Healthcare delivery and rural development in Ikot Ekpene Local Government Area, Nigeria

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Abstract
The main focus of this research was on the healthcare delivery and rural development in Ikot Ekpene Local Government Area. To achieve this, the study adopted four specific objectives, thus: to identify the impact of immunization on rural development in Ikot Ekpene Local Government Area; to examine how family planning/maternal child health impact rural development in Ikot Ekpene Local Government Area; To find out whether the prevention and control of endemic diseases influence rural development in Ikot Ekpene Local Government Area. These variables were further used to form the research hypothesis. An in-depth was taken in this work to harness the relationship primary health care services has on infant mortality, and the study has considered conceptual and empirical stand points of various academic authorities. The survey research design was adopted; simple random and probability sampling techniques were uses to sample respondents for the study. Out of the population of 180,500, a sample of participants were purposively chosen for the study. The main tool for data collection was the questionnaire. Chi-square statistical tool was used to test the stated hypotheses at 0.05 level of significance. The hypotheses tested justified significant relationships with the variables tested. This connoted that there exists significant relationship between immunization, family planning/maternal health, and rural development in the study area. Based on the findings and conclusion of the study, it was recommended that: there is dire need for the Local Government Area as well as other tiers of government to increase their budgetary allocation on health sector to cater for the provision of drugs and vaccines in combating the myriad of killer diseases in children; Comprehensive rehabilitation and. maintenance of existing health facilities through the provision of needed items or equipment should be made.

Key words: Healthcare delivery, rural development, immunization, rural development, family planning, endemic diseases influence

Introduction
Health to a layman is the absence of disease. A healthy person is such a person without the manifestation of disease condition. Health has been seen beyond this narrow definition. In recognition of this, World Health Organization (WHO) attempted an institutionalized definition of health to be a state of complete physical, " social, mental and psychological wellbeing of a person and not merely the absence of disease or infirmity (Ikeako, et al, 2016 cited in Nnana, Eno-obong, Anyang, Cecilia & Beauty, 2023). Healthcare delivery form an integral part of the national health system whose central function and mam focus is the overall social and economic development of the community. It provides general health services of a preventive, curative, promotional and rehabilitative nature of the population as the entry point of the health care system. The provision of healthcare at this level is largely the responsibility of Local Governments with support of State Ministries of Health and within the overall National Health Policy. Private sector practitioners also provide health at this level (Praia, 2019 cited in Nnana, Ojiho, Nsan. & Onen, 2024). Healthcare delivery is the key to attaining the goal of health for all people of any country. It is essential that healthcare be based on practical, scientifically sound and socially accepted methods and technology made universally accessible to individuals and families in the community through their full participation or involvement and at cost that the community and the country can afford to maintain at every stage of their full development in the spirit of self-determination or relevance (Henderson, 2017).

Healthcare delivery is seen as a new approach to health that came into existence following International Conference in (Harrison,.2019) organized by the World Health Organization (WHO) and the UNICEF. However, as people all over the world became more and more frustrated at the

inability of today's health systems . and services to meet their needs, demand for a renewal of Healthcare delivery and health for all is increasing (Islam, 2019). Thus, selective Healthcare delivery which is a form of Healthcare delivery where diseases are more specifically targeted can help to alleviate some of the more pressing health issues in rural communities. According to Wikipedia the free encyclopedia (2020), "Healthcare delivery reflects the economics conditions and socio-cultural differences. It also describes the main health problems providing promotive, preventive, curative and rehabilitative services for the suffering community". Healthcare is a fundamental right of every human being and everyone's responsibility. When healthcare is viewed, as a right and a responsibility, the state's active role in maintaining its people's health becomes even more pro-active. This remedies the often-neglected individual's responsibility toward his/her health. There has always been an inverse distribution of healthcare services in rural when compared to the urban population, which is often referred to as the inverse care law or Pareto's Law (Abuqamar. et al., 2019).

On the other hand, rural populace also differs from country to country and is defined by the country's statistical office. In 2019, the world bank estimated that about 3,397,467,990 individuals were residing in rural areas globally. However, the global increase in rural population has been less than 1% per annum. Even though these population growth rates in rural areas are minuscule there is also a projected increase in population. The existing deficiencies in the healthcare delivery system rural areas will only compound the problems with further urbanization and the healthcare policies favoring healthcare privatization. There is also a growing need to create rural communities which are healthy and at par with healthcare facilities in urban areas. Therefore., prioritizing rural health is imperative and will be a dire necessity for the future (Baqui, Black, Arifeen, Hill & Sabir, 2018).

Healthcare delivery in rural -areas are often deficient in human resource, infrastructure structure, equipment, and financial support. These are essential to provide quality clinical and community healthcare services to the population they cater to. Some countries define healthcare services provision in areas (or communities) that are at a distance of more than 80 km or more than one hour by road from a designated healthcare facility (providing round the clock anesthesia., surgical and obstetrical facilities) (Caldwell, 2017). This phenomenon, however, is relative to urban healthcare delivery systems and not an absolute absence of healthcare facilities. The services providers in rural areas are mainly the state or the government. The rest of the health care providers in rural regions are primarily indigenous systems of medicine with or without formal training in healthcare provision.

