DETERMINANT AND DISTRIBUTION OF INFANT MORTALITY IN EGOR LGA, EDO STATE

BY

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CERTIFICATION

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DEDICATION

This work is dedicated to God Almighty for his grace through my stay at the University of Benin and to Late Eng. Umuenyen Anthony Ehidiamen, and my family for their unending love and support to me.

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First of all, I am thankful to God Almighty, who gave me the strength and the ability to complete my thesis, who without his divine help, I would not have been able to complete this project work.

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ABSTRACT

The study assessed the distribution of infant mortality in Egor Local Government Area of Benin city. The investigation was based on the use of research survey employing the instrument of questionnaire and observation. The objective was based on the use of research and was directed to identify the causes of infant mortality of the study area, to determine the relationship between infant mortality and the respondent's attributes (location, social, economic and demographic) in the study area, to show the spatial distribution of households with at least a case of infant mortality, to show the spatial distribution of healthcare facilities and their cases of infant mortality, to suggest solutions and recommendations to the problems associated with the causes of infant mortality.

Childhood mortality is one of the important indicators of a country's general medical and public health conditions and consequently the level of socio economic development. In developed countries, infant mortality rates are generally low, while in developing countries, they tend to be higher. There are many factors that contribute to infant mortality, including poverty, inadequate access to healthcare, malnutrition, and poor sanitation and hygiene.

The analysis revealed that they are various variables which may lead to infant mortality in the study area and socio demographic factors which may lead to infant mortality in the study area. The analysis shows that income and education in particular have a reasonable or rather a significant effect on infant mortality in Egor Local Government Area, Benin City.

Reducing infant mortality rates is a global health priority, and numerous efforts have been made to address the underlying causes of infant mortality in order to improve the health and survival of infants and young children around the world. Its decline is therefore not only desirable but also indicative of an improvement in general living.

CHAPTER ONE

INTRODUCTION

1.0 BACKGROUND OF STUDY

Infant mortality has been a major concern across the world for many years, notably in Sub-Saharan Africa. In the 1990s, Sub-Saharan African nations had the highest infant mortality rate in the world, with 104 deaths per 1000 live births, whereas other developing countries had 71 deaths per 1000 live births (Kalipeni, 2000). In his study, (Frisbie, 2004) demonstrated that even in the 2000s, the infant mortality rate in this region remained the highest in the world, at 94 deaths per 1000 live births, compared to 88 deaths per 1000 live births in the rest of Africa and 61 deaths per 1000 live births in other less developed nations.

Several studies have found that socio-cultural and socio-economic factors in Africa, particularly Nigeria, have a significant impact on the high rate of infant mortality. The diverse ethnic and religious beliefs that exist in Sub-Saharan Africa are socio-cultural factors. Cultural practices and attitudes determine whether or not people seek biomedical health care during pregnancy and when their child is ill (Omariba & Boyle 2007).

Mothers in Sub-Saharan Africa usually have little or no autonomy in terms of socioeconomic concerns (Bohmer & Williamson, 2006), and as a result, they lack the power to make decisions for their infant's health. Furthermore, Sub-Saharan Africa

has a high rate of unemployment, making it difficult for parents to seek medical assistance when their infant becomes ill due to a lack of cash (Schell, Reilly, Rosling, Peterson & Ekstrom, 2007).

Sub-Saharan Africa is a diverse area, with each country divided into rural and urban sectors (Kalipeni, 2003). Urban communities have sufficient resources, while rural areas lack resources, particularly vital healthcare services (Macassa, Ghilagober, Bernhardt & Burstorm, 2003). Furthermore, people in rural areas are typically anti-biomedical (Kalipeni, 2000). All of these factors contribute to an increased risk of mortality in rural areas. These sociocultural and socioeconomic factors highlight the significant problems that contribute to Sub-Saharan Africa's high infant mortality rate as compared to the rest of the world.

Nigeria loses about 2,300 children under the age of five per day, ranking it second in the world in terms of under-five mortality (UNICEF, 2017). Over 89,700 babies die in Nigeria each year (State of the World's Mothers, 2016). Nigeria has the world's 12th highest first-day mortality rate, making it one of the most dangerous places to give birth and Nigeria is one of the top ten African countries in terms of infant mortality (UNICEF, 2016).

According to the United Nations Population Fund (UNPF), Nigeria has a population of 201 million people, with a 2.6 percent annual growth rate from 2010 to 2019, meaning that the typical Nigerian woman has at least five children, compared to the global 2.5 percent in 2019. Contraception use is just 19% among Nigerian women

aged 15-49, while sexual and reproductive health and rights decisions among these women averaged 51% between 2007 and 2018.

Infant mortality is therefore only one of the negative consequences of maternal death, but it is crucial. Even in the absence of maternal death, a consistent analysis in Benin revealed an elevated risk of mortality among children born to women who experienced substantial complications during labor (near-miss cases) (Filippi, Ronsmans, Gandaho, Graham, Alihonou & Santos, 2010). In Nigeria, recent research found an elevated death risk among neonates (infants) of women who died after childbirth (Darmstadt, Bhutta, Cousens, Adam, Walker & De Bonnie, 2005). Infant mortality may be addressed holistically under government legislation through well-organized regular immunizations, daycare, and preparatory education. With this context in mind, this research will investigate the impact of infant mortality on Nigerian population growth, using Egor local government area in Edo state as a case study.

1.1 STATEMENT OF PROBLEM

It should come as no surprise that no country (region) has achieved significant levels of economic growth when its workforce is burdened by high infant mortality, widespread sickness, and low life expectancy (Jose, Kapoor, Agarwal Uttara & Singh, 2016).

According to the World Health Organization (WHO), 4.0 million fatalities occurred in 2018 (75 percent of all deaths among children under the age of five). The likelihood of a child dying before the age of one was highest in the WHO African Region (52 per 1000 live births), more than seven times higher than in the WHO European Region (7 per 1000 live births). Infant mortality has decreased globally, from 65 deaths per 1000 live births in 1990 to 29 deaths per 1000 live births in 2018. The number of newborn deaths per year has decreased from 8.7 million in 1990 to 4.0 million in 2018. The key risk factors for infant mortality include birth abnormalities, preterm birth and low birth weight, maternal pregnancy issues, sudden infant death syndrome, and traumas.

Having a child in Africa evokes sentiments and recollections of being cared for by one's own parents. An infant's growth is astounding; this stage is crucial for them since they require the most attention and food at this time, and it also helps mold their physical talents for the future. Thus, the death of a newborn deprives a family of joy and deprives a country of a potential leader.

There is no well-defined study on the impact of infant mortality on population growth, according to my research. This work is a modest attempt to close this knowledge gap. As a result, this research is being conducted to fill in the gap and address the aforementioned difficulties.

1.2 AIM AND OBJECTIVES

The purpose of this study is to investigate the influence of infant mortality on Nigerian population growth using Egor local government area in Edo state as a case study.

1.3 OBJECTIVES

1. To identify the causes of infant mortality of the study area.
2. To ascertain the association between infant mortality and the characteristics of the respondents (location, social, economic, and demographic) in the research region.
3. To depict the geographical distribution of homes in the research region with at least one instance of infant death.
4. To depict the spatial distribution of healthcare facilities and infant mortality cases in the research region.
5. To propose solutions and suggestions for problems related to the causes of infant mortality in Egor local government, Edo State.

1.8 RESEARCH QUESTIONS

The following questions were designed to guide this study;

1) What are the causes of infant mortality in Edo state's Egor local government area?
2) What is the link between infant mortality and the characteristics of the respondents in the research region (location, social, economic, and demographic)?
3) What is the geographical distribution of homes in the study region with at least one case of infant mortality?

4) What is the geographical distribution of healthcare facilities and infant mortality cases in the research area?
5) What are your thoughts on possible solutions or recommendations to the problem related with the causes of infant mortality on Nigeria's population expansion (Egor local government area)?

1.9 RESEARCH HYPOTHESIS

The following hypothesis stated in the null and alternative formed to guide this study will be tested using appropriate statistical tools.

H_0: There is no substantial association between respondents' geography, social, economic, or demographic variables and infant mortality.

H_1: There is a substantial association between respondents' geography, social, economic, and demographic variables and infant mortality.

1.10 SIGNIFICANCE OF THE STUDY

This study will be extremely beneficial to geographers, demographers, analysts, educational professionals, sociologists, and all those involved in geography and fertility education, as well as academicians and the government in general, in examining the impact of infant mortality on Nigeria's population growth using Egor local government area of Edo state as a case study. This study underlines the significance of teaching death control measures in infants/children through improved

medical and health care facilities in order to prevent mortality, particularly among pregnant women and delivery mothers.

The study's findings will be extremely valuable to Nigerian youths, the Nigerian government, geographers, demographers, demographic analysts, and academicians, among many others. The findings will also assist young female youths and women, in general build the essential skills, academic knowledge, and personal capacity for childbirth birth control and health care delivery.

It is also very important to the Nigerian government because it will improve both population and economic growth through death control measures, and it will also educate pregnant women and nursing mothers about the effects of infant mortality on population growth and how it affects people in general.

1.11 STUDY AREA

The following sub-topics will be explored in relation to the study area:

LOCATION AND POSITION

The research topic will be covered in depth. The study area is in Nigeria's south-south geopolitical zone and the Edo-South-Senatorial district, Edo state region. The study region is located between the Greenwich meridian's latitude of 6.3737oN and longitude of 5.6120oE. Egor is a well-known Edo state local government area. Egor local government area is located in Edo state and has its headquarters at Uhokoselu, Okhoro, Use, Uwelu, Iguikpe, Ugbighoko, Iguediaye, Evbougide, and Oghediavbiobaa are among

the towns and villages that comprise the Egor local government area. the sub-topics listed below. The population of the Egor local government area is probable to be 258,442 people, with members of numerous tribal groups living there, including the Esan Bini and the Owan. The area is populated by Christians, Muslims, and traditional worshipers, and the Bini, Owan, and Esan languages are spoken.

SIZE AND BOUNDARY

The local government area of Egor measures 93km2. Egor local government area is in the south-south section of Edo state and is part of the Edo-south senatorial district. Egor local government is flanked to the north and west by Ovia North-East, to the south by Oredo, and to the west by Edo state's Uhunmwonde and Ikpoba-Okah local governments.

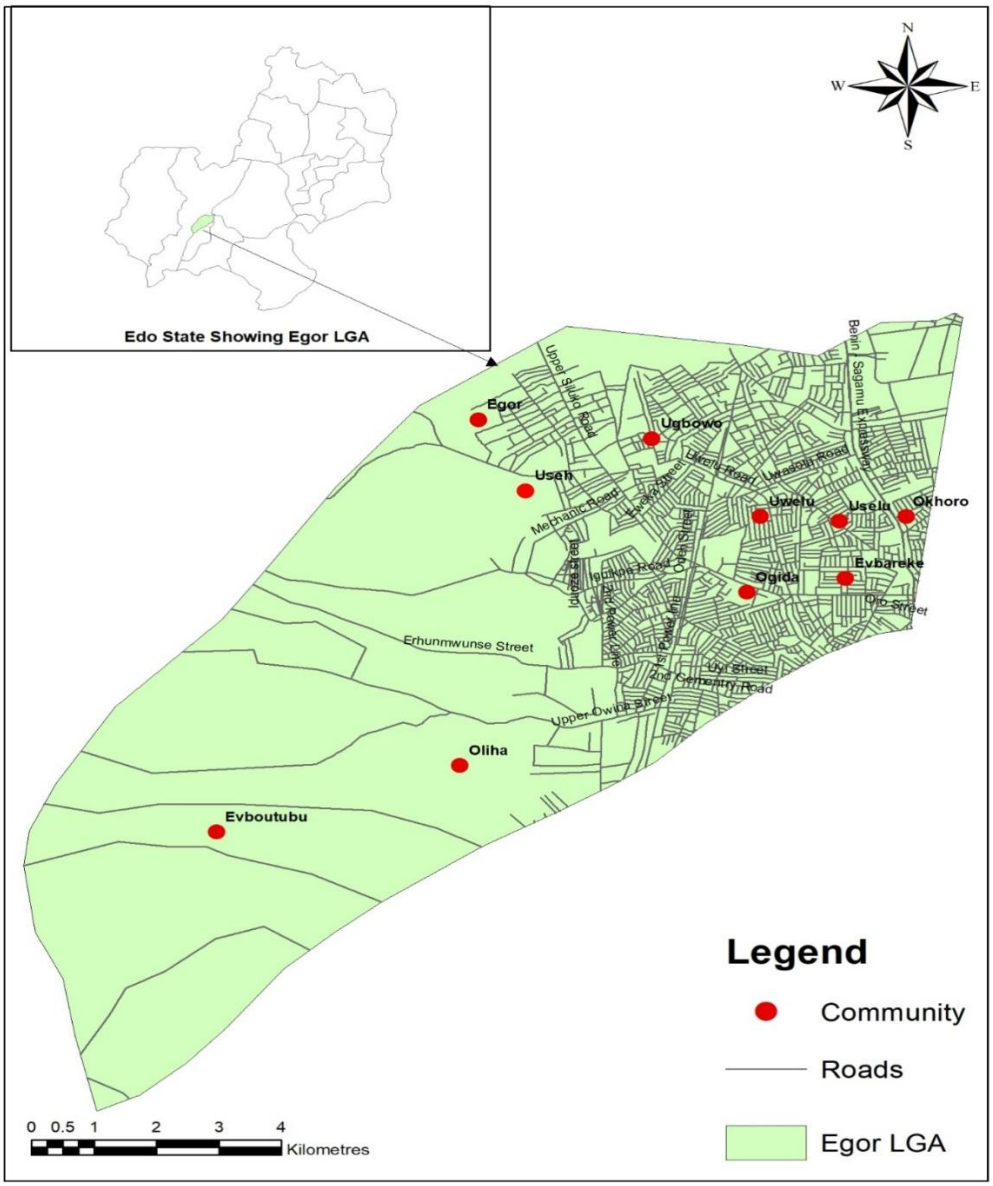


Figure 1.1: Egor Local Government Area inset Edo state

Source: Billzmap, 2022

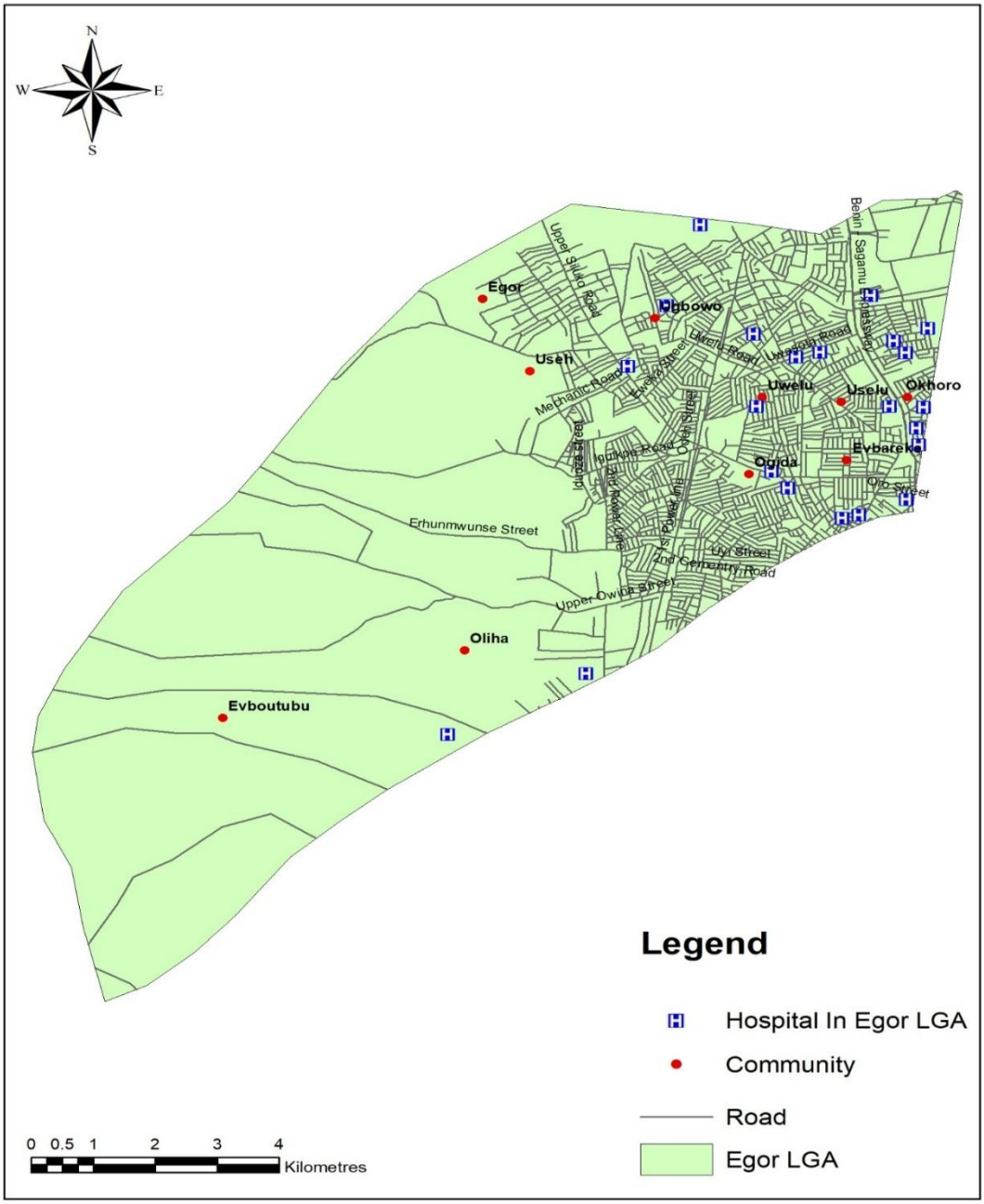


Figure 1.2: Hospitals in Egor Local Government Area

Source: Billzmap, 2022

CHAPTER TWO

CONCEPTUAL DEFINITIONS

Infant: Being in a formative stage of development.

Mortality: The state or condition of being subject to death is most typically used.

Infant mortality: This is the death of a newborn before reaching the age of one.

Child mortality: The likelihood of dying between the ages of one and five.

Neonatal mortality: The likelihood of death within the first 28 days of life.

Postnatal mortality: The likelihood of death occurring during the first month of life and the first birthday (computed as the difference between infant and neonatal mortality).

Under-5 mortalities: The likelihood of death between birth and the fifth birth.

Infant mortality rate (IMR): It represents the number of infant fatalities per 1,000 live births.

THEORETICAL FRAMEWORK

2.0 INTRODUCTION

The infant mortality rate is a measure of human infant deaths in children younger than one-year-old. It is an important indicator of a community's overall physical health. Saving newborns' lives has long been a priority in public health, social policy, and humanitarian initiatives. High infant mortality rates, in general, imply unmet human health requirements in terms of sanitation, medical treatment, nutrition, and education (Linder, 2017).

Four of the most widely used theoretical frameworks in this literature are the economic modernization perspective, the social modernization perspective, the political modernization perspective, and the dependency perspective. In doing so, we hope to define the contexts in which seemingly contradictory development theories may influence infant mortality in the developing world by taking into account how international, economic factors suggested by dependency theory interact with intra-national, political factors proposed by political modernization theory.

THEORETICAL PERSPECTIVES OF INFANT MORTALITY

Economic Modernization Perspective

Development, according to the notion of economic modernization, is a process that bridges the gap between industrialized and developing countries. From this vantage point, economic expansion is regarded as the driving force behind country development. Economic growth encourages higher industrialization and urbanization. Industrialization and urbanization tend to enhance living conditions and offer greater access to contemporary medical treatments, which should lower infant mortality (Rostow, 1990). Several prior cross-national studies have modeled and demonstrated a negative relationship between economic modernization parameters such as development level and infant mortality (Shen and Williamson 2001; Frey and Field 2000; Firebaugh and Beck 1994; Lena and London 1993).

Political Modernization Perspective

The level of political democracy in developing countries should have an effect on infant mortality. According to some scholars, developing-world democracies are more likely to respond to public opinion, social movements, and special interest groups concerned with health-related issues such as infant mortality, whereas non-democracies are more likely to respond to transnational corporate interests unrelated to such health outcomes (Fischer, 1999; Karliner, 1997; Crenshaw and Jenkins 1996; Rich, 1994). Political repression or a

lack of democracy, on the other hand, can lead to an increase in infant mortality because repressive regimes are less likely to respond to public opinion, social movements, and health-related interest groups (London and Ross 1995; Leonard, 1988). To our knowledge, just one study has shown evidence for the expected inverse relationship between democracy and infant mortality (Lena and London, 1993)

Another aspect of political modernization theory worth considering is the relationship between the state and the economy (Crenshaw and Jenkins 1996; Bradshaw and Tshandu 1990; Moon and Dixon 1985). However, political modernization scholars disagree about the influence of government spending on infant mortality. Every increase in the size of the state, as measured by government expenditure or income, comes at the price of the private sector, according to Neo-classical economic theory. Increased state size stifles economic growth and decreases a developing country's standard of life (Friedman and Friedman 1980). Lower living conditions are usually associated with increased infant mortality rates due to limited access to health care and other vital social services.

While neoclassical economists believe that increased government spending harms the private sector, many other economists consider government spending as a necessary counterbalance to the negative effects of private market activity (Moon and Dixon 1985). Increased government investment in health, education, and other social services, according to this viewpoint, should result in lower infant mortality rates. A few studies

support the idea that increasing government spending decreases infant mortality (Wimberly 1990; Hill and Pebley 1989).

Social Modernization Perspective

Another branch of modernization theory stresses education's role as an intra-national component of a country's growth process. Increasing education levels in a developing country leads to higher wages in the labor market, which leads to faster economic growth (Bellew, and Raney, 1992). Economic expansion, in turn, stimulates industrialization, which typically leads in improved living standards and more access to advanced medical technology. As previously noted, improved living standards and technological advancements have the potential to lower infant mortality in emerging countries (Rostow, 1990). Several prior studies' findings support the idea that education helps to reduce infant mortality in developing nations (Field and Frey 2000; Lena and London, 1993).

Reduced infant mortality may also be connected to female education through lower fertility (Caldwell, 1982). When funds are few, reducing the number of children allows the caregiver to dedicate more time and money to each child. These children will be better fed and clothed, as well as more cared for in general, and hence healthier. Furthermore, better-educated mothers will be more knowledgeable about health and safety dangers, as well as nutrition, which will boost children's health and reduce infant mortality.

Gender Stratification Theory

According to proponents of gender stratification theory, improving women's standing, particularly through education and other means, will significantly improve women's capacity to acquire the socioeconomic resources and knowledge required for optimal newborn feeding and care, resulting in fewer infant deaths (Wang, 2014). Educated mothers are more likely to not only delay and space births, but also to have fewer children, lowering infant mortality (York and Ergas 2011). Existing cross-national and sub-national research indicates a significant adverse relationship between gender equality measures such as female education and infant and child mortality (see, e.g., Caldwell, 1990; Frey and Field 2000; Shen and Williamson 1997).

Modernization Theory

Industrialization is a vital component of modernization and is central to the notion of modernization (Rostow, 1990). Industrialization and the associated economic prosperity, according to modernization theorists, reduce infant mortality through advancements in health care, education, nutrition, and other areas. A number of cross-national studies have proven the validity of modernization theory, demonstrating that newborn and child mortality (as well as gender differences in infant mortality) decrease when industrialization and other economic development indices increase (e.g., Babones 2008; Fuse and Crenshaw 2006; Jorgenson and Rice 2010).

THEORIES OF POPULATION GROWTH RATE

MALTHUSIAN THEORY

Around two centuries ago, Thomas Robert Malthus developed his hypothesis, which said that population grows geometrically while food supply grows arithmetically, causing poverty. The ability of land to feed humans is outmatched by human reproductive potential. "On the basis of this hypothesis, we may argue that there is a negative link between fertility rates and standards of living (the greater the fertility rates, the lower the standards of living, and vice versa)," (Hodgson, 1983) noted. Because of these three connections, an explanation for the decline in western fertility emerged.

THEORY OF DEMOGRAPHIC TRANSITION

The concept of demographic transition was initially proposed by (Thomson and Notestein, and it was later modified by Blacker). The idea explains how variations in birth and death rates influence population growth rates. This hypothesis is based on current population trends in the world's developed countries. This is the most commonly held population growth theory. It is not pessimistic, as Malthusian theory is, but it is preferable than other theories. With high birth and death rates, the country is in the first stage of the demographic transition theory, resulting in a low population growth rate. The economy begins the second stage of economic expansion. Agriculture and industrial output are increasing, and transportation is improving. Labor mobility has risen. Education advances.

Earnings are increasing. People are receiving more and better food. Medical and health-care institutions are expanding. Modern drugs are being used by people. All of these factors add up to a reduced mortality rate. However, the fertility rate has remained practically constant. In the stage 3, fertility rates decline and tend to match death rates, resulting in a slower pace of population expansion. Individuals' quality of living rises when the economy gains traction and they earn more than the subsistence level. In the fourth stage of demographic transition, fertility rates decline and tend to equal death rates. As a result, the pace of population increase is nearly constant (remains at the replacement level). As a result, people's living standards rise, output expands, educational facilities become more widely available, and family planning becomes a priority for the masses. This decrease in population growth rates provides impetus for an increase in per capita income and a further decrease in fertility rates. We can observe from demographic patterns in advanced nations that they are in the final level.

LITERATURE REVIEW

CHILDHOOD MORTALITY

Childhood mortality is an important measure of a country's socioeconomic and demographic advancement, as well as general quality of life, especially for families. A child is described as "a young human being under the legal age of maturity" by the Oxford English Dictionary. The legal maturity age in Nigeria is 18 years. According to data from Nigeria, Sub-Saharan Africa, and throughout the world, neonatal mortality, infant and child mortality, and maternal mortality continue to be high (Adeboye, Ojuawo, Ernest, Fadeyi & Salish, 2010). Nigeria, among other things, still has a high rate of newborn and infant mortality (Dekanmbi, Kayode & Uthman, 2013). In Nigeria, the childhood mortality rate is 128 per 1000 live births, with significant geographical variations (Nigeria Demographic and Health Survey, 2013). According to the 2013 Nigeria Demographic and Health Survey, the rates of juvenile mortality vary substantially between geopolitical zones (National Population Commission, 2009). Experts have worked extensively to identify the reasons of infant mortality, which is a recurring public health crisis in Nigeria and other developing countries (Becher, Mulier, Jain, Gbangou, Kynest-wolf & Kouyate, 2004). According to research, bio-demographic and socioeconomic factors influenced mortality rates and risk variables (Antai, 2011). In studies conducted in Brazil and America, maternal obesity, malnutrition, short stature, and maternal age less than 25 years or greater than 35 years were reported as factors

associated with childhood mortality (Felisbino-Mendes, Moreira, & Velasquez-Melendez, (2015), Myrskylä and Fenelon, 2012). Lack of parental formal education, poverty and living in rural areas, season of birth, inter-pregnancy gap, and distance from health care facilities were identified as risk factors for under-five mortality in Nigeria and Burkina Faso (Ezeh, Agho, Dibley, Hall & Page, 2015). Dealing with child mortality in Nigeria, whether prenatal, early or late neonatal, childhood, or adolescence, is a difficult task. Previous study in Nigeria and other impoverished countries discovered a variety of causes of mortality (Omariba and Boyle, 2007). These findings inspired intervention initiatives aimed at determining the causes of high mortality rates and the most effective ways to fight them. Despite national and international efforts to reduce mortality, Nigeria has struggled to meet the Sustainable Development Goals (SDGs) targets.

In Nigeria, a vital issue such as inadequate health-care services remain a big concern. The SDGs lay the groundwork for increasing a population's overall well-being (Norheim, Jha and Admasu, 2014). One of the stated goals is good health and well-being (SDG3). Long-term growth requires promoting healthy lifestyles and supporting the general population's well-being at all ages. Statistics show that most Sub-Saharan African countries, including Nigeria, have a long way to go to reach the SDG3. More research is needed to guide policy development and implementation for appropriate health intervention.

Infant mortality is a big concern in Nigeria, according to research, and it has been connected to variables such as poor health facilities, a lack of financial competence, and a

lack of access to effective medical treatment. Dehydration, infection, congenital deformity, pneumonia, measles, diarrhea, and malaria are the leading scientific causes of infant mortality in Nigeria (Babatunde, 2006). Efforts to lower high infant mortality rates in Nigeria and other impoverished nations trace back to the World Summit for Children (WSC) in 1990, when children's welfare was placed to the top of the global agenda and a vow to better the lives of young people around was made. It was also backed by Nigeria's National Child Welfare Committee (NCWC), which has worked tirelessly to promote child survival in the country. Among the actions taken were combating childhood diseases with low-cost remedies, strengthening the Basic Health Services Scheme (BHSS), prioritizing AIDS prevention and treatment, providing universal access to safe drinking water and sanitary excreta disposal, and controlling for water - borne diseases (Otite, 2002). Despite these efforts, Nigeria has high infant mortality rates, with many newborn deaths that appear to be avoidable given early and skilled medical treatment.

Among the actions taken were combating childhood diseases with low-cost remedies, strengthening the Basic Health Services Scheme (BHSS), prioritizing AIDS prevention and treatment, providing universal access to safe drinking water and sanitary excreta disposal, and controlling for waterborne diseases (Otite, 2002). Despite these efforts, Nigeria has high infant mortality rates, with many newborn deaths that appear to be avoidable given early and skilled medical treatment. As a result, the appearance of an illness may be seen as evidence of an imbalance between the natural and spiritual realms

(Agara, Makanjuola and Morakinyo, 2008). We explore cultural beliefs on infant mortality and how they differ by area, ethnicity, age, income, education, and marital status to better understand how these cultural concepts are held by individuals.

2.1. INFANT MORTALITY

Although infant mortality rates for children under the age of five have declined since 1990, from 93 deaths per 1,000 in 1990 to 41 deaths per 1,000 in 2016, infant mortality remains a problem in developing countries, particularly in Africa, Central and South Asia (United Nations Inter-Agency Group for Child Mortality Estimation, 2017). China, the Democratic Republic of the Congo, Ethiopia, India, Nigeria, and Pakistan account for over half of all child mortality globally, with India and Nigeria responsible for nearly a third of these deaths (Lawn, Blencowe & Oza, 2014). Infant mortality is greatest in Sub-Saharan Africa, where it is around five times that of affluent nations such as those in the European Union (United Nations Inter-Agency Group for Child Mortality Estimation, 2017).

Nigeria's infant mortality rate has not only been high when compared to other developing countries (Anyamele, Akanegbu, and Ukawuiulu, 2015), but it has also failed to improve when compared to other nations since the 1990s, when the United Nations Children's International Emergency Fund (UNICEF) first implemented the Millennium Development Goals (MDGs) to reduce child mortality rates by 2015 (United Nations Children's Emergency Fund, " (Lawn et al. 2014). Despite government and international

agency efforts to address the problem, Nigeria's high rate of childhood mortality remains a source of worry. As a result, health care specialists have stated that immediate and realistic steps must be done to reverse these rates and trends.

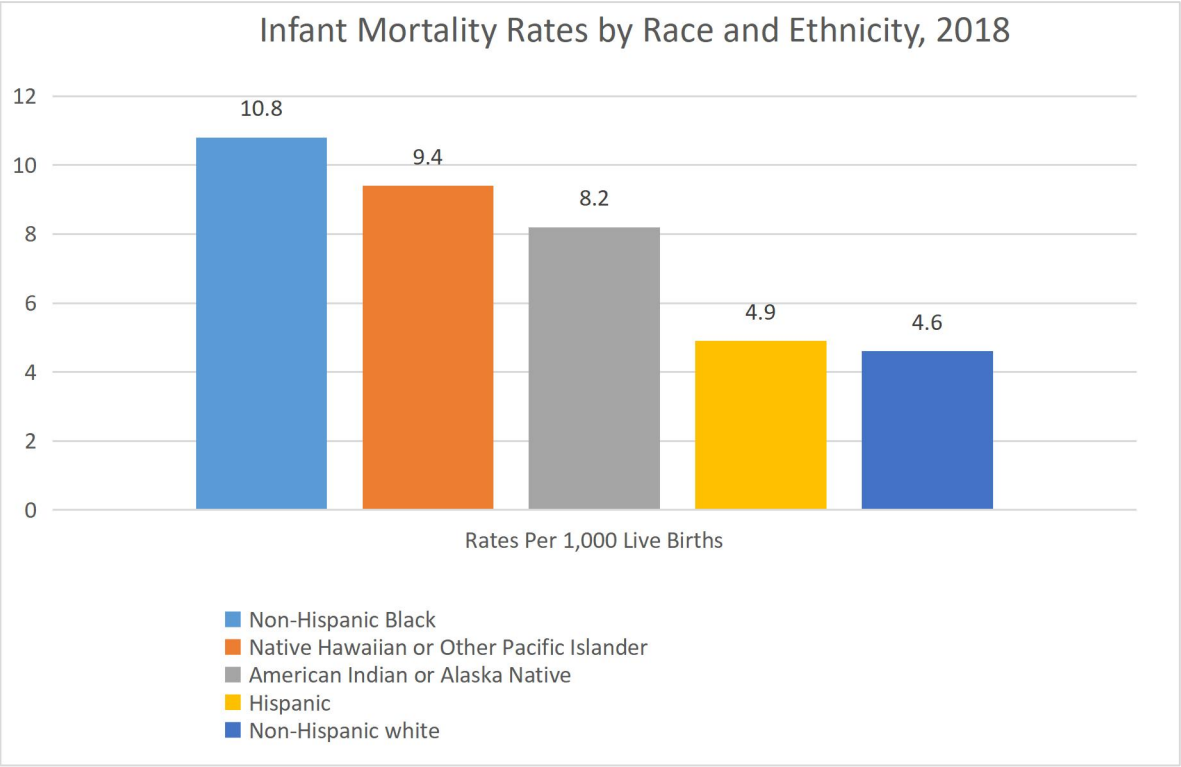


Figure 2.1 Source: Infant Mortality in the United States, 2018: Data from the Period linked Birth/Infant Death file.

According to the 2018 NDHS data (Table 1.2), the rate of infant death in the five years preceding the survey was 67 deaths per 1,000 live births. The infant mortality rate was 132 deaths for every 1,000 live births. This implies that one in every eight Nigerian children dies before the age of five. Other data on kid mortality include neonatal

mortality (39 deaths per 1,000 live births) and post neonatal mortality (28 deaths per 1,000).

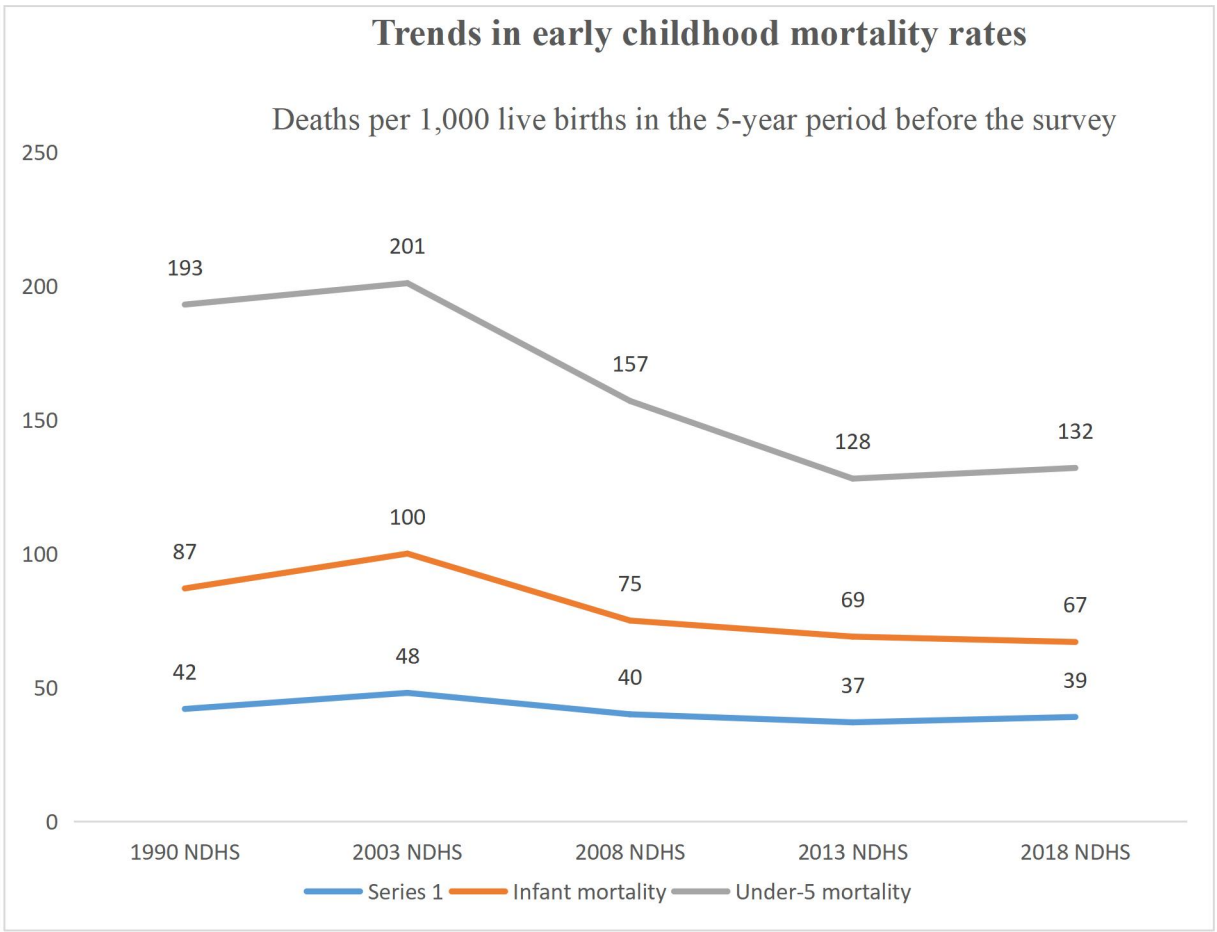


Figure Source: National Demographic Health Survey, 2018. Data showing trends in early childhood mortality rates.

Under-5 mortalities has fallen from 157 deaths per 1,000 live births in 2008 to 132 deaths per 1,000 live births in 2018. (Table 1.2). Similarly, from 75 deaths per 1,000 live births in 2018 to 75 deaths per 1,000 live births in 2019, the infant mortality rate has declined.

There have been no notable improvements in infant mortality during the last decade (40 deaths per 1,000 live births in 2008 versus 39 deaths per 1,000 live births in 2018).

2.2 CAUSES OF INFANT MORTALITY

Researchers investigating global infant death rates discovered a variety of causes, including preterm birth and intrapartum complications, as well as infections such as pneumonia, diarrhea, and malaria (Lawn et al. 2014). In Nigeria, preventable diseases such as cholera, malaria, tetanus, whooping cough, measles, and polio kill children. The Hausa women of northern Nigeria, for example, are no strangers to disease, with cholera, meningitis, and malaria outbreaks occurring on a regular basis among their children. Some experts believe that a lack of institutional care during delivery may be connected to higher infant mortality rates (Okekea and Charib, 2018).

Furthermore, some studies have found regional differences in neonatal mortality rates. Infant mortality rates for mothers in Nigeria's North-West and North-East differ from those in the South-West and North Central regions (Okekea and Charib, 2018), showing that the northern regions have a higher proportion of mothers with less education. Indeed, several research (Danawi and Ogbonna, 2014) discovered disparities in newborn mortality rates based on parental education, income, and home location (access to tap water and private sewage toilet). Other researchers (Ojikutu, 2008) believe that cultural practices such as weaning, newborn feeding, refusal of routine polio immunization, and

late referral of ill newborns to the hospital may contribute to Nigeria's high infant mortality rate.

2.2.1 PREMATURE BIRTH

Premature or preterm birth (PTB) is defined as birth before 37 weeks of gestation and is further subdivided into three categories: very PTB (birth before 28 weeks' gestation), very preterm birth (birth between 28 and 32 weeks' gestation), and moderate to late PTB (birth between 32 and 36 weeks' gestation). Infant mortality rises as gestational age decreases (Harrison and Goldenberg, 2016).

Over the last decade, prematurity has been the leading cause of mortality for infants and children under the age of five globally. In 2010, the global PTB mortality rate was 11.1% (15 million deaths), with low to moderate income countries in Sub-Saharan Africa and South Asia having the highest rate (60% of all PTBs), compared to high income countries in Europe or the United States (Blencowe, Cousens, Oestergaard, Chou, Moller and Narwal, 2012). Premature newborns have less resources in low-income nations, increasing the risk of infant death. For newborns born before 28 weeks of gestation, these countries have a 10% survival rate, compared to a 90% survival rate in high-income countries (March of Dimes Birth Defects Foundation, 2012).

Premature birth can occur spontaneously or as a consequence of medical intervention. Short inter-pregnancy duration, multiple gestation, assisted artificial insemination, prior

PTB, family history, substance abuse, cigarette use, low maternal socioeconomic factors, late or no prenatal care, low maternal pre-pregnancy weight, yeast infections, periodontal disease, and poor pregnancy weight gain all increase the risk of sudden PTB (Rubens, Sadovsky, Muglia, Gravett, Lackritz and Gravett, 2014).

When a protracted pregnancy poses significant risks to the mother or fetus, medically induced PTB is commonly employed. The most common contributing factors to medically induced PTB include preeclampsia, hyperglycemia, maternal medical problems, and fetal discomfort or developmental abnormalities (Moutquin, 2003).

Despite these risk factors, the underlying reasons of premature infant mortality are frequently unknown, with around 65% of all instances being unrelated to any recognized risk factor (Harrison and Goldenberg, 2016).

2.2.2 LOW BIRTH WEIGHT

Low birth weight causes for 60-80% of infant mortality in developing countries, according to (The New England Journal of Medicine, 2017). The babies weighing 3,000 to 3,500g died at the lowest rates (6.6 to 7.7lb). The mortality rate for neonates weighing 2,500g (5.5lb) or less grows fast with decreasing weight, and the majority of infants weighing 1,000g (2.2lb) or less die. Infants with low birth weight are approximately 40 times more likely than normal-birth-weight newborns to die in the neonatal period; infants with extremely low birth weight are roughly 200 times more likely to die in the

newborn period. Infant mortality due to low birth weight is often the consequence of a number of medical concerns, including preterm delivery, poor maternal nutritional condition, a lack of prenatal care, maternal sickness during pregnancy, and an unhygienic home environment (Andrews and Brouillette, 2008). The gestational age, along with birth weight, is one of the two most important factors of an infant's survival and overall health (MacDorman and Mathews, 2009).

According to the New England Journal of Medicine, "the infant mortality rate (deaths under one year of age per thousand live births) in the United States has fallen dramatically in the last two decades."Low birth weights in African American moms continue to be twice as high as in white women. Low birth weight may be the largest cause of infant mortality, and it is entirely avoidable. Although it is avoidable, the answers may not be the simplest. Nevertheless, successful programs to help prevent Low birth weight include a combination of health care, education, the environment, behavioral change, and public policy, establishing a culture that supports a healthy lifestyle (Infant mortality, Low birth weight and Racial Disparity, 2000). Infant mortality owing to low birth weight is frequently the result of a combination of medical issues, such as preterm delivery, poor mother nutritional status, a lack of prenatal care, maternal illness during pregnancy, and an unsanitary home environment (Andrews, Brouillette, Brouillette, 2008). One of the two most essential variables in an infant's survival and good health is gestational age, along with birth weight (MacDorman and Mathews, 2009).

2.2.3 MALNUTRITION

Malnutrition or undernutrition is defined as an inadequate intake of nutrients such as proteins and vitamins, which has a detrimental influence on the growth, energy, and development of people all over the world (De Ons, Monteiro, Akré, Glugston, 1993). It is particularly frequent in developing countries in the poorest sections of Africa, Asia, and Latin America among women and children under the age of five (World vision, 2012). Children are especially vulnerable since they have yet to fully develop a strong immune system and rely on their parents for crucial food and nutritional intake. Stunted development, low body weight, and low birth weight contribute for around 2.2 million of these deaths each year (Martins, Toledo Florêncio, Grillo, Do Carmo, Franco and Martins, 2011). Malnutrition is caused by socioeconomic, environmental, gender status, geographical region, and nursing cultural norms (Mahmoud, 2006). It is tough to say which feature is the most essential because they may intertwine and change depending on where you are.

EFFECT OF MALNUTRITION

Children that are malnourished suffer from physical effects such as stunting, wasting, or growing overweight (Torpy, Lynn and Glass, 2004). Age-related changes in weight-and-height ratios in comparison to relevant standards are examples of such characteristics. The number of stunted children has grown in Africa, whilst Asia has the most wasting children under the age of five, and the number of overweight children has increased globally (Levels and trends in child malnutrition, 2015). Nutritional deficiencies have a detrimental influence on physical and cognitive development, rendering people more prone to significant health problems. Iron deficiency has been linked to anemia, fatigue, and decreased brain development in children (Torpy et al. 2004). Similarly, in malnourished children, vitamin A deficiency is the leading cause of blindness (Torpy et al. 2004). Malnutrition in children impairs the immune system's ability to fight infections, leading to higher rates of death from diseases such as malaria, respiratory disease, and diarrhea (Tette, Sifah and Nartey, 2015).

2.2.4 INFECTIOUS DISEASES

Babies born in low- to middle-income countries in Sub-Saharan Africa and southern Asia are at the highest risk of neonatal death. Bacterial infections of the circulatory system, lungs, and brain covering (meningitis) cause for 25% of neonatal deaths. Bacteria found in their mother's reproductive system can cause babies to get unwell upon birth. The mother may be completely ignorant of the sickness, or she may have an undetected pelvic

infection or a sexually transmitted infection. These germs can go up the vaginal canal and into the amniotic sac that surrounds the fetus. Maternal blood is another pathway for bacterial transfer from mother to infant. Premature amniotic sac membrane rupture (PROM) raises the risk of newborn disease (Chan, Lee, Baqui, Tan and Black, 2013).

Infectious diseases cause seven out of ten child fatalities, according to (Andrews et al. 2008) acute respiratory infection, diarrhea, measles, and malaria. Acute respiratory diseases such as pneumonia, bronchitis, and bronchiolitis kill 30% of children; 95% of pneumonia cases occur in developing nations. Diarrhea is the world's second greatest cause of child mortality, whereas malaria kills 11% of all children. Measles is the sixth largest cause of mortality among children. One approach of addressing iron deficiency is folic acid for mothers; there are a few public health strategies used to minimize iron insufficiency levels. Include iodized salt or drinking water, as well as vitamin A and multivitamin tablets, in a mother's diet (Andrews et al. 2008). This vitamin deficiency causes some kinds of anemia (low red blood cell count) (National Center for Biotechnology Information).

2.2.5 THE ENVIRONMENT

The infant mortality rate can be used to assess a country's health and socioeconomic conditions (MacDorman and Mathews, (2009), Gortmaker and Wise, 1997). It is a composite of several component rates, each of which has its own link with various social

characteristics, and it is frequently used as an indicator to quantify the extent of socioeconomic inequality within a country (Gortmaker and Wise, 1997).

Organic water contamination is a greater predictor of infant death than per capita health spending. Water tainted with pathogens harbors a slew of parasitic and microbial illnesses. Infectious diseases and parasites are spread by water contamination caused by animal feces (Jorgenson, 2004). Low socioeconomic level areas are more likely to have insufficient plumbing infrastructure and badly maintained facilities (Andrews, et al. 2008). The use of inefficient fuels increases the number of children under the age of five who have acute respiratory tract infections. Sanitation conditions are frequently influenced by climate and location. Inaccessibility to potable water, for example, exacerbates poor sanitary conditions (Jorgenson, 2004).

People who live in areas with higher levels of particulate matter (PM) air pollution have more general health concerns. The short- and long-term effects of air pollution on mortality, particularly neonatal mortality, have been connected. Air pollution is frequently connected to postnatal mortality due to respiratory effects and sudden infant death syndrome. In the post-neonatal age, air pollution in particular is highly connected to sudden infant death syndrome (SIDs) in the United States (Woodruff, Darrow & Parker, 2008). Because newborns are a vulnerable group affected by air pollution, high infant mortality is exacerbated (Glinianaia, Rankin, Bell, Pless-Mulloli & Howel, 2004). Newborns born under these conditions are not immune. Women who are pregnant and are

regularly exposed to higher levels of air pollution should be closely examined by their doctors, both throughout pregnancy and after the baby is born. Babies who grow up in less polluted areas have a greater probability of reaching their first birthday. As expected, neonates born in polluted environments have a greater risk of dying as infants. Areas with greater levels of air pollution are also more likely to have a higher population density, higher crime rates, and lower income levels, all of which can lead to higher infant mortality rates (Infant mortality: Reducing Infant Deaths, 2011).

Carbon monoxide is a significant pollutant that contributes to infant death rates. Carbon monoxide is a colorless, odorless gas that is extremely dangerous, especially to infants owing to their underdeveloped respiratory systems (Benjamin, 2006). Another major contaminant is second-hand smoking, which is a pollutant that can damage a developing fetus. "In 2006, more than 42 000 Americans died of secondhand smoke-attributable illnesses, including more than 41 000 adults and over 900 babies," according to the American Journal of Public Health. Understandably, 36% of newborns dies of low birth weight caused by maternal smoking in utero, 28% of those who died of respiratory distress syndrome, 25% of those who died of other respiratory diseases, and 24% of those who died of sudden infant death syndrome. According to the American Journal of Epidemiology, "Women who smoked less than one pack of cigarettes per day had a 25% greater risk of mortality than nonsmoking women having their first child, while those who smoked one or more packs per day had a 56% higher risk. Smokers had a 30%

greater mortality risk than nonsmokers among women having their second or higher delivery."

2.2.6 EARLY CHILDHOOD TRAUMA

Early childhood trauma includes physical, sexual, and psychological abuse of a child. Early childhood trauma has a long-term impact and contributes considerably to infant mortality. When a baby is shook, beaten, strangled, or raped, the consequences are far more severe than when the same abuse is inflicted on a fully developed body. 1-2 children per 100,000 are murdered in the United States each year, according to research. Unfortunately, it is possible that these estimates understate true mortality (Paulsci and Covington, 2014). In FFY 2018, children younger than the age of three comprised three-quarters (70.6 percent) of all child deaths, while children under the age of one accounted for 49.4 percent of all fatalities (Child Welfare Information Gateway, 2020). Correctly diagnosing fatalities caused by neglect is very challenging, and children who die suddenly or from what appear to be accidental causes on the surface typically have preventable risk factors that are strikingly comparable to those in abusive households.

There is a definite relationship between the age of maltreatment/injury and the risk of death. The younger the infant, the more dangerous the mistreatment (Imamura, Troster and Oliveira, 2012). Child gender, social isolation, lack of support, maternal youth, marital status, poverty, parental ACES, and parenting approaches are all thought to contribute to greater risk (Smith-Greenway & Trinitapoli, 2014).

2.2.7 CULTURAL PRACTICES

Certain Nigerian habits may be linked to greater health risks for babies. The common surgical cut done on an infant's umbilical cord by traditional birth attendants, who are preferred due to their easy availability, strong ties, and low pricing, is one risky practice. If birth attendants are unfamiliar of the concept of using sterile instruments, they may use non-sterile equipment such as blades, knives, or bamboo edges to cut the infant's umbilical cord. They use different treatments on the newborn's navel to clean the umbilical cord after cutting it, such as cow dung, talc powder, cow urine (itomalu), and cow bile (oronromalu), although this might result in child death (United Nations Children's Emergency Fund, "Infant mortality rates still high," 1990). Other cultural customs include mothers employing traditional medicine instead of getting sufficient medical attention for their children who have seizures or diarrhea.

Additionally, in Nigeria, if the cause of a condition is not properly determined, people frequently seek the aid of traditional spiritual healers in establishing the root of the sickness (Akwenabuaye and Ebingha, 2018). In these cases, the cause is almost always supernatural, and a member of the extended family is typically blamed for the illness (Oladejo, 2006). These traditional spiritual healers frequently ascribe the cause of the illness to witchcraft, which must be appeased or placated by means such as ceremonies, sacrifices, and other types of traditional worship. In most cases, traditional healers act as a conduit for such appeasement in order to protect an innocent child. If a child is

suspected of being possessed, herbalists are sought to treat the patient by propitiation. One illustration involves a folklore explanation by (Agara, 2008), in Yoruba: "Ajekelana, omokuloni, taniko mope ajeanalopaomoonije" [the witch cried yesterday, the child died today]; the interpretation of that means a child's death is often attributed to the operations of witchcraft who then would doubt that the witch that cried yesterday is responsible for the death of the child. Sorcerers gain strength by summoning spirits, but witches get their energy from the cosmos. According to (Olorundare, 1998), witchcraft is still a derogatory phrase in Nigeria, and it is not uncommon for people to believe that there is no such thing as natural death.

The Hausas of northern Nigeria, for example, believe in the presence of Allah (God) as a greater entity that judges by rewarding and punishing each individual according on their behavior (A. O. Echekwube,1991). Most Northerners, according to (Adewale, Adedoun, Fola, and Olufemi, 2001), believe that Allah has decided their fate, whether good or bad. This doctrine is based on the use of herbal cures for medical diseases, magical ceremonies for fixing what is aberrant, and sacrifices to appease supernatural powers. Natural sickness, according to the Northerners, is intensified by the action of opponents, spirits, or demons. Several objects like as cowries, fragrances, features, animal skin, and alum are burnt and rubbed to the skin of a sick child to escape death, according to (Olorundare, 1998). Nonetheless, despite widespread beliefs about cultural practices and illness, existing literature is unclear about which cultural beliefs are associated with

infant mortality, and how these cultural beliefs differ by age, education, and income, as well as marital status, religious and ethnic social circle, and geographical location. Several researchers have studied attribution and belief systems regarding infant mortality in Nigeria, focusing on cultural beliefs and attribution of maternal mortality in Ejigbo Local Government Area in Osun State, Nigeria (Alao, 1995), and incidence rates and causes of infant mortality as perceived by married women in Ilorin metropolis (Alao, 1995). Anyamele, Akanegbu, and Ukawuiulu, (2015). These findings suggest that mothers rely on cultural beliefs about spirits, witchcraft, and God's will to either engage in specific cultural practices that put their infants at risk of becoming ill or to explain their infants' poor health rather than seeking immediate medical attention to treat them.

2.2.8 CULTURAL BELIEFS ABOUT INFANT MORTALITY IN NIGERIA

Nigeria is a multi-ethnic and multi-cultural nation comprised of 36 states and a Federal Capital Territory (FCT). The six geopolitical areas are North Central, North-East, North-West, South-East, South-South, and South-West. In Nigeria now, there are around 374 recognized ethnic groups, with the Igbo, Hausa, and Yoruba being the largest ethnic groups (National Population Census, 2004). (Otite, 1990). Surprisingly, these social groups differ in terms of certain cultural characteristics, such as cultural perspectives and behaviors. Most of these cultural beliefs predate colonial periods and the emergence of conventional medicine, and they include the notion that angry gods and bad spirits are the major causes of sickness, and that illness can be taken as a warning sign of an imbalance

between the natural and spiritual worlds (Asakitikpi, 2008). There is a strong belief among ethnic groups in Nigeria that no matter how hardworking people are, there are forces that might hinder their progress (Iyun and Oke, 2000). Some academics attribute newborn mortality rates to traditional beliefs and actions that mothers may adopt in Nigerian society, where people believe that something or someone is to blame for bad events and the perpetrators of child death (Akwenabuaye, Akwenabuaye and Ebingha, 2018).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter discusses the techniques employed in the research inquiry. It considers the research technique, the study design, data collection techniques, and data analysis methods.

(Igwenagu, 2016) defines research methodology as a collection of systematic approaches used in research. This simply means a guide for research and how it is conducted. Furthermore, it explains analytical methodologies, sheds light on their limits and resources, and clarifies their assumptions and consequences in regard to the twilight zone at knowledge's frontiers.

3.2 RESEARCH DESIGN

This section covers the strategy that will be used to meet the stated objectives of the research in chapter one. The experimental research design will be used for this study since it attempts to establish a relationship between cause and effect in relation to the selected topic. Data will also be gathered using the survey research approach. In this case, a questionnaire is employed to collect data from respondents. The survey research design is seen to be the best for the study since it incorporates the use of primary data. It is used to ensure trustworthiness and authenticity.

Table 3.1 Household streets and Coordinates

S/N	NAME OF STREETS	LONGITUDE	LATITUDE
1.	Uwagboe street	N 6°22’41”	E 5°36’24”
2.	Igbinosa street	N 6°22’32”	E 5°36’28”
3.	Oronsaye street	N 6°20’55”	E 5°36’54”
4.	Iyahen street	N 6°20’12”	E 5°34’45”
5.	Awake street	N 6°22’24”	E 5°36’26”
6.	Godly street	N 6°22’38”	E 5°36’53”
7.	Okhokhugbo street	N 6°21’16”	E 5°34’18”
8.	Igbinoba street	N 6°21’34”	E 5°37’54”
9.	Osarobo street	N 6°22’30”	E 5°36’26”
10.	Omorodion street	N 6°22’02”	E 5°36’48”
11.	Anigboro street	N 6°21’53”	E 5°36’55”
12.	Ahanor street	N 6°21’49”	E 5°36’37”
13.	Ogie street	N 6°21’46”	E 5°36’49”
14.	Alimele street	N 6°21’53”	E 5°36’32”
15.	Otoghile street	N 6°22’12”	E 5°38’09”
16.	Akugbe street	N 6°21’11”	E 5°36’33”
17.	Friendship street	N 6°22’12”	E 5°38’06”
18.	Edosa street	N 6°22’22”	E 5°38’13”
19.	0sunde street	N 6°21’02”	E 5°34’52”

Table 3.2 Location of hospitals in Egor L.G.A

S/N	NAME OF HOSPITAL	LONGITUDE	LATITUDE
1.	University of Benin Teaching Hospital	6°23’25” N	5°36’47” E
2.	Executive Hospital	6°22’02” N	5°37’08” E
3.	Echos Hospital Limited	6°22’56” N	5°36’56” E
4.	Zimran Medical Center	6°22’45” N	5°36’06” E
5.	Uwelu Health Center	6°23’15” N	5°34’56” E
6.	Fortune clinic	6°22’37” N	5°34’35” E
7.	Ebony Medical Center	6°22’48” N	5°36’10” E
8.	The Rock Hospital	6°22’57” N	5°35’42” E
9.	Bamby Hospital	6°21’36” N	5°35’51” E
10.	Orobosa Medical Center	6°24’16” N	5°35’14” E
11.	Blue Cross Hospital	6°21’53” N	5°37’47” E
12.	Evangel Model Hospital	6°21’32” N	5°37’17” E
13.	Ibinobaro Medical Center	6°20’38” N	5°36’39” E
14.	Azuwa Hospital	6°21’05” N	5°36’38” E
15.	God’s Victory Hospitals	6°21’27" N	5°35’57” E
16.	Etinosa Community Hospital	6°18’59” N	5°33’03” E
17.	Mount Gilead Hospial	6°22’14” N	5°36’51” E
18.	Evbuotubu Health Centre	6°19’21” N	5°34’30” E
19.	Graceland Medical Centre	6°22’49” N	5°37’00” E
20.	Bell Excellent Medical Centre	6°22’59” N	5°37’32” E
21.	Osula Royal Hospital	6°22’15” N	5°35’43” E

3.3 RESEARCH POPULATION

This study was carried out in the Egor Local Government Area of Edo State, Nigeria. Egor Local Government Area is one of Edo State's 18 Local Government Areas and one of the seven Local Government Areas in Edo South Senatorial District. It is in Edo State, Nigeria, close to the Benin Metropolis. Edo State is located in Nigeria's south-south area. The population of the research is made up of all males and females aged 18 to 64 who live in Edo State's Egor Local Government Area. It took into account the expected population age group in Egor Local Government Area, which ranged from 18 to 64 years old.

The participants were picked without regard for tribe, gender, or educational level. Egor Local Government Area had a population of 340,287 people in 2006. This figure comprises both males (168,925) and females (171,362), i.e., children and adults, whereas persons aged 15 to 65 constituted 94,624 in the Local Government (National Population Commission, 2006). As a result, this figure acts as our target population, while the study units are household heads, assuming that each family contains a married couple. The following formula was used to forecast the population of the Egor local government area:

$$Pr = Po\ (1 + \frac{R}{100})^n$$

Where:

Pr = Projected population

Po = Population (94,624)

R = Annual growth rate (2.5)

n = Number of projected years (15)

$Pr = Po\ (1 + \frac{R}{100})^n$

$Pr = 94{,}624\ (1 + \frac{2.5}{100})^{15}$

$Pr = 94{,}624\ (1 + 0.025)^{15}$

Pr = 94,624 (1.44830)

Pr = 137,044

Thus, the projected population of the study is 137,044 persons from which the sample for the study was drawn.

3.4 SAMPLE SIZE

To gather replies to the questions posed in this study, simple random sampling will be used. Simple random sampling is used to ensure that a group of items from the study's population is picked in such a way that statistics obtained from simple data accurately

represent the population. Yamani's (1973) sample size determination algorithm is used to determine the study's sample size from the projected population.

$$n = \frac{N}{(1+N(e)^2}$$

Where

n =Sample size

N= Study population (137,044)

e = Precision level (0.05)

$$n = \frac{137,044}{(1+137,044(0.05)^2}$$

$$n = \frac{137,044}{(1+137,044(0.0025)}$$

$$n = \frac{137,044}{(137,045\times0.0025)}$$

$$n = \frac{137,044}{342.6125}$$

$$n = 399.9 \cong 400$$

3.5 DATA COLLECTION

The act of producing or gathering information that has been systematically observed, documented, categorized, classed, or characterized in such a way that logical processing and conclusions may occur is known as data collection (Neuman, 2006). Primary data collection and secondary data collection are the two types of data collecting procedures.

3.5.1 PRIMARY SOURCE OF DATA COLLECTION

Information acquired directly from the field via surveys and interviews is the major source of data. This project will gather primary information from residents using questionnaires and interviews.

3.5.2 SECONDARY SOURCE OF DATA COLLECTION

This is the collection of processed information; it might be from books, articles, journals, newspapers, or the internet. Secondary data for this study was gathered from publications, journals, books, and the internet.

3.6 RESEARCH INSTRUMENT

The questionnaire is the data collection instrument in this study. These questionnaires are created by filling out a form with particular questions on the area of research. Respondents' information will be gathered via multiple-choice questions. This was found

acceptable since the responders will be forced to select from the available alternatives. In this study, two sets of questionnaires were distributed; one set was sent to households, while the other set was distributed to hospitals in the study region.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, AND HYPOTHESIS TESTING

4.0 INTRODUCTION

Research work encompasses investigation, data presentation as well as analysis. This chapter appertain presentation of the research done. However, this research employed interviews as well as the administration of questionnaires to the population in the study area.

4.1 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

Gender of Respondents

Below shows that majority of the sampled population are female respondents while the male respondents represent a smaller percentage of the sampled population. However, the proportion of the population that are male is 45.8% which represents 183 people while the proportion of female respondents is 54.3% which represents 217 people.

Table 4.1 Gender of Respondents

	Frequency	Percent
Male	183	45.8
Female	217	54.3
Total	400	100.0

Source: Field Survey, 2022

4.2 Age of respondents

Table 4.2 analyses the ages of respondents. It shows that the ages of respondents between ages 18-27 years represents 12.5%, which has the smallest percentage, ages 28-37 years has 20.8%. Consequently, ages 38-47 years represents 53.8%, which has the largest percentage, ages 48-57 years represents 13%.

Table 4.2 Age of respondents

	Frequency	Percent
18-27	50	12.5
28-37	83	20.8
38-47	215	53.8
48-57	52	13.0
Total	400	100.0

Source: Field Survey 2022

4.3 Occupation of respondents

It can be observed that the proportion of the population that are traders are 31.0% which makes it the largest. In contrast to this, the number of engineers has the smallest proportion which represents 1.0%. Subsequently, the business owners/self-employed represents 15.0%, the proportion of drivers shows 11.8%. The teachers represent 8.8%. The number of pharmacist are 6.8%, the proportion of stylist represent 4.3%. Office workers shows amount of 2.8%. The proportion of nurses whom were calculated represents 1.3%. The number of civil service officers and civil servants represents 9.3% and 3.3% respectively. The proportion of electricians in the population represents 2.8 and lastly, the number of unemployed population represents 2.3%.

Table 4.3 Occupation of respondents

	Frequency	Percent
Trader	124	31.0
Civil service	37	9.3
Business owner/self employed	60	15.0
Driver	47	11.8
Teacher	35	8.8
Pharmacist	27	6.8
Stylist	17	4.3
Office worker	11	2.8
Engineer	4	1.0
Nurse	5	1.3
Civil servant	13	3.3
Unemployed	9	2.3
Electrician	11	2.8
Total	400	100.0

Source: Field Survey 2022

4.4 Education of respondents

In terms of educational status, the majority of respondents which is 56.0% affirmed that they have attained tertiary education with a further 42.0% stating that they attained secondary education. The proportion of respondents who have primary education is presented as 2.0%. From the above, it can be inferred that the study area is an educated one given that an overwhelming majority of respondents at 95.5% have attained a minimum of secondary education.

Table 4.4 Education of respondents

	Frequency	Percent
Primary	8	2.0
Secondary	168	42.0
Tertiary	224	56.0
Total	400	100.0

Source: Field Survey 2022

4.5 Marital status of respondents

By marital status, the majority of respondents which are 78.5% affirmed that they are married with 21.5% stating that they are still single. In the local government area, the majority of respondents across all neighborhoods affirmed that they are married. It can thus be concluded from the table below that the majority of respondents from the study population are married.

Table 4.5 Marital status of respondents

	Frequency	Percent
Single	86	21.5
Married	314	78.5
Total	400	100.0

Source: Field Survey 2022

4.6 Number of children in the household

It is observed that the number of household with no kids is 22.5%, the household the highest number of kids in the local government are the houses with 2 kids which is 45.3%, while the household with the lowest amount of kids are houses with 3-5 kids which amount to 1.8%. Household with only one children is 30.5%.

Table 4.6 Number of children in the household

	Frequency	Percent
None	90	22.5
1	122	30.5
2	181	45.3
3-5	7	1.8
Total	400	100.0

Source: Field Survey 2022

4.7 Number of persons in a household

From this table, it is observed that the number of persons living in a particular household ranging from 1-3 persons amounts to 29.3%, the household the highest number of kids in the local government are the houses with 2 kids which is 45.3%, while the household with the lowest amount of kids are houses with 3-5 kids which amount to 1.8%. Household with only one children is 30.5%.

Table 4.7 Number of persons in a household

	Frequency	Percent
1-3	117	29.3
3-6	271	67.8
7 and above	10	2.5
Total	400	100.0

Source: Field survey 2022

4.8 Tribe of respondents

As presented in table 4.8, the majority of respondents were Bini at 48.8%, the lowest amount of respondents asked is Owan at 0.5%, the Esan amounted to 15.3%, Igbo is represented at 7.5%, Yoruba is at 4.8%, Hausa represents 1.3%, Uhrobo amounts to 14.8%, the Ijaw tribe is 4.8%, Igala tribe constitute to 1.5% and lastly the Isoko which amount to 1.0%.

Table 4.8 Tribe of respondents

	Frequency	Percent
Bini	195	48.8
Esan	61	15.3
Igbo	30	7.5
Yoruba	19	4.8
Hausa	5	1.3
Uhrobo	59	14.8
Ijaw	19	4.8
Igala	6	1.5
Isoko	4	1.0
Owan	2	0.5
Total	400	100.0

4.9

Religion of respondents

In terms of religion of respondents, the majority of respondents which is 96.5% affirmed that they were Christian with a further 2.5% stating that they are Muslims. The proportion of respondents who are traditional worshipers is 1%. This shows that major religion practiced in this local government area is Christianity.

Table 4.9 Religion of respondents

	Frequency	Percent
Christian	386	96.5
Muslim	10	2.5
African tradition religion	4	1
Total	400	100.0

Source: Field Survey 2022

4.9 Income of respondents

As shown in Table 4.10, the highest proportion of respondents at 38.0% have an average monthly income of ₦90,000-₦119,000 and is followed by the proportion of respondents with an average monthly income of ₦60,000-₦89,000 at 34.3%. The proportion of respondents with a monthly income that is above ₦120,000 is presented as 13.0%. The least proportion of respondents with average monthly income of ₦30,000 amounts to 4.0%. In conclusion, the majority of residents in the local government area can be classified as low and medium income earners given that the majority have an average monthly income that is less than ₦120,000

Table 4.10 Income of respondents

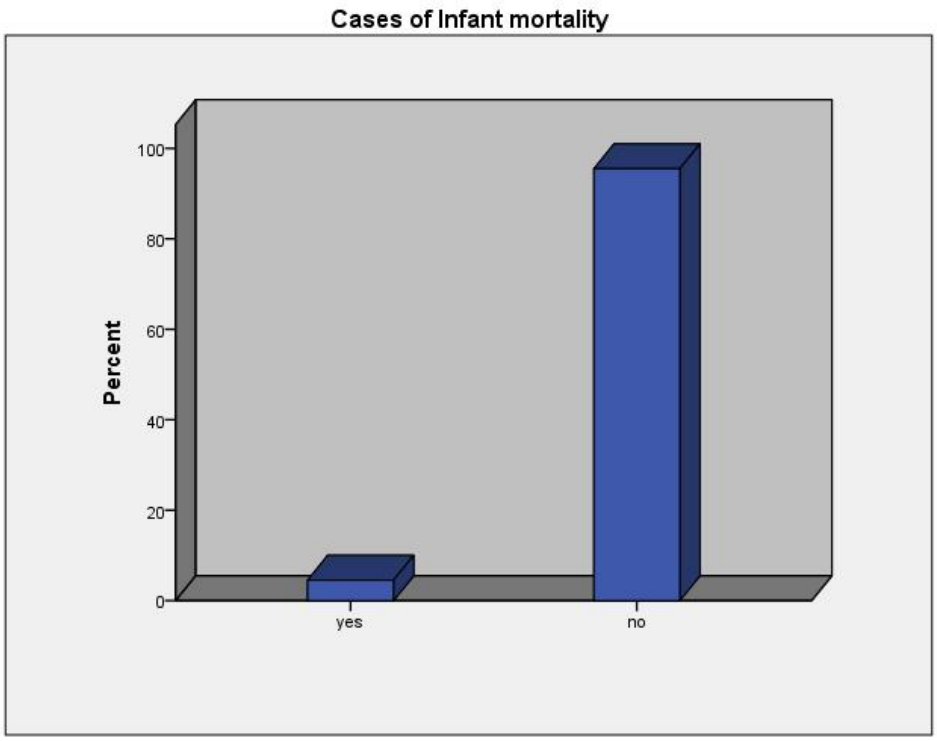
	Frequency	Percent
Less than N30,000	16	4.0
N30,000-N59,000	43	10.8
N60,000-N89,000	137	34.3
N90,000-N119,000	152	38.0
N120,000 and above	52	13.0
Total	400	100.0

Source: Field Survey 2022

4.2 INFANT MORTALITY AND ITS CAUSES

4.11 Cases of infant mortality

In terms of the cases of infant mortality in the study area, the majority of respondents at 95.5% are of the say that there is no case of infant mortality in their household, while 4.5% affirmed that the case of infant mortality had occurred in their household.

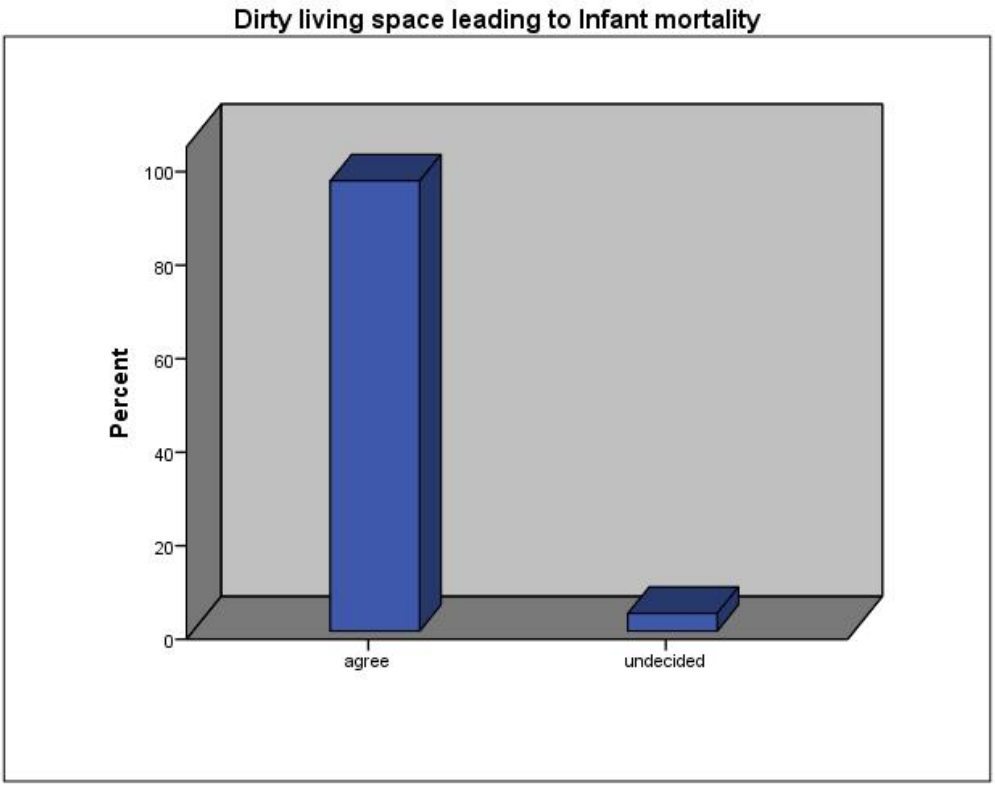


Source: Field Survey 2022

Figure 4.11 Cases of infant mortality

4.12 Dirty living space leading to infant mortality

In terms of dirty living space in the study area, the majority of respondents at 96.3% agreed that dirty living space is a cause of infant mortality, while 3.8% were undecided that dirty living space is a cause of infant mortality in the local government area.

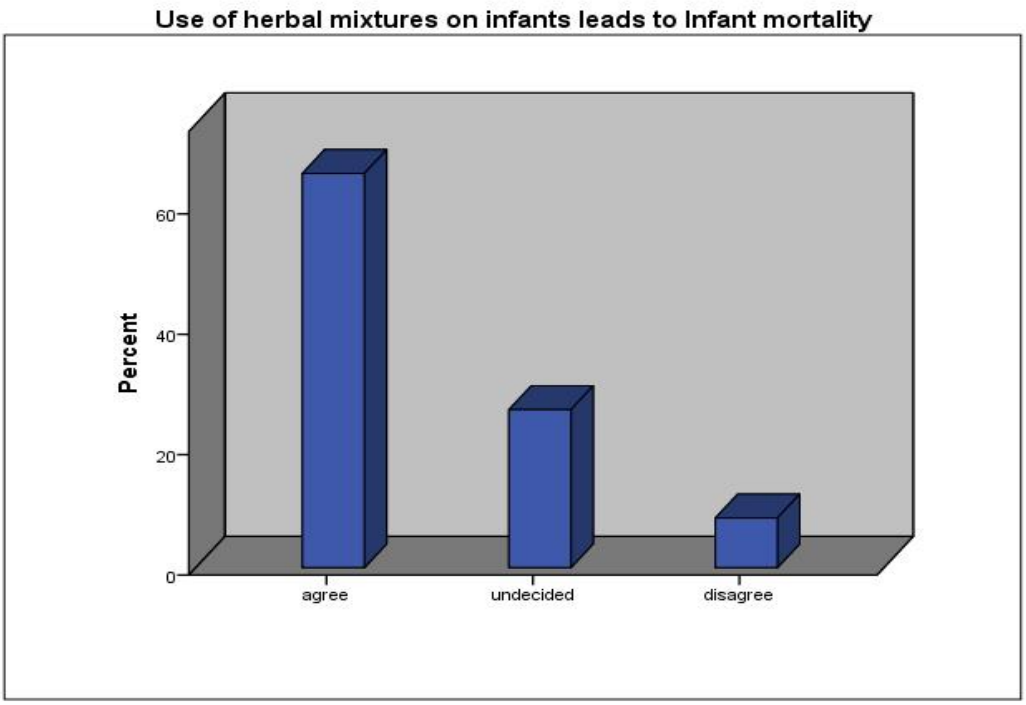


Source: Field Survey 2022

Figure 4.12 Dirty living space leading to infant mortality

4.13 Use of herbal mixtures on infant leads to infant mortality

In terms of dirty living space in the study area, the majority of respondents at 65.5% agreed that the use of herbal mixtures on infants can lead to infant mortality, while 26.3% were undecided that dirty living space is a cause infant mortality in the local government area. 8.3% of the respondents disagreed that the use of herbal mixtures on infant is a cause of infant mortality in the study area.

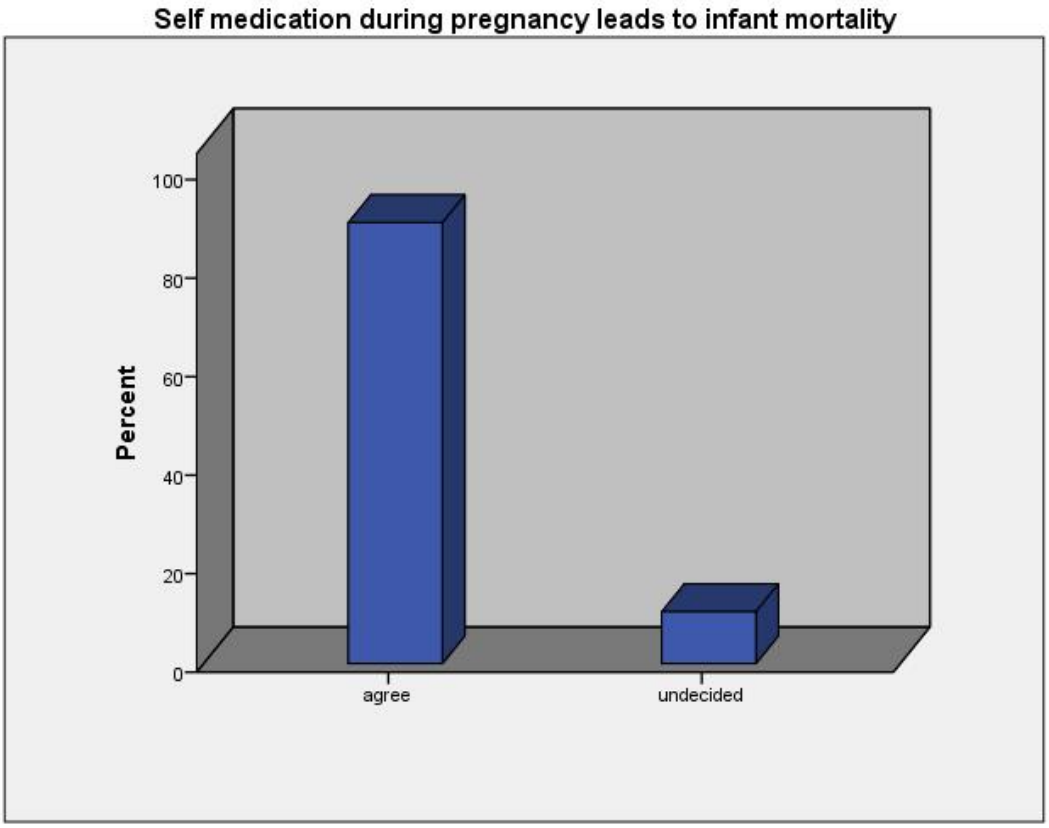


Source: Field Survey 2022

Figure 4.13 Use of herbal mixtures on infant leads to infant mortality

4.14 Self-medication during pregnancy leads to infant mortality

In terms of self-medication during pregnancy in the study area, the majority of respondents at 89.5% agreed that self-medication during pregnancy is a cause of infant mortality, while 10.5% were undecided that self-medication during pregnancy is a cause of infant mortality in the local government area.

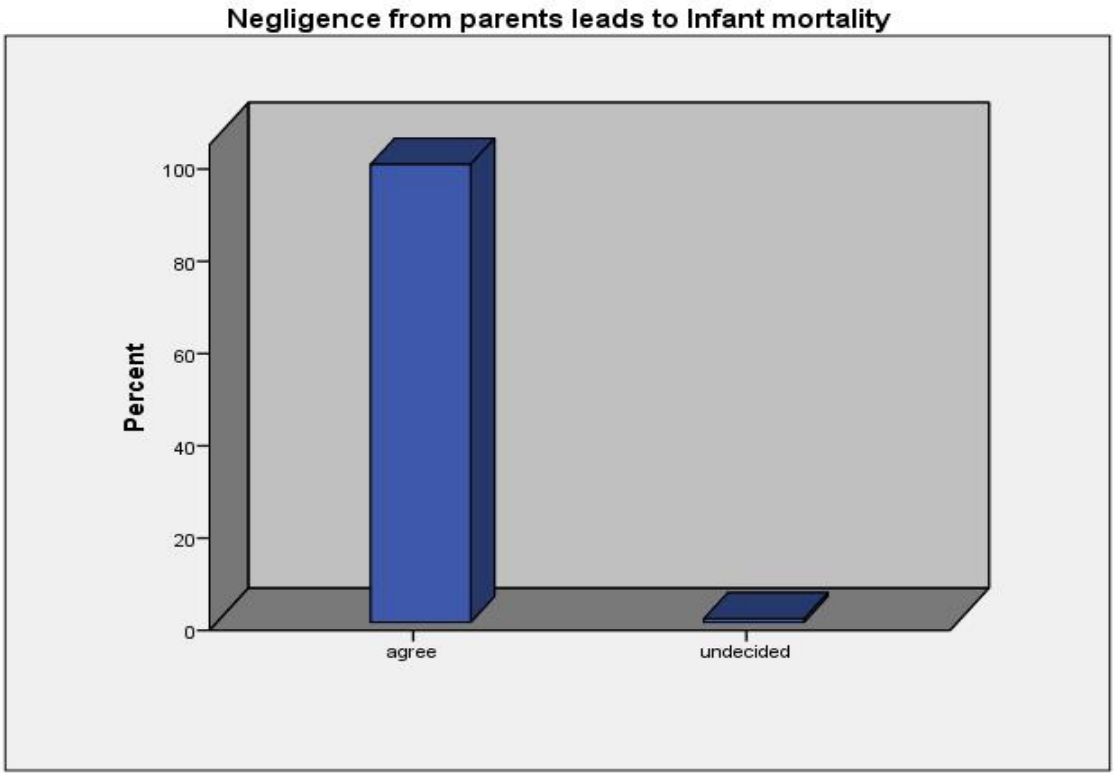


Source: Field Survey 2022

Figure 4.14 Self-medication during pregnancy leads to infant mortality

4.15 Negligence from parents leads to infant mortality

In terms of negligence from parents in the study area, the majority of respondents at 99.3% agreed that negligence from parents is a cause of infant mortality, while 0.8% were undecided that negligence from parents/guardians is a cause of infant mortality in the local government area.

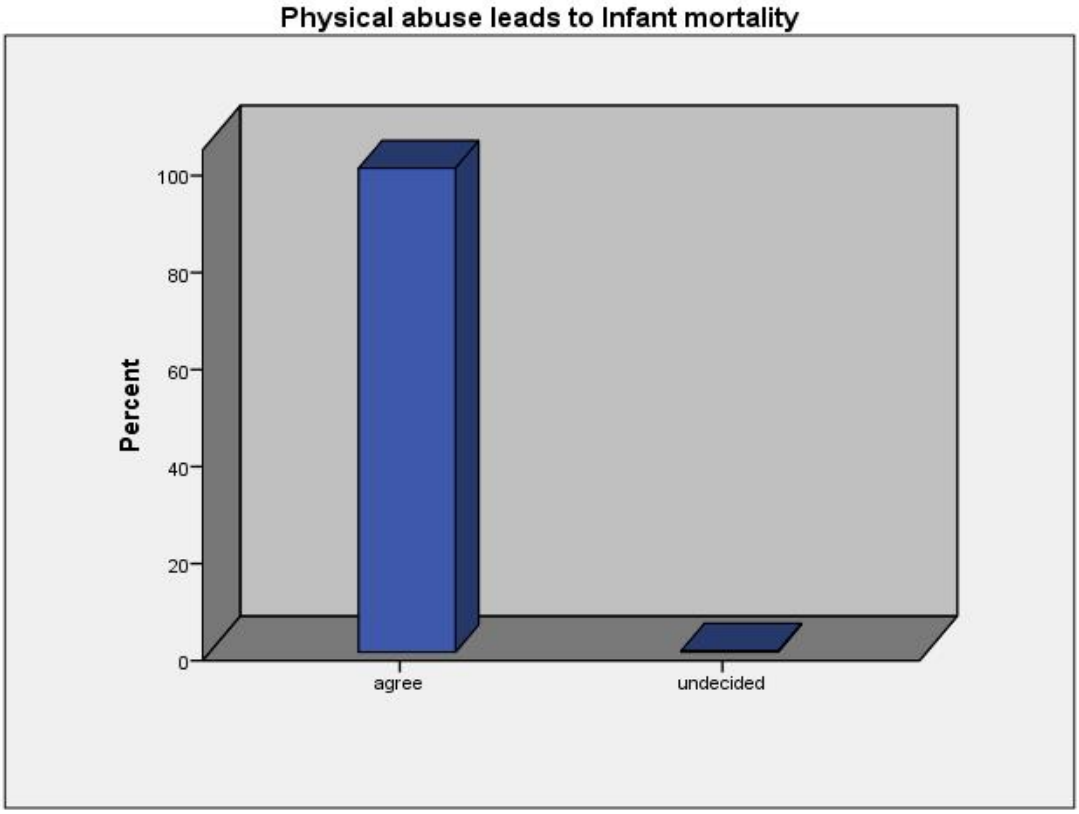


Source: Field Survey 2022

Figure 4.15 Negligence from parents leads to infant mortality

4. 16 Physical abuse leads to infant mortality

In terms of physical abuse on infants in the study area, the majority of respondents at 99.8% agreed that physical abuse is a cause of infant mortality, while 0.3% were undecided that physical abuse is a cause of infant mortality in the local government area.



Source: Field Survey 2022

Figure 4.16 Physical abuse leads to infant mortality

4.17 Excessive smoking leads to premature birth

In terms of excessive smoking in the study area, the majority of respondents at 100% agreed that excessive smoking is a cause of infant mortality and can also lead to premature birth in the local government area.

Table 4.11 Excessive smoking leads to premature birth

	Frequency	Percent
Agree	400	100.0

Source: Field Survey 2022

4.18 Infectious diseases leading to premature birth

In terms of infectious diseases in the study area, the majority of respondents at 100% agreed that infectious diseases can cause infant mortality and can also lead to premature birth in the local government area.

Table 4.12 Infectious diseases leading to premature birth

	Frequency	Percent
Agree	400	100.0

Source: Field Survey 2022

4.19 Sexual abuse (rape) leading to infant mortality

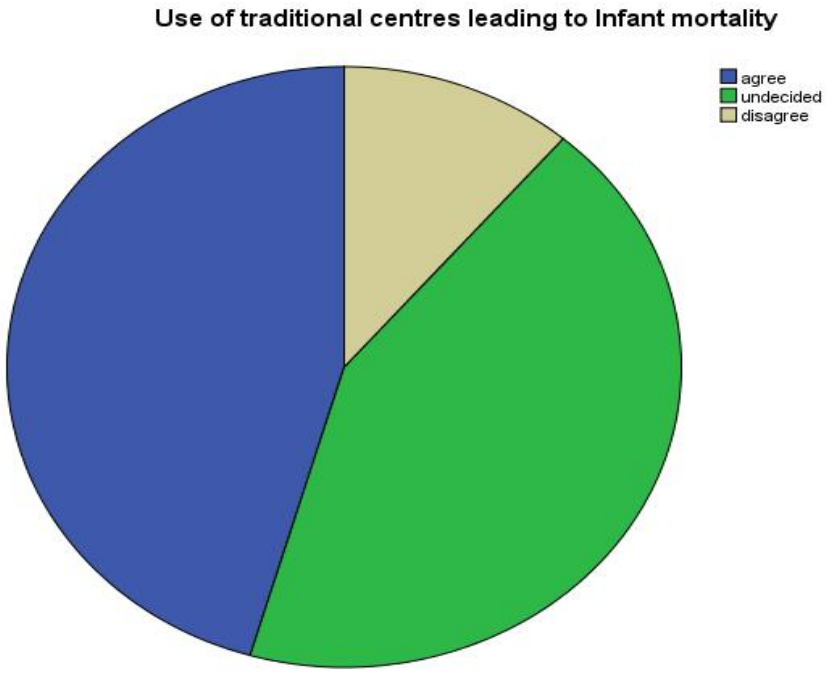
In terms of sexual abuse in the study area, the majority of respondents at 100% agreed that sexual abuse (rape) is a cause of infant mortality in the local government area.

Table 4.13 Sexual abuse (rape) leading to infant mortality

	Frequency	Percent
Agree	400	100.0

Source: Field Survey 2022

In terms of the use of traditional centers when giving birth in the study area, the majority of respondents at 45.5% agreed that the use of traditional centers when giving birth can lead to infant mortality, while 43.3% were undecided. A percentage of 11.8% of the respondents disagreed that the use of traditional centers when giving birth is a cause of infant mortality in the study area.

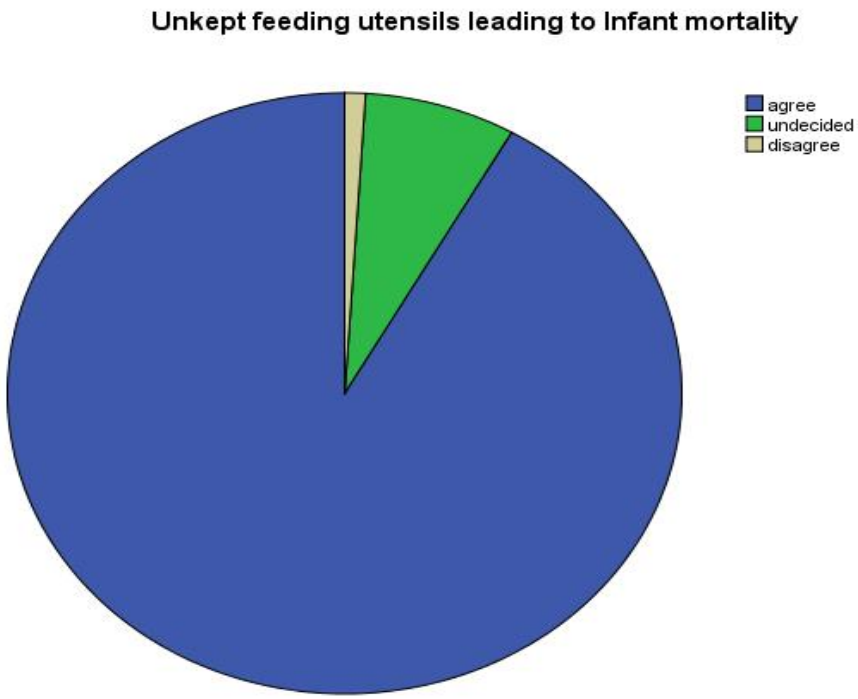


Source: Field Survey 2022

Figure 4.17 Use of traditional centers leading to infant mortality

4.21 Unkept feeding utensils leading to infant mortality

In terms of unkept feeding utensils in the study area, the majority of respondents at 91.8% agreed that unkept feeding utensils can lead to infant mortality, while 7.3% were undecided. A percentage of 1.0% of the respondents disagreed that unkept feeding utensils are causes of infant mortality in the local government area.



Source: Field Survey 2022

Figure 4.18 Unkept feeding utensils leading to infant mortality

4.22 Number of cases of infant mortality

Based on the number of cases of infant mortality in the study area, the majority of respondents at 95.5% had no case of infant mortality in their household, while 4.3% amounted to only one (1) case of infant mortality in their household. 0.3% had two (2) cases of infant mortality in their household.

Table 4.14 Number of cases of infant mortality

	Frequency	Percent
None	382	95.5
1	17	4.3
2	1	.3
Total	400	100.0

Source: Field Survey 2022

4.23 Use of illegal drugs leading to premature birth

In terms of use of illegal drugs in the study area, the majority of respondents at 100% agreed that the use of illegal drugs is a cause of infant mortality in the local government area.

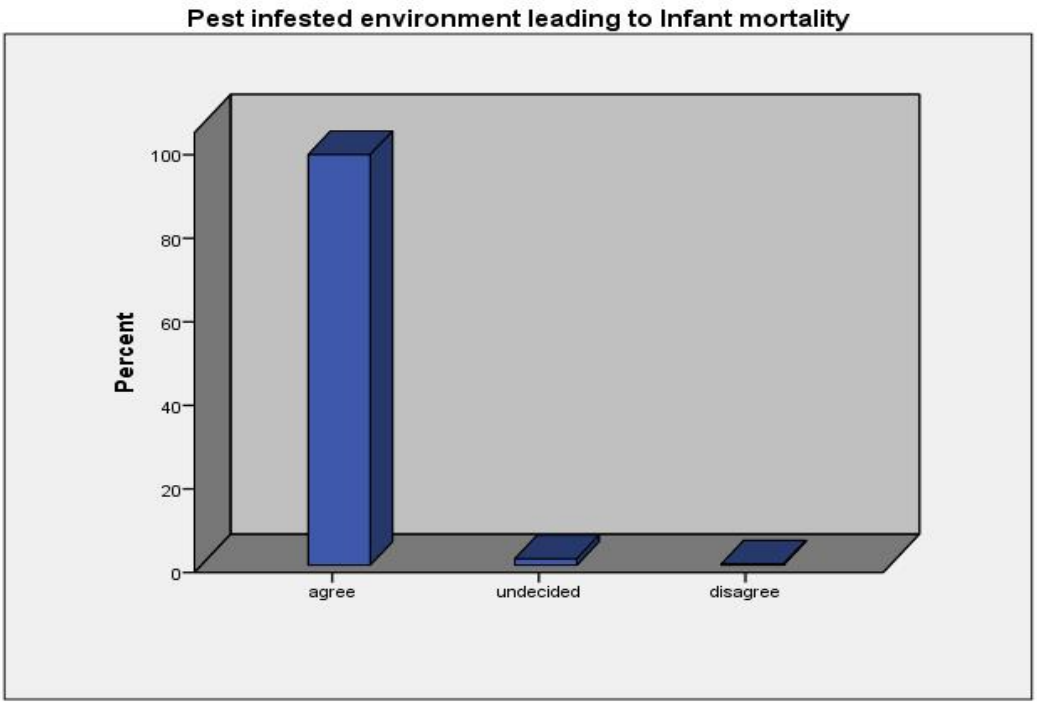
Table 4.23 Use of illegal drugs leading to premature birth

	Frequency	Percent
agree	400	100.0

Source: Field Survey 2022.

4.24 Pest infested environment leading to infant mortality

In terms of pest infested environment in the study area, the majority of respondents at 98.3% agreed that pest infested environment can lead to infant mortality, while 1.5% were undecided. A percentage of 0.2% of the respondents disagreed that pest infested environment is a cause of infant mortality in the local government area.

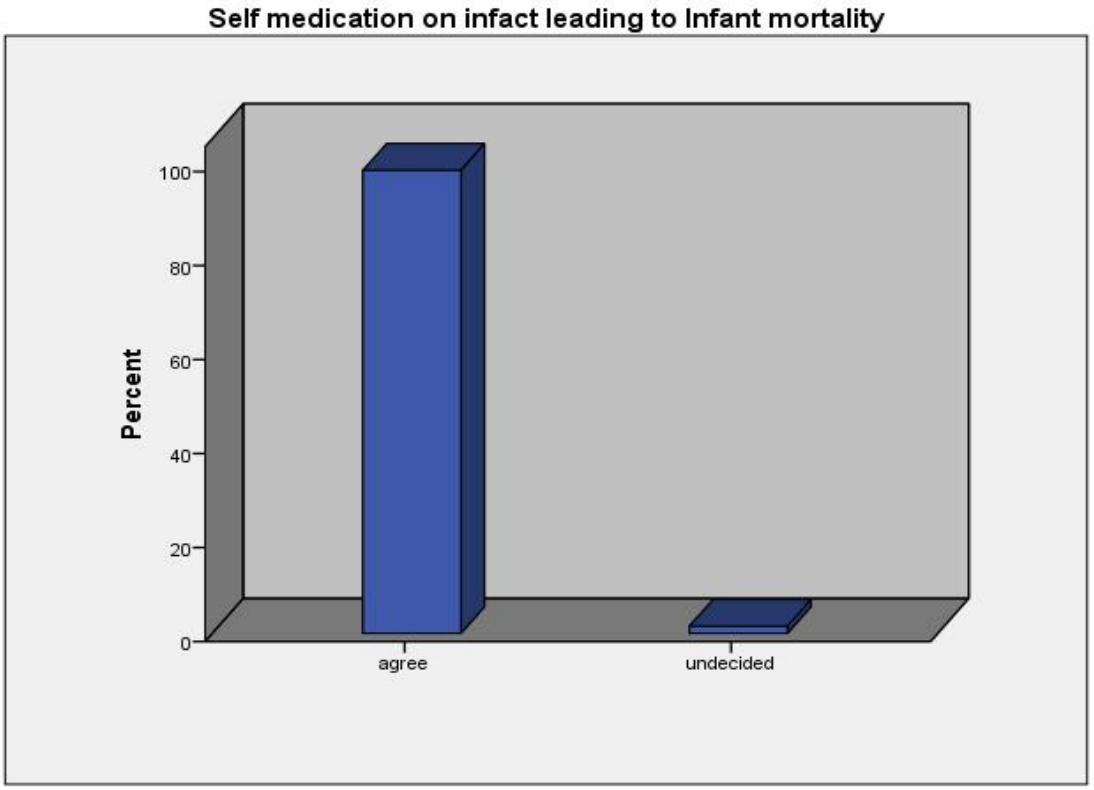


Source: Field Survey 2022

Figure 4.19 Pest infested environment leading to infant mortality

4.25 Self-medication on infant leading to infant mortality

In terms of self-medication on infants in the study area, the majority of respondents at 98.5% agreed that self-medication on infants is a cause of infant mortality, while 1.5% were undecided that self-medication on infants can lead to infant mortality in the local government area.

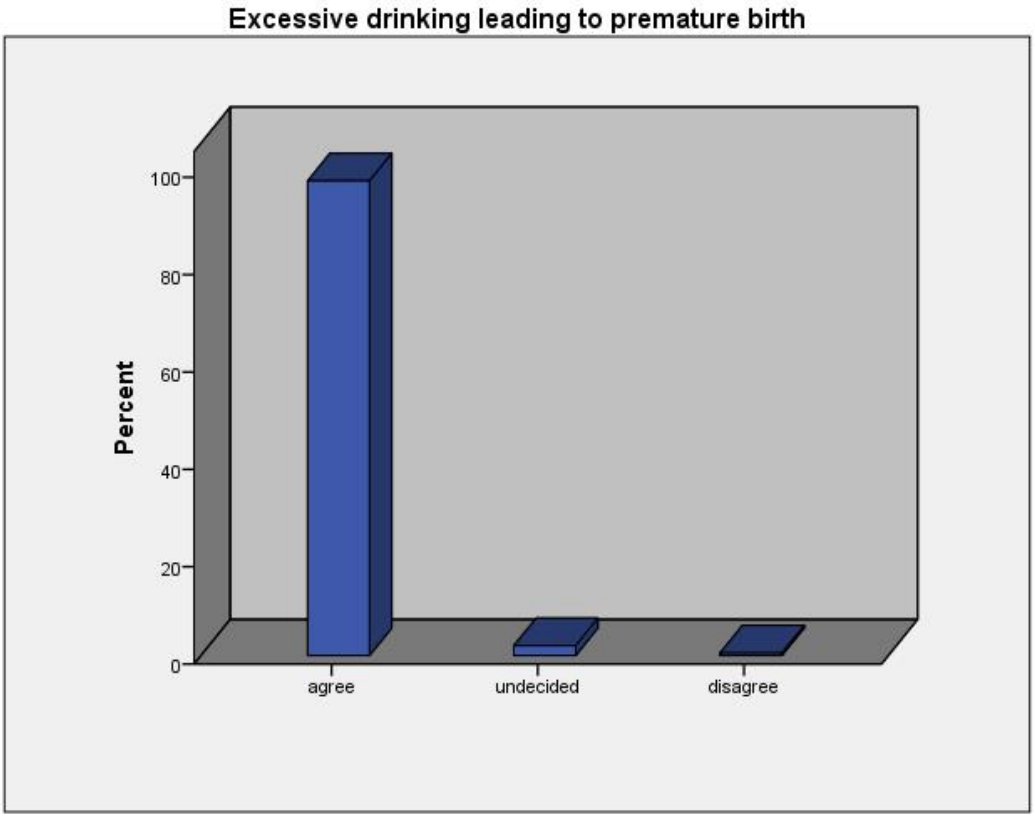


Source: Field Survey 2022

Figure 4.20 Self-medication on infant leading to infant mortality

4.26 Excessive drinking leading to premature birth

In terms of excessive drinking in the study area, the majority of respondents at 97.5% agreed that excessive drinking can lead to premature birth, while 2.0% were undecided. A percentage of 0.5% of the respondents disagreed that excessive drinking can lead to premature birth in the local government area.

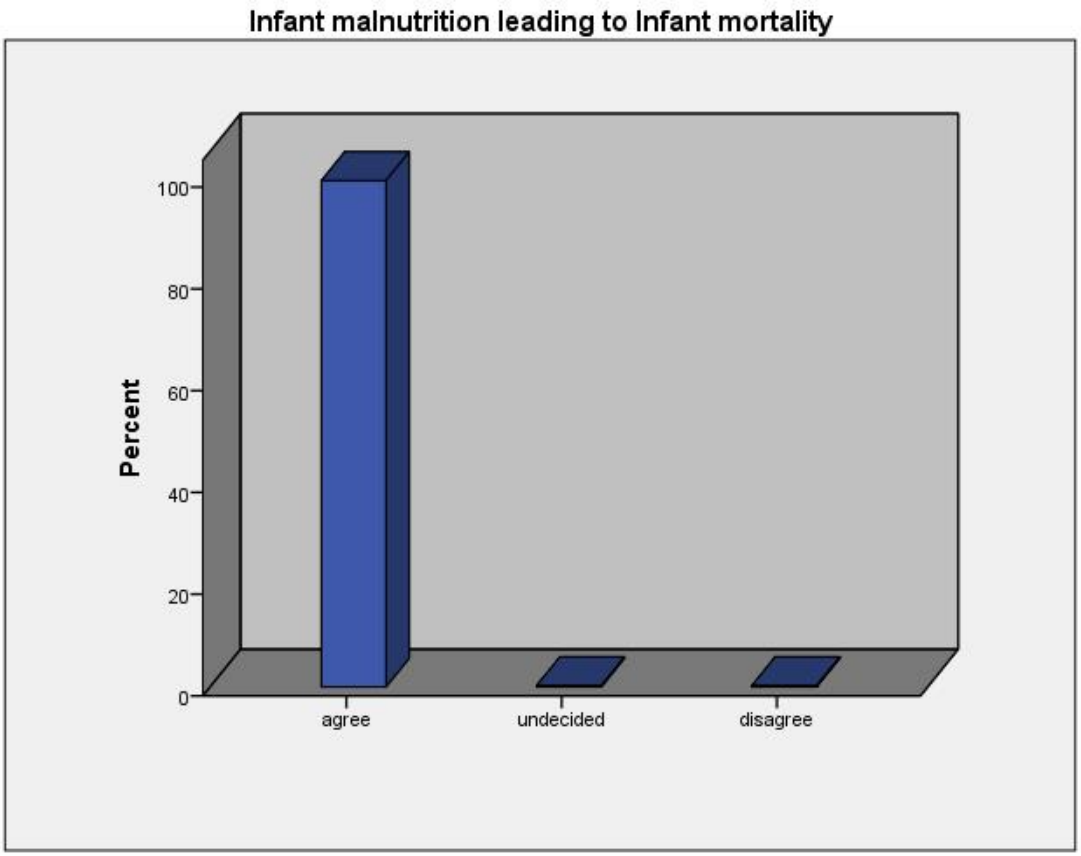


Source: Field Survey 2022

Figure 4.26 Excessive drinking leading to premature birth

4.27 Infant malnutrition leading to infant mortality

In terms of infant malnutrition in the study area, the majority of respondents at 99.5% agreed that infant malnutrition can lead to infant mortality, while 0.25% were undecided. A percentage of 0.25% of the respondents disagreed that infant malnutrition is a cause of infant mortality in the local government area.



Source: Field Survey 2022

Figure 4.27 Infant malnutrition leading to infant mortality

4.28 Premature birth leading to Infant mortality

In terms of premature birth in the study area, the majority of respondents at 99.0% agreed that premature birth can lead to infant mortality, while 0.5% were undecided. A percentage of 0.5% of the respondents disagreed that premature birth is a cause of infant mortality in the local government area.

Table 4.24 Premature birth leading to Infant mortality

	Frequency	Percent
agree	396	99.0
undecided	3	.8
disagree	1	.3
Total	400	100.0

Source: Field Survey 2022

Table 4.29 SHOWING NAME OF STREETS

	Frequency
Uwagboe street	37
Igbinosa street	24
Oronsaye street	20
Iyahen street	20
Awake street	20
Godly street	22
Okhokhugbo street	20
Igbinoba street	16
Osarobo street	20
Omorodion street	21
Anigboro street	20
Ahanor street	20
Ogie street	20
Alimele street	20
Otoghile street	20
Akugbe street	20
Friendship street	20
Edosa street	20
Osunde street	20
Total	400

Source: Field Survey 2022

4.3 HYPOTHESIS TESTING

This section deals with the testing of the stated hypothesis.

H_0= There is no relationship between location, social, economic and demographic characteristics of the respondents and infant mortality.

Binary Logic Regression was used to test hypothesis.

The hypothesis will be tested using question 1 (section B) which would be the dependent variable and questions number 2,3,4,5,6,7,8,9,10,11,12 and 13 (section A) which are the independent variable.

Table 4.30 Model Summary of Relationship between dependent and Independent Variable

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
sex(1)	-1.539	1.193	1.664	1	.197	.215	.021	2.225
Age			3.406	3	.333			
age(1)	-.043	1.018	.002	1	.967	.958	.130	7.048
age(2)	1.147	1.152	.992	1	.319	3.150	.329	30.116
age(3)	-.001	1.293	.000	1	.999	.999	.079	12.581
Marital status	-1.100	.914	1.447	1	.229	.333	.056	1.997
Number of wives	-1.343	1.341	1.002	1	.317	.261	.019	3.618
Number of kids			3.274	3	.351			
Number of kids(1)	.883	1.087	.660	1	.416	2.418	.287	20.350
Number of kids(2)	2.122	1.324	2.568	1	.109	8.348	.623	111.888
Number of kids(3)	.487	25133.974	.000	1	1.000	1.628	.000	.
Number of household			.239	4	.993			
Number of household(1)	.443	.907	.239	1	.625	1.558	.263	9.219
Number of household(2)	20.380	20650.251	.000	1	.999	709357183.347	.000	.
Number of household(3)	19.984	40192.970	.000	1	1.000	477436994.334	.000	.
Number of household(4)	21.556	40192.970	.000	1	1.000	2299319017.383	.000	.

Tribe	-.200	.112	3.184	1	.074	.819	.657	1.020
Religion	-.590	.729	.655	1	.418	.554	.133	2.314
Education	1.569	.495	10.060	1	.002	4.803	1.821	12.666
Occupation	.018	.092	.040	1	.842	1.018	.851	1.220
Income			15.514	4	.004			
income(1)	2.212	1.082	4.178	1	.041	9.136	1.095	76.199
income(2)	3.391	1.144	8.789	1	.003	29.682	3.155	279.234
income(3)	1.789	.978	3.345	1	.067	5.985	.880	40.714
income(4)	-.027	1.160	.001	1	.982	.974	.100	9.459

a. Variable(s) entered on step 1: sex, age, number of kids, number of household, income.

Source: Field report 2022.

INTERPRETATION

A logistic binary regression was performed to ascertain the relationship between location, social, economic and demographic characteristics of the respondents and infant mortality. The logistic regression model was statistically significant $p < .005$. The model explains that income is a variable that is significant which can lead to infant mortality, the income of the respondents is divided into two categories which are the high income earners and low income earners. The logic binary regression model shows that the low income earners tend to be more prone to infant mortality compared to the high income earners.

Education is also a variable which is significant and can lead to infant mortality, the model shows that respondents which are less educated are effected with cases of infant mortality unlike the respondents which a highly educated.

In the model showing logic binary regression, it is stated that there is only significant relationship between the income and education of the respondents with the location, social, economic and demographic characteristics of the respondents and infant mortality.

SECTION B: INFANT MORTALITY AND ITS CAUSES

The analysis provided in the table below depicts a descriptive statistical table which shows the responses gotten from hospitals on the causes of infant mortality.

Table 4.31 Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Premature birth leading to infant mortality	19	1.1053	.45883	1.00	3.00
Excessive drinking leading to premature birth	19	1.4211	.83771	1.00	3.00
Excessive smoking leading to premature birth	19	1.0000	.00000	1.00	1.00
Use of illegal drugs leading to premature birth	19	1.0000	.00000	1.00	1.00
Infectious diseases leading to premature birth	19	1.0000	.00000	1.00	1.00
Infant malnutrition leading to infant mortality	19	1.0000	.00000	1.00	1.00
Dirty living space leading to infant mortality	19	1.7368	.99119	1.00	3.00
Pest infested environment leading to infant mortality	19	1.4211	.83771	1.00	3.00
Unkept feeding utensils leading to infant mortality	19	1.7368	.99119	1.00	3.00
Physical abuse leading to infant mortality	19	1.0000	.00000	1.00	1.00
Sexual abuse (rape) leading to infant mortality	19	1.0000	.00000	1.00	1.00
Negligence leading to infant mortality	19	1.0000	.00000	1.00	1.00

Use of herbal mixtures during pregnancy leading to infant mortality	19	1.2105	.63060	1.00	3.00
Use of herbal mixtures on infants leading to infant mortality	19	1.0000	.00000	1.00	1.00
Use of traditional centers leading to infant mortality	19	1.1053	.45883	1.00	3.00
Self-medication during pregnancy leading to infant mortality	19	1.1053	.45883	1.00	3.00
Self-medication infant leading to infant mortality	19	1.0000	.00000	1.00	1.00

Source: Field report 2022.

Table 4.32 Mean Ranks of the causes of infant mortality by response of hospital

	Mean Rank
Premature birth leading to infant mortality	9.08
Excessive drinking leading to premature birth	10.53
Excessive smoking leading to premature births	8.58
Use of illegal drugs leading to premature birth	8.58
Infectious diseases leading to premature birth	8.58
Infant malnutrition leading to infant mortality	8.58
Dirty living space leading to infant mortality	12.03
Pest infested environment leading to infant mortality	10.55
Unkept feeding utensils leading to infant mortality	12.03
Physical abuse leading to infant mortality	8.58
Sexual abuse (rape) leading to infant mortality	8.58
Negligence leading to infant mortality	8.58
Use of herbal mixtures during pregnancy leading to infant mortality	9.58
Use of herbal mixtures on infants leading to infant mortality	8.58
Use of traditional centers leading to infant mortality	9.05
Self-medication during pregnancy leading to infant mortality	9.08
Self-medical on infant leading to infant mortality	8.58

Kendall coefficient of concordance was used to evaluate the causes of infant mortality by the responses gotten from hospitals. The mean rank of the causes of infant mortality presented in the table, unkept feeding utensils and dirty living space has a mean rank of 12.03 respectively which are the highest rank shown in the table. Premature birth has a mean rank of 9.08 as a cause of infant mortality, self-medication on infants, use of herbal mixtures on infants, negligence by parents/guidance, sexual abuse (rape), physical abuse, infant malnutrition, infectious diseases, use of illegal drugs, excessive smoking all had a mean rank of 8.58. Pest infested environmental has a mean rank of 10.55, use of herbal mixtures during pregnancy has a mean rank of 9.58 while the use of traditional centers leading to infant mortality has a mean rank of 9.05.

Table 4.33 Kendall W. Test Statistics

N	19
Kendall's W[a]	.232
Chi-Square	74.952
df	17
Asymp. Sig.	.000

a. Kendall's Coefficient of Concordance

The Kendall w is 0.232 which depicts a reasonable level of agreement. The p value depicted by Aspmp. Sig is 0.0001 shows that the level of concordance is statistically significant.

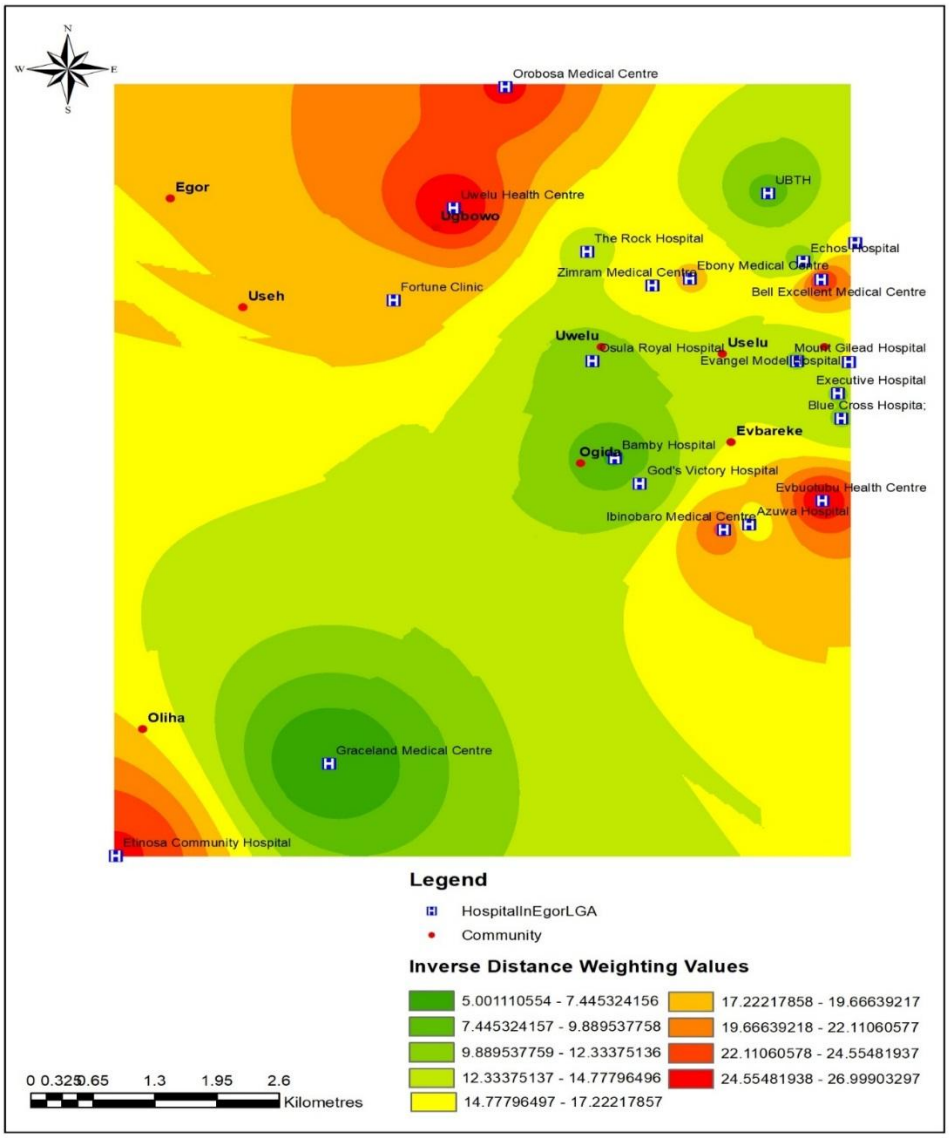


Figure 4.23: Spatial distribution of cases of infant mortality of Hospitals in Egor L.G.A

Source: Billzmap, 2022

The figure above shows the spatial distribution of the cases of infant mortality in the study area, the places showing the green outlined color are the areas in which the hospitals where cases of infant mortality is very low or rather rarely occurs. The hospitals that can be found in these area includes, University of Benin Teaching Hospital (UBTH), Graceland Medical Center, Bamby Hospital, God's Victory hospital, Osula Royal Hospital, The Rock Hospital, Evangel Model Hospital, Mount Gilead Hospital, Executive Hospital, Blue Cross Hospital. The spatial distribution pattern of hospitals shows that communities such as Ogida, Uselu, Uwelu, have low cases of infant mortality.

The places showing the yellow and orange outlined color are the areas in which the hospitals where cases of Infant mortality are moderate or rather rarely occurs, the hospitals that can be found in these area includes, Ibinobaro Medical center, Azuwa Hospital, Fortune Clinic, Zimran Medical Center, Ebony Medical Center, Echos Hospital Limited.

While the area showing the red outlined color are the areas in which the hospitals where cases of infant mortality are very much high, the hospitals found in these area includes, Etinosa Community Hospital, Uwelu Community Hospital, Evbuotubu Health Center, Bell Excellent Medical Center, Orobosa Medical Center. Communities such as Oliha, Useh are areas in Egor Local Government Area with high cases of infant mortality.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.0 Summary of findings

The research looked at the distribution and causes of infant mortality in Benin's Egor local government district. Infant mortality occurs when a newborn die before reaching his or her first birthday. It is a critical public health concern since it is frequently used to assess a population's overall health and well-being.

Premature and low birth weight babies are at a higher risk of death, birth defects; certain birth defects can cause serious health problems and increase the risk of infant mortality, pregnancy and delivery complications; complications during pregnancy and delivery such as pre-eclampsia or eclampsia can lead to infant mortality, infections; babies can be born prematurely or with a low birth weight.

According to the research findings, in terms of baby mortality cases in the study region, the majority of respondents claim there is no instance of infant death in their family, while a minor number of respondents indicate infant mortality has happened in their household.

In terms of unclean living space in the study region, the majority of respondents believed that dirty living space is a cause of infant mortality, while a small percentage was unsure in the local government area.

In terms of filthy living environment in the study region, the majority of respondents believed that the use of herbal combinations on newborns can contribute to infant death, while a number of respondents were uncertain. In the research area, a tiny proportion of respondents disagreed that the use of herbal combinations on infants is a cause of infant death.

In terms of self-medication during pregnancy in the research region, the majority of respondents believed that self-medication during pregnancy is a cause of infant death, while a small percentage of respondents were uncertain.

In terms of parental carelessness in the study region, the majority of respondents agreed that parental negligence is a cause of newborn death, while a minor number of respondents were unsure if parental negligence is a cause of infant mortality in the local government area.

The results suggest that in terms of physical abuse on newborns in the research region, the majority of respondents believed that physical abuse is a cause of infant death, while a small number of respondents were uncertain.

According to the findings, when it comes to excessive smoking in the study region, the majority of respondents felt that it is a cause of infant death and can also contribute to preterm delivery in the local government area.

In terms of infectious illnesses in the study region, the majority of respondents believed that infectious diseases in the local government area might cause infant death and preterm birth.

The majority of respondents in the research region stated that sexual abuse (rape) is a cause of infant death in the local government area.

In terms of the use of traditional birth centers in the research region, the majority of respondents agreed that the use of traditional birth centers can contribute to infant mortality, while the number of respondents who were unsure was a few percent lower than the number of respondents who agreed. A minor number of respondents argued that using conventional birthing facilities is a cause of infant death in the research location.

In terms of unkept feeding utensils in the study region, the majority of respondents believed that unkept feeding utensils can lead to newborn death, while a small number were uncertain. In the local government region, a tiny number of respondents disputed that dirty feeding utensils are a cause of newborn death.

According to the number of newborn mortality cases in the research region, the majority of respondents had no case of infant mortality in their family, while a few families had

only one (1) incidence of infant death. Only a tiny number of respondents reported having two (2) incidents of infant death in their family.

When it comes to the usage of illicit substances in the study region, the majority of respondents felt that it is a cause of infant death in the local government area.

In terms of pest-infested environments in the research region, the majority of respondents agreed that pest-infested environments can lead to newborn death, while a minority were uncertain. A relatively tiny proportion of those polled disputed that pest-infested environments constitute a cause of infant death in the local government region.

In the study region, the majority of respondents believed that self-medication on newborns is a cause of infant death, while a minority number of respondents were unsure that self-medication on infants might contribute to infant mortality.

The findings suggest that when it comes to heavy drinking in the research region, the majority of respondents (97.5%) agreed that it can contribute to premature delivery, while 2.0% were indecisive. In the local government area, 0.5% of respondents agreed that heavy drinking can contribute to preterm delivery.

In terms of baby malnutrition in the study region, the majority of respondents agreed that it can lead to newborn death, while the equal number of uncertain and disagreeing respondents agreed that it is a cause of infant mortality in the local government area.

The results also show that in the study region, the majority of respondents agreed that preterm delivery can contribute to baby mortality, whereas the equal number of respondents were both unsure and disputed that premature birth is a cause of infant mortality.

The results also show that in the study region, the majority of respondents agreed that preterm delivery can contribute to baby mortality, whereas the equal number of respondents were both unsure and disputed that premature birth is a cause of infant mortality.

Kendall's coefficient of concordance was used to assess the reasons of newborn death based on hospital replies. The result displays varied mean ranks of the causes of infant death, with the Kendall w statistical test indicating 0.232, indicating a fair level of agreement. Aspmp. Sig's p-value of 0.0001 indicates that the level of concordance is statistically significant.

5.1 Recommendation

Given the research findings and the clear obstacles tackling the causes of infant mortality, it is vital that some remedies be proposed. Infant mortality is defined as the death of a child before reaching the age of one. It is a serious public health concern since the infant mortality rate (the number of newborn deaths per 1,000 live births) is frequently used as

an indicator of a population's overall health. Several measures may be taken to minimize infant mortality.

Encourage adequate prenatal care; Expectant moms should obtain regular antenatal care to ensure the health of their pregnancy and the correct development of their kid. Regular checkups, tests, and information on good pregnancy behaviors can all be part of this.

Increase access to healthcare; infants with access to quality healthcare are more likely to survive and flourish. This includes having access to necessary immunizations, drugs, and treatments.

Breastfeeding has been demonstrated to lessen the risk of infant mortality and also give a variety of additional health advantages for both mother and baby.

Address social and economic problems; Poverty, a lack of educational opportunities, and other social and economic variables can all contribute to infant mortality. Addressing these concerns can assist improve children's overall health outcomes.

Encourage safe sleeping habits; babies should sleep on their backs on a hard, level surface with no loose bedding or soft things. This can aid in the prevention of Sudden Infant Death Syndrome (SIDS).

Improve the overall quality and accessibility of healthcare systems; Improving the overall quality and accessibility of healthcare systems can assist guarantee that all newborns have

the greatest possible start in life. Investing in infrastructure, educating and retaining healthcare workers, and supporting evidence-based procedures are all part of this.

It is critical for governments, healthcare professionals, and communities to collaborate in addressing the causes that contribute to infant mortality and implementing solutions to minimize infant mortality.

5.2 Conclusion

Healthcare facilities and services are critical to the well-being of any individual, particularly infants, in the environment, and as a result, various organizations, including the government and private individuals, must ensure that the healthcare sector remains functional and efficient in meeting people's and, in particular, infant medication aspirations. This can only be accomplished by effective government support of the healthcare industry, and private persons who have an infant should take proper care of their children as well as their environment.

REFERENCES

Adeboye M.A, Ojuawo A, Ernest S.K, Fadeyi A, Salish O.T, (2010). Mortality pattern within twenty-four hours of emergency paediatric admission in a resource poor nation health facility. West African medical journal pg 249-252.

Adewale O, Adedoun L, Fola S and Olufemi F (2001). "Lagos state Nigeria: report of the depth assessment of HIV/AIDS situation implementing AIDS prevention and care project (IMPACT)," UNSAD, Family Health International.

Agara A.J, Makanjuola A.B and Morakinyo O, (2008). "Management of perceived mental health problems by spiritual healers: A Nigerian study," African Journal of Psychiatry, vol. 11, pg. 113–118.

Akwenabuaye V.U and Ebingha E.E (2018). "Cultural practices and infant mortality in cross river STATE, Nigeria: a sociological perspective Mediterranean," Journal of Social Sciences, vol. 9, no. 5, pg. 211-212.

Alao A.G (1995). "Attribution of maternal mortality in Ejigbo local government area of Osun state," University of Ilorin, Ilorin, Nigeria, 1995, M.Ed thesis.

Andrews K.M, Brouillette D.B, Brouillette R.T (2008). "Mortality, Infant". Encyclopedia of Infant and Early Childhood Development. pg. 343–359.

Antai D, (2011). Regional inequalities in under five mortalities in Nigeria; A population based analysis of individual and community level determinants, Population Health Metrics pg 1-27.

Anyamele O.D, Akanegbu B.N and Ukawuiulu J.O. (2015). "Trends and disparities in infant and child mortality in Nigeria using pooled 2003 and 2008 demographic and healthsurvey data," SAGE Open, vol. 1, pg. 1–13.

Ariye O, Ozodiegwu I.D and H.V Doctor, (2013). Thd influence of the social and cultural environment on maternal mortality in Nigeria; Evidence from the 2013 demographic and health survey.

Asakitikpi A.E (2008). "Born to die: The Ogbanje phenomenon and its implication on childhood mortality in Southern Nigeria," The Anthropologist, vol. 10, no. 1, pg. 59–63.

Babatunde R, (2006). Incidence and causes of infant mortality as produced by married women in Illorin metropolis. Thesis, University of Illorin, Illorin, Nigeria.

Babones, S. J. (2008). Income Inequality and Population Health: Correlation and Causality. Social Science & Medicine pg. 1614–1626.

Becher H, Mulier O, Jain A, Gbangou A, Kynest-wolf G, Kouyate B. (2004). Risk factors of infant and child mortality in rural Burkina Faso, Bull world health organ pg 265-273.

Bellew, R., & Raney, L. (1992). Educating girls. Finance and Development 29: 54-56.

Benjamin D.K (2006). "Air Pollution and Infant Mortality". Property and Environmental Research Center Report.

Blencowe H, Cousens S, Oestergaard M.Z, Chou D, Moller A.B, Narwal R (2012). "National, regional, and worldwide estimates of preterm birth rates in the year 2010 with time trends since 1990 for selected countries: a systematic analysis and implications".

Boehmet, U., Williamson, J.B. (1996). The impact of women's status on infant mortality rate: A cross sectional study. Social indicators research pg. 333-360.

Bradshaw, Y., &Tshandu, Z. (1990) Intensifying global dependency: Foreign debt, structural adjustment, and third world underdevelopment. Sociological Quarterly 32: 321-342.

aldwell, J. C. 1990. Cultural and Social Factors Influencing Mortality Levels in Developing Countries. Annals of the American Academy of Political and Social Science pg. 44–59.

Caldwell, J. (1990). Theory of fertility decline. New York: Academic Press.

Chan G.J, Lee A.C, Baqui A.H, Tan J, Black R.E (2013). "Risk of early-onset neonatal infection with maternal infection or colonization: a global systematic review and meta-analysis".

Child Welfare Information Gateway (2020). Child Abuse and Neglect Fatalities 2018: Statistics and Interventions.

Crenshaw, E., & Jenkins, C. (1996). Social structure and global climate change: Sociological propositions concerning the greenhouse effect. Sociological Focus pg. 341- 358.

Danawi H and Ogbonna F (2014). “Impact of socioeconomic status and household structure on infant mortality rate in Abia state of Nigeria,” International Journal of Child birth, vol. 29, no. 4, pg. 88–94.

Darmstadt G.L, Bhutta Z.A, Cousens S, Adam T, Walker N, De Bonnie L. (2005). Evidence based, cost effective interventions: How many newborn babies can we save? Lancet Neonatal Survival pg. 19-30.

De Onís M, Monteiro C, Akré J, Glugston G (1993). "The worldwide magnitude of protein-energy malnutrition: an overview from the WHO Global Database on Child Growth" pg. 703-712.

Dekanmbi V.T, Kayode G.A, UthmanO.A.L. (2013). Individual and contextual factors associated with childhood stunting in Nigeria, a multi-level analysis. Maternal child nutrition pg. 244-259.

Durosaro I.A, (2001). Superstitious Beliefs and Attribution of Success and Failure Among Female Executives in Nigeria, Ph.D. thesis, University of Ilorin, Ilorin, Nigeria.

Echekwube A.O (1991). “The historical philosophical background of African traditional religion,” Japanese Journal of Religious Studies, vol. 23, no. 1-2, pg. 9–14.

Ezeh O.K, Agho K.E, Dibley M.J, Hall J.J, Page A.N (2015). Risk factor for postnatal, infant, child and under five mortalities in Nigeria: A pooled cross-sectional analysis.

Fayehun O and Obafemi O (2012). “Ethnic differentials in childhood mortality in Nigeria”, http://www.ppaa.princeton.edu/paper/91346.

Felisbino-Mendes M.S, Moreira A.D, Velasquez-Melendez G, (2015). Association between maternal nutritional extreme and offspring mortality; A population based cross sectional study, Brazil demographic health survey pg 897-903.

Filippi V, Ronsmans C, Gandaho T, Graham W, Alihonou E, Santos P, (2010). Women’s report of severe (near miss) obstetric complications in Benin. Study family planning. pg. 09-324.

Firebaugh, G., & Beck, F. (1994). Does economic growth benefit the masses: Growth, dependence, and welfare in the third world. American Sociological Review 59: 631-654.

Fischer, J. (1999). Non-governmental organizations and the political development of the third world. West Hartford: Kumarian Press.

Frey, R. S., and Field, C. 2000. The Determinants of Infant Mortality in the Less Developed Countries: A Cross-National Test of Five Theories. Social Indicators Research pg. 215–234.

Friedman, M., & Friedman R. (1980). Free to choose. New York: Harcourt Brace.

Frisbie, W.P (2004). “Infant mortality”, handbook of population [ed] by Dudley, pg 251-282

Fuse, K., and Crenshaw, E. M. 2006. Gender Imbalance in Infant Mortality: A Cross-National Study of Social Structure and Female Infanticide. Social Science & Medicine pg. 360–374.

Glinianaia S.V, Rankin J, Bell R, Pless-Mulloli T, Howel D (2004). "Does particulate air pollution contribute to infant death? A systematic review". Environmental Health Perspectives.

Gortmaker S.L, Wise P.H (1997). "The first injustice: socioeconomic disparities, health services technology, and infant mortality". Annual Review of Sociology. pg 147–70.

Harrison M.S, Goldenberg R.L (2016). "Global burden of prematurity". Seminars in Fetal & Neonatal Medicine, pg 74–79.

Hill, K., &Pebley, A. (1989). Child mortality in the developing world. Population and Jorgenson A.K (2004). "Global inequality, water pollution, and infant mortality". The Social Science Journal. 41, pg 279–288.

Imamura J.H, Troster E.J, Oliveira C.A (2012). "What types of unintentional injuries kill our children? Do infants die of the same types of injuries? A systematic review".

"Infant Mortality: Reducing Infant Deaths". Eunice Kennedy Shriver National Institute of Child Health and Human Development. Archived from the original on 12 October 2011.

Igwenga. C (2016) “Fundamentals of research methodology and data collection”, Enugu state University of Science and Technology.

IyunB.F and Oke E.A (2000). “Ecological and cultural barrier to treatment of childhood diarrhea in riverine areas of Ondo state, Nigeria,” Social Science and Medicine, vol. 50, no. 8, pg. 953–964.

Jorgenson, A. K., and Rice, J. (2010). Urban Slum Growth and Human Health: A Panel Study of Infant and Child Mortality in Less-Developed Countries, 1990–2005. Journal of Poverty pg. 382–402.

Jose T, Kapoor P, Agarwel R, Uttara A.K, Singh S. (2016). International journal of reproduction, contraception, obstetrics and gynecology (vol 5, issue 7).

Karliner, J. (1997). The Corporate Planet. San Francisco: Sierra Club Books.

Kalipeni, E. (2000). Health and disease in Southern Africa: A cooperative and vulnerability prospective. Social science and Medicine 50: 965-983.

Lawn J.E, Blencowe H, Oza S (2014). “Every newborn”: progress, priorities, and potential beyond survival,” The Lancet, vol. 384, no. 9938, pG. 189–205.

Lena, H., & London, B. (1993). The political and economic determinants of health outcomes: A cross-national analysis. International Journal of Health Services 23: 585- 602Lena, H., & London, B. (1993). The political and economic determinants of health outcomes: A cross-national analysis. International Journal of Health Services pg. 585- 602.

Leonard, J. (1988). Pollution and the struggle for world product: Multinational corporations, the environment, and international comparative advantage. Boston: Harvard University Press.

Leventhal J.M, Garber R.B, Brady C.A (1989). "Identification during the postpartum period of infants who are at high risk of child maltreatment". The Journal of Pediatrics. pg. 7-481.

Linda T.A (2017). “Infant mortality rate”. Encyclopedia, Britannia.

London, B., & Ross, R. J. S. (1995). The political sociology of foreign direct investment: Global capitalism and capital mobility, 1965-1980. International Journal of Comparative Sociology 36: 198-219.

Macassa, G, Ghilagober G, