Access and Use of Healthcare by Ethnic Minorities in the Kumasi Metropolis, Ghana

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ABSTRACT

Objectives: Ethnic minorities are faced with challenges that hinder their use of health facilities, compared to their non-migrant colleagues. This study examined access and use of healthcare by ethnic minorities in the Kumasi Metropolis using the Andersen behavioural model (1995) as the underlying theory.

Methods: The study employed a mixed-methods design. The accidental and snowball sampling techniques were used to collect data from 207 respondents using questionnaires and interview and focus group discussion guides as instruments. Data were analysed using Pearson's Chi-square tests and multiple regression model with a significant level expressed at a probability of ≤0.05. The qualitative data on the other hand were analysed thematically with quotes from respondents.

Results: Results show that 31.1% of the ethnic minorities in the central business district (CBD) and 28.1% in the periphery utilized healthcare services very regularly. Distance and insurance are the factors that show a statistically significant relationship with the use of healthcare. Qualitative findings show that among constraints to access and use of healthcare by ethnic minorities are distance, low access to insurance, medical cost, and staff-patient communication barriers. The Anderson (1995) model has been partially justified. The study limitations are the limited study area and sample size. The study has succeeded in using a behavioural model to explain the use of healthcare by ethnic minorities in a developing economy. A key recommendation made to improve access to and use of healthcare by ethnic minorities is making it easier for participants to enrol on the NHIS.

Keywords: Access to healthcare, ethnic minorities, cross-sectional design, mixed-methods approach, utilisation of healthcare, Kumasi Metropolis

Abbreviations

UNC: Universal Health Coverage

UN: United Nations

WHO: World Health Organisation

CB: Central Business District

NHI: National Health Insurance

NHIS: National Health Insurance Scheme

INTRODUCTION

Goal three of the sustainable development goals (SDGs) which centres on ensuring healthy lives and the promotion of well-being for all of all ages (United Nations (UN), 2015) is in tandem with the Universal Health Coverage (UHC) policy. In ensuring the attainment of this goal a group of people that needs attention is ethnic

minorities, yet their health needs and well-being, especially in Africa, are under-researched. Ethnic minorities are people with different cultures from the main cultural values of the area they live in (United Nations (UN), 2018). They are mostly migrants from within or outside the country of destination.

Some people migrate to other countries for economic and health reasons (Castelli, 2018) whilst others move within the same country, and embark on internal migration, due to economic reasons (Abdul-Malik, 2016). The push factors for migration include harsh economic circumstances, poverty and the unavailability of jobs, prolonged ethnic conflicts, income inequalities and poor living standards (Opare, 2003; Ziblim, 2013). Their conditions, especially regarding healthcare in the receiving countries, are not the best (Shepherd et al. 2018; Okoro, et al. 2017; Stockwell, et al. 2019). In the receiving areas or nations, newly arrived migrants are normally found in deprived areas and consequently reside in low-standard structures and under poor living conditions (Ziblim, 2013). Some pull factors are opportunities for employment and higher wages.

The issue of health and migration in most developed countries is highly considered in healthcare policy formulation (Mladovsky, 2009). This is in line with the World Health Organisation's (WHO's) objective of "Health for all" which recommends that we should ensure that ethnic minorities have equal access to healthcare services irrespective of their place in society; hence, emphasizing the fact that equitable access to healthcare services is a fundamental human right (Vulpiani, 2000). This may not be the situation in developing countries. Ethnic minorities' use of healthcare services is lower than their non-migrant colleagues (World Bank, 2006; Klein, et al., 2018). Because new migrants are often exposed to harsh environmental conditions and also mostly engage in the most tedious jobs, they are greatly exposed to several health problems (Scheppers, 2006; Suurmond, 2010; Runciman, 2009; World Alliance for Safety, 2005).

Furthermore, these migrants on their arrival engage in low-income jobs and also very tedious jobs and as such are mostly unable to access certain basic facilities such as healthcare due to their inability to pay for the service (WHO, 2017). The tedious jobs they are engaged in render them vulnerable to several health problems. A deeper understanding of the complexities faced by migrants in the process of seeking healthcare is very essential to improving their ability to access healthcare (Campbell, 2011). Other studies on the effects of health on ethnic minorities include the impact of COVID-19 (Tai, 2021), cancer health disparities (Zavala, 2021), general health disparities with indigenous population (Greenway, 2020), depressive symptoms (Missinne and Brackie, 2012) and mental health (Wallace, 2016). Their ability to access healthcare is based on their ability to procure insurance facilities (Acquah-Hagan, et al., 2021; Lee, et al. 2021).

In Africa, research work on healthcare uptake by ethnic minorities is very limited. The few works done were conducted outside the continent. Kanengoni, et al.'s (2020) work on improving health equity among the African ethnic minority through health system strengthening was a review conducted in New Zealand but not on the continent. Chauhan, et al.'s (2020) systematic review on the safety of health care for ethnic minority patients was universal so was not an empirical study targeting a specific geographical location in Africa. In Ghana that of Agyei-Baffour et al. (2013) on knowledge, perceptions and expectations of the capitation system in health care found that vulnerable groups including ethnic minorities have problems enrolling on the national health insurance scheme (NHIS), implying the problems they face accessing health care. His study did not target the utilisation of maternal healthcare problems faced by ethnic minorities in accessing healthcare. Ganle (2016) examined ethnic disparities in the utilisation of maternal healthcare in Ghana. In Ghana, and more especially, in the Kumasi metropolis, access of ethnic minorities to healthcare and their utilization have least been explored. A few works explored are on maternal care which concentrated on female migrants exclusively (Baada, et al., 2021; Badaa and Baruah, 2021). It is against this backdrop that there was a need to carry out this research. Specifically, this study sought to examine the accessibility and utilization of healthcare by ethnic minorities in the Kumasi Metropolis.

The objectives of the study, based on the research gaps identified, were twofold. Firstly, it examined the differences in the rate of utilization of healthcare services by ethnic minorities in the Central Business District (CBD) and peripheral areas of the Kumasi Metropolis. Secondly, it examined the sociodemographic factors that affect the utilization of healthcare by ethnic minorities in the CBD and periphery of the study area. The study was guided by two null hypotheses. The first hypothesis was that there is no statistically significant relationship between the utilization of healthcare by ethnic minorities by income levels; and, secondly, that

there is no statistically significant relationship between the holding of national health insurance (NHI) card and the utilization of healthcare by ethnic minorities. The literature review justified these hypotheses.

LITERATURE REVIEW

Concept of Ethnic Minorities

Ethnic minorities occur through the process of migration. "An ethnic, religious or linguistic minority is any group of persons which constitutes less than half of the population in the entire territory of a State whose members share common characteristics of culture, religion or language, or a combination of these" (United Nations (UN) 1996). For this study, the cultural bond that they share, different from that of the indigenous population, is emphasised. This is evident in the north-south migration in Ghana. Most of the migrants are from the north, mostly the Dagombas and Frafras, and also the Ewes from the Volta Region. The concept of ethnic minority is thus associated with migration.

Access and Use of Healthcare Services by Ethnic Minorities

Although migration is the norm and healthcare a natural right of every individual, ethnic minority patients seem to be confronted with challenges when using healthcare. Their use of healthcare is also lower concerning their non-immigrant counterparts (Aday, 2000; Anderson, and Huber, 2009). Yet, care providers often are unaware of these barriers. Most of their attention is directed towards language barriers and cultural differences (Blais, 1999). However, language and culture are by no means the only factors that may act as barriers hindering ethnic minorities' use of healthcare. Many ethnic minorities first attempt to solve health problems on their own, or in the circle of family members and friends. If one does not succeed, the help of spiritual healers is sought. The help of regular healthcare is often only called upon when the illness gets worse (Chauhan, 2020).

Again, the newly arrived migrants (ethnic minorities) often inhabit poor housing structures, live on low incomes, have a low level of education and as such are exposed to harsh conditions and these increase their risks of health problems (Scheppers et al., 2006). In a study by Lee (2021) on the convergence and income disparities in health insurance in the United States it was observed that while income was a significant predictor of health coverage, race/ethnicity was independently associated with lack of insurance. This vulnerable group of people, therefore, find it difficult to access healthcare. These challenges hinder their use of healthcare and cause them to alternatively resort to self-medication.

Theoretical and Conceptual Frameworks

This study employed the Andersen (1995) model of access and utilization. This and other explanatory models are explicitly explained and justification is given for opting for the Andersen model (1995) as the underpinning theory. This model has four components namely the environment, population characteristics, health behaviour and then outcomes. The population characteristics entail the predisposing, enabling and need factors, while health behaviour refers to the activities performed by the individual concerning healthy lives. Outcomes also refer to the effect of the interaction between the environment, population characteristics and health behaviour. There is a strong link between population characteristics and access. In the population characteristics are income and employment hence, the ability to pay for the cost of services. The problem the ethnic minorities face would be the ability to pay for the cost of services. The numerous variables captured in this model reflect the true situation in developing countries of which Ghana is no exception. The conceptual framework (Figure 1) is based on Andersen's (1995) model.