According to Clayton and Hills (2015), the assessment of healthcare services by rural dwellers is the ability of rural communities (or individuals residing in such communities) who can be promptly approached for health promotive, preventive, curative, and rehabilitative services. This works on the tenets of availability, utility, acceptability, feasibility, and equitability. Barriers to healthcare access are systematic hindrances that may interfere with access to healthcare systems. In rural health systems, they could be broadly classified as structural (Infrastructure, human resources and time-related inadequacies), financial (leading to catastrophic expenditures, unaffordability of medical aid, or lack of completeness in treatment due to inability of money) or personal or socio-cultural (Physical and/or physiological hindrances, socio-cultural inappropriateness) (Gallup, 2020 cited in Nnana, Tangban. Tiku & Abonor, 2023).

Despite government efforts towards the eradication of six infant killer .diseases: measles, poliomyelitis, whooping cough, tuberculosis, tetanus and diphtheria through healthcare delivery services and campaigns, it is observed that most people especially in the rural areas have not yet embrace the usefulness of healthcare delivery services. This research is therefore set out to examine the from chronic diseases is significantly higher than its urban counterpart, which need to be addressed. In view of the above problems, the researcher is carrying out this study to examine the level of healthcare delivery services and its impact on rural development in Ikot Ekpene.

Literature review

Healthcare delivery and rural development

The concept of healthcare delivery evolved during the 1970s, influenced by and influencing the basic needs approach to social development (Henderson, 2017). Healthcare delivery was formulated by the 134 countries that met at the Alma-Ata conference in Russia on September 12, 1978 which was organized by the World Health Organization. Healthcare delivery is a part of the three-tier system of health care in Nigeria. These are the tertiary health care, which the federal government is in charge; the secondary health care, under the auspices of the state government and the primary healthcare delivery, controlled by the local governments (Caldwell, 2017).

In the late 1980s there was a national initiative to overhaul the healthcare delivery system through the adoption of a new national health policy, in the context of which the federal and state governments issued directives giving local government areas full jurisdiction over the delivery of healthcare delivery services. The local Government, the State Government and the Federal Government respectively are responsible for all financial aspects, including personnel costs, consumables, miming costs and capital investment. The Federal government through the federal ministry of health sets overall policy goals, co-ordinates activities, ensures quality, training and implements sector programmes (Caldwell, 2017).

Healthcare delivery according to the world health organization (WHO, 2019) means essential health care based on practical scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community through their full participation and at a cost which the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It is the first level contact of the individual mid community in the national health system, thus bringing health care as close as possible to where people live and work and contribute the first element of a continuing health care process". It is essentially aimed to promote health, to cure-diseases and to rehabilitate.

Nigeria is one of the few countries in the developing world to have systematically decentralized the delivery of basic health and education services to locally elected governments. It is an integral part of a country's health maintenance system, of which it forms the largest and most important part. It deals with the entire gamut of the community at the grass-root level (Brown, et al, 2015). Healthcare delivery is a comprehensive teamwork between medically qualified physician as well as a wide range of nursing and paramedical personnel, Quite often, healthcare delivery systems are further subdivided into three levels - the most peripheral level which is in direct contact with the community and is usually managed by one or more members from within the community who are trained and equipped in preventive and promoting health care as well as in the most basic clinical and emergency care. The next higher level is managed by one or more nursing/paramedical workers, while the highest level within healthcare delivery is managed by a medical personnel along with his team of nursing and paramedical persons (Jones, et al., 2015).

According to Molitoris (2017), healthcare delivery is an essential health care made universally accessible to individuals and families in the community by means acceptable to them, through their full participation and at a cost that the community and country can afford. It forms an integral part both of the country's health system of which it is the nucleus and of the overall social and economic development of the community- Healthcare delivery addresses the main health problems in the community, providing promotive, preventive, curative, and rehabilitative services accordingly. Since these services reflect and evolve from the economic conditions . and social values of the country and its communities, they will vary by country and community, but will include at least promotion of proper nutrition and adequate supply of safe water: basic sanitation; maternal and child care, including family planning; immunization against the major infectious diseases; prevention and control of locally endemic diseases; education concerning prevailing health problems and methods of preventing and. controlling them; and appropriate treatment for common diseases and injuries (Molitoris, 2017).

Healthcare delivery entails three inter-related and synergistic components, including: comprehensive integrated health services that embrace primary care as well as public health goods and functions as central pieces; multi-sectoral policies and actions to address the upstream and wider determinants of health; and engaging and empowering individuals, families, and communities for increased social participation and enhanced self-care and .self-reliance in health (Stover & Ross, 2010). Healthcare delivery is rooted in a commitment to social justice, equity, solidarity and participation. It is based on the recognition that the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction. Healthcare delivery addresses the broader determinants of health and focuses on the comprehensive and interrelated aspects of physical, mental and social health and wellbeing. It provides whole-person care for health needs throughout the lifespan, not just for a set of specific diseases. Healthcare delivery ensures people receive quality comprehensive care - ranging from promotion and prevention to treatment, rehabilitation and palliative care - as close as feasible to people's everyday environment (Mosley & Chen, 2011 cited in Nnana, 2023).

Immunization and rural development

Immunization comes from immune, immune or resistant. Children immunized are given immunity to a particular disease. The child is immune or resistant to a disease, but not necessarily immune to other diseases (Notoatmodjo, 2017 cited in Nnana & Lilian, 2024). Immunization is an attempt to provide immunity to infants and children by entering the vaccine into the body, in order for the body to make anti-substance to stimulate the formation of anti-substance that is inserted into the body through injection (eg BCG vaccine, DPT and measles) and by mouth (eg polio vaccine), (Hidayat, 2018). In the Health Act Number 36 Year 2009 stated that every child is entitled to get basic immunization in accordance with the provisions to prevent the occurrence of diseases that can be avoided through immunization and the government must provide complete immunization to every baby and. child. Immunization is stipulated in the Minister of Health Regulation No. 42 of 2013. Immunization is an effort to cause/increase a person's immunity actively to a certain disease, so that if one day exposed to the disease will not be sick or just experience minor illness. Some infectious diseases that belong to immunized preventable diseases (PD3I) include tuberculosis, diphtheria, tetanus, hepatitis B, pertussis, measles, polio, meningitis, and pneumonia, of the various dangerous diseases, which may cause disability or death.

According to World Health Organization (2016), immunization is one of the most cost-effective (inexpensive) health interventions, as it can prevent and reduce the incidence of

morbidity, disability and death from PD3I, which is estimated at 2 to 3 million deaths annually. The process of disease travel begins when the bacteria/ protozoa/fungus, enter into the body. Any living being that enters the human body will be considered a foreign body by the body or called an antigen. Naturally the immune system will form an anti-substance called antibodies to immobilize antigen (Ministry of Health, 2017). Immunization program is one effort to provide protection to the population against certain diseases, immunization programs are given to populations that are considered vulnerable to infectious diseases, namely infants, toddlers, children, women of childbearing age, and pregnant women. Brown, et al., (2015), noted that immunization prevents illness and death from many important infectious diseases. Rapid reductions in rates of vaccine-preventable diseases and associated mortality have followed introduction of new vaccines for routine use in infants. However, as immunization programmes mature, problems may arise. Enthusiasm for high vaccine coverage can be difficult to maintain in the face of falling disease rates and coincident focus on real or conjectured vaccine-associated adverse events. In impoverished developing

Family planning/maternal child health and rural development

Although there has been a global decrease in maternal mortality, the decrease is slow and the Millennium Development Goal (MDG) 5A target to reduce pregnancy related deaths by three-quarter (75%) and 5B target of achieving universal access to reproductive health by 2015 was not achieved (Assefa et al., 2017; Millennium Development Goal 5-Results, 2020). While maternal deaths continue to remain a major public health problem worldwide (Pierre-Marie et al, 2015), it is a major concern in Nigeria, especially in Ikot Ekpene Local Government Area of Cross River State. A recent study reported an increase in the maternal mortality ratio (MMR) from 669 in 2004 to 782 in 2011 per 100,000 live births (Meh et al, 2020 cited in Omini & Ofem, 2023). Most of these maternal deaths are preventable and occur due to the unavailability of and/or poor quality of health services (Islam and Yoshida, 2009). High risk groups for maternal and infant mortality include younger and older maternal age (<18 and >34 years), high parity (>3 births) and short birth intervals (Brown et al., 2015).

Ensuring access for all people to their preferred contraceptive methods advances several human rights including the right to life and liberty, freedom of opinion and expression and the right to work and education, as well as bringing significant health and other benefits. Use of contraception prevents pregnancy-related health risks for women, especially for adolescent girls, and when births are separated by less than two years, the infant mortality rate is 45% higher than it is when births are 2-3 years apart and 60% higher than it is when births are four or more years apart. It offers a range of potential non-health benefits that encompass expanded education opportunities and empowerment for women, and sustainable population growth and economic development for countries (Assefa et al., 2017 cited in Nnana, Tangban, Willie. & Rita, 2023).

Increasing body of evidence shows that family planning significantly reduces the frequency of exposure to high risk and unwanted pregnancies, and consequently, maternal mortality reduction (Brown et al., 2015; Stover and Ross, 2010). The poorest settings are usually the highest fertility zones and unfortunately, many women in less developed countries do not use family planning (Prata, 2009) thus accounting for high maternal and infant deaths in these settings. In such poor settings where access to quality health service is limited, family planning can considerably improve maternal and child outcome (Prata, 2019). In 2008, contraceptive use averted approximately 44% of maternal deaths around the world (Family Planning and Maternal Health, 2015). Although studies have attempted to enlighten on the correlation between family planning

and reduction of maternal and infant deaths in some countries, very little is known for Cameroon. For instance, a study in South Africa estimated that if contraceptive use is scaled up by 0.68% over a period of 15 years, unintended pregnancies, abortions and births can be reduced by 20% and that approximately 7000 new-born and child deaths and 600 maternal deaths can be averted (Cholaet al, 2015). Unwanted pregnancy remains a major cause of maternal particularly in low and middle income countries (LMICs) (WHO, 2019). While there is a strong negative correlation between levels of contraceptive use and the levels of infant mortality at the communal level, women who practice family planning can avoid high-risk births and therefore reduce their chances of having baby who will die in infancy (Guttmacher Institute, 2016). By reducing the number and spacing of children, the use of contraceptives can reduce morbidity and mortality in children by interrupting maternal depletion, sibling competition and birth crowding and infectious diseases (Conde-Agudelo et al, 2012; Molitoris, 2017). Limited access to family planning services remains a major barrier to the use of contraception in LMICs. In a health report, Ndola pointed out four critical considerations to increase .access to family planning in resource-poor settings (Prata, 2019): increasing knowledge about safety of family planning methods, ensuring that contraception is genuinely affordable to the poorest families, ensuring the supply of contraceptives by making family planning a permanent line item in healthcare system's budgets and taking unmediate action to remove barriers hindering access to family planning methods. Most studies on contraception have focused on family planning programs but little has been done to assess the effect of family planning as an intervention to alleviate maternal and/or infant mortality.

Prevention/control of endemic diseases and rural development

After almost a century of improvement, the rate of decrease in Nigeria infant mortality rates began to level off (Henderson, 2007). This rates actually increased in some states because much of the decline in infant mortality in this century can be attributed to advances in infectious disease treatment and prevention programs, which evaluated the current impact of endemic diseases on infant mortality. The National Center for Health Statistics mortality data for 1980 contains information on as many as 20 causes of death for a given individual. Using these data, it was discovered that endemic diseases contributed to 12.5% of all infant deaths and to almost 400,000 years of potential life lost because of infant deaths. Endemic diseases contributed to 9% of deaths of low birth weight infants and to more than 1<8% of all deaths changes the nature of interventions to improve older child survival. There is a shift from health sector actions to prevent and treat the infectious diseases of early childhood towards, other government sectors including education, transportation and road infrastructure, water and sanitation and law enforcement. All of these need to work together to prevent premature mortality in children.

Theoretical framework

Functionalist theory

This theory was propounded by Emile Durkheim in 1893. The general assumptions of the functionalist view hinge on the fact "that society can be explained as a whole unto itself. To the classical theorists like Comte, Spencer, and Durkheim, human society is likened to an organism that has different but interrelated parts with a functional prerequisite for adaptation and survival. So for a society to survive, the different parts (social institutions) must work and adapt to each other. The functionalist perspective are more "refined in their thinking as they attempt to view the society as a system with interconnected and interrelated structures which form a .whole indicating that the existence of the societies requires that specific aspects of the social world must work in tandem for the smooth running of the society.

Notable among these contributions is the work of Talcott Parsons which has left an indelible mark in the area of sociological thinking. Parsons attempted to build concepts that would assist in the organisation of the perceptions of the social world. In his analysis, any society or social system has four basic requirements namely Adaptation, Goal attainment, Integration and Latency with the acronym (AGIL). First among the functional prerequisites is an adaptation which refers to the association between the social system and its environs. It is worthy to note that for the society to stay alive, social systems must have some measures of control mechanism over their environs. Food, clothing and housing must be available to meet the physical and social prerequisites of citizens in the society. The second functional prerequisite, Goal attainment refers to the need for all members in the social order to set goals towards the direction of social events. The responsibilities of governments are not only to set objectives but also to assign resources to accomplish them. In a nutshell, the financial or monetary status is controlled and directed by rules and regulations passed by the governments. The third functional prerequisites, Integration* refers to the bringing together and joint adjustments of the societal systems.

A typical example is when conflict arises, it is settled by the judicial system thereby not leading to the dissolution of the social system. The fourth functional prerequisites, Latency meaning the constant upkeep of values, norms established in the social world. Social organisations that execute these responsibilities consist of the educational system, religion and the family. The functional prerequisites of a social system are connected to social and cultural imperatives. Also, the complexity of social institutions under the rubric of the process of socialization exhibits the integrative responsibilities of the social system. Meanwhile, the values and norms serve to motivate social action grouped as part of the cultural system. The theory supports the fact that for a successful pregnancy/maternal outcome, there must be a conscious working together of all the interrelated stages of pregnancy ranging from immunization, family plaining, health education and prevention of endemic diseases. This can only be achieved only where there is provision for standard healthcare delivery in rural areas.

Methodology

A research design according to Okaja (2003) is the structuring of investigation aimed at identifying variables and their relations to one another. Thus, it is a plan of action for data collection from the respondents. In this study, the survey design is adopted because it enables relevant information to be collected through the use of questionnaire. A survey design according to Ogunbameru (2006) is an attempt to elicit information from a sample of a population in order to determine the correct status of the population. The survey research design is chosen for this study because it affords the researcher the empirical opportunity for generalizations. The area of study is Ikot Ekpene Local Government Area, Akwa Ibom State, Nigeria. Ikot Ekpene, also known as The Raffia City, is a historic town in south-southern state of Akwa Ibom. It is the political and cultural capital of the Annang ethnic group in Nigeria (Nair, 1972). The town is located on the A342 highway that parallels the coast, between Calabar to the. south east and Aba to the west, with the state capital, Uyo, on this road just to the east. Umuahia is the next major town to the north. The population of the Ikot Ekpene Local government area was estimated to be 180,500 (National Population Census, 2006).

Ikot Ekpene is known as a regional centre of commerce, with notable exports of palm products, especially palm oil, kernels, raffia products including raffia fibers and its wine, and ground crops of yams, cassava, taro, and corn. The population is made up primarily of the Annang people with a small number of Igbo traders and Hausa Suya vendors. Significant exports also

include basket weaving, sculpture, and, most notably, raffia cane furniture (hence the colloquial name of the town). Ikot Ekpene is also known for its technological innovations due to the emergence of Raffia City Hub. Raffia City Hub is an inclusive technological community that supports collaboration, resource sharing, talent hunting, and entrepreneurs The new Ikot Ekpene Local Government Boss (Caretaker Chairman Ikot Ekpene) Hon. John Cleton Etim inaugurated the Raffia City Entrepreneurs scheme committee. Also, the headquarters of some notable seminaries and The Catholic Diocese in the south-south region. The Akwa Ibom state polytechnic ikot Osurua, Ritman University is situated in the city. The city houses the notable mini stadium at GRA road, Nteps Super markerts, Four point by Sheraton hotels, plaza etc.

Villages in the local government area includes: Abak Ifia; Abak Oko; Abiakpo Edem Idim; Abiakpo Ikot Essien; Abiakpo Ikot Irem; Abiakpo Ikot Obionting; Abiakpo Ntak-Iyang; Adaratak; Akanaan; Ata Essien Mbiaso; Ibiakpan; Ibiakpan Ikot; Ibiakpan Nto Akan; Ibiakpo Edem Idim; Ibong Nto Akan; Ifuho; Ikot Abia Idem; Ikot Idem; Ikot Inyang; Ikot Obong Edong; Ikot Otu; Ikot-Ekpene-Village; Ikot Enwang; Ikotobio Okpon: Itak Ikot Udo-Okop; Mbiaso; Ndem Ekpot; Nkap Ikot Obio Ebok; Nsiak; Obioekere; Uruk Uso; Utu Edem Usung; Utu Ikot Ekrenyong; Utu Ikot Essien and Utu Ikpe The Ikot Ekpene Township Stadium is located in Ikot Ekpene. It is the home of football club Vandrezzer FC, the 37th most popular African football club on social media in 2020. The Ikot Ekpene stadium is now host to The Nigerian National League team Ibom Youth FC. It was also a former ground for Akwa Starlet, now Dakkadda FC. It has several football teams such as Mashal Rock FC, Raffia City FC, Ituen FC, Police Academy, Ibom Stars etc. A population of study means the entire population (bat a study intends to cover. The population of this study is mainly made up of residents in Ikot Ekpene Local Government Area. According to the National Population Commission (NPC, 2006) census, Ikot Ekpene Local Government Area population has a population of one hundred and eighty thousand, five hundred (180,500) people size. The probability sampling technique was adopted because it affords every member of the population an equal opportunity of being selected for the study. The population of the study was 180,500 and the sample size of 150 (one hundred and fifty) respondents will be adopted for the study, through the use of probability sampling technique.

Chi-square (x^2) is represented as;

$$X^2 = \frac{(\mathbf{O} - E)^2}{E}$$

Where:

X^2 = Chi square

Z = Summation

O = Observed frequency

E = Expected frequency

Findings/result

This section is concerned with the presentation and analysis of data gotten from the field. Simple percentage was used to present the demographic data and chi-square statistical tool the analysis of data gotten from the field.

Table 1: Sex distribution of respondents

Sex	No of Respondents	Percentage %
Males	70	47%
Females	80	53%
Total	150	100

Source: Field Survey, (2024)

The table shows that out of 150 respondents, 70 (47%) were males while 80 (53%) were females. Thus, female respondents dominated the study populations.

