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PERFORMANCE OF THE MICRO HEALTH SERVICES IN THE NIGER DELTA REGION

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ABSTRACT
This study evaluated the Performance of the Micro Health Services in the Niger Delta Region. The specific objectives were to: describe the personal characteristics of the beneficiaries of the health services, ascertain the adequacy of the physical infrastructural facilities provided in the health centres and to determine the performance of the health services in the study area. Data for the study were collected from Imo, Akwa-Ibom and Abia States. Primary data for the study were obtained from a structured questionnaire and response recorded from the respondents during Focus Group Discussions (FGDs). The respondents were the beneficiaries of the healthcare services and personnel of the various health centres. They were selected using the multistage sampling techniques from which a total of 300 respondents were chosen. However, 270 questionnaires were returned and used for analysis. Percentages mean score; multiple regression and one way Analysis of Variance (ANOVA) and Focus Group Discussions (FGDs) were employed for data analysis. The major findings showed that majority of the respondents in their active ages comprised of more female who acquired more education than the male. On primary occupation, (39.2%, 47.1% and 57.6%) of the respondents in Imo, Akwa-Ibom and Abia States respectively were into farming and also belonged to different organizations and more to the religious organization. Based on the findings the study concluded that there was a gender difference in the utilization of health care services. More female utilized the health care service than the male. Female are known as home makers and also perform other activities including taking babies to the health centre for immunization and other ailments. More of the female than the male had education. The respondents also belong to one social organization or the other and farming as their primary occupation, physical infrastructural facilities were grossly inadequate in the health centre across the three states of Imo, Akwa-Ibom, and Abia State. This situation had led to fear misconceptions and lack of confidence of the people in the health care service, and further reduce access and utilization of the of the health services, that the performance of the health care services was poor. This study attributed it to the inadequacies of drugs, personnel, high cost of health care service and poor job condition of the health services personnel. The study therefore recommended that The health need of the female should be given more attention since they utilize the health care services than the male, adequate infrastructural facilities such as electricity, pipe-borne water, laboratory and ambulance services should be provided to improve access of the people to the health centre, adequate and affordable drugs should be provided at the health centres so that people will be encouraged to effectively utilize the health centres, health services personnel such as doctors, pharmacists, nurses, etc. should be posted to the health centres to restore confidence of the people in the health care services.

Keywords: Performance, Micro, Niger, Delta and Region

INTRODUCTION

The World Health Organization (WHO) (2006) defined health as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. Although this definition has been subject to controversy, in particular as having lack of operational value and

the problem created by the use the word "complete", it remains the most enduring (Jadad and Garady, 2008). At the first International Conference on health promotion in Ottawa, Canada, the Ottawa Charter for health promotion built on the WHO's concept and further defined health as a resource for everyday life … a positive concept emphasizing social and personal resources, as well as physical capabilities. Health has always been a valued possession. Alleyne and Cohen (2002) stressed that the Millennium Poll, a huge worldwide survey prepared for the Millennium Report of the Secretary General of the United Nations, revealed that health consistently ranked number one in the things men and women desired in life. This is the reason why healthy population is considered as an engine for economic growth. Generally, the average population growth in the Niger Delta is 3% as against 2.8% for the rest of the country, with life expectancy of 45 years compared to Nigeria's national life expectancy rate of 57 years (Aibokhan, 2007).
The lower life expectancy in Niger Delta can be attributed to poor health conditions in the region. This poor health condition in the Niger Delta region could have been minimized if people have adequate access to good health and delivery system. Accessibility of the people in the Niger Delta region to good health care services is being hampered by the high level of poverty and high cost of available health services in the region.
Alabi *et al* (2008) observed that the number of Primary Health Centres (PHCs) in Niger Delta was still lower than the national average. The average PHC per state was 370, while the average in Niger Delta was 271. The ratio of population to Health Facilities (HFs) also shows that many people in Niger Delta had to be sharing the few health facilities available. UNDP (2006) reported very high infant and child mortality rates in the Niger Delta region.
Micro Projects Programme six (MPP_6) started in May 2003 in six Niger Delta States of Abia, Akwa-Ibom and Cross River. Others are Edo, Imo and Ondo in the mid of the MPP_3 implementation (Bawa, 2008). The main objective of MPP_6 was to improve the living standards of the people in the rural communities of the beneficiary states. This was with the aim of improving the quality and access to basic physical and social infrastructure, income-generating opportunities and micro financial services on a sustainable and gender sensitive basis. The projects implemented under the MPP_6 initiative were water and sanitation, transport, health centres, school blocks, income generation and civic centres.

Objectives of the Study

(i) What are the personal characteristics of the beneficiaries of the health services?
(ii) How adequate are the physical infrastructural facilities provided in the health centres?
(iii) What is the performance of the health services in the study area?
(iv) Are the beneficiaries accessible to the health services?

Hypotheses of the Study:

The following null hypotheses were tested:

(i) There is no significant relationship between the personal characteristics of the respondents and their utilization of the health services.
(ii) There is no significant relationship between adequacy of physical infrastructural facilities and performance of health services personnel

LITERATURE REVIEW

Theoretical Framework

Modernization Theory

This is the theory used to explain the process of modernization within societies (Mandarins, 2003). The theory looks at the internal factors of a country while assuming that, with assistance, "traditional countries can be brought to development in the same manner more developed countries have. Modernization theory attempts to identify the social variables which

contribute to social progress and development of societies, and seeks to explain the process of social evolution.

According to Gavrov (2004), modernization theory does not only stress the process of change but also the responses to that change. It also looks at the internal dynamics while referring to social and cultural structures and the adaptation of new technologies.

Anikpo (1996) viewed modernization theory as an attempt by European scholars to explain third world underdevelopment as a consequence of the third world countries not being able to attain the industrial and technological levels of 'modernity' as found in Europe and North America. By implication, the third world can only develop by adopting policies and practices which will enable them to recreate themselves in the image of the developed countries.

The modernization paradigm in the functionalist tradition emphasizes stability and equilibrium in any cultural system. It embraces a variety of analysis based on such ideas as structural differentiation, tradition-modern dichotomy, structural and cultural prerequisites for development, etc. Theorists of the modernization strand, construct their models of societal development on the basis of an understanding of the economic development of Europe. Their analyses try to identify specific institutions or cultural elements as obstacles of change in the developing countries; to this they recommend measures from the viewpoint of Western Europe. They assumed that all societies like the West evolve from their 'traditional' state to 'modernity'. The industrialized countries are seen as having attained the status of modernity after a long transition to contractual, individualistic, achievement-oriented, economizing and scientific-rational values, while the non-industrialized world on the other hand is dominated by values lumped together as traditional, predominance of kinship relations, communal behaviour where social ends takes precedence over accumulation (Naanen, 1994; Anikpo, 1996). To Anikpo, all these theories were geared towards interpreting the differences between Euro-American societies and those of other nations most of which were under Euro-American domination. Africa was also placed at the lowest level of the evolutionary process. In most cases, the theories were merely attempted to give intellectual justification for the continued colonization of other lands for reasons of economic exploitation (Anikpo, 1996).

The modernization school of though has been very critically criticized because of its inability to explain the peculiar situation of the third world nations. Anikpo made the point that it fell into disrepute, not necessarily because of untenability of its assumptions, but because of the insinuation that the third world countries were underdeveloped through inherent incapacities as a people.

Conceptual Framework

The operational definition of Primary Health Care (PHC) will be necessary to define the breadth and boundaries of the result – based logic model, and the unique distinguishing activities, outputs and expected outcomes (Watson *et al,* 2004). For this purpose, PHC is defined as products or services designed to address acute and episodic health conditions and to manage chronic health conditions (Watson *et al).* It is also where health promotion and education efforts are undertaken; patients receive first care and where those in need of more specialized services are connected with other parts of the health care system. PHC can also be described in terms of the degree to which it is responsive to the needs of patients and populations.

The framework shows some of the more explicit link between inputs, activities and outcome of the health project. Arrows on the logic model linearly links resource inputs to activities performed, services delivered and outcome achieved based on the health project goals and objectives. The model establishes a common theory about the logic links among the different dimensions and a shared set of assumptions about these dependencies. It therefore focused principally on services directed towards individuals rather than Primary Health Care (PHC)

services directed towards communities. The constructs and links in the logic model can be used to evaluate and report the health project as follows:

Contextual Factors

The contextual factors that may influence the Primary Health Care system include religion, social, and the culture of the people. Others are political, economic, the physical environment and public participation. Socio-economic, cultural and political contexts could influence the availability of informal/volunteer care and the relative importance of different activities, outputs and outcomes. According to Watson *et al* (2004), political and cultural contexts may likely influence the degree to which regulations enable or thwart services to the intended beneficiaries. Physical environments influence geographic distribution and accessibility of primary health care services. Social and cultural priorities may influence the relative importance of different activities, outputs and outcomes.

PHC Inputs

Watson *et al* (2004) defined Primary Health Care (PHC) inputs as resources (human, material and financial) used to carry out activities, produce outputs and/or accomplish results. The following inputs would collectively provide structure for the provision and receipt of PHC products and services. They are:

- Fiscal resources from the health project provider;
- Material resources are physical facilities and equipment used to support and delivers care, educational and training resources to prepare health providers. The level of knowledge and degree of competence of health care providers has been considered as important. Others are information systems and technological resources to support clinical, management, policy and governance activities.
- Health human resources include the number, mix and characteristics of the clinical, management, policy and governance workforces.

PHC Activities

The next link in the logic chain after inputs is activities which are the operations or work processes intended to produce specific outputs. Activities are the primary link in the chain through which outcomes are achieved. Work processes internal to the PHC sector include policy/governance, health management and clinical activities intended to produce specific products and services.

PHC Outputs

Outputs are direct products or services delivered as a result of the activities of a policy, programme or initiative. Outputs represent the interface between the health care providers and the intended beneficiaries of the health care services. PHC Providers are responsible for delivering health promotion, disease/disability prevention, and rehabilitation. Others are curative, palliative and supportive services to target groups or populations. They also deliver services that can be described as patient-focused or family centered. PHC providers also refer individual with unusual or complex needs to more specialized health care service sectors. Indeed, referrals represent the formal mechanism of interaction between primary and secondary or tertiary care. The volume of PHC outputs is influenced by contexts and determined by inputs (e.g. fiscal and human resources used), as well as governance, healthcare management and clinical – level activities and decision.

PHC Outcomes

According to Watson *et al* (2004), PHC outcomes can be immediate , intermediate or final, depending on the degree as identified by stakeholders to which the PHC sector should be held more accountable (immediate outcomes) or less accountable (intermediate or final outcomes). Intermediate outcomes are those most directly attributable to outputs and for which the PHC workforce can reasonably assume control, responsibility and accountability.
Intermediate outcomes include areas in which PHC stakeholders have less degree of control, but for which PHC services are still expected to have an impact. Final outcomes are the long term ultimate objectives of PHC for individuals, the population and the health care system and wellbeing of the intended beneficiaries of the health services project.
Watson *et al* (2004) noted that an important aspect of the result – based logic model is the differentiation between areas of control and areas of influence, as well as the concepts of efficiency and effectiveness. Inputs, activities and outputs are areas in which a programme, organization, or sector have some degree of control, while outcomes are areas of influence. Watson *et al* describes efficiency as the extent to which organization, policy, programme or initiative is producing its planned outputs in relation to expenditure on resources. And this is a function of inputs and activities. Inputs and activities occur prior to and in preparation for outputs. Outputs represent the interface between PHC products and services. Information about inputs, activities and outputs is needed to measure and monitor the efficiency of the PHC system.
Furthermore, Watson *et al* (2004) considered effectiveness as the extent to which an organization, policy, programmes or initiative is meeting its planned results and a function of outputs and outcomes. Effectiveness can be measured at a system level and at a service level. The effectiveness of the PHC system is a function of all product and service outputs. By comparison, the effectiveness of a single product or service delivered by a provider is a function of that output and the outcome attained by the individual who received it.

Empirical Review

The performance of primary health care system has traditionally been assessed in terms of coverage of services with little attention to the quality of the services provided (Ehiri et al, 2005). The ability to assess the quality provided is an essential component of quality assurance and improving quality.
One method of doing evaluation that is based on developing a clear understanding of the intervention process and the close collaboration with programme administrators, personnel and intended beneficiaries is the Theory – Based, Participatory Evaluation Model. This study will therefore, be based on the principle of this model. Theory in this usage does not always mean a grand theory in the traditional social science sense but, simply refers to a programme logic model of how programme is suppose to work. This model involves identifying the key service components, expected outcomes and working with programmes to make explicit the underlying assumptions about how these service components will lead to the desired outcomes (Green and Mc Allister, 2002).
Furthermore, since programmes and projects are mostly developed in close collaboration with the stakeholders, there is therefore the need for the framework to rely extensively on a collaborative process (Chen and Rossi, 2004). This process according to Chen and Rossi leads to the incorporation of the participatory evaluation approach into the theory – based approach to make it the theory-based, participatory evaluation model.
The philosophy of the health project suggests that services are collaborative characterized by the service providers, intended beneficiaries, health services personnel and other stakeholders working in partnership to address the project goals. The use of theory – based, participatory evaluation model provides a useful framework for translating these principles into methods (Green et al, 2006). For example, the use of participatory methods facilitates collaboration among the stakeholders. The theory-based, participatory model, Green et al noted, provides a

way to capture the comprehensive nature of the project within an organizing framework, and facilitates flexibility by outlining the likely developmental sequence of project changes.
In addition to these benefits, Weiss (2005) noted that the theory-based, participatory evaluation model further the understanding of the project functioning at a broader level. These kinds of evaluations foster the exchange of ideas, information, and assumptions among researchers, service providers and project beneficiaries, which can lead to a richer and more complex understanding of how and why these projects work. Further, by definition, theory based evaluation focus directly on understanding the mechanism underlying programme functioning and can thus address complex conceptual questions about the nature and effectiveness of interventions.
Finally, Weiss suggests that, because theory-based participatory evaluation model focus on explanation of project effect (rather than just documentation), an increased use of this theory may lead to an improved ability to integrate evaluation results into a larger body of theoretical and project knowledge. Thus, using a theory-based, participatory approach has both immediate benefits to the project, as well as enhancing usefulness of evaluation results on a broader level.

METHODOLOGY

The Study Area

The Niger Delta region is situated in the Southern part of Nigeria and bordered to the South by the Atlantic Ocean and to the East by Cameroon. It occupies about 12 percent of Nigeria's total surface area (FGN, 2006). The current population of the Niger Delta is 31 million, constituting almost 24 percent of Nigeria's total population of which 75 percent live in rural areas and constituting of over forty different ethnic groups, speaking 250 different languages (World Bank 2007a). The States with the largest populations are Rivers, Delta, Akwa Ibom and Imo (FRN, 2007). There are indications of a predominance of males in the population of the Niger Delta: 54:56 according to the Niger Delta Development Commission (NDDC) Master Plan (NDDC, 2005); and 52:48 according to the provisional 2006 census figures (UNDP, 2006). This trend may be due to the influx of migrant males from other parts of Nigeria. The population is youthful: 62 percent are below 30 years of age, while 36 percent are between 30 and 69, and just 2 percent aged 70 and above. The age structure of the population has important implications for development planning making social investment a crucial need (UNDP, 2006).

Population of the Study

The population of the study included the beneficiaries of the European Union (MPP6) Micro Health Project in the six Niger Delta States. The states are Ondo, Edo and Imo. Others are Abia, Akwa-Ibom and Cross River.

Sampling Procedure

A total of 446 micro health projects were executed in different communities in the six project states (Bawa, 2008). A multi-stage sampling procedure was used in selecting the sample for the study. The six project states were divided into 3 (three) zones during project execution stage. They were:

- Zone 1- Abia and Imo States,
- Zone 2 – Akwa - Ibom and Cross River States, and
- Zone 3 - Edo and Ondo States.

Three states (Imo, Abia and Akwa-Ibom) were sampled for the study. Ten villages hosting the project from each of the three states were selected and eight households in each of the villages were randomly selected for the study. Again, sixty health service personnel were randomly selected from the three representative states for the study. These gave a total sample size of 300. However, 270 questionnaires were returned and used for analysis.

Method of Data Collection

The study was carried out using both primary and secondary data. The secondary data was sourced from published and unpublished project reports and documents that were obtained at the project coordinating office. The primary data were obtained using both qualitative and quantitative interviews.

Method of Data Analysis

Data collected were analyzed using both descriptive and inferential statistics. Objectives one, two, three, four, five, six and seven were analyzed descriptively using frequency, percentage and mean. The Ordinary Least Square (OLS) multiple regression was used to analyze hypotheses one, two and three. Hypothesis four was analyzed using the Analysis of Variance (ANOVA).

RESULTS AND DISCUSSION

The results of this research are discussed under the following sub-headings:

Socio-economic characteristics of the beneficiaries of health service

Socio-economic characteristics of the respondents to a large extent influence their utilization of health services. Socio-economic variables considered in this study were gender, age of respondents, marital status, educational attainment, primary occupation and membership of organization.

Gender of the respondents

Table 1 below shows that in Imo State, 30(49.2%) of respondents were male as against 31(50.8%) females. While in Akwa Ibom State, the male and female respondents surveyed were 37(36.3%) and 65(63.7%) respectively. Similarly in Abia State, 26(38.8%) of respondents were males, while 41(61.2%) were female. The results of this analysis show a higher response of the female than the male across the states of Imo, Akwa-Ibom and Abia.

The findings confirm the earlier studies on gender difference in the utilization of health care services by Rohlfs *et al* (2009) that women are homemaker whose activities include taking their babies to the health centre for immunization. This was exactly the situation in the rural communities where the health centres were located.

Age of Respondents

In Imo state, the age range were 18-38 years (49.2%), 39-58 years (29.5%) and 59-70 years (21.3%). For Akwa-Ibom state, the ranges were 18-38 years (43.1%), 39-58 years (32.4%) and 59-70 years (24.5%). Similarly, in Abia state, the age ranges were 18-39 years (62.7%), 39-58 years (23.9%) and 59-70 years (13.4%). The overall picture of the age distribution was an indication that majorities (48.3%), of the respondents were within their active and reproductive ages (18 – 38) years.

The findings corroborates the study of Rasak (2013**)** on patrons' perception of quality of healthcare services in Primary Health care centres (PHCs) in Oyo State that majority of Primary Health Care centres attendance are females who are active and in their child bearing ages.

Marital Status of the Respondents

In Imo State, 54.1% were married; Akwa-Ibom had 52.9% married, while it was 50.8% in Abia State respectively. It was 22.9%, 19.6% and 26.9% single women for Imo, Akwa-Ibom and Abia States respectively. For the divorced, it was 6.6% for Imo State, 3.9% for Akwa-Ibom State and 5.9% for Abia State. Respondents who separated from their marriages were 4.9% for Imo State, 6.9% for Akwa-Ibom and 8.9% for Abia State, while widowed were 11.5% for Imo State, 16.7%

for Akwa-Ibom State and 7.5% for Abia State. The findings revealed that majority (52.6%) of the respondents in the study area were married.

Educational Attainment of Respondents

The results shows that the level of respondents without formal education were low (16.4%, 15.7%, 20.8%) in Imo, Akwa-Ibom and Abia states respective. For those who were in school for about six years, the result were 19.7%, 29.4% and 28.4% for Imo, Akwa-Ibom and Abia States respectively, while the result for those who spent between seven to twelve years in school showed 37.7%, 47.1% and 43.3% for Imo, Akwa-Ibom and Abia states respectively. It was found that a higher proportion of the respondents (41.7%) had between 7–12years education indicating secondary education. This result corroborates the findings of Oluwatayo (2006), Awotunde *et al.,* (2007) and Nnodim (2011). In their separate studies of educational attainment of rural women in Nigeria, it was discovered that majority of them benefited from formal education.

Primary Occupation of Respondents

Regarding primary occupation majority (39.4%, 47.1% and 58.2%) of the respondents in Imo, Akwa-Ibom and Abia states respectively were into farming. For fishing, the result showed 13.1% of the respondents in Imo State, 15.7% in Akwa-Ibom State and 7.5% in Abia State. The result confirmed Ijere 1984 cited by Ogueri (2006**),** that a typical Nigerian rural setting is agrarian where farming and fishing are major occupations and also corroborated the findings of Beth (2004) and Akpabio (2005) that agriculture is the mainstay of rural economy especially in the sub-Saharan Africa. In all, about 46.3% of the respondents in the study area were farmers.
Aside from farming activities, analysis showed that salaried work (26,55%, 26.2% and 25.4%) were the next dominant occupation of respondents in Imo, Akwa-Ibom and Abia states respectively while the result for other occupations showed 21.3% for Imo State, 12.7% for Abia State and 8.9% for Abia State.

Membership of Organization

Majority (88.6%) of the respondents from the three states agreed were members of different organizations. Table 1 below showed that 91.8%, 8.2% and 100% of the respondents from Imo, Akwa-Ibom and Abia states respectively belonged to different social organizations. The importance of being a member of social organization is for self development and the development of the rural communities. This result agreed with the assertion of Nayamuddin and Manraguliani (2006) that rural organizations are very important in rural development.

Type of organization

Social, political, cultural, religious and professional were the different organizations that the respondents belonged to. Result of analysis showed that majority (36.1%, 42.1% and 32.8%) of the respondents in Imo, Akwa-Ibom and Abia states respectively belonged to religious organizations. This could be because most Nigerians believe that religion still remains an important agent for sustainable development especially in rural communities. It agreed with the findings of other social researchers such as Ajadi et al (2010) and Eshiet (2007). In their separate studies, Ajadi *et al* assessed the impact of women's organizations on sustainable rural environment and livelihood in Nigeria and found that women worldwide have contributed greatly to sustainable development including primary health care. Similarly, Eshiet (2007) in his study of the socio-economic potentials of rural women and the contribution of women associations found that membership of organizations encourage the articulation of women's interest in the community and play a key role in the socio-economic development of their various communities.

These assertions underscore the fact women constituted majority of the respondents in this study.

Table 1: Distribution of respondent based on their socio-economic characteristics

Variable	Imo State (N=61)		Akwa Ibom State (N=102)		Abia State (N= 67)	
	Frequency	%	Frequency	%	Frequency	%
Gender						
Male	30	49.2	37	36.3	26	38.8
Female	31	50.8	65	63.7	41	61.2
Age Range						
18-38 years	30	49.2	44	43.1	42	62.7
39-58	18	29.5	33	32.4	16	23.9
59-70	13	21.3	25	24.5	9	13.4
Marital Status						
Married	33	54.1	54	52.9	34	50.8
Single	14	22.9	20	19.6	18	26.9
Divorced	4	6.6	4	3.9	4	5.9
Separated	3	4.9	7	6.9	6	8.9
Widowed	7	11.5	17	16.7	5	7.5
Educational Attainment (Year)						
No Formal Education	10	16.4	16	15.7	14	20.8
1-6	12	19.7	30	29.4	19	28.4
7-12	23	37.7	48	47.1	29	43.3
13-18	16	26.2	8	7.8	5	7.5
Primary Occupation						
Farming	24	39.4	48	47.1	39	58.2
Fishing	8	13.1	16	15.7	5	7.5
Salaried Work	16	26.2	25	24.5	17	25.4
Others	13	21.3	13	12.7	6	8.9
Membership of Organization						
Yes	56	91.8	90	88.2	67	100
No	5	8.2	12	11.8	0	0
Type of Organization						
Social	17	27.9	13	12.8	13	19.4
Political	6	9.8	8	7.8	10	14.9
Cultural	12	19.7	31	30.4	15	22.4
Religious	22	36.1	43	42.1	22	32.8
Professional	4	7.8	7	6.9	7	10.5
Religion						
Christianity	49	80.3	85	83.3	50	83.6
Islam	2	3.3	1	1.0	0	0
Traditional	10	16.4	16	15.7	11	16.4

Adequacy of Infrastructural Facilities

Table 2 below shows that the provision of health centre buildings was very inadequate in all the project states. The respondents in Imo state (67.2%) indicated that health centre buildings were inadequate, while 54% and 65.7% reported inadequacy of health centre building in Akwa-Ibom and Abia states respectively. The supply of electricity to the health centres in project states was also reported to be inadequate, 98.4%, 92.2% and 98.5% of the respondents in Imo, Akwa-Ibom and Abia states respectively agreed that the provision of electricity to the health centres was inadequate. Similarly, 91.8%, 91.1% and 98.5% of the respondents in Imo, Akwa-Ibom and Abia states respectively reported that the provision of pipe-borne water, internal water system and external soak-away were inadequate. Other inadequacies or total lack of physical infrastructural facilities such as incinerators and placenta pits included 95.6%, 94.1% and 94.% for Imo, Akwa-Ibom and Abia states respectively, laundry services 88.5%(Imo state), 96.1% (Akwa-Ibom state) and 92.5% (Abia State); consumables 95.1%(Imo state) 95.1% (Akwa-Ibom state) and 97% (Abia state). Also provision of computer equipment was revealed to be inadequate, 98.4% (Imo state), 96% (Akwa-Ibom state) and 97% (Abia state).

However result showed that infrastructural facilities such as access road 68.9% (Imo state) 78.5% (Akwa-Ibom state) 52.2% (Abia state), consulting room 85.2% (Imo state), 95.1% (Akwa – Ibom state) 89.6% (Abia state), out patients male and female wards 86.9% (Imo state) 93.2% (Akwa-Ibom state) 88.1% (Abia State) and pesticide treated nets 59.0% (Imo state) 67.7% (Akwa-Ibom state) and 53.7% (Abia state) were adequate. The findings of the study corroborates the findings of Abdulraheem et al (2012), Sule et el (2008), Ojeifo (2005) and Omolekell (2005) that there were general inadequacies of physical infrastructural facilities in the rural communities of Nigeria resulting to low patronage. Adesiji et al (2012) in a study of problems faced by rural people in accessing health care facilities in Akure North and Akure South Local Government Areas of Ondo State, Nigeria also noted that inadequate infrastructural facilities in rural health centres can affect individuals and families decision to access health care services. The implication of the finding is that adequacy of facilities such as consulting room, access road, out patients' wards and pesticide treated nets in a health centre may encourage patronage of the people to health care services. This is also in line with the opinion of ICDDR, Bangladesh (2005) that inadequate physical infrastructural facilities in health centres may lead to fear, misconception and lack of confidence in the health care services, and further reduce access of the people to the health care services.

Table 2: Respondents' assessment of adequacy of physical infrastructural facilities

Variable	Imo (N=61)		Akwa Ibom (N=102)		Abia (N=67)	
	Frequency	%	Frequency	%	Frequency	%
Health Centre Buildings						
Adequate	20	32.8	7	46.1	22	32.8
Inadequate	41	67.2	55	54	45	67.2
Electricity						
Adequate	1	1.6	8	7.8	1	1.5
Inadequate	60	98.4	94	92.2	66	98.5
Laboratory						
Adequate	1	1.6	3	3.0	5	7.5
Inadequate	60	98.4	99	97.0	62	92.5
Pipe-borne Water						

Adequate	5	6.6	4	8.9	1	1.5
Inadequate	56	91.8	93	91.1	66	98.5
Provision of Access Road						
Adequate	68	66.7	80	78.5	35	52.2
Inadequate	19	31.1	22	21.5	32	47.8
Consulting Room						
Adequate	52	85.2	97	95.1	60	89.6
Inadequate	9	14.8	5	4.9	7	10.4
Out Patients Male/Female wards						
Adequate	53	86.9	95	93.2	59	88.1
Inadequate	8	13.1	7	6.9	8	11.9
Internal water System						
Adequate	2	3.3	4	4.0	3	4.5
Inadequate	59	96.7	98	96.0	64	95.5
External Soak-away						
Adequate	5	8.2	6	5.9	3	4.5
Inadequate	56	91.8	96	94.1	64	95.5
Incinerators and Placenta Pits						
Adequate	3	4.9	6	58.8	4	6.0
Inadequate	58	95.1	96	94.12	63	94.0
Pesticides treated nets						
Adequate	36	59.0	69	67.7	35	53.7
Inadequate	25	41.0	33	32.3	31	46.3
Laundry facilities						
Adequate	7	11.5	4	4.0	5	7.5
Inadequate	54	88.5	98	96.1	62	92.5
Consumable equipments						
Adequate	3	4.9	5	4.7	2	3.0
Inadequate	58	95.1	97	95.1	65	97.0
Computer equipment						
Adequate	1	1.6	6	5.9	2	3.0
Inadequate	60	98.4	96.0	94.2	65	97.0

Performance of Health Services

The findings in table 3 below indicated that almost all the indicators of good performance of the health care services generated low level response using the mid-point value of 2. It further shows that respondents in Imo, Akwa Ibom and Abia states indicated low performance of functionality of health centre in their community with mean scores of 1.59, 1.71 and 1.56 respectively. Also, respondents in the 3 states indicated low performance for availability of drugs in health centres (Imo = 1.49; Akwa Ibom = 1.69; Abia = 1.58). In the same vein, respondents disagreed that drugs are affordable (Imo = 1.54; Akwa Ibom = 1.59; Abia = 1.94). It was that respondents were not properly attended to (Imo = 1.49; Akwa Ibom = 1.59 and Abia = 1.91). The result also agreed with the earlier works of Adesiji et al (2012) and Akesode (2009), on indicators of good performance of health care centres. Adesiji et al (2012) in their studies on the problems faced by rural people in accessing health care facilities in Akure North and Akure South Local Government Areas on Ondo State, Nigeria reported that the attitude of health officials, cost of care and poor staffing of the health facilities are some of the factors that discourages the rural people in utilizing primary health care services.

Table 3: Respondents assessment of the performance of health service in the study areas

ITEMS	IMO (61)		AKWA-IBOM (102)		ABIA (67)	
	M	Rem.	M	Rem.	M	Rem.
The health centre in my community functions well	1.59,	Low	1.71,	Low	1.56,	Low
Drugs are always available at the health centre	1.49,	Low	1.69,	Low	1.58,	Low
The drugs are affordable by me	1.54,	Low	1.59,	Low	1.94,	Low
They attend to me promptly	1.49,	Low	1.69,	Low	1.91,	Low
The doctors, pharmacists, nurses, etc are always available to attend to patients	1.40	Low	1.68,	Low	1.67,	Low
You experience sharp increase in the number of children in the community	1.77,	Low	1.85,	Low	1.97,	Low
You have many aged people in your community	1.94,	Low	2.08,	Low	1.99,	Low
They give pregnant women required attention	1.63,	Low	1.89,	Low	1.92,	Low
Many women are delivered of their babies at the health centre	1.59,	Low	1.75,	Low	1.96,	Low
They offer health education to you	1.73,	Low	1.79,	Low	1.92,	Low
They have functional ambulance(s) in the health centre	1.57,	Low	1.64,	Low	1.89,	Low
They carryout routine immunization exercise in the health centre	1.59,	Low	1.92,	Low	1.55,	Low
They have enough hospital beds for patients	1.46,	Low	1.65,	Low	1.96,	Low

Midpoint = 2.00; Any mean score < 2.00 suggests low
= Any mean score ≥ 2.00 suggests high

The accessibility of beneficiaries to the health services

Table 4 below shows that respondents indicated low level of registration of household members in the health centres (Imo = 1.55; Akwa – Ibom = 1.61; Abia = 1.96). Also, respondents were not able to pay for services provided (Imo = 1.6; Akwa – Ibom 1.61; Abia = 1.96). In the same vein, respondents were not able to get health services when needed (Imo = 1.91, Akwa – Ibom = 1 79; Abia = 1.89)

Respondents further indicated that most of their houses were far away from the health centres (Imo = 1.77; Akwa-Ibom = 1.78; Abia State 1.98) and that ambulance services were not available (Imo State = 1.5; Akwa-Ibom State = 1.72; Abia State = 1.11).

Analysis showed that there was a low or limited access of the respondents to the utilization of the health care services. This result agreed with Jaro and Ibrahim (2012) in their studies on the accessibility problems of primary health care of rural people in Jigawa State, Nigeria that high cost and non-availability of drugs, distance, user fees were some of the factors constraining accessibility and utilization of primary health care facilities in Jigawa State.

Table 4: Respondents response on their accessibility of the health care services

ITEMS	IMO (N=61)		AKWA-IBOM (N=102)	ABIA (N=67)	
	M	Rem		M	Rem

		M Rem	
Registered in the health centre	1.56, Low	1.55, Low	1.97, Low
Registered your household members in the health centre	1.55, Low	1.58, Low	1.96, Low
Able to pay for services provided	1.60, Low	1.61, Low	1.96, Low
House is not far away from the health centre			
Get health care services when needed	1.91, Low	1.79, Low	1.89, Low
have telephone services in case of emergency	1.52, Low	1.85, Low	1.20, Low
Have ambulance services	1.54, Low	1.72, Low	1.11, Low
Purchase your drugs at the approved price	1.65, Low	1.80, Low	1.08, Low
Always able to pay your bills and those of your households at the health centre	1.66, Low	1.80, Low	1.12, Low
Always to discuss your feelings about health care services with the management of the health centre	1.64, Low	1.83, Low	1.12, Low

Midpoint = 2.0
Any mean score < 2.00 suggest low
Any mean score ≥ 2.00 suggest high

HYPOTHESES OF THE STUDY

Test of Hypothesis 1:

There is no significant relationship between the personal characteristics of the respondents and their utilization of the health services.

The result of the regression analysis is shown in table 5. Based on the appropriateness of signs, number of significant variables, and magnitude of R^2 the exponential log was chosen as lead equation. Three variables, marital status, educational attainment and membership of social organization out of the eight variables were found to have significantly influenced the utilization of the health care services. Educational level of respondents was positively correlated with the utilization of health care services, ($t = 2.002$; $p < 0.05$). This implies that the more educated the people are, the more likely they will be able to utilize the health care services. This finding corroborates the assertion of Van Eijk et al (2006) that ninety percent of rural people who did not visit clinic attained less than eight years of formal education.

The relationship between membership of social organization and utilization of health services was negative (- 4.725) and significant at 0.05 level. Similarly, marital status was negative (-2.164) and significant at 0.05 probability level. The implication is that the respondents who belonged to social organization use health services less as those who were married. This result is not in tandem with the earlier findings of Nayamuddin and Manraguliani (2006) that social organizations are very important in rural development. The negative correlation between membership of social organization and marital status of respondents and the utilization of health care services could be due to the inadequacy of infrastructural facilities in the rural health centres. This result confirms the earlier findings of ICDDR, Bangladesh (2005) that inadequacy of key infrastructural facilities in rural health centres led to low patronage of health care services because of fear, misconception and lack of confidence of the people in the health care services.

Again, the poor utilization of health care services which may be due to inadequacy of infrastructural facilities was expressed during the Focus Group Discussions (FGD) in Ikot Nfon in Etinaan Local Government Area of Akwa – Ibom State. Some of the participants for the FGD who were drawn from the various social organizations such as women group, youth organization, men, market women, religious organizations and others said that:

There was no need to visit the health centres when key infrastructural facilities such as electricity, water and health services personnel were not available or grossly inadequate (FGD, 2013)

Findings therefore showed that significant relationship existed between marital status, educational attainment and some personal characteristics of the respondents and the utilization of the health care services. This was confirmed by the F – ratio of 6.430 which was significant at 0.05 probability level and the multiple R of 0.583 showing that moderate correlations exist between the personal characteristics of respondents and utilization of health care services. From the analysis, the null hypothesis which states that there is no significant relationship between the personal characteristics of the respondents and their utilization of the health services was accepted because the inadequacy of infrastructural facilities might have biased the minds of the respondents (37.5%) with less utilization of the health services.

Table 5: Multiple regression analysis of utilization of health services versus personal characteristics of respondents

Variables	Exponential	Linear	Double Log	Semi Log
Constant	0.411	2.362	0.310	2.025
	(5.823)	(9.921)	(2.755)	5.328)
Gender	-0.007	-0.023	-0.024	-0.084
	(-0.399)	(-0.410)	(-0.423)	(-0.443)
Age	-0.001	-0.002	-0.055	-0.183
	(-1.075)	(-0.025)	(-0.805)	(-0.427)
Marital Status	-0.014	-0.047	-0.088	-0.299
	(-2.164)*	(-2.191)	(-2.669)*	(-0.008)
Educational level	0.003	0.012	0.032	0.112
	(2.002)*	(2.034)*	(1.554)	(0.114)
Occupation	-0.009	-0.027	-0.022	0.059
	(-1.118)	(-1.033)	(-0.607)	(0.625)
Membership of Organization	-0.145	-0.484	-0.493	-1.646
	(-4.725)*	(-4.661)*	(-4.834)*	(0.000)
Household Size	0.000	0.001	-0.002	-0.004
	(0.179)	(0.225)	(0.066)	-(0.967)
Religion	0.006	0.018	0.031	0.104
	(0.489)	(0.455)	(0.626)	(0.536)
R^2	0.583	0.552	0.486	0.408
F – ratio	6.430	6.351	6.108	6.039
N	240			

Values in first row are regression coefficients
Values in parenthesis are t-ratios
T-Ratios are significant at 0.05 Level

Test of Hypothesis 2

There is no significant relationship between adequacy of physical infrastructural facilities and performance of health personnel

In the regression analysis in table 5, the double log functional form was chosen as the lead equation. The coefficient of determination of performance of health service personnel correlated positively with adequacy of physical infrastructural facilities at the health centres (t = 4.183) which was significant at 0.05 probability level.

Table 6 shows that performance of health service personnel correlated positively with adequacy of physical infrastructure. The relationship was significant at 0.05 level. The implication of this finding is that adequacy of physical infrastructure will likely influence the performance of the health service personnel. This is obviously true because availability of required infrastructure will motivate the personnel to work effectively.

This result agrees with the studies of Thaddeus (2011) that attitude of health care officials is very significant, which implies that positive attitude of health official will enhance the utilization of health facilities by the people. Adesiji et al (2012) and Akesode (2009) also reported positive relationships between good performance of health care officials at health centres and adequacies of drugs, personnel and other essential infrastructural facilities needed in the health centres.
Furthermore, the inadequacy of infrastructural facilities in the health centres and the adverse effect on the performance of health service personnel was expressed by one of the health service personnel during in-depth interviews at Okuku Community, Owerri West Local Government Area of Imo State: She said that:
In our health centre, there are no drugs, electricity, pipe-borne water, laboratory and ambulance vehicle for emergency cases and most of the community members are not interested in visiting the health centre because the place is completely empty. The people feel that since there are no drugs, no doctors and nurses in the health centre, there was no need coming to the health centre and it makes our work not to be interesting (In-depth Interview, 2013). Therefore, the null hypothesis that there is no significant relationship between adequacy of physical infrastructural facilities and performance of health services personnel was rejected.

Table 6: Multiple regression analysis of adequacy of physical infrastructural facilities and performance of health service personnel.

Variables	Double Log +	Exponential	Linear Log	Semi Log
Constant	1.098	1.320	21.690	10.561
	(14.893)	(54.535)	17.287)	2.762)
Performance	0.225	0.004	0.178	11.256
	(4.183)*	(3.637)*	(3.505)*	(4.042)*
R^2	0.766	0.589	0.396	0.323
F-ratio	17.494	13.225	12.287	16.337
N	240	240	240	240

Figures in the first row are regression coefficients
T- ratios are in parentheses
T- ratios significant at 0.05 level
* = Significant

CONCLUSION

The following conclusions were drawn from the study:

1. There was a gender difference in the utilization of health care services. More female utilized the health care service than the male. Female are known as home makers and also perform other activities including taking babies to the health centre for immunization and other ailments. More of the female than the male had education. The respondents also belong to one social organization or the other and farming as their primary occupation.
1. Physical infrastructural facilities were grossly inadequate in the health centre across the three states of Imo, Akwa-Ibom, and Abia State. This situation had led to fear misconceptions and lack of confidence of the people in the health care service, and further reduce access and utilization of the of the health services.
2. That the performance of the health care services was poor. This study attributed it to the inadequacies of drugs, personnel, high cost of health care service and poor job condition of the health services personnel.
3. There was low or limited access of the respondents to the utilization of the health care services. These as revealed in the study were due to the non-availability of drugs,

inability of the respondents to pay for service provided and inadequate and in some cases lack of physical infrastructural facilities.

RECOMMENDATIONS

Based on the conclusions of this study, the following recommendations were made.

1. The health need of the female should be given more attention since they utilize the health care services than the male.
2. Adequate infrastructural facilities such as electricity, pipe-borne water, laboratory and ambulance services should be provided to improve access of the people to the health centre.
3. Adequate and affordable drugs should be provided at the health centres so that people will be encouraged to effectively utilize the health centres.
4. Health services personnel such as doctors, pharmacists, nurses, etc should be posted to the health centres to restore confidence of the people in the health care services.

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