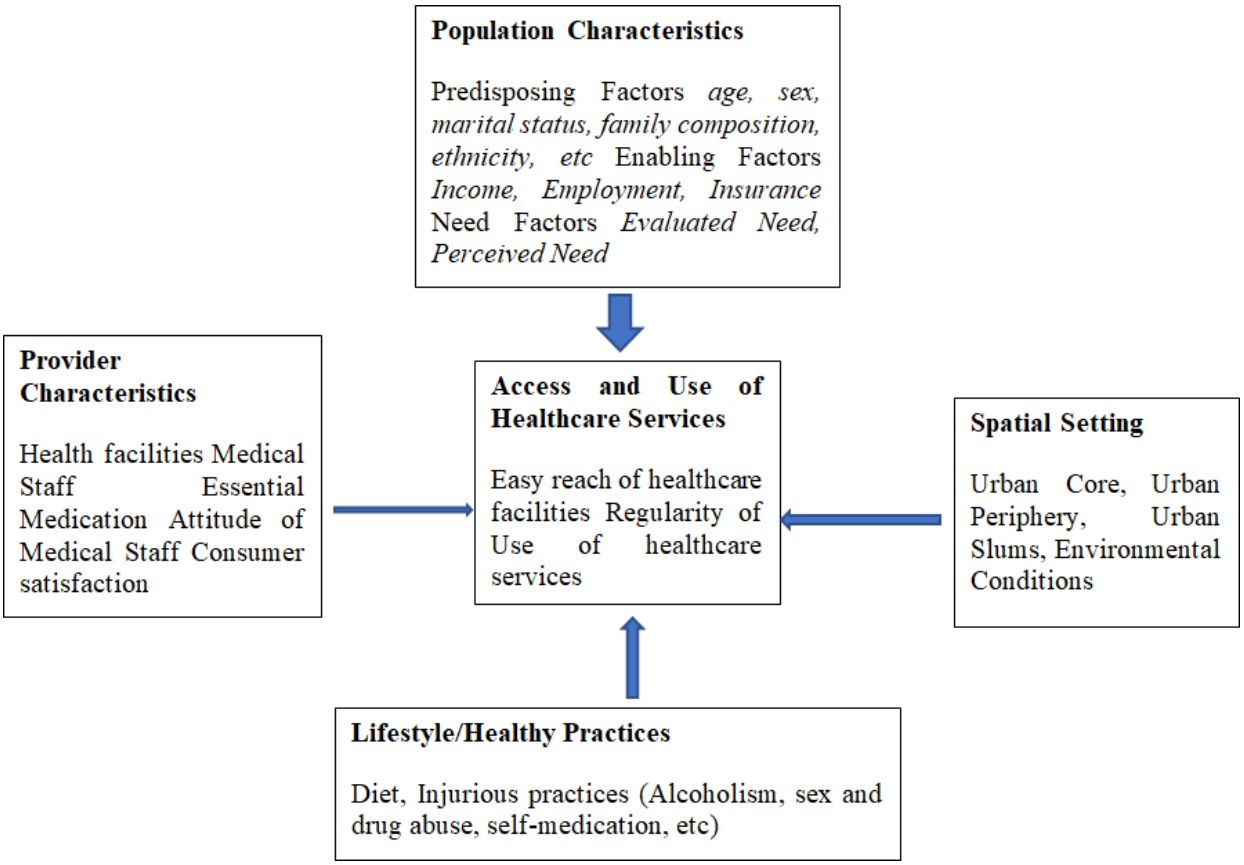

Figure 1: Conceptual Framework on Access and Utilisation of Healthcare Services

Source: Author's Construct based on Anderson, 1995.

From Figure 1, population characteristics, lifestyle/healthy behaviour, spatial setting and provider characteristics operate to determine access and utilization of healthcare by ethnic minorities. Population characteristics are defined to capture the predisposing factors, enabling and need factors. Predisposing factors refer to the socio-demographic and cultural factors that influence an individual in utilizing healthcare. Enabling factors on the other hand are the factors that facilitate the utilization of healthcare by an individual and need factors also refer to an individual's perception of the use of healthcare services.

Also, lifestyle/healthy behaviour captures personal health practices such as diet, and abstaining from injurious practices such as sex and drug abuse. Provider characteristics are defined as the unique features associated with healthcare providers that facilitate or inhibit the use of healthcare by individuals. It is defined to capture these factors: quantity and quality of medical staff, consumer satisfaction, doctors' communication skills and health workers' passion for the job and affective attitude. Environmental conditions which are captured under spatial settings affect the access and use of healthcare.

MATERIALS AND METHODS

Profile of Study Area

Kumasi Metropolis was selected for the study because it has a significant percentage of ethnic minorities among the cities in the country. It is one of the forty-three (43) administrative districts in the Ashanti Region. The population of Kumasi Metropolis (1,730,249) represents 36.2 per cent of the total population of the Ashanti Region (4,780,380). It comprises 826,479 males (47.8%) and 903,779 females (52.2%). Also, the Metropolis covers a land area of 214.3 square kilometres. The Metropolis has a population density of 8,075 persons per sq. km (GSS,

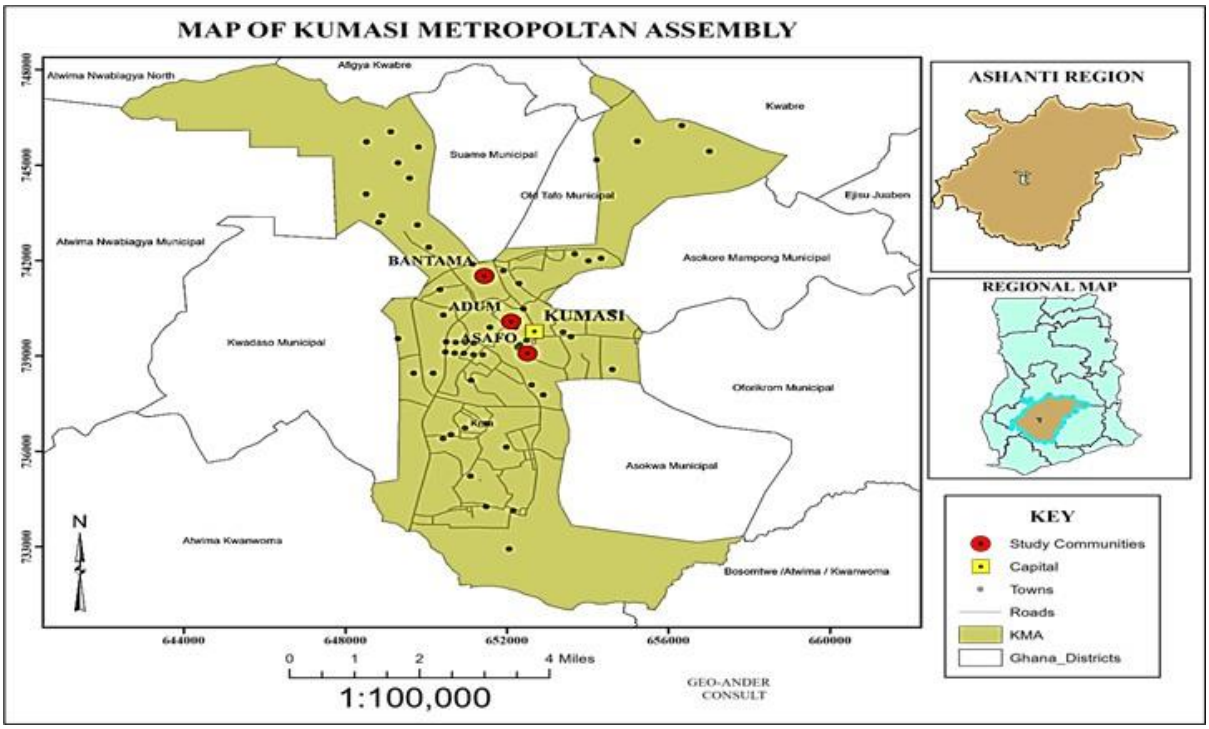

Fig. 2: Map of Kumasi Metropolis showing the Study Communities

Source: Cartographic Office, Department of Geodetic Engineering, KNUST-Kumasi, Ghana, 2020. 2012). The 2010 Population and Housing Census revealed that there are 929,203 migrants, constituting 53.7 per cent of the population in the Kumasi Metropolis. This implies that the present population of Kumasi Metropolis comprises less than half of persons born within the Metropolis.

