



RESEARCH ARTICLE

UTILIZATION AND FACTORS INFLUENCING ACCESS TO MODEL PRIMARY HEALTH CARE CENTER, AJIOLU ABOKOCHE DEKINA LGA, KOGI STATE, NIGERIA

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ABSTRACT

The International Conference on primary health care was held in Alma-Ata, USSR on the twelfth day of September in the year Nineteen Hundred and Seventy-eight. Primary health care is the first level of contact of individuals, the family and community with the national health system. Primary health care addresses the main health problems in the community, providing education concerning prevailing health problems and the methods of preventing and controlling them, promotion of food supply and proper nutrition, adequate provision of safe water and basic sanitation. Other services provided include maternal and child health including family planning, immunization against the major infectious diseases, prevention and control of locally endemic diseases, appropriate treatment of common diseases and injuries and provision of essential drugs. The four types of health facility that provides primary health care services in Nigeria are health post, basic health clinic, primary health centre and comprehensive health centre. The main objective of the study was to determine utilization and factors influencing access to primary health care services in model primary health centre, Ajiolu-Abokoche, Dekina LGA, Kogi State, Nigeria. It was a descriptive cross sectional study, conducted between 24<sup>th</sup> August 2015 and 25<sup>th</sup> September 2015. Ethical approval for the study was obtained from the Dekina Local Government Authorities, while informed consent was taken from all attendees at the Centre. Instruments of data collection were semi-structured interviewer administered questionnaires, focus group discussion and medical records at the Model PHC Ajiolu-Abokoche. Pre-testing of the data collection instruments was done at the Primary healthcare centre Makutu Isanlu, Yagba East Local government Area, Kogi State. Four hundred questionnaires were administered using a Multistage sampling technique. Data entry, validation and analysis were carried out using the statistical package for social science (SPSS) version 21. Frequency distribution tables were generated, cross tabulations carried out and Chi-squared test of significance to compare rates, ratios and proportions was carried out. The P value was set at  $\leq 0.05$  and a 96% confidence interval was used for the study. The mean age of respondents was  $31.81 \pm 12.87$  years with a male to female ratio of 1:1.1. Utilization of model PHC Ajiolu-Abokoche was 127(31.7%). Determinants of utilization of model PHC Ajiolu-Abokoche were appropriateness of infrastructure 310(77.5%), personnel availability 244(61.0%), staff high competency 200(50.0%), good attitude of staff 200(50.0%), availability of essential drugs 202(50.5%), appropriate PHC Location 204(51.0%) and clinic schedule 216(54.0%). Other factors include availability and adequacy of equipment 122(30.5%), appropriate cost of health care services 124(31.0%), client awareness 120(30.0%), financial status 124(31.0%), patient satisfaction 54(13.5%), health seeking behavior 42(10.5%) and community participation 44(11.0%). P = 0.00

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INTRODUCTION

The international conference organized by World Health Organization and United Nations Children Fund (WHO-UNICEF 1978) on primary health care (PHC) meeting was

held in Alma-Ata, USSR on the twelfth day of September in the year Nineteen hundred and seventy-eight. The conference urged governments, the World Health Organization, non-governments organizations, funding agencies, all health workers and the whole world community to support national and international

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commitments to primary health care as a gateway and platform for achieving health for all by the year 2000 where all peoples of the world would attain a level of health that will permit them to lead a socially and economically productive life (WHO-UNICEF 1978). Primary health care forms an integral part of the national health system and is the first level of contact of the individual, family and community with the national health system. Primary health care brings health care as close as possible to where people live and work and constitutes the first element of a continuing health care process. Primary health care addresses the main health problems in the community, providing promotive, preventive, curative and rehabilitative services including education concerning prevailing health problems and the methods of preventing and controlling them, promotion of food supply and proper nutrition, adequate supply of safe water and basic sanitation. Other services in primary healthcare are maternal and child health including family planning, immunization against the major infectious diseases, prevention and control of locally endemic diseases, appropriate treatment of common diseases and injuries and provision of essential drugs (Adetokunbo and Herbert 2003; Alakija 2000; Obionu 2007; Park 2007; Peter 2007; WHO and UNICEF 1978). Primary healthcare is anchored on the principles of equity, essential healthcare, appropriate technology, community participation, cultural sensitivity, inter - sectoral collaboration, sustainability and self reliance. (Park 2007, Peter 2007, WHO 2008, WHO Regional Office for Africa 2008; WHO - UNICEF 2008; NPHCDA 2013). The four types of health facilities that provide primary health care services in Nigeria are Health Post, Basic Health Clinic, Primary Health Centre and Comprehensive Health Centre (NPHCDA 2015).

Nigeria adopted the reaching every district (RED) approach in December 2004 but renamed it as reach every ward (REW) based on its geo-political consideration as a strategy and platform for the implementation of primary healthcare. Every ward is designed to have thirty primary healthcare facilities comprising one comprehensive health center, four primary health centers, 20 basic health centres and five health posts. The comprehensive health center is designed for communities with catchment population of 50,000 people. The comprehensive health centre is a 30 bedded facility with 10 bed provision for admission of maternity cases, 10 beds for admission of adult (male and female) cases and 10 beds for pediatric admissions (Obionu 2007). The primary health center provides health care services to settlements, neighborhoods, villages and communities with catchments population of 10,000 - 30,000 (Obionu, 2007). The primary health centre is a 12 bedded infrastructure with 10 beds designated for maternity admissions of acute cases. The basic health clinic services settlements, villages and communities with a catchment population of 2000 - 5000 people. Health posts are usually donated by the community with catchment area of less than 2000 population and are managed by the voluntary village workers (NPHCDA 2015).