Table 2: Age distribution of respondents

Age Group	No of Respondents	Percentage %
Below 21	18	12%
21-25	45	30%
26-30	39	26%
31-35	23	15%
36 and above	25	17%
Total	150	100%

Source: Field Survey, (2024)

The table shows that out of 150 respondents, 18 (12%) respondents are below 21 years, 45 (30%) respondents are 21 - 25 years, 39 (26%) respondents are 26 - 30 years, 23 (15%) respondents are 31-35 years, 25 (17%) respondents are 36 years and above. The age group of 21-25 was more in the study because they granted more audience in the course of this study.

Table 3: Marital status of respondents

Marital Status	No of Respondents	Percentage %
Single	45	30%
Married	45	30%
Divorced	30	20%
Widow/Widower	15	10%
Total	150	100%

Source: Field Survey, (2024)

The table above shows that out of 150 respondents, 45 (30%) are single, 45 (30%) are married. 30 (20%) had divorced, 15 (10 %) are widows/widowers. Single and married persons were more in the study as a result of the proper understanding which they have on the subject matter.

Table 4: Occupation of respondents

Occupation	No of Respondents	Percentage %
Civil Servant	30	20%
Trader/Business	22	15%
Students	68	45%
Politician	15	10%
Total	150	100%

Source: Field Survey, (2024)

The table above shows that out of 150 respondents, 30 (20%) were civil servants, 22 (15%) were traders/business men/women, 68 (45%) were students, while 15 (10%) fall under the category of politicians. Students were more in the study due to the fact that they understood the problem under study more effectively.

Table 5: Level of education of respondents

Level of Education	No. of Respondents	Percentage %
FSLC/SSCE	75	50%
Diploma/B.Sc/HND	60	40%
M.Sc/Ph.D	15	10%
Total	150	100%

Source: Field Survey, (2024)

The table above shows that out of 150 respondents, 75 (50%) fall under the category of FSLC/SSCE, 60 (40%) fall under the category of Diploma/B.Sc/HND, while 15 (10%) have M.Sc/Ph.D. Persons who fall under the category of FSLC/SSCE were more in the study.

Table 6: Respondents view on question 7 from the questionnaire: Does immunization of children prevent infant from contacting Hepatitis A and B?

Responses	Males	Females	Total	Percentage %
Yes	55	60	115	77%
No	15	20	35	23%
Total	70	80	150	100%

Source: Field Survey, (2024)

Table 7: Respondents view on question 11 from the questionnaire: Does family planning improve maternal health and child survival?

Responses	Males	Females	Total	Percentage %
Yes	50	49	99	66%
No	20	31	51	34%
Total	70	80	150	100%

Source: Field Survey, (2024)

The table above shows that out of 150 respondents, 99 (66%) comprising of 50 males and 49 females agreed, 51 (34%) comprising of 20 males and 31 females disagreed to the question.

Table 8: Respondents view on question 14 on the questionnaire: Does health education reduce maternal ignorance of childhood diseases?

Responses	Males	Females	Total	Percentage %
Yes	51	69	120	80%
No	20	10	30	20%
Total	71	79	150	100%

Source: Field Survey, (2024)

The table above shows that out of 150 respondents, 120 (80%) comprising of 51 males and 69 females agreed, while 30 (20%) comprising of 20 males and 10 females disagreed to the question.

Table 9: Respondents view on question 19 on the questionnaire: Does the prevention and control of measles help to reduce the high rate of infant mortality?

Responses	Males	Females	Total	Percentage %
Yes	32	75	107	71%
No	19	24	43	29%
Total	51	99	150	100%

The. table above shows that out of 150 respondents, 107 (71%) comprising of 32 males and 75 females agreed., while 43 (29%) comprising of 19 males and 24 females disagreed to the question.

Hypothesis testing

One hypothesis was formulated. This hypothesis was tested so as to accept or rejected. The hypothesis was tested using the chi-square (X^2) statistical tool.

H0: There is no significant relationship between immunization and rural development.

Table 10

Cell	O	E	o - e	$(o-e)^2$	$(o - e)^2$ e
1	55	51.33	3.67	13.4689	0.26
2	60	58.67	3.67	13.4689	0.23
3	15	12.6	5.6	31.36	2.49
4	20	14.4	5.6	31.36	2.18
5	8	6.08	1.93	3.7249	0.61
6	5	6.93	1.93	3.7249	0.54
					$X^2 = 6.31$

Therefore $X^2 = 6.31$

Degree of freedom (df) (c-1) (r-1) (3-1) (2-1)

2-x 1 =2 df=2

Table value = 5.99

Level of significance = 0.05

6.31 > 5.99

Decision Rule

Accept null hypothesis if chi-square calculated value is less than the table value at 0.05 level of significance, otherwise accept the alternate hypothesis. The measure of difference between the observed and expected frequencies is given by the formula;

$$X^2 = \frac{(0-e)^2}{e}$$

The calculation shows that the chi-square calculated value is 6.31 and is greater than the table value of 5.99 at 0.05 level of significance. Since the calculated value is greater than the table value, we reject the null hypothesis and accept the alternative hypothesis which states that there is a significant relationship between immunization and rural development.

Discussion of findings

Hypothesis one established the fact that there is a significant relationship between immunization and rural- development. This finding is in line with the , assertion of World Health Organization (2016), that immunization is one of the most cost-effective (inexpensive) health interventions, as it can prevent and reduce the incidence of morbidity, disability and death from PD3I, which is estimated at 2 to 3 million deaths annually. WHO further noted that for children, immunization prevents suffering caused by illness and possible disability or death. The findings also support Ranuh (2018), who is of the opinion that the purpose of immunization is to prevent

the occurrence of certain diseases in a person and eliminate certain diseases in a group of people (population) or even eliminate a particular disease from the world.

Conclusion

Healthcare delivery is seen as a new approach to health that came into existence following International Conference in (Harrison, 2009) organized by the World Health Organization (WHO) and the UN1CEF. However, as people all over the world became more and more frustrated at the inability of today's health systems and. services to meet their needs, demand for a renewal of Healthcare delivery and health for all is increasing. Healthcare delivery form an integral part of the national health system whose central function and main focus is the overall social and economic development of the community. It provides general health services of a preventive, curative, promotional and rehabilitative nature of the population as the entry point of the health care system. However, it can be deduced from the findings of this study that:

i. There is a significant relationship between to immunization and rural development in Ikot Ekpene Local Government Area;

ii. There is a significant relationship between family planning/maternal child health and rural development in Ikot Ekpene Local Government Area;

iii. There is a significant relationship between prevention and control of endemic diseases and rural development in Ikot Ekpene Local Government Area.

Recommendations

From the findings and conclusions of this study, the following recommendations are made:

i. There is dire need for the Local Government Area as well as other tiers of government to increase their budgetary allocation on health sector to cater for the provision of drugs and vaccines in combating the myriad of killer diseases among children;

ii. Parents are advised to consult medical practitioners for proper and suitable family planning. This will to a greater extent reduce the rate of infant mortality in the study area.

iii. To this end, intensive and effective health education of the public must of necessity be reinforced in order to eliminate the myriads of child killer diseases.

iv. There is need for maintenance of immunization health standard, improved housing condition, water, environment, sanitation and food supply for the sustenance of good health condition. This will help to reduce high infant mortality in the Local Government Area.

References

Abuqamar, M, Coornans D, Louckx F. (2019). The impact of parental education on infant mortality in Gaza strip, Palestine. *Journal of Public Health and Epidemiology*, 2011. 3(1): p. 28-33'.

Acharya, D.R., Bell JS, Simkhada P, Van Teijlingen ER, Regmi PR. (2020). Women's autonomy in household decision-making: a demographic study in Nepal. *Reproductive health*, 2010. 7(1): p. 15.

Assefa Y, Damme WV, Williams OD, Hill PS (2017). Successes and challenges of the raillemiium development goals in Ethiopia: Lessons for the sustainable development goals. BMJ Global Health 2(2): e000318

Assoua EN (2013). Plantations Industrielles de Bananiers au Cameroun: Le Cas des Plantations de la Region du Sud-Ouest. CIRAD. Available at http://agritrop.cirad.fr/578775/l/Assoua%20Elat_20I3_Rapport%20C IRAD_Bananier%20Cameroun.pdf

Baqui AH, Black RE, Arifeen SE, Hill K, Mitra SN AND al Sabir A (2018). Causes of childhood deaths in Bangladesh: results of a nationwide verbal autopsy study. Bull World Health Organ. 1998; 76: 161-171

Books, L. L. C. (23 February 2017). Local Government Areas in Akwa Ibom State: Ikot Ekpene. Uyo, Eket, Mkpat-Enin, Abak, Oruk Anarn, Ika-Annang, Oron, Nigeria, Eastern Obolo. General Books LLC. ISBN 9781155785943.

Brown W, Ahmed S, Roche N, Sonneveldt E, Darmstadt GL (2015). Impact of family, planning programs in reducing high-risk births due to younger and older maternal age, short birth intervals, and high parity. Seminars in Perinatology, 39(5):338-344.

Caldwell LC. (2017) Education as a factor in mortality decline an examination of Nigerian data. Population studies. 395-413.

Clayton D and Hills M (2015). *Statistical models in epidemiology.* Oxford University Press, New York.

Frost MB, Forste R, Haas DW. (2015) Maternal education and child nutritional status in Bolivia: finding the links. *Social science & medicine*, 60(2),395-407.