Among the 929,203 migrants, 576,373 or 62.0 per cent were born elsewhere in the Ashanti Region. The remaining 335,458 migrants (36.1%) are persons born in other regions particularly the regions which share borders with Ashanti Region such as the Bono region (69455), 7.5 per cent; Central region (50,568), 5.4 per cent; Eastern Region (36,619), 3.9 per cent and Western Region (33,134), 3.6 per cent. The five northern regions together contribute 91,693 or about 10 per cent (9.9%) of the migrants to the Metropolis. Greater Accra Region and Volta Region together account for 63,989 (5.8%) migrants. About two per cent (1.9%) of the migrants (17,372) are from outside Ghana. Within the Kumasi Metropolis, there are numerous health facilities and among them is the Komfo Anokye Teaching Hospital (KATH) which is a public facility. In addition to this public facility, there are other health facilities like clinics, polyclinics, maternity homes and medical laboratories that render health services to the inhabitants.

Study Design and Variables

The study was conducted in Kumasi (Adum, Asafo and Bantama communities (Figure 2) and made use of a descriptive cross-sectional design. Also, it employed both quantitative and qualitative approaches (mixed methods) to give accurate and valid data for the study. The dependent or outcome variable was 'utilization of healthcare'. The independent or predictor variables include income, age, health insurance, gender, number of children, marital status, education, religion, employment, health status and place of residence which are derived from the theoretical framework.

Sampling, Data Collection and Analysis

The study respondents were selected ethnic minorities aged 18 years and above because age 18 is the legal age of maturity in Ghana (Constitution of the Republic of Ghana, 1993). With the overall migration figure of ethnic minorities (from the five northern regions, Greater Accra and Volta regions) in the Kumasi Metropolis being 155,682 and an estimated migration rate of 16% (GSS, 2014), a representative sample size of 207, which was used for the questionnaire survey, was drawn from the target population based on the Lwanga and

Lemeshow's (1991) formula for sample size estimation for health research. Migrants from the 7 regions were used as the basis for the sample size determination because the pilot survey showed that most of the migrants came from those regions. The sample size that emerged, with that used for the qualitative study, was found credible for a study in which the study population was about homogenous.

The formula is as follows:

$$n = (z\alpha)^2 \times \left(\frac{p(1-p)}{d^2}\right)$$

Where

n= estimated required minimum sample size

Zα=5% level of significance which gives the percentile of the normal distribution as 1.96

d= level of precision of uncertainty of margin of error estimated to be 0.05

p= estimated ethnic minority rate (16%) in the study area

$$n= (1.96)^2 \times \left(\frac{0.16(1-0.16)}{(0.05)^2}\right)$$

$$n =3.8416 \times \left(\frac{(0.16\times0.84)}{0.0025}\right)$$

$$n =3.8416 \times \left(\frac{0.1344}{0.0025}\right)$$

$$n = 3.8416 \times 53.76$$

$$n = 206.52$$

$$n = 207$$

For each community, accidental and snowball sampling techniques were employed in selecting the respondents. The first respondent was accidentally engaged and he directed the researcher to the next respondents and the next respondents also led the researcher to other respondents in a snowballing manner. Three communities, Adum (Central Business District (CBD)), Bantama and Asafo were selected for the study. Adum, the CBD, was purposively sampled and designated as the core whilst Bantama and Asafo were selected randomly and designated as the periphery. The participants were selected from the periphery of Bantama and Asafo. Also, 69 respondents were engaged in each of the study communities. Respondents were selected from the fringes of the periphery settlements. Each community was given equal representation because of the need for a balance of the core and periphery. The accidental and snowball processes to sample the community respondents were conducted at the marketplaces where most of them congregate. For the in-depth interviews (IDIs), five respondents were accidentally sampled from each of the three communities whilst for the focus group discussions (FGDs), six were sampled from each community using the same technique. These participants were recruited from homes. School premises within the communities were secured for the FGDs.

The study made use of both primary and secondary sources of data. Primary data were obtained from the respondents in the selected study areas whilst primary data were derived basically from the Ghana Statistical Service (GSS) reports. Primary data were collected using questionnaires and interviews as well as focus group discussion guides. Consent forms were signed by literate respondents whilst the illiterate thumb-printed for consent. The objectives of the study were explained to them and those who signed or thumb-printed the consent forms participated in the study.

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Permission to collect data was granted by the Committee on Human Research, Publication and Ethics, School of Medical Sciences/Komfo Anokye Teaching Hospital, Ghana, Ref. No: CHRPE/AP/074/21.

The questionnaire was divided into five (5) sections. Section one covered the background characteristics of the respondents whilst section two covered the patterns of utilization of healthcare. The third section covered the factors affecting the utilization of healthcare whilst the fourth section covered respondents' level of satisfaction with healthcare. The final section covered the effect of the National Health Insurance Scheme (NHIS) on the respondents' utilization of healthcare and the challenges they faced in access and use of healthcare. The interview and focus group discussion guides probed for responses to questions on whether or not ethnic minorities covered challenges in utilizing healthcare, the challenges they face, the impact of NHI cards on their use of healthcare etc. The questionnaire made room for both open-ended and closed-ended questions. The close-ended questions helped the researcher to obtain quantitative data while the open-ended questions served as a guide to the interviews and focus group discussion.

The quantitative data collected were coded (Table 1) and analysed with the Statistical Package for Service Solution (SPSS). Specific statistical tools used in analysing the quantitative data were the chi-square test of independence, multiple regression model and descriptive statistical tools of frequencies and percentages. The chi-square test of independence assessed the significant differences between data sets whilst multiple regression analysis was used to show the strength of the relationship between the dependent variable, utilisation of healthcare, and the independent variables. Quality control checks were implemented to get high-quality participants. Besides, thorough data screening exercises were conducted. The tape-recorded interviews were transcribed into texts, coded and categorised. Inductive coding processes were followed. The categories were organised into themes. The themes that emerged from the categories are the Rate of use of healthcare; Use of traditional medicine (When and How); Resort to self-medication (When and Why); Effect of use of insurance cards (Influence on the regularity of use and effectiveness); Factors promoting/impeding the use of healthcare services; and Satisfaction in the use of healthcare services (diagnoses; availability and effectiveness of medication; communication and health education; attitude of medical staff). The coverage was such that theoretical saturation was achieved. Qualitative data were presented in the form of direct quotations. Table 1 shows how the quantitative data were coded.

Table 1: Coding of Quantitative Data

Variable	Level of Measurement	Description
Gender	Dichotomous	Male 1 Female 0
Place of residence	Dichotomous	Core 1 Periphery 0
NHIS	Dichotomous	Holder 1 Not holding 0
Income	Continuous	In Ghana Cedis (GhC)
Travel time	Continuous	In Minutes
Waiting time	Continuous	In Minutes
Regularity of healthcare utilization (average per month three months preceding the survey)	Interval	0 = None 1 = Once 2 = Twice

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		3 = Trice 3 + = More than trice
Age	Continuous	1n full (Calender) years
Education	Interval	0 = No formal education 1 = Basic 2 = Secondary 3 = Tertiary
Marital Status	Nominal	1 = Married 2 = Single 3 = Divorced
Distance	Continuous	In kilometres(km)

Source: Based on Field Work, 2020

Utilisation of healthcare is defined as the number of times a person used healthcare services three times when perceived to be sick before the survey: 0 was defined as not at all; 1, irregularly, 2 regularly and 3 and above very regularly. Healthcare is defined in the context of the use of orthodox/scientific health services.

A pilot study was conducted in Ejisu, an area in the Ejisu Municipality, using the above-stated research methodology and instruments to find out how realistic and applicable these tools were. The instruments were pretested at Ejisu which is an urban community to ensure validity and reliability. Both the accidental and snowball sampling methods were then applied to obtain respondents for the study. Some slight changes were made to the questions asked based on the outcome of the pilot survey.

RESULTS

Sociodemographic characteristics of respondents

The results of the socio-demographic characteristics of the participants are presented in Table 2. From the Table, 29.5% of the respondents were from the Central Business District (CBD) (Adum) while 70.5% of the respondents (representing a large majority) were from the peripheral areas (Asafo and Bantama) of the Kumasi Metropolis. The sex distribution of the respondents is as follows: 52.7% of them were females whereas 47.3% of the respondents were males. Over 31% had never been to school and 27% earned less than GhC100 ($17.00) a month.

Table 2: Sociodemographic characteristics of respondents

Variable	**Response**	**Count (207)**	**Percentage (%)**
Location of respondents	CBD Periphery	61 146	29.5 70.5
Sex	Male Female	98 109	47.3 52.7
Age ***(years)***	18	33	5.9

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	19-64	170	82.1
	65 and above	4	1.9
Marital status	Married	74	35.7
	Single	126	60.9
	Divorced	4	1.9
	Others	3	1.4
Religion	Christianity	165	79.7
	Islam	39	18.8
	Others	3	1.4
Education	Never-been-to-school	66	31.9
	Basic	69	33.3
	Secondary	43	20.8
	Tertiary	29	14.0
Household size	1 to 3	64	30.9
	4 to 6	107	51.7
	7 and above	36	17.3
Ethnicity	Ewe	49	23.7
	Ga	11	5.3
	Fante	11	5.3
	Dagomba	34	16.4
	Frafra	30	14.5
	Dagati	21	10.1
	Others	51	24.6
Sector of employment	Formal Sector	20	9.7
	Informal Sector	165	79.7
	Unemployed	3	1.4
	Students	19	9.2
Number of years in current profession	Less than a year	59	31.9
	One year to three years	84	45.4
	Four to six years	32	17.3
	More than six years	10	5.4

Ever changed job	Yes	27	14.7
	No	157	85.3
Income range (Monthly)	<100 cedis	50	27
	100-499 cedis	103	55.7
	500-999 cedis	20	10.8
	1000 cedis and above	12	6.5
Housing structure	Kiosk	39	18.8
	On the street	43	20.8
	Rented house	102	49.3
	Own house	23	11.1

Source: Field Work, 2020.

The study probed where ethnic minorities normally sought treatment when they were sick (Table 3). Specifically, the respondents were asked if they sought treatment for their health problems in hospitals, clinics, traditional medicine practitioners, CHPS and pharmacies. From Table 3, a total of 21.3 % (CBD) and 19.9 % (Periphery) of the respondents reported having sought treatment for healthcare services from clinics and hospitals three months before the survey. Most of them resort to pharmacy shops. There is no significant difference in the use of any forms of medication by place of residence; i.e. between the core and periphery.

Table 3: Types of health facilities used

		CBD (n=61)	**Periphery (n=146)**	**Total=207**		
Variable	**Category**	**n(%)**	**n(%)**	**n(%)**	**P-value**	**X^2 values**
	No	21(34.4)	37(25.3)	58(28)		
Clinic	Yes	13(21.3)	29(19.9)	42(20.3)	***0.908***	***0.192***
	No	48(78.7)	117(80.1)	165(79.7)		
Traditional medicine	Yes	16(26.2)	32(21.9)	48(23.2)	***0.594***	***1.040***
	No	45(73.8)	114(78.1)	159(76.8)		
CHPS	Yes	2(3.3)	1(0.7)	3(1.4)	***0.280***	***2.547***
	No	59(96.7)	145(99.3)	204(98.6)		
Pharmacy	Yes	27(44.3)	60(41.1)	87(42)	***0.570***	***2.926***
	No	34(55.7)	86(58.9)	120(58)		
Others	Yes	61(100)	145(99.3)	206(99.5)	***0.603***	***2.735***
	No		1(0.7)	1(0.5)		

Source: Field Survey (2020)

Rate and Patterns of Use of Healthcare

Table 4: Rate and Pattern of Use of Healthcare

		CBD (n=61)	**Periphery (n=146)**	**Total=207**		
Variable	**Category**	**n (%)**	**n (%)**	**n (%)**	**p-value**	**X^2 values**
Do you utilize any healthcare services?	Yes	58 (95.1)	137(93.8)	195 (94.2)	***0.616***	***0.970***
	No	3(4.9)	9(6.2)	12 (5.8)		
How many times have you used orthodox medicine the last three times you were sick? *	None	13(21.3)	40(27.4)	53(25.6)	***0.280***	***9.798***
	Once	18(29.5)	41(28.1)	59(28.5)		
	Twice	11(18)	24(16.4)	35(16.8)		
	Trice	18(29.5)	40(27.4)	58(28)		
	More than trice	1(1.6)	1(0.7)	2(1)		
Do you consult a physician?	Yes	44(72.1)	110(75.3)	154(74.4)	***0.328***	***2.230***
	No	17(27.9)	36(24.7)	53(25.6)		
Do you Self-medicate?	Yes	24(39.3)	46(31.5)	70(33.8)	***0.367***	***2.003***
	No	37(60.7)	100(68.57)	137(66.2)		
Do you buy a drug from a drugstore?	Yes	35(57.4)	91(62.3)	126(60.9)	***0.631***	***0.921***
	No	26(42.6)	55(37.7)	81(39.1)		
Do you buy drugs from peddlers?	Yes	5(8.2)	12(8.2)	17(8.2)	***0.955***	***0.092***
	No	56(91.8)	134(91.8)	190(91.8)		
Do you consult Traditional healers?	Yes	51(83.6)	138(94.5)	189(91.3)	***0.594***	***1.040***
	No	10(16.4)	8(5.5)	18(8.7)		

Source: Field Survey, 2020

The study participants were asked to indicate the number of times (none, once, twice, three times and more than three times) they had utilized orthodox healthcare the last three times they fell sick. Table 4 shows that 29.5% (CBD) and 28.1% (Periphery) of the respondents mentioned they had used orthodox healthcare services at least once the last three times they fell sick before the survey. While 29.5% (CBD) and 27.4% (Periphery) had utilized orthodox healthcare services three times, approximately 18% (CBD) and 16.4% (Periphery) noted they had used it twice. In a chi-square test to ascertain the difference by place of residence and the number of times of seeking orthodox healthcare services, there was no statistically significant difference (p=0.280). The CBD respondents however used health services slightly more than those at the periphery. The interviews conducted for the respondents corroborate the quantitative results as follows:

I use orthodox medicine anytime I feel sick and that is because of the effectiveness of these drugs in curing my illness. Therefore, even if I do not have money, I borrow to purchase orthodox medicines for my illness whenever I am sick. [Female, 24years, basic education, Periphery, In-depth Interview (II)]

Of course, I have used orthodox medicines in the last three times I was sick. I actually do not trust the potency of the traditional medicines and hence I always used orthodox drugs [Male, 40 years, Secondary Education, Core, II].

I use orthodox drugs regularly due to my poor health condition. [Female, 55years Tertiary Education, Periphery, II].

Impact of NHIS on utilization of healthcare by ethnic minorities

Table 5 shows the statistics on the enrolment in the National Health Insurance scheme. Over 88% of respondents were NHI cardholders.

Table 5: Enrolment on the NHIS

		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	yes	179	86.5	88.2	88.2
	no	24	11.6	11.8	100.0
	Total	203	98.1	100.0	
Missing	System	4	1.9		
Total		207	100.0		

Source: Field Survey, 2020

Table 5 shows that 86.5% of the respondents had NHI cards. Interview and focus group discussion responses, indicated below, show that holders of NHI cards used healthcare services more regularly than non-holders.

Well, most of the people that have enrolled in the national health insurance scheme access healthcare often. They see the importance of healthcare accessibility so most of them have enrolled and they use frequently. Thus, those without health insurance do not come to health centres frequently as compared to those who have active NHIS cards. [Male Health Worker, Periphery, II]

The NHI card has actually facilitated my access to healthcare centres. Because, with the NHI card I pay little or no fees at the healthcare centre. Therefore, the NHI card has proven to aid me access healthcare services regularly. [`Female, 35years, no formal education, Periphery, NHI Cardholder, FGD]

Furthermore, the study showed that place of residence does not influence healthcare usage by ethnic minorities using NHI cards. Respondents in the CBD and peripheral areas of the Kumasi metropolis with the NHI card indicated that the insurance card gave them access to healthcare services. Some respondents had this to say regarding the role the NHI cards play in ethnic minorities' use of healthcare:

I do face numerous challenges in using healthcare services but finance is the major one. Therefore, when I enrolled on the NHIS, my use of healthcare services has been regular since the NHI card covers most of my healthcare bills. [Female, 23years, no formal education, Periphery, II]

Once I have the NHI card, I do not mind travelling about 10 km to access healthcare services, even though travelling long distances to access healthcare is problematic and stressful. But in our part of the country, healthcare facilities are spread out and not concentrated in one location. Therefore, all a patient needs to access healthcare is the means to pay and the NHI card virtually takes care of my healthcare bills. Hence, the NHI card facilitates my use of healthcare services greatly [Female, 53 years, tertiary education, Periphery, II]

Sociodemographic factors influencing utilization of healthcare by ethnic minorities

Multiple regression results are indicated in Tables 6a and 6b at a probability threshold of 0.05 or below and a confidence interval of 95%. Two models were used: one for categorical data (Table 6a) and one for continuous data (Table 6b).

Table 6a: Multiple Regression Results (Model a/Continuous Variables)

Variables	Unstandardised Coefficients		Standardised Coefficients	Sig.	95% Confidence Interval for B	
	B	Standard Error (SE)			Lower Bound	Upper Bound
(Constant)	1.002	.123		.000	.759	1.244
Age	-.017	.048	-.028	.724	-.111	.077
Income	.000	.000	-.116	.142	.000	.000
Household Size	-.011	.019	-.048	.583	-.049	.028
Distance	.004	.015	.335	.000	.035	.092
Waiting Time	.003	.040	.006	.935	-.076	.083

Dependent Variable: Utilisation of Health Services

Source: Based on Field Data, 2020.

Table 6b: Multiple Regression Results (Model b/Categorical Variables)

Variables	Unstandardised Coefficients		Standardised Coefficients	Sig.	95% Confidence Interval for B	
	B	Standard Error (SE)			Lower Bound	Upper Bound
(Constant)	2.649	.709		.000	1.250	4.048
Sex	.028	.178	.012	.876	-.323	.378
Education	.026	.071	.028	.218	-.114	.165
Marital Status	.100	.146	.052	.494	-.187	.387
Place of Residence	.198	.294	.052	.502	-.383	.779
NHIS Enrolment	-.729	.266	-.207	.007	-1.254	-.204

Dependent Variable: Utilisation of Health Services

Source: Based on Field Data, 2020.

The holding of a NHI card is a statistically significant relationship with the use of healthcare with a p-value of 0.000. For the continuous variables, distance shows a significant relationship with the use of healthcare. The two sociodemographic variables that show a statistically significant relationship with the use of healthcare are thus insurance cardholding and distance. The first null hypothesis that there is no statistically significant relationship between income and healthcare services utilisation could not be rejected whilst the one which states that there is no statistically significant relationship between NHI cardholding and utilisation of healthcare services was rejected.

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Qualitative results, earlier indicated, have justified the significance of insurance cardholding in the use of healthcare. Both health officials and community respondents in both the core and periphery testified to this. Distance to the health facility has also been an obstacle to the use of healthcare as testified by some respondents in FGD and in-depth interviews as follows:

I have to walk for long distance before I get to the healthcare centre and this normally discourages me from using healthcare services on regular basis because I do not have money to cater for transportation charges. ["Kayayei" (Head Porter), Female, 22years, No Formal Education, Core]

Distance, to me is not a problem because I live very close to the hospital however, my friends who live far away always do complain about how stressful it is for them to access healthcare services due to long distance. [Female, 40years, tertiary education, Periphery, II]

Furthermore, qualitative results show that finance plays a crucial role in the use of healthcare as the narratives below indicate:

I face so many challenges in trying to use healthcare services however, finance (income) is my major problem. Factors like family size is actually the reason for my low income because I will have to feed a family of 5 people with my little earned income so once again, low income is my major problem in using healthcare services [Female, 25years, basic education, Core, II].

Finance is really a challenge to me in accessing healthcare. Whenever I fall sick, I just buy a herbal drug and use, not that I do not want to go to the hospital but it is because I do not have money to be going to the hospital all the time. [Male, 25years, basic education, Core, II]

It can further be deduced from the responses that respondents with no formal and basic education are hard hit by financial barriers. Besides, waiting time, language barrier and attitude of medical staff were mentioned in the qualitative responses as barriers to their use of healthcare as indicated in the narratives as follows:

By the grace of God, I am able to pay for my healthcare charges but the most challenging factor I face in trying to use health services is waiting time. I spend not less than 2 hours on average whenever I visit the hospital which is very worrying. Personally, the issue of family size, income, age and travel time do not in any way affect my use of healthcare services. I therefore beseech the authorities to train more health workers at the healthcare centres to reduce waiting hours at the facility. [Male, 63 years, tertiary education, Periphery, II]

They find it difficult communicating with us. When we ask them to narrate their problem to us, they find it difficult telling us their health problems due to the language barrier. Most of them cannot speak Akan or English. Last time, there was a scenario of that nature that almost resulted in a misdiagnosis had it not been the timely intervention of someone who understood and interpreted the language of the patient. [Male Health Worker with 10 years working experience, Core, II].

Some of the nurses do not relate with me well. They sometimes make me feel like I am not a human being and this actually inhibits my use of healthcare services regularly. [Male, 24 years, basic education, Periphery, II]

In most instances, the nurses shout at me and speak to me anyhow. They do not patiently explain things to me but rather shout at me and honestly, I must say that our nurses should be given a lesson on good manners at school before they are posted to work. The behaviour of the nurses impedes my use of health services. [Female, 53 years, No Formal Education, Core, II]

DISCUSSION

The study examined the factors that influence access and use of healthcare by ethnic minorities in an expanding metropolis in Ghana, the Kumasi Metropolis. Even though quantitative findings show that there is no statistically significant relationship between the core and periphery in the use of health services by ethnic

minorities, qualitative results show the contrary. This finding contradicts that of Scheppers (2006) who argued that the principal factors that limit ethnic minorities' use of healthcare are income levels, employment status, residency, religion etc. Residency/location was not found a significant factor in the use of healthcare in the Kumasi metropolis. The possible reason is that though the key healthcare facilities are found in the centre of the city (The second Teaching Hospital in Ghana, Komfo Anokye Teaching Hospital, is at the centre/core) there are clinics and lower-level health facilities scattered at the periphery. Therefore, except for seeking expensive specialist healthcare (and most of them cannot patronise due to their low incomes), there may not be the need to travel to the centre to seek healthcare.

The sociodemographic factors that influence the use of healthcare by ethnic minorities are insurance cardholding and distance. The null hypothesis that the holding of NHI card does not exhibit a statistically significant relationship with the utilisation of health care was rejected. The NHIS offers access to basic health care for cardholders. The basic premium (about $4.00) is low enough for most people in the lower-income group to pay. Blanchet et al. (2012) working on the effect of NHIS on healthcare utilisation observed that holders of insurance cards utilise healthcare more regularly than non-holders. Van der Wielen, et al. (2018) in a study on the effect of insurance enrolment on the utilisation of healthcare among rural-dwelling older adults in Ghana observed higher utilisation of healthcare among NHIS members than those who have not subscribed to the scheme. They further observed that poor older adults use healthcare much less than non-poor older adults even when enrolled. Previous research according to Bonfrer et al. (2016) which assessed the early impact of the NHIS on maternal and infant health care utilisation found among other results that there was a modest impact on the use of antenatal delivery care.

Distance has been a bane of the use of healthcare in developing countries and the possible less use of healthcare by vulnerable ethnic minorities who normally stay at the peripheries of cities cannot be discounted. Studies by Buor (2003) on the primacy of distance in the utilisation of health services in a rural district in Ghana, Huerta and Kallestal (2012) in a study of geographical accessibility and spatial coverage modelling of the primary health care network in the Western Province of Rwanda report of the increasing distance barrier to the utilisation of healthcare in Africa. Ashiagbor et al. (2020) similarly report of decreasing use of healthcare with increasing distance in a study of measures of geographic accessibility to healthcare in the Ashanti region of Ghana.

Qualitative results reveal some other barriers to access and use of healthcare. One advantage of the use of the mixed-methods approach is that gaps in one of the methods are filled by the other. Even though income did not show a statistically significant relationship with the use of healthcare, qualitative data show that finance, i.e. paying for the cost of healthcare, is a great barrier to utilisation. The reasons may be due to the size of the sample and the small spatial coverage. Seidu (2020) in a study of mixed effects analysis of factors associated with barriers to accessing healthcare among women in sub-Saharan Africa (SSA) observed that 61.5% of women in SSA face barriers in accessing healthcare. The predominant barriers were getting the money needed for treatment (50.1%) and distance to the health facility (37.3%). Factors such as waiting time, attitude of medical staff and language barriers emerged as barriers to access and use of healthcare. The language barrier affects patients' communication of their health problems and medical personnel's understanding of patients' problems. Even though the factors that showed a statistically significant relationship with the utilisation of health services were distance and insurance, qualitative data have revealed that, apart from insurance and distance, other factors such as income, waiting time, difficulty in communicating and attitude of medical staff influenced access and use of healthcare.

Andersen's (1995) theoretical framework that was used to build the conceptual framework has partially been justified. Population characteristics (predisposing-enabling-need) and provider characteristics (health facility, medical staff, attitude of medical staff and consumer satisfaction) have combined to predict the utilisation of healthcare in the metropolis. Spatial setting/location could not predict access and utilisation of healthcare.

CONCLUSIONS

The purpose of the study was to examine the factors influencing the use of healthcare by ethnic minorities in the Kumasi Metropolis. The findings have policy implications. Ethnic minorities are a vulnerable group so

need attention in healthcare delivery. Over 70% of them live at the urban margins which have fewer health facilities compared with the centre. A policy to beef up health facilities at the urban margins will be laudable, given that distance is a barrier to their use of healthcare. The insurance factor is very critical so needs to be factored into a policy to improve access and use of healthcare by ethnic minorities in the metropolis. They must be encouraged to register with the NHIS to help improve access and utilisation of healthcare. The attitude of the medical staff must improve through orientation programmes whilst the waiting time problem could be addressed by employing adequate medical personnel. Besides, the communication barriers during consultation could be improved by engaging interpreters in the consulting rooms. The study had some limitations. These are the choice of one urban centre and two, the small sample size. A considerable sample of urban centres and a larger population size may have improved the generalizability of the results.

Ethical Approval

All the necessary protocols to seek the consent of the participants were followed. All methods were carried out following relevant guidelines and regulations. Participants who could not write were made to orally declare their desire to participate in the research whilst consent forms were signed by the literate and officials. The objective of the research and the roles of the participants were clearly explained before they consented to participate. The principles of anonymity and confidentiality were strictly observed. Participants were told that they could opt out of the survey anytime they felt like doing so. We thus had their full support. Informed consent was obtained from all the participants and legally authorised representatives of illiterate participants involved in the study. Permission to collect data was granted by the Committee on Human Research, Publication and Ethics, School of Medical Sciences/Komfo Anokye Teaching Hospital, Ghana, Ref. No: CHRPE/AP/074/21.

Informed Consent

All participants in the study gave informed consent.

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Declaration of Competing Interest

The authors declare no conflict of interest.

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Data Availability

The data underlying this article will be shared on reasonable request to the corresponding author.

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