kessaram, (2015) reported that hypertension and diabetes prevalence in the communities exceeded 20% and 25% respectively. Pan (2016) also corroborated that, a study conducted in Hubei Province revealed that, 73.8% of the community members suffered from NCDs.

Our study respondents also exhibited good knowledge about the four main modifiable risk factors of NCDs. For instance, almost all our respondents confirmed that dietary intake, alcohol consumption, physical inactivity, and tobacco use can lead to the occurrence of NCDs within the population respectively. These assertions are consistent with studies reporting the prevalence of risk factors of NCDs (dietary intake, alcohol consumption, physical inactivity, and tobacco use) within the population (Bhagyalaxmi, Atul & Shikha, 2013; Wu, Guo & Chatterji, et. al., 2015).

In addition, our study found that two-thirds of respondents mentioned that, NCDs are not caused by spiritual forces within the communities. These ideas of the incantation of secret spiritual forces bestowing various sicknesses including NCDs on people have been cited in many reports. Religion is practically inseparable from every aspect of Ghanaian life and is an important determinant of health status (Watkins, et. al., 2013). In our part of the world, people believe that calamities and ill health are due to spiritual offenses and the anger of ancestors, evil spirits, wizards, or witches for the violation of spiritual protocols (Boutayeb & Boutayeb, 2005). The common perception is that 'sickness does not befall a person in a vacuum'. Therefore, illnesses such as stroke, and hypertension among others are perceived to be the work of spiritual forces rather than biological and lifestyle factors (Arboh, 2021). A study conducted in Ayawaso in Ghana revealed that hypertensive patients related more to the attachment of a supreme being which makes them place much more emphasis on spiritual healing than orthodox medication (Arboh, 2021).

On the knowledge of the prevalence of NCDs and communicable diseases, majority of the respondents mentioned that NCDs are prevalent in terms of the magnitude of people afflicted and also cause more hospitalization than communicable diseases. This is consistent with both hospital-based and community-based studies. For instance, the Annual Performance Reports of 3 institutions in Ghana (Komfo Anokye Teaching Hospital: 2011-2015; Korle Bu Teaching Hospital: 2011-2015; Ghana Health Service: 2011-2015) report that NCDs (hypertension, diabetes, strokes,etc) are always among the top ten causes of hospital admissions and deaths yearly.

Comparing knowledge of NCDs using occupational groups, our study found that, 43% of respondents mentioned that, NCDs are prevalent among self-employed unskilled labor and followed by government-employed unskilled labor accounting for 32%. This finding is consistent with several study outcomes reporting NCDs as prevalent among unskilled workers (Williams, et. al, 2018; Tipayamongkholgul, Kongtip & Woskie, 2021).

The ultimate aim of health care is to provide care for people afflicted with sickness. Our study found respondents perceived that 41% of NCD patients in the community seek care from herbal centers, 33% of NCD patients seek care at faith-based centers, and 19% patronize the services of hospitals. Herbal care and faith-based options attest to the earlier assertion that, one-third of respondents believe NCDs are due to spiritual forces acting against people. That assertion was also corroborated by the Ayawaso community-based study where Arboh, (2021) reported that 75.9% of the respondents believed their NCDs were caused by spiritual factors. The healthcare-seeking behavior of NCD patients is continent specific. Generally, the belief of the causes of the illness informs the health care options. In advanced countries where the belief of biomedical factors is the likely cause of illness, the likelihood of using hospitals is high. For instance, a study conducted among the elderly in Albania reports that 95% sought to obtain care for their chronic conditions through public healthcare providers. On the contrary, a study conducted in Sierra Leone revealed that health-seeking from formal health institutions is often the last resort and accessed largely once other options are exhausted (Idriss, et. al, 2020).

Subsequently, a little under half of our respondents mentioned that those who opt for faith-based centers for health care get the best NCDs management, followed by those who opt for herbal bases centers (25%) with 98 hospital care recording the lowest (6%). Once again, there are inconsistencies in the literature on the effectiveness of the health care options based on continent or sub-region specific.

We also assessed the perceived challenges NCDs afflicted people are likely to face within the system. We found that 47% of our respondents mentioned that the cost of health care is the greatest challenge, 25% mentioned getting the right avenue of health care, and 22% mentioned getting caregivers at home as a challenge. This cost implication is also variable depending on the components of costing. For instance, in a 16-country study conducted by Kazibwe, et. al., (2021), they found that NCDs' management costs in the Arab region are high; however, there is a large variation in the methods used to quantify the costs of NCDs in these countries, making it difficult to conduct any type of comparisons (Saleh, et. al., 2018). A systematic review involving 41 articles selected for the quantitative cost synthesis based on cross-sectional cost-of-illness studies, of which almost half focused on diabetes and/or conducted in South-East Asia revealed that the average total costs per year to a patient/household in LMICs of CVD, cancers, and diabetes were $6055.99, $3303.81, $1017.05, respectively. All narrations under our discussion postulate that knowledge of NCDs, health-seeking behavior, and lifestyle dynamics are inseparable if health stakeholders are bent on stemming the tide of NCDs in our communities.

Conclusion

The study found that rural communities have moderate knowledge of the characteristics of NCDs and that has considerable implications forshaping their modifiable lifestyle practices. The study calls for more public health education and promotion in rural communities in order to achieve a more preventive health lifestyle in the midst of dwindling national resources on healthcare services delivery.

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