Gallup, L. (2020). Improving Healthcare: A Global Challenge. Gallup.Com. Availably at h.ttps://news.gallup.com/businessi omnal/144881 /

Hall, KS (2012). The Health Belief Model Can Guide Modern Contraceptive Behavior Research and Practice. *Journal of Midwifery and Women's Health*, 57(1),74-81.

Henderson RH (2017). Vaccinations in the-health strategies of developing countries. *Scand J Infect Dis.*, 76:7-14

Ikeako LC, OnahHE, Iloabachie GC. (2016). Influence of formal maternal education on the use of maternityservices hi Enugu, Nigeria. *Journal of Obstetrics and Gynaecology*, 26(1), 30-34.

ImprovingHealthcare-Global-Challenge.aspx

Islam M, Yoshida S. (2019). MDG 5: How close are we to success? BJOG: An International Journal of Obstetrics and Gynaecology 116(l):2-5.

Jones CL, Jensen JD, Scherr CL, Brown NR, Christy K, Weaver J (2015). The Health Belief Model as an Explanatory Framework in Communication Research: Exploring Parallel, Serial, and Moderated Mediation. Health Communication 30(6):566-576.

Meh C, Thind A, Terry AL (2020). Ratios and determinaiits of maternal mortality: a comparison of geographic differences in the northern and southern regions of Cameroon. BMC Pregnancy Childbirth 20:194.

Molitoris J (2017). The Effect of Birth Spacing on Child Mortality in Sweden, 1878-1926. Population and Development Review, 43(1):6182.

Mosley WH and Chen LC. (2013). Child stirvival: strategies for research, in Child survival: strategies for research. Cambridge University Press;

Mosley WH. Chen LC. (2011). An analytical framework for the study of child survival in developing countries. *Population and Development Review,* 1 (10), 25-45.

Nnana O. O. (2023). Existence of wife battery among traders in Ugep Community of Yakurr Local Government Area of Cross River State Nigeria. *Wukari International Studies Journal,* 7(5), 1 -11.

Nnana O. O. Tangban E. B., Willie W. O. & Rita N. O. (2023). The impact of human capital development on agricultural output in Nigeria. *Wukari International Studies Journal,* 7(5), 22-32.

Nnana O. O., & Lilian O. U. (2024). Evaluating public perception of government poverty reduction initiatives and community development programme participation in Yakurr Local Government Area of Cross River State, Nigeria. *Mulai- Disciplinary Journal of Research and Development Perspectives* (MJRDP) 12(1), 154-161.

Nnana O. O., Eno-obong O. P., Anyang N. U., Cecilia A. O. & Beauty U. K. (2023). Rural electrification and socio-economic development in Bakassi Local Government Area, Nigeria. *Journal of Public Administration, Policy and Governance Research* (JPAPGR), 1(4) 114-121.

Nnana O. O., Ojiho I. H., Nsan K. T. & Onen M. U. (2024). Social work roles and wellbeing of orphans and vulnerable children in Calabar Municipality, Cross River State, Nigeria. *Wukari International Studies Journal,* 8(2), 251-259.

Nnana O. O., Tangban E. B., Tiku O. T. & Abonor L. B. (2023). Green social work: Perspectives in managing environmental degradation. *World Tourism Journal*, 1, 97-112.

Omini U. U., & Ofem N. O. (2023). Human capital development among Nigerian youths and gender issues: A critical assessment. *Journal of Public Administration, Policy and Governance Research* (JPAPGR), 1(4), 10-19.

Parmar MKB and Machin D (2010). Survival analysis: a practical approach, John Wiley and son, Chichester.

Prata N (2019). Making family planning accessible in resource-poor settings. *Philosophical Transactions of the Royal Society B: Biological Sciences,* 364(1532):3093-3099

Schultz T. P. (2012). Studying the impact of household economic and community variables on child mortality. Population and Development Review. 10: p. 215-235.

Shahraki, M, Agheli L, Arani AA, Sadeghi H. (2016).The effect of mothers' education and employment on children's health. *Jentashapir Journal of Health Research*, 1(2), 45-50

Stover, J, Ross J (2020). How increased contraceptive use has reduced maternal mortality. Maternal and Child Health Journal, 14(5):687-695

Vetter TR. Mascha EJ (2017). Defining the primary outcomes and justifying secondary outcomes of a study: usually, the fewer, the better. *Anesthesia and Analgesia* 125(2), 678-681

Vikram K, Vanneman R, Desai S. (2010) Maternal Education and Child Mortality: Exploring the Pathways of Influence September 2010.

Williams, C. (2012). Healthcare delivery services in Nigeria.

World Health Organization (WHO) (2016). Reproductive health indicators: guidelines for their generation, interpretation and analysis for global monitoring. World Health Organization, Geneva.

World Health Organization (WHO) (2019). High rates of unintended pregnancies linked to gaps in family planning services: New WHO study. Available at https://www.who.int/news/item/25-10-2019-highrates-of-unintended-pregnancies-lmked-to-gaps-in-family-plamimgservices-new-who-study