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RURAL-URBAN HEALTH INEQUALITIES IN MEME DIVISION, CAMEROON

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ABSTRACT

Urban inhabitants have greater access to basic services of health and education than their rural counterparts. In Meme, urban residents in Kumba seem to have better access to specialized health services than the rural residents of Mbonge and Konye. Despite attempts to minimise inequalities, significant disparities in the access to health continue to exist between rural and urban Meme.In this regard, the study sets out to examine the pattern and implications of health inequalities in the rural and urban areas ofMeme Division, Cameroon. The study adopted a multi-stage sampling technique in selecting respondents. One hundred questionnaires were distributed to each stratum. The GPS was used to provide the accurate location of health facilities in both rural and urban areas. The GPS coordinates were presented cartographically. Secondary data were obtained from hospital registers. Inferential techniques like the Cramer's Value and Mann-Whitney U were used to analyse data. Descriptive techniques were employed in presenting data. Findings reveal that there is a bias in the distribution and quality of health services between Kumba and its surrounding rural areas. This has implications on child and maternal health particularly in the rural areas. Policies to reduce the health service gap will improve rural access to specialized health services, well-being and reduce rural pressure on available health facilities in Kumba.

Key words: Health, Inequality, Rural-Urban,Quality of Life, Meme Division.

INTRODUCTION

The World Health Organisation (WHO) preamble defines health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.' The preamble further states that 'the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.' As human beings our health is considered to be our most basic and essential asset, regardless of our age, gender, socio-economic or ethnic background and that in short, when we talk about well-being, health is often what we have in mind (WHO, 2008).

Of pertinence to the study, a key aspect of the right to health by WHO (2008) is that 'all health services, goods and facilities must be *available, accessible, acceptable* and of *goodquality*. The right to the enjoyment of the highest attainable standard of physical and mental health is a fundamental part of our human rights and of our understanding of a life in dignity. The right to health is often associated with access to health care and the building of hospitals. Another key aspect of the right to health is that health services, goods and facilities must be provided to *all without discrimination* (WHO, 2008).

Moreover, Article 25 of the Universal Declaration of Human Rights of the United Nations states that everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services (Peterson, 2018).

In the lights of the European Foundation for the Improvement of Living and Working Conditions, EFILWC (2006) quality of life is a broad concept that deals with the overall well-being in society; the time that it takes for urban and rural inhabitants to travel to their workplace or school… and their access to medical and health services. In the views of Dorosh& Schmidt (2010) welfare can be understood through various other measures such as asset ownership, school enrollment and access to healthcare. Improving ones quality of life, well-being or welfare as described above are all development measures or indicators.

From time immemorial, rural-urban inequalities have been a part of development. While inequality exists separately within the rural and urban spheres, the largest differences are between urban and rural areas (Von Braun, 2007). According to Von Braun (2007), in many countries, rural inhabitants do not have the same level of access to social services such as health and education facilities and other infrastructure as their urban counterparts, further perpetuating existing inequalities.In Meme Division, Cameroon, there is unequal access to and the availability of health services between Kumba (the lone urban area) and its surrounding rural areas of Mbonge and Konye.

The urban inhabitants of Kumba have greater access to better health services than the rural residents. With reference to the American Hospital Association, APA (2011) specialised inpatient services have remained concentrated in urban areas. Specialist shortages are significantly more pronounced in rural areas than in urban areas. Rural residents, on average, have 54 specialists per 100,000 people, whereas urban residents have access to almost two and half times as many specialists per 100,000 people (APA, 2011).

Access to quality health services remains an important component of an individual’s wellbeing and quality of life. This disparity in the access to health facilities has tremendous implications on infant and maternal health particularly in the rural areas of Meme Division. Reducing these regional gaps in development has been of prime importance to spatial governments. The Cameroon Development Vision 2035 has as objectives to improve the supply and guarantee access to quality health care to all (Growth and Employment Strategy Paper, GESP, 2009). The Sustainable Development Goals (SDGs) of the United Nations have as goal 3 to 'ensure healthy lives and promote well-being for all, at all ages' and goal 10 of the SDGs is aimed at reducing inequality within and among countries. This places the study among contemporary development agenda and further justifies and adds credit to the research.

Meme Division falls within the equatorial climatic zone (Cameroon type). The climate is hot and moist with two seasons. Meme Division has a total population of 326,734 inhabitants (FEICOM, 2013). Konye has a population of 44,711 inhabitants. Mbonge has a total population of 115,692 inhabitants and Kumba, 166,331 inhabitants (FEICOM, 2013). Agriculture and predominantly cocoa farming and trade are the most dominant economic activity in the area. Kumba is more of a commercial town while Mbonge and Konye are agrarian economies.

Despite increasing global attempts to minimise inequalities as seen in Goal 10 of the Sustainable Development Goals (SDGs) aimed at reducing inequality within and among countries and the targets of the World Health Organisation (WHO), significant disparities in the

access to and availability of health facilities continue to exist between rural and urban areas in Meme Division, Cameroon. It is against this background that the study sets out to investigate the distribution and implications of rural-urban health facilities in Meme Division, Cameroon.

Of prime importance to these inequalities in Cameroon is the discriminate allocation of income for development projects in the rural and urban areas. The central government administratively allocates more finances for urban development than for development in rural areas. This discrepancy was also observed between urban and rural councils by Ndenecho (2011).

This situation has been observed in many divisions in Cameroon including Meme where great disparities exist between the urban space (Kumba) and its surrounding rural settlements. One begins to wonder why Kumba is better served with markets, health, education and transport infrastructures than the surrounding rural areas of Mbonge and Konye sub-divisions. How can one explain this inequality and what is the way forward towards achieving a harmonious access to quality health facilities by all in Meme Division?

The main objective of the study is to examine the pattern and implications of rural-urban health inequality in Meme. The specific research objectives of the study are: 1) To describe the drivers and distribution (pattern) of health facilities in Kumba and its surrounding rural areas. 2) To examine the implications of such distribution on the health status of the urban and rural populations of Meme.

FRAMING OF THE STUDY

The World Health Organisation's (WHO's) preamble defines health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.' The preamble further states that 'the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social background.' Poor health, on the other hand, can keep us from going to school or to work, from participating fully in the activities of our community (WHO, 2008). From the above review the study was able to clearly define health as necessary for the study.

Well-being and health are synonymous concepts and a fundamental part of our human rights. The right to health is often associated with access to health care and the building of hospitals. These rights further extend to include: safe drinking water, adequate sanitation, safe food, adequate nutrition and housing, amongst others (WHO, 2008). The researcher was able to understand the different human rights to health.

According to the WHO (2008), one key aspect of the right to health is that health services, goods and facilities must be provided to all without discrimination (WHO, 2008). This review emphasized equality in the access to health by all, as a right to human health. Another key aspect of the right to health by WHO (2008) also asserts that 'all health services, goods and facilities must be available, accessible, acceptable and of good quality. First**,** the health-care facilities, goods and services must be *available* in sufficient quantity within a state or area; second, they must be *accessible* physically (in safe reach for all sections of the population); thirdly, the facilities should respect medical ethics, be gender-sensitive and culturally *acceptable*; and finally, they must be medically appropriate and of good quality (WHO, 2008). This review provided health indicators relevant for the study.

In addition, Article 25 of the Universal Declaration of Human Rights states that 'everyone has the right to a standard of living adequate for the health and well-being of himself and of his

family, including food, clothing, housing and medical care and necessary social services' (Peterson, 2018).

Barrow (2005) defines development as a process which increases the capacity to meet people's needs and improve the quality of human life. In the views of Dorosh & Schmidt (2010) welfare can be measured by access to healthcare, asset ownership and school enrollment. According to the European Foundation for the Improvement of Living and Working Conditions, EFILWC (2006) quality of life encompasses the time that it takes for urban and rural inhabitants to access health services. Improving one's quality of life, well-being or welfare as described above are all development measures or indicators.

In many countries, rural inhabitants do not have the same level of access to social services, such as health and education facilities as their urban counterparts, further perpetuating existing inequalities (Von Braun, 2007). Rural residents face barriers in accessing health care services. Patients often have to travel long distances to seek medical care, made more difficult by a lack of reliable transportation. These factors contribute to their tendency of delay seeking care, which aggravates health problems (APA, 2011). Is this also the case in rural Meme?

Molem & Bihkongnyuy (2016) observed that rural health facilities in Cameroon are generally less efficient, smaller and offer fewer specialised services than the urban health facilities. There seems to be different levels of access to quality health care between rural and urban Meme.

The American Hospital Association (APA) in 2011 observed that specialised inpatient services have remained concentrated in urban areas. Many rural hospitals depend heavily on nurse practitioners and other midlevel health professionals to provide primary care. Health specialists such as cardiologists, surgeons, physiotherapists and obstetricians amongst others are significantly limited in rural areas. Rural residents, on average, have 54 specialists per 100,000 people, whereas urban residents have access to almost two and half times as many specialists per 100,000 people (APA, 2011). The study was also interested to ascertain if these biases in health supply and quality exists between urban and rural Meme?

Intervention to improve rural access to health services through transport improvements is a good policy (Copus, 2012). Improving rural-urban accessibility in Meme, will also improve rural access to specialized health services in Kumba and their wellbeing.

THEORETICAL FRAMEWORK

Two theories were applied in this study. These are the Growth Pole theory by Perroux and the Central Place theory by Walter Christaller.

The Growth Pole Theory

Growth poles are cities with intense socio-economic links to the surrounding areas, which act as growth centres, having the ability to spread out development across the region (Popa, 2010).Urban growth poles present 'economic opportunities of employment for people and communities living nearby'. Like Myrdal, Hirschman (1958) argues that growth in a developed region produces favourable 'trickling-down' effects within a lagging region (Dawkins, 2003). Kumba is a health pole in Meme Division. Its District Hospital provides complementary package of activities (specialized health services) to the neighbouring rural residents. This improves rural access to quality health services, improves their quality of life and well-being. Other secondary health poles that exist in the sub-division are IHCs and other private health centres.

Central Place Theory

According to Pacione (2009) Christaller's theory applies to those settlements that are predominantly concerned with serving the needs of the surrounding area. Centrality is the degree to which a place serves its surrounding area and this can be gauged only in terms of the goods and services offered.Central places offering many functions are called higher-order centres; others providing fewer functions are lower-order centres.Higher-order centres supply certain functions that are not offered by lower-order centres. They also provide all the functions that are provided in low-order centres.

According to Christaller in 1933, the order of a city is determined by the diversity of goods offered in the city, which in turn is determined by the relative size of market areas for different goods (Dawkins, 2003). Higher order places tend to offer more goods and specialized services when compared to low order centres or places which offer fewer goods and basic services. Simple basic services (for instance grocery stores) are said to be of low order while specialised services (universities for instance) are said to be of high order. Having a high order service implies there are low order services around it, but having a low order service does not imply high order services around (Christaller, 1966).

Kumba town through the District Hospital offers specialized health services to her surrounding rural dwellers that dominantly have only Integrated Health Centres (IHCs) at their disposal. These specialised health services offered in Kumba are what Christaller calls high order services and the place offering them (Kumba town) is a high order centre. The Minimum Package of Activities (MPAs) or elementary health services offered by the IHCs in the rural areas are lower order services and the place offering these services are called lower-order centres or places. Simply put, health wise, Kumba is a high order settlement contrary to the low-order settlements of Mbonge/Konye.

METHODOLOGY

The study is both qualitative and quantitative**.** The researcher adopted a multi stage sampling technique in selecting respondents. A total of 100 questionnaires were distributed to each stratum to acquire primary data on the density of health centres. First, the researcher divided the target population into 2 clusters: urban (Kumba) and rural (Mbonge/Konye) clusters. By using three criteria; population size, distance from Kumba and site/situation, 11 villages were selected from the rural cluster. These are Ekombe-Bonji, Marumba II, BaiPanya, Boa, Bekondo, Bole, Big Ngwandi and Ediki in Mbonge sub-division and Ikiliwindi, Matondo II and Wone villages in Konye subdivision, to constitute the rural sample. Based on the extent of commercial and service functions in some neighbourhoods in Kumba, the study also selected Kumba Town, Fiango, Kumba Mbeng and Pulletin to constitute the urban sample. Within each stratum, random samples were selected to represent the homogenous sub-strata. Purposive sampling was employed to select the rural and urban sample units.

Secondary data were obtained from office records and published articles. Some hospitals registers in Kumba were sampled and a census on the number of patients from any of the rural areas was done. The study interviewed the Medical Officer at the District Health Office (DHO) in Kumba to obtain data on the type of services offered by Integrated Health Centres (IHC) versus District Hospitals in Cameroon. The Global Positioning System (GPS) was used to provide the accurate location for health facilities in rural and urban Meme and the coordinates were used to produce a health distribution map.

Inferential techniques like the Cramer's Value test were used to compare the state of health facilities between rural and urban Meme. Mann-Whitney Utest was employed to measure the difference in the density (number) of and access (distance) to health infrastructure in rural and urban Meme. Descriptive techniques were used in data presentation. Noteworthy, the study applied the W.H.O.'s key indicators: *availability, accessibility* and *quality* in measuring the degree of access to health between the urban and rural areas of Meme Division.

RESULTS/DISCUSSIONS

Findings reveal significant variations in the availability, accessibility and quality of health services between the urban area, Kumba and its surrounding rural areas of Mbonge and Konye. Availability, accessibility and quality are three (3) key health indicators postulated by the World Health Organisation in measuring health access and development globally.

5.1 Drivers of rural-urban health inequality

In the planning of Cameroon's rural and urban areas there is the discriminate allocation of income for development projects. That is, the central government administratively allocates more finances for urban development than for development in rural areas. This discrepancy was also observed between urban and rural councils by Ndenecho (2011). This situation has been observed in many divisions in Cameroon including Meme where great health disparities exist between the urban space (Kumba) and its surrounding rural settlements. There are evidences of urban and rural bias in the areal distribution and quality of health facilities (services offered) between Kumba and its surrounding rural areas.

5.1. Availability/density of health centres

The difference in the availability of health centres between the urban and rural areas of Meme is highly significant (P=<0.005). The maximum number of health centres is four (4) in Kumba, the urban area when compared to only one (1) Integrated Health Centre per village as illustrated in Table 1.

Table 1: Density of health facilities in rural and urban Meme

Category	Setting type			Mann-Whitney U
	Rural	Urban	Total	
N	20	213	233	U=750.000
Mean	01	1.9	1.82	P=0.000
Median	01	02	02	
Minimum	01	01	01	
Maximum	01	04	04	

Source: Field work (2019)

In terms of density (number) of health centres, Kumba has a total of 12 hospitals within the neighborhoods sampled as against a single IHC per village as shown in Figure 1. Moreover, 3 out of the 11 rural areas do not even possess an IHC (Figure 1). These are Marumba II, BaiPanya and Ediki. This does not conform with one of WHO's human rights to health which states that health facilities must be available. The AHA (2011) had observed that rural hospitals typically are much smaller than their urban and suburban counterparts.

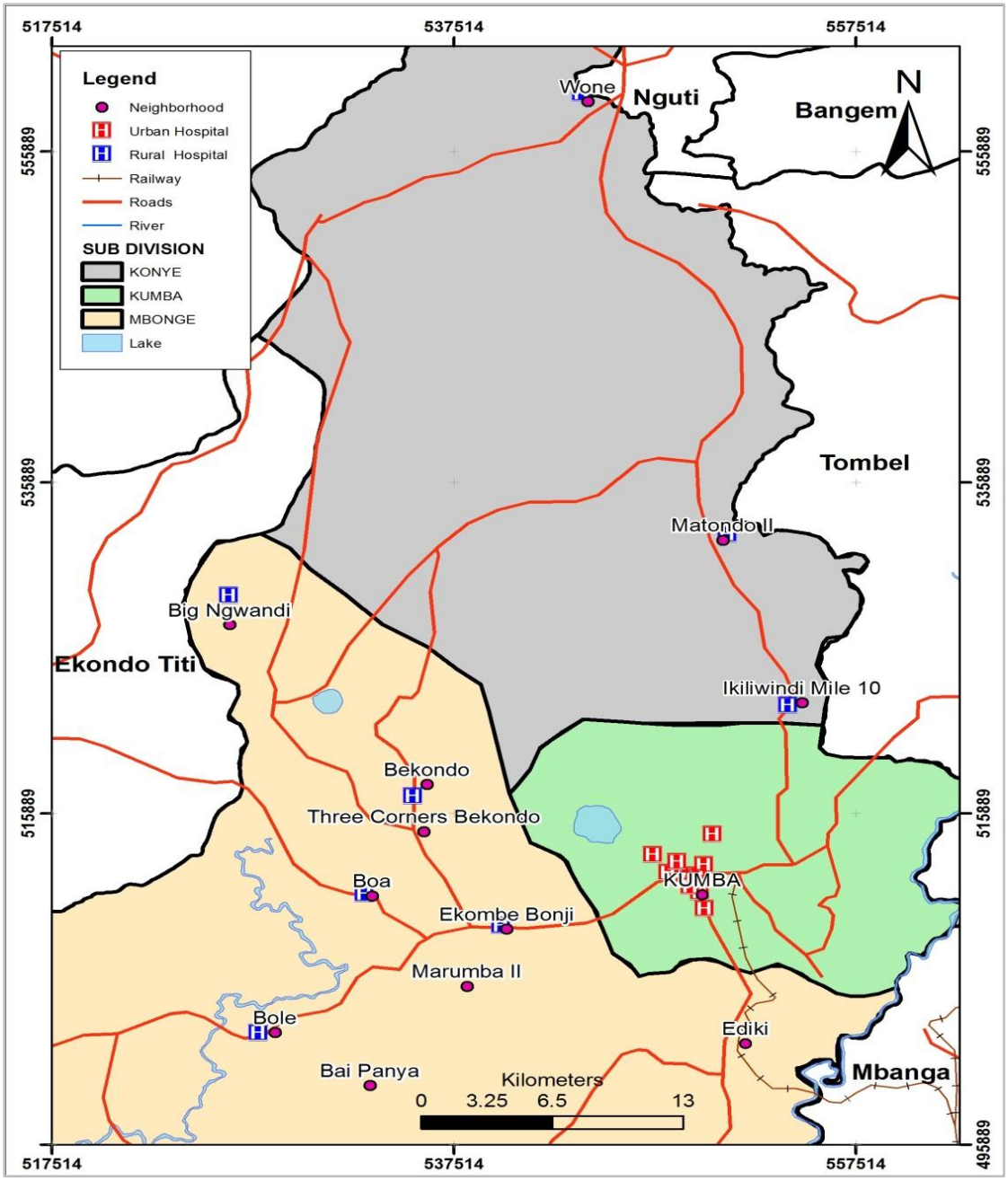

Figure 1: Spatial distribution of rural and urban hospitals/health facilities in Meme

Source: Field work and Remote Sensing Unit, UB (2019)

5.2 Accessibility to health centres

Access to social facilities relates to the distance (metres) between communities and these services. In other words, it considers the time that it takes for an individual to reach any service centres or utilise an amenity like water, health, and education (EFILWC, 2006). Findings reveal that there is a significant variation in the degree of access to health centres between the urban and rural areas (P=0.000) as illustrated in Table 2. The urban areas have greater access (measured in terms of distance) to the health services than the rural counterparts. For instance, the minimum distance to the nearest health centre within the rural area is 520m and just 10m in Kumba (Table 2).

Table 2: Approximate distance (m) to the nearest health centre in Meme

Category	Setting type			Mann-Whitney U
	Rural	Urban	Total	
N	20	211	231	U=311.000
Mean	2641	495	681	P=0.000
Median	1950	300	350	
Minimum	520	10	10	
Maximum	9000	9000	9000	

Source: Field Work (2019)

Mojoko & Fonjong (2018) had observed that at Bekondo village in Mbonge, a respondent said that 'just to access the Integrated Health Centre (IHC) in the rainy season is difficult due to poor road conditions. During this period patients are transported on stretchers to the IHC for treatment. This is common with pregnant women in labour while others prefer to deliver their babies at home with the help of a neighbour or midwife. Some expectant mothers travel to Kumba 3-5 months to the time of delivery so as to avoid such risks and stress in transportation during the rains ...' Moreover, patients with critical cases are referred to Kumba for better medication but due to inaccessibility, at times patients die before accessing medical care (N.J. Bokwe, personal communication, January, 2018)'.

5.3. Quality of health services

In addition, a bias was also observed in terms of the quality of services offered between the rural and the urban health centres of Meme. All the rural hospitals in Meme are Integrated Health Centres (IHCs). The urban area on the other hand has a variety of health centres, including the IHCs, private medical facilities and a District Hospital. Due to these spatial disparities in the access to health services infant and maternal health is compromised.This finding is supported by Molem & Bihkongnyuy (2016) who noted that the rural health facilities in Cameroon are generally less efficient than urban health facilities.The authors added that rural health facilities are generally smaller with lower occupancy rates and they offer fewer specialised services in the ruralareas. In all the sampled villages no private health institutions were found unlike in Kumba.

For instance, the Integrated Health Centres (IHCs) offer what is called Minimum Package of Activities (MPA) as shown in Figure 1. Contrarily, the District Hospital and some private health centres in Kumba offer both Minimum Package of Activities (MPA) and Complementary Package of Activities (CPA). MPAs in Cameroon are of four domains. Domain I which is Maternal, Child and Adolescent Health, includes deliveries, antenatal consultations and Prevention of Mother to Child Transmission (PMTCT), vaccination and infant welfare care and family planning.

Figure 1: Minimum Package of Activities (MPAs)

Source: Field work (2019)

The second domain of MPAs, which is Disease Control includes malaria control, HIV/VCT, PMTCT and Option B^+. Option B^+ is a prevention approach of vertical transmission for expectant mothers living with HIV in which women are immediately offered treatment for life regardless of their CD4 count. The third domain is Health Promotion including health committees and dialogue structures, health education and sensitisation and waste management. Domain IV is Strengthen Health System comprising of referrals, dialogue structure and pharmacy sales of essential drugs. MPAs also offer other activities like general consultation, minor surgeries, laboratory testing, disease surveillance, supervisions and comparative analysis of some Performance Based Financing (PBF) indicators.

Complementary Package of Activities (CPAs) as shown in Figure 2, includes all aforementioned MPA services and specialist services such as general surgeons, physiotherapists, dentists, ophthalmologists, cardiologists, neurologists, rheumatologists, pediatricians, obstetricians or gynaecologists, psychiatrists and general internists. According to the American Hospital Association, AHA (2011), specialists such as general surgeons, cardiologists, neurologists, rheumatologists, pediatricians, obstetricians, gynecologists, psychiatrists and general internists are in particularly short supply in rural areas (AHA, 2011).

Figure 2: Complementary Package of Activities (CPAs)

Source: Field work (2019)

The Kumba District Hospital offers Complementary Package Activities (Figure 2).Complementary Package of Activities (CPAs) include all aforementioned MPA services and specialist services such as general surgeons, physiotherapists, dentists, ophthalmologists, cardiologists, neurologists, rheumatologists, pediatricians, obstetricians or gynaecologists, psychiatrists and general internists. Rural residents, on average, have 54 specialists per 100,000 people, whereas urban residents have access to almost two and half times as many specialists per 100,000 people. Specifically, specialists such as general surgeons, cardiologists, neurologists, rheumatologists, pediatricians, obstetricians, gynecologists, psychiatrists and general internists are in particularly short supply in rural areas (AHA, 2011).

Findings reveal that IHCs in Meme Division and Cameroon at large rely greatly on nurse practitioners and not medical doctors. According to the (AHA) (2011) many rural hospitals depend heavily on nurse practitioners and other midlevel health professionals to provide primary care. Specialist shortages are significantly more pronounced in rural areas than in urban areas. IHCs are headed by state registered nurses.

On an interview with the state registered nurse at the Ekombe-Bonji IHC, he reported that '... IHCs carry out consultations of minor ailments, minor surgeries and hospitalisation for not more than 72 hours... and the referrals of complicated cases to the Kumba District Hospital. In terms of personnel, the health centre has 1 state registered nurse (the head of the centre), 1 senior nurse, 2 laboratory technicians and 4 assistant nurses. In terms of infrastructure, it has 2 main wards (female/child ward and male ward), a minor theatre, maternity, pharmacy, laboratory and a total of 13 beds... (S.L. Ngando, personal communication, April, 2019)'. The AHA (2011) also observed that nearly half of rural hospitals in America have 25 or fewer beds when compared to the urban ones and that specialized inpatient services have remained concentrated in urban areas.

The study went further to interview a few rural residents on their perception of the state of health centres in Meme Division. The condition of available health facilities will influence the

people's access to quality health services. These health facilities could be in a good or poor condition and this determines the quality of services likely to be offered to the population. The study observed a very significant (P=<0.005) difference in the condition of health centres between the urban and rural areas (Table 3).

Table 3: Condition of health centresin rural and urban Meme

Setting type	Stats	Perceived condition of amenity			Total	Cramer's V
		Poor	Fair	Good		
Rural	N	05	14	01	20	V=0.846
	%	25	70	05	100	P=0.000
Urban	N	00	06	207	213	
	%	00	2.8	97.2	100	

Source: Field work (2019)

A very significant majority (97%) of the urban residents perceive that the health centres in Kumba are in good condition when compared to only 5% of the rural dwellers who perceive the rural health centres to be in good conditions. Up to 25% of the rural residents are of the opinion that the rural health centres are in a poor state meanwhile no urban dweller had such an opinion of the urban health centres in Kumba.

Below are responses from a rural resident indicating the reasons why they visit health services in Kumba? They do so in order '... to meet with the doctor directly, ... medical personnels are inadequate at the IHCs, ...inadequate medical equipment like theatres, dental unit and image laboratory, ... to have an x-ray done on my chest, ... the urban health centres have well equipped facilitiesto care for patients, ... there are health specialists in Kumba that are absent in a proximal village like Ekombe, what more of the distant villages like Big Ngwandi ... (K. Bissong, personal communication, April, 2019).'

The rural dwellers visit urban hospitals for health services that are absent or poorly functional in the rural areas. For instance a rural patient sampled at the Saint John Catholic Health Centre (CHC), said '... I prefer the private health institutions because they are not congested like the public ones and our rural health centres have no medical doctor... so we are forced to consult in Kumba... (B. S. Esomba, personal communication, May, 2019).'

Moreover,the absence of electricity in some villages significantly hampers the efficient functioning of some rural health services. This scenario is more complicated as some medical facilities depend greatly on electricity. For instance, for medical and imaging laboratories, the use of electricity is mandatory. The medical/biological laboratory includes instruments like light microscope, centrifuges, machines for analyzing other specimens like blood, urine and stool amongst others. Imaging laboratory includes instruments such as X-ray machines, ultrasound machines, and Ct scans, to name a few. In other specialized medical departments like the surgical (theatres), dental and ophthalmological unit, the use of sufficient lighting is mandatory for their proper functioning.

According to the African Development Bank & African Development Fund (ADB/ADF) (2000) rural electrification helps to improve health through the refrigeration of medicines. However, in most of the rural hospitals, these facilities are completely absent. Even if present, the constant electricity cuts in the few electrified villages will impair their smooth operations.

Due to this, some rural health centres like that of Big Ngwandi have adopted the use of solar panel for electricity driven medical equipment as shown in Figure 3.

Figure 3: Solar panel at the Big Ngwandi IHC, Mbonge

Source: Field work (2018)

CONCLUSION AND RECOMMENDATIONS

Equitable access to quality health in rural and urban areas remains a key development challenge to many governments. Achieving this will to an extent check the rate of rural exodus, reduce the population pressure on the available urban health resources and improve quality of life.Rural health quality and well-being in Meme can be improved by equitably distributing the available health centres and upgrade the quality of services at existing rural health centres.

The first step is to develop or upgrade the quality of health services offered in the rural areas as access to basic needs (such as food, health services, education and shelter) remain key development indicators. At least the government should set up a District Hospital in Mbonge and Konye towns. Unlike IHC, District Hospitals are operated by medical doctors and of varying specialisations. This will increase the doctor-patient ratio in the rural areas and it will go a long way to reduce rural pressure on available urban health facilities. In addition, rural areas with preventive clinics can be upgraded to IHCs; IHCs should be equipped with modern equipment and well trained nurses so that better services can be offered to the rural inhabitants.
The government has a responsibility to establish health facilitiesin therural areas where they are absent. Each rural area/village should have at least an Integrated Health Centre as this was not available in every village. If health facilities are evenly distributed and the gap reduced between the rural and urban areas of Meme, this will in turn reduce the population pressure on the available urban health resources in Kumba and increase rural access to quality health services.

Lastly, since rural electrification was limited to specific villages (not all the rural areas of Mbonge and Konye have electricity), the government through the Ministry of Energy and Water Resources (MINEE), the councils in collaboration with the Energy of Cameroon (ENEO) should electrify these villages.

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