Evaluation of health personnel in primary health care system in Nigeria (NPHCDA 2015 a and b; Peter 2007) in 2015, showed that the cadres of health workers in the primary health care system consists of the medical officers of health (MOH), community health officers (CHO), community health extension

workers (CHEW), public health nutritionists (PHN), environmental health officers (EHO), village health workers, health record assistants, administrative officers, maintenance officers and security personnel. World health statistics 2015 (WHO 2015) indicated Nigeria as the most populous country in Africa with an estimated population of 182, 201, 935 lying on the west coast of Africa between latitudes  $4^{\circ}16'$  and  $13^{\circ}53'$  North and longitudes  $2^{\circ}40'$  and  $14^{\circ}41'$  (Nigeria National Population Commission and ICF international 2014). Nigeria is the 14<sup>th</sup> largest in land mass, occupying 923,768 square kilometers of land stretching from the Gulf of Guinea on the Atlantic coast in the South, to the fringes of the Sahara Desert in the North (NPC and ICF international 2014). Nigeria has 374 identifiable ethnic groups with the Hausa, Yoruba and Igbo as the main ethnic groups. Nigeria is made up of 36 states and a Federal Capital Territory and is grouped into six geo political zones namely North central, North East, North West, South South, South East and South West (NPC and ICF International 2014). Nigeria has 774 constitutionally recognized local government areas (NPC and ICF international 2014). Agriculture was the main economy before the discovery of oil in January 1953. Nigeria has 53 territory and specialized hospitals, three thousand and two secondary health facilities and twenty thousand primary healthcare facilities comprising seven thousand in private sector and thirteenth thousand public sector primary health centers (HERFON 2006; FMOH 2008; World Bank 2005; World Bank Africa Region 2010).

Profile of health workers in Nigeria in 2014 showed 39,210 doctors, 124,626 Nurses, 88,796 midwives and 62,700 CHEW and CHOs in the 9550 wards and 774 local government areas (NPC and ICF International 2014; HERFON 2006, FMOH 2008). Nigeria health statistics in 2015 indicated a crude birth rate of 41.2 per 1000 population, Infant mortality rate of 74.3 per 1000 live births, under 5 mortality rate of 117.4 per 1000 live births and maternal mortality ratio of 560 per 100,000 live births (WHO 2015). Other health indices in Nigeria in 2015 were: antenatal care coverage at 4 visits of 51%, birth attended by skilled health personnel of 35% and literacy rate of 61% among adult greater than 15 years (WHO 2015). Utilization of health services is defined as the extent to which the proportion of people who are in need of a service actually use the program in a specified time usually a year, and is expressed per 100 or 1000 population (Park 2007). Utilization of health services is affected by many factors such as appropriateness, affordability, accessibility, adequacy, availability, acceptability, and accountability of the health care services (Australian Institute of Health and Welfare 2013). Other factors include demographic, socio- economic and cultural factors, health seeking beliefs, attitudes and behavior of an individual towards his/her health and the health care system (Adetokunbo and Herbert 2003; Park 2007; WHO 2010). The objectives of this study were to determine the utilization and factors influencing the access to the model Primary Health Centre, Ajiolo - Abokoche, Dekina Local Government area of Kogi State, Nigeria.

## MATERIALS AND METHOD

The study was conducted in Ajiolo - Abokoche, Dekina Local Government Area (LGA), Kogi State, North Central, Nigeria. Ajiolo - Abokoche, Dekina LGA and Kogi State have estimated Population of 4,500, 260,968 and 3,314, 043 respectively

(Nigeria NPC 2010; Kogi SMOH 2007; Kogi SMOH 2010). The major ethnic groups in the area are: Igala, Yoruba, Ebara and Igbo. Agriculture is the mainstay of livelihood. Their main produce includes food crops such as maize, guinea corn, yam and cash crops including cashew, oil palm and kola nut. In Kogi State, there are 833 public and 246 private primary health centers with 100 public and 15 private primary health centers distributed in Dekina LGA (HERFON 2006, FMOH 2008, WORLD BANK 2008, Kogi SMOH 2007, Kogi SMOH 2010). The study was a descriptive cross - sectional, conducted between 24<sup>th</sup> August 2015 and 25<sup>th</sup> September 2015. Ethical approval was obtained from authorities of Dekina LGA while informed consent was taken from all respondents. Samples size calculation was done using the fisher's formula (Araoye 2004). Instruments for data collection were semi-structured interviewer administered questionnaires, focus group discussion (FGD) and medical records of model PHC Ajiolo - Abokoche. Forty questionnaires were pretested in a pilot study conducted in Makutu -Isanlu, East Yagba LGA of Kogi State. Multi-staged sampling technique was used. Sampling frame was developed for 235 households in stage one. Forty-five households were selected by simple random technique in stage two. Cluster sampling method was used for the selection of respondents in the selected households in stage three. 400 semi structured questionnaires were interviewer administered. Data entry, validation and analysis were carried out using the statistical package for social science (SPSS) version 21. Frequency distribution tables were generated, cross tabulations carried out and Chi-squared test of significance to compare rates, ratios and proportions was carried out.

**Table 1** Socio Demographic Data

| VARIABLES           | DISTRIBUTION N(%) |
|---------------------|-------------------|
| (A) Age (Yrs):      |                   |
| 15 – 19             | 106(26.5)         |
| 20 – 29             | 92 (23.0)         |
| 30 – 39             | 80 (20.0)         |
| 40 – 49             | 78 (19.5)         |
| 50 – 59             | 40 (10.0)         |
| >60                 | 04(1.0)           |
| (B) Gender:         |                   |
| Male                | 194(48.5)         |
| Female              | 206(51.5)         |
| (C) Marital Status: |                   |
| Single              | 72(18.0)          |
| Married             | 292 (73.0)        |
| Divorced            | 12(3.0)           |
| Other               | 24(6.0)           |
| (D) Religion:       |                   |
| Christianity        | 272 (68.0)        |
| Islam               | 72(18.0)          |
| Traditional         | 36 (9.0)          |
| Other               | 20(5.0)           |
| (E) Ethnicity:      |                   |
| Igala               | 200(50.0)         |
| Yoruba              | 90(20.0)          |
| Ebara               | 64(16.0)          |
| Ibo                 | 40(10.0)          |
| Other               | 10(4.0)           |
| (F) Education:      |                   |
| No Formal           | 130(34.0)         |
| Primary             | 48(12.0)          |
| Secondary           | 160(40.0)         |
| Tertiary            | 50(14.0)          |
| (G) Occupation:     |                   |
| None                | 24(8.0)           |
| Student             | 42(13.0)          |
| Farming             | 68(17.0)          |
| Trading             | 144(36.0)         |
| Artisan             | 24(8.0)           |
| Civil Servant       | 60(15.0)          |
| Other               | 12(3.0)           |

The P value was set at  $\leq 0.05$  and a 96% confidence interval was used for the study.

## RESULT

A total of 400 respondents were examined. The mean age of distribution was  $31.81 \pm 12.87$  years. The gender distribution of respondents showed male 194(48.5%) and female respondents 206 (57.5%) with a male to female ratio of 1:1.1. Most of the respondents were married 292 (73.0%) and of Christian religion 272 (68.0%). Half of the respondents were Igala in term of the ethnic predisposition.

**Table 2** Utilization of Model Primary Health Center Ajiolo Abokoche, Dekina Lga, Kogi State

| (A) Utilization of PHC:           | Respondents N (%) |
|-----------------------------------|-------------------|
| Yes                               | 127(31.7)         |
| No                                | 273(68.3)         |
| $\chi^2=53.29, df=1, P=0.00$      |                   |
| (B) Pattern of Utilization of PHC | Respondents N(%)  |
| Good Utilization                  | 87(21.7)          |
| Under Utilization                 | 313 (78.3)        |
| $\chi^2=127.69, df=1, P=0.00$     |                   |

**Table 3** Factors Influencing Utilization of Model Phc Ajiolo – Abokoche

| Variable factors                             | Responses  | N (%)     |
|--|------------|-----------|
| (A) Facility Infrastructure:                 | Yes        | No        |
| i) Appropriateness                           | 310(77.5)  | 90(22.5)  |
| ii) Maintenance                              | 52(13.0)   | 348(87.0) |
| $\chi^2=335.85, df=1, P=0.00$                |            |           |
| (B) Equipment:                               |            |           |
| i) Availability                              | 122 (30.5) | 278(69.5) |
| ii) Adequacy                                 | 122 (30.5) | 278(69.5) |
| iii) Functionality                           | 81 (20.2)  | 319(79.8) |
| $\chi^2=14.19, df=2, P=0.00$                 |            |           |
| (C) Personnel:                               |            |           |
| i) Availability                              | 244(61.0)  | 156(39.0) |
| ii) Adequacy                                 | 120(30.0)  | 280(70.0) |
| iii) competency                              | 200(50.0)  | 200(50.0) |
| iv) Good attitude                            | 200(50.0)  | 200(50.0) |
| $\chi^2=80.28, df=3, P=0.00$                 |            |           |
| (D) Essential drugs provision:               |            |           |
| i) Availability                              | 202 (50.5) | 198(49.5) |
| ii) Affordability                            | 100(25.0)  | 300(75.0) |
| $\chi^2=55.34, df=1, P=0.00$                 |            |           |
| (E) Appropriateness of services:             |            |           |
| i) ANC and delivery services                 | 50(12.5)   | 350(87.5) |
| ii) Immunization                             | 120(30.0)  | 280(70.0) |
| iii) Family planning                         | 20(5.0)    | 380(95.0) |
| iv) Laboratory Services                      | 40(10.0)   | 360(90.0) |
| v) Treatment of common ailments and injuries | 124(31.0)  | 276(69.0) |
| $\chi^2=158.11, df=4, P=0.00$                |            |           |

Two - fifth {160 (40.0%)} and more than a third 136 (34.0%) of respondents had secondary education and no formal education respectively. Trading 144 (36.0%) and farming 68(17.0%) were the main occupation of respondents. The utilization of model PHC Ajiolo - Abokoche in this study was recorded among 127 (31.7%) respondents. Under-utilization 313 (78.3%) was the main perceived pattern of utilization of model PHC, Ajiolo Abokoche ( $\chi^2=127.69, P=0.00$ ) among respondents in this study.

**Table 4** Other Factors Influencing Utilization of Model Phc Ajiolo – Abokoche

| Variable/Factor   | Responses  |            |
|---|------------|------------|
|   | Yes        | No         |
| (3) Accessibility of PHC  |            |            |
| i. Appropriate location   | 204 (51.0) | 196 (49.0) |
| ii. Appropriate clinic schedule   | 216 (54.0) | 184 (46.0) |
| $\chi^2 = 0.72$ , $df = 1$ , $P = 0.39$   |            |            |
| (4) Appropriate cost of healthcare services                                     | 124 (31.0) | 276 (69.0) |
| (5) Awareness of people on PHC  | 120 (30.0) | 280 (70.0) |
| (6) Financial status of people  | 124 (31.0) | 276 (69.0) |
| (7) Political reason  | 24 (8.0)   | 276 (69.0) |
| (8) Health seeking behaviour of people  | 42 (10.5)  | 358 (89.5) |
| (9) Community participation on health care services at model PHC                | 44 (11.0)  | 356 (89.0) |
| (10) Patient satisfaction of health care services at Model PHC Ajiolo- Abokoche | 54 (13.5)  | 346 (86.5) |
| $\chi^2 = 193.50$ , $df = 6$ , $P = 0.00$                                       |            |            |

Factors that influences the utilization of model PHC Ajiolo - Abokoche where appropriateness of infrastructure 310 (77.5%), availability of health personnel 244 (61.0%), high competency of personnel 200(50.0%), good attitude of staff 200 (50.0%) and availability of essential drugs 202 (50.5%) (PV = 0.00). Other factors include appropriate PHC Location 204 (51.0%), clinic schedule 216 (54.0%), availability and adequacy of equipment 122(30.5%) appropriate cost of healthcare services 124 (31.0%), client awareness 120 (30.0%) and financial status 124 (31.0%). Additional factors comprise patient satisfaction 54 (13.5%), health seeking behavior 42 (10.5%), community participation 44(11.0%) and political factor 24(8.0%) P = 0.00.

## DISCUSSION

This study identified the mean age of respondents were in the third decade of life in the reproductive age group. Comparative young population were studied by Owoseni *et al* (2014) and Uchendu *et al* (2013) while respondents with increasing mean age were examined by Onyemochi *et al* (2014), Omonona *et al* (2015), Emelumadu (2014) and Katteri (2011). More than half of the respondents(51.5%) in this study were females. WHO (2010) and Dominic *et al* (2015) in their studies reported female preponderance and identified socio cultural factors and access to money as important determinants of healthcare utilization. Most of the respondents in this study were married (73.0%) and Christianity is the practiced religion by 68.0% of them. Similar study by Theodore and Nicholas (2003), Mamunur and Diddy (2014) and Akpenpuun (2013) identified marital status as substantial factor that affected utilization of health care services. Furthermore, inconclusive trends on the influence of religion in the healthcare utilization were reported by Jeffrey and Preston (1987), Preston and Jeffrey (1988) and Maryam *et al* (2016). Half of the respondents in this study were Igala by tribe as the primary Healthcare centre was located in Dekina Local Government area in the Kogi Eastern senatorial zone of Kogi State (predominantly Igala tribe). The roles of social segmentation, ethnicity and culture on the

utilization of PHC services were previously highlighted by Jan (1993), Sundquist *et al* (2007) and Laurie *et al* (2003).

This study also showed that more than a third (34.0%) and two-fifth of respondents have no formal and secondary education respectively while trading (36.0%) and farming (17.0%) were the main occupation of the respondents. This observation was consistent with findings from studies reported on determinants of healthcare services by Yoshito *et al* (2014), Moronkola *et al* (2007), Badian and Khalid (1998), Olumide and Oluwatosin (2014) Isaac (2015) and Abdullah *et al* (2014).

In this study, utilization rate of model PHC Ajiolo-Abokoche was 31.7% among respondents while under utilization was the main perceived (78.3%) pattern of utilization. Increasing healthcare access and utilization of primary health care centres were described by Omonona and Obisesan (2015), Akande and Owoyemi (2009), Egbewale and Odu (2013), Ibor and Atomode (2014), Sule *et al* (2008), Titus and Adebisola (2015). However, Femi and Mariyetu( 2012) identified a slightly low access and utilization of PHC among their respondents. In this study appropriateness of facility infrastructure was most perceived (77.5%) factor influencing the utilization of PHC center in Ajiolo-Abokoche while infrastructure maintenance was perceived as a factor by a tenth of respondents (13.0%) though statistically significance (P = 0.00). Poor infrastructure has been cited among factors responsible poor utilization of PHC services in many studies conducted in low and middle income countries (Lulge and Mbatha (2007), Stefan *et al* (2015), Elizabeth and Thokozani (2007). Similarly, Reagon *et al* (2003) underscored the physical space deficiencies of consultation rooms, waiting rooms and toilets together with shortage of health care personnel as crucial factors undermining access to healthcare services. Infrastructural maintenance of PHC facility was also cited as important determinant for PHC utilization in many studies (Stefan *et al* 2015, Iroju *et al* 2013, Stakeholder Democracy Network SDN (2013). Availability of health personnel was perceived factor (61.0%) for the utilization of model PHC Ajiolo-Abokoche. Many studies cited personnel availability (Unchendu *et al* (2013), Saad (2004), Mujib *et al* (2007) and Agbede *et al* (2015) as important determinant that influence access and utilization of primary health care services. High competency of personnel was perceived to influence utilization of PHC by half of the respondents in this study. Similar studies conducted by Metiboba (2009), Baker and Liu (2006), Abdulraheem *et al* (2012) and Nnebue *et al* (2014) underscored the roles of competency of personnel as factor that influences respondents' choice and utilization of health facilities and services. The good attitude of health personnel was seen in this study as influencing factor on the access and utilization of PHC services by half of respondents. Furthermore, staff attitude among PHC workers have been cited in some studies (Pukuma (2014), Alenogbena *et al* (2014) and Suleiman *et al* (2013), as important determinants for the utilization of health facility.

Availability and affordability of essential drug provision was perceived by half (50.5%) and a quarter (25.0%) of respondents respectively as important determinants of model PHC utilization in this study (P = 0.00). Olusimbo and Cynthia (2010) and Ola A.A. *et al* (2014) identified availability of drugs as most prominent concerns and area of dissatisfaction of respondents with primary healthcare services. A third of respondents

(30.5%) in this study perceived that availability and adequacy of equipment affect PHC access and utilization. Adam and Awunor (2014) reported poor quality of equipment among some factors that affect utilization of health services in rural community in southern Nigeria. Other influencing factors perceived by more than half of the respondents were appropriate location (51.0%) and clinic schedule (54.0%) of the primary health center though statistically not significant ( $PV = 0.39$ ,  $X^2=0.72$ ). The influences of geographical accessibility on the utilization of PHC facilities was reported by researchers [Awoyemi *et al* (2011), Ijeoma and Obinna(2014), Ulises and Carina(2012), Fanan and Felix (2014)]. Inappropriate clinic schedule, none availability of transportation and work commitment were among many reasons advocated in some studies (Mathias (2002), Martin (2005) and Zahi (2013) by respondents for nonattendance and missing of appointments in health facilities.

Findings in this study showed that a third of respondents thought that financial status of individual (31.0%) and appropriate cost of healthcare services (31.0%) affect the utilization of PHC centers. Great determinants of health care utilization such as availability, accessibility, affordability, socio economic status, education and health seek behavior were cited in studies conducted by Sule *et al* (2008), Chinawa (2015), Gilbert *et al* (2015), Uchendu *et al* (2013), Katung(2001), Omonona *et al* (2015), Rajendra and Jhaika (2013).

Other findings that also affected access and utilization of PHC in this study were awareness of people (30.0%), health seeking behavior (10.5%) and patient satisfaction (13.5%). Adam and Awunor (2014) reported in their study that community perception of poor quality and inadequacy of available services were identified barriers to satisfactory use of primary health services. Similarly, health seeking behavior, access and challenges to PHC utilization were cited in many studies conducted by Chukwunke *et al* (2012), David *et al* (2014), Musah and Kayode (2014), Babar and Juanita (2004). The quality of healthcare, patient satisfaction, availability of health personnel, cost of care and duration of waiting time have been reported to significantly correlate with access to primary health care by many researchers Abiodun (2010), Abodunrin *et al* (2014) and Daprim *et al* (2015). In this study community participation was perceived by some respondents (11.0%) as important determinant that affect the access and utilization of PHC while political factor was seen by lesser respondents (8.0%) though statistically significance ( $PV = 0.000$ ).

Omoleke (2005) reported from his study that major constraints to optimal performance of PHC Services was state and Local Government areas conflict which resulted in inequity, financial constraint, human resource challenges and misdistribution and ineffective management. Gabriel (2014) and Kurji *et al* (2013) highlighted the impact of poor planning and rural development on primary healthcare service.

## CONCLUSION

There was low utilization of model PHC Ajiolo - Abokoche. Major factors for the under utilization of the model PHC were appropriate infrastructure, personnel availability, staff competency, good attitude, availability of essential drugs,

location and clinic schedule. There are need for infrastructural rehabilitation, staff recruitment, training and development, attitudinal re-orientation, provision of essential drugs and supportive supervision to enhance high primary healthcare services.

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## Reference

- Abdullah .A. etal. (2014). A cross-sectional study to examine factors associated with primary health care service utilization among older adults in the Irbid Governorate of Jordan. *Current Gerontology and Geriatrics Research*; 1-7.
- Abdulraheem IS, Oladipo AR and Amodu MO (2012). Primary health care services in Nigeria; critical issues and strategies for enhancing the use by rural communities. *Journal of public health and Epidemiology*. 4(1); 5-13.
- Abiodun AJ.(2010). Patients satisfaction with quality attributes of PHC services in Nigeria. *Journal of health management*. 12(1); 39-54.
- Abodunrin OL, Adeomi AA, Adeoye OA (2014). Clients satisfaction with quality of health care received: study among mothers attending infant welfare clinics in a semi Urban Community in South Western Nigeria. 2(7); 045-051.
- Adam VY and Awunor NS (2014). Perceptions and factors affecting utilization of health services in a rural Community in Southern Nigeria. *Journal of Medicine and Biomedical Research*. 13(2); 117-124.
- Adetokunbo O L and Herbert M G (2003). Organization of health Services: Primary health care. In:short textbook of public health medicine for the tropics. *Arnold Publisher*. London. 4(1):1-389.
- Agbede CO, Aja GND, Owolabi PS (2015). Factors influencing pregnant woman's utilization of maternal health care Services for delivery in Ogun state, Nigeria. *Global Journal of science frontier Research*: E interdisciplinary 1-8.
- Akande T M and Owoyemi J O. (2009). Health care seeking behavior in Anyigba North centre, Nigeria. *Research Journal of Medical Sciences*. 3(2); 47-51.
- Akpenpuun JR (2013). The socio -cultural factors influencing the utilization of maternal and child health care services in Kwande Local Government area of Benue state, Nigeria. *International Journal of Humanities and social science invention*. 2(7);17-20.
- Alakija W. (2000). Essentials of Community health primary health care and health management. Ambik press. Benin city. Edo state, Nigeria. 1(1); 1-495.
- Araoye M O (2004). Research methodology with statistics for health and social sciences: sample size determination. Nathadex publishers, Saw-Mill, Ilorin, Nigeria 1-283.
- Australian Institution of Health and welfare. (2013). Improving the accessibility of health services in Urban and regional settings for indigenous people. Closing the gap cleaning house. 27; 1-23.

- Awoyemi TT, Obayelu O A, Opaluwa H I (2011). Effect of distance on utilization of health care services in rural Kogi State, Nigeria. *Journal of Human Ecology*. 35(1) ; 1-9.
- Babab TS and Juanita H (2004). Health seeking behavior and health service utilization in Pakistan: challenging the policy matters. *Journal of public Health*. 27(1); 49-54.
- Badian AA and Khalid SBS (1998). Factors influencing patients' utilization of primary health care providers in Saudi Arabia. *Journal of family and community medicine*. 5(2); 23-90.
- Baker JB and Liu L. (2006). The determinants of primary health care utilization : A comparison of three rural clinics in Southern Honduras. *Geographical Journal*. 66;295-310.
- Chinawa JM and Chinawa AT (2015). Assessment of PHC in a rural health centre in Enugu South East Nigeria. *Pakistan Journal of Medical Science*. 31(1); 60-64.
- Chukwunke FN et al (2012). Health seeking behavior and access to health care facilities at the primary level in Nigeria: our experience. *Ebonyi Medical Journal*. 11(1-2); 1-6.
- Daprim S O et al (2015). System review of patients views on the quality of PHC in Sub-Saharan Africa. *SAGE Open Medical* 3(1): 2050312115608338.
- David M et al (2014). Health seeking behavior and challenges in utilizing health facilities in Wakiso district, Uganda. *African Health Sciences*. 14(4); 1046-1055.
- Dominic A, Oluyemi F, Lady A (2015). Socio-cultural factors of gender roles in women's health care utilization in South West Nigeria. *Open Journal of Social Sciences*. 3(1): 105-117.
- Egbewale B E and Odu O O (2013). Perception and utilization of primary health care services in a semi-urban Community in South Western Nigeria. *Journal of Community Medical and Primary Health Care*. 24(1 and 2); 11-20.
- Elizabeth L and Thokozani M. (2007). PHC facility infrastructure: A situation analysis of data available. *Health Systems Trust*; 1-12.
- Emelumadu O F et al (2014). Socio-demographic determinants of maternal health care service utilization among rural women in Anambra State, South East Nigeria. *Ann Medical Health Science*: 4(3):374-382.
- Fanan U and Felix K . (2014). Analysis of the spatial distribution of health facilities in Benue State, Nigeria. *Public Health Research*. 4(5); 210-218.
- Federal Ministry of Health, Abuja ,Nigeria( 2008). National human resources for health strategic plan 2008-2012; 1-84.
- Femi T and Mariyetu T. (2012). Repositioning Primary Health Care for better service delivery in rural Communities in Nigeria. *Geneva Health Forum*. 2-11.
- Gabriel O S (2014). Primary health care and rural development in Dekina Local Government Area of Kogi State. *Economics* 1 (1); 45 - 54.
- Gilbert B et al (2011). Perceptions and utilization of primary health care services in Iraq: Findings from a National household survey. *BMC International Health and Human rights*. 11; 15-21.
- Health Reform Foundation of Nigeria (HERFON) (2006). Nigerian Health review 2006. HERFON. Abuja. Nigeria; 1 - 354.
- Ibor UW and Atomode TI (2014). Health Service characteristics and utilization in Calabar metropolis, Cross River State, Nigeria. *Academic Journal of Interdisciplinary Studies*. 3(1); 265 - 271.
- Ijeoma LO, Obinna EO, Franas OA (2014). The long walk to universal health coverage : Patterns of inequalities in the use of primary health care services in Enugu, South East Nigeria. *BMC Health Services Research*. 14 : 132 - 141.
- Iroju O et al (2013) interoperability in Nigeria Health Care System. The ways forward. *IJ information Engineering and Electronic Business*. 4; 16 - 23
- Isaac B.O (2015). Health care service delivery system and households welfare status in Urban South West Nigeria. *Journal of Human Ecology*. 50(2); 181 - 187.
- Jan S. (1993). Ethnicity as a risk factor for consultations in primary healthcare and outpatient care. *Scandinavian Journal of Primary Healthcare* 11(3) : 167 - 173
- Jeffrey S L and Preston L S (1987). Is there a religious factor in health. *Journal of religion and health*. 26(1): 9 - 36.
- Kafferi R (2011). Socio - economic status and accessibility to healthcare services in Australia. *Research Roundup*. 22(1); 1 - 7
- Katung P Y (2001). Socioeconomic factors responsible for poor utilization of PHC services in rural communities in Nigeria. *Niger Medical Journal*. 10; 28 - 29.
- Kogi State Ministry of Health (2007). Kogi State 2005 - 2007 Health Statistics. Kogi State health bulletin. Lokoja. Nigeria ; 1 - 12.
- Kogi State Ministry of Health (2010). Kogi State strategic health development plan 2010 - 2015. Kogi State Ministry of Health Lokoja, Nigeria. 1 - 66.
- Kurfi AM et al (2013). Understanding the barriers to the utilization of primary health care in a low - income setting : Implications for health policy and planning. *Journal of public health in Africa*. 4 : e13 ; 64 - 67.
- Laurie M A et al (2003). Culturally component health care systems : A systematic review. *American Journal of Preventive Medicine*. 24(35); 68 - 79.
- Lulge E and Mbatha T (2007). PHC facility infrastructure. A situation analysis of data available. Health Systems Trust. 1 - 3.
- Mamunur R and Diddy A (2014). Socio - economic position as a determinant of maternal health care utilization : A population based study in Namibia. *Journal of Research in Health sciences*. 14(3) : 187 -192
- Martin C, Perfect T, Mantle G. Non attendance in primary care. The views of patients and practices on its cause, impact and solution. *Family practices*. 22(6) ; 638 - 643.
- Maryam Am et al (2016). Evaluating religious influences on the utilization of maternal health services among Muslim and Christian women in Northern Central Nigeria. *Biomed Research International*. ID3645415 : 18 Http : //www.dx.doi.org/10.1055/2016/3645415.
- Mathias K (2002). Youth specific primary health care: Access, utilization and health outcomes. New Zealand Health Technology Assessment (ZNHTA) Report. 5(1);1-97.

- Metiboba S (2009). Primary health care services for effective health care development in Nigeria: A study of selected rural communities. *A Journal of research in National development*. 7(2); 33 - 45.
- Moronkola O A et al (2007). Perceived determinants of the utilization of maternal healthcare services by rural women in Kogi State, Nigeria. *Tropical Doctor*. 94 - 96.
- Mujib U R, Naushad K, Muhammad A (2007). Availability and utilization of primary healthcare services in the rural areas of district Peshawar : A case study. *Sarhad J of Agriculture*. 23(4); 1217 - 1224
- Musah K T and Kayode O O (2014). Preliminary assessment of healthcare seeking behavior among users of primary healthcare facilities in Ilorin metropolis, Kwara State, Nigeria. *Journal of Nursing and health science*. 3(4) ; 31 - 35.
- National Primary Healthcare Development Agency (NPHCDA). (2013). Integrating primary healthcare governance in Nigeria: PHC underdone roof: Implementation manual Draft 1. 1 - 49.
- National population commission (NPC), Nigeria and ICF international (2014). Nigeria demographic and health survey 2013. NPC and ICF international Abuja, Nigeria and Rockville, Maryland USA. 1 - 661.
- National Population Commission (NPC) Nigeria (2010). 2006 population and housing census priority table volume III. Population distribution by Sex, State, LGA and Senatorial District. National Population Commission, Abuja, Nigeria. 1 - 64.
- Nebue CC et al. (2014). Clients' knowledge, perception and satisfaction with quality of maternal health care services at the PHC level in Nnewi, Nigeria. *Nigerian Journal of clinical practice*. 17(5); 594 - 601.
- NPHCDA (2015a). Minimum standards for primary health care in Nigeria. NPHCDA Abuja, Nigeria. 1 - 71.
- NPHCDA (2015b). Report of the expert group on revitalizing primary health care in Nigeria. NPHCDA. Abuja Nigeria 1- 97.
- Obionu C N (2007). Primary health care for developing countries. Delta publications (Nigeria) Limited. Enugu, Nigeria. 2(1); 1 - 258.
- Ola AA et al (2014). WHO/INRUD drug use indicators at PHC centers in Alexandria, Egypt. *Journal of Taibah University Medical Sciences*. 9(1); 54 - 64.
- Olumide AA and Oluwatosin OOA (2014). The determinants of choice of health facility in Sagamu, South West, Nigeria. *Scholars Journal of Applied Medical Sciences*. 2(1c); 274 - 282
- Olusimbo K1 and Cynthia CN (2010). Areas of dissatisfaction with primary health care services in government owned community in Nigeria. *Journal of Rural and Tropical Public Health*. 9(1); 19 - 23.
- Omoleke II (2015). The primary health care services in Nigeria: constraints to optimal performance. *Nigerian Journal of Medicine : Journal of National Association of Resident Doctors of Nigeria*. 14(2); 206 - 212.
- Omonona BT et al (2015). Health care access and utilization among rural households in Nigeria. *Journal of Development and Agricultural Economics* 7(5); 195 - 203.
- Onyemochi A et al (2014). Socio-demographic correlates of choice of health care services in six rural communities in North Central Nigeria. *Advances in Public Health*; 1-7.
- Owoseni JS et al (2014). Socio - economic status and utilization of healthcare facilities in rural community of Southwest, Nigeria. *Unique Research Journal of Medicine and Medical Sciences*. 2(4); 052 - 067.
- Park K. (2007). Health care of the community : Primary health care. In Park's textbooks of preventive and social medicine. M/S Banarsidas Bhanot Publishers. Jabulpur (India). 19(1); 740 -760.
- Peter O (2007). Primary health care for sustainable development. Ozege Publisher. Abuja, Nigeria. 1(1); 1 - 475.
- Preston L S and Jeffrey S L (1988). Is there a religious factor in health care utilization? A Review. *Social Sciences Medicine*. 27(12); 1369 - 1379.
- Rajendra K and Jhaika K(2013). Choice of health care facility after introduction of free essential health services in NEPAL. *WHO South East Asia Journal of Public Health*. 2(2) : 96 - 100.
- Reagon G, Iriam J, and Lerin J. (2004). The National primary health care facilities survey 2003 ; South Africa. Health System Trust; 1 - 106.
- Saad AAG (2004). Factors influencing the utilization of public and private primary health care services in Riyadh city. *JKAU : Economics and Administration*; 19(1); 3 - 27.
- Stakeholder Democracy Network (SDN) (2013). A case study of poor service delivery : Bodo PHC centre and Bodo General Hospital, Gokana LGA Health Care in Rivers State, Nigeria : 1 - 75.
- Stefan S, Battazar N and Steffen F. (2015). Rapid assessment of infrastructure of primary health care facilities : A relevant instrument for health care systems management. *BM Health Service Research*. 15 : 183 - 194.
- Sule SS et al (2008). Utilization of PHC facilities : Lessons from a rural community in South West Nigeria. *Nigerian Journal of Medicine*. 17(1); 98 - 106.
- Sundquist J, Rosen U, Lindein AL (2007). The influence of social and ethnic segmentation on consultation in primary health care. *Scandinavian Journal of social welfare*. 3(1); 19 - 23.
- Theodore J and Nicholas A C (2003). Marriage, widowhood and health care use. *Social Science and Medicine* : 57; 2137 - 2147.
- Titus O B and Adebisola O A (2015). Health care access and utilization among rural households in Nigeria. *Journal of Development and Agricultural Economics*. 7(5) ; 195 - 203.
- Uchendu et al (2013). Factors influencing the choice of health care providing facility among workers in a Local Government Secretariat in South Western Nigeria. *Annals of Ibadan postgraduate Medicine*. 11(2) : 87 - 95.
- Ulises HM, Carina K (2012). Geographical accessibility and spatial coverage modeling of the primary health care network in the Western province of Rwanda. *International Journal of Health Geographics*. 11 - 40.
- WHO (2008). Primary health care now more than ever. The world health report 2008. WHO. Geneva. Switzerland. 1 - 148.

- WHO (2010a). Gender, women and primary health care renewal. A discussion paper. WHO. Geneva. 1 - 78.
- WHO (2010b). Health service delivery, WHO; 1 - 22.
- HHP://www.who.int/healthinfo/systems/who-MBHSS\_2010\_section/-web.pdf.[ 28<sup>th</sup> June 2016 ].
- WHO (2015). World health statistics 2015 : Nigeria. WHO : 1 - 164.
- HHP : // www.who.int/gho/en [ 16th October 2015 ].
- WHO Regional office for African (2008). Report on the review of primary health care in the African region. WHO. Geneva. Switzerland ; 1 - 97.
- WHO- UNICEF (1978). Declaration of Alma - Ata : International Conference on primary health care. Alma - Ata. USSR ; 1 - 3.
- Http : //www.who.int/publications/alma\_ata - declaration - en.pdf. [10 September 2015].
- WHO - UNICEF. (2008). International conference on primary health care and health systems in Africa: Towards the achievement of the health millennium development goal: Summaries of Country experiences on the primary health care revitalization. WHO -UNICEF. Quagadougou. Burkina faso : 1 - 99.
- World Bank (2005). Nigeria : Health, nutrition and population Country Status report. World Bank. Washington DC : 1 - 2.
- World Bank Africa Region, Human Development Department (2010). Improving primary healthcare delivery in Nigeria : Evidence from four states. World Bank. Washington DC USA. 187(1) : 1 - 122.
- Yoshito K *et al* (2014). Determinant of health facility utilization for childbirth in rural western Kenya: Cross - sectional study. BMC pregnancy and childbirth. 14; 265 - 275.
- Zahi A (2013). Reasons for missing appointments in general clinic of primary health care center in Ruyadh Military Hospital, Saudi-Aabia. *International Journal of Medical Science and Public Health*. 2(2) ; 258 - 267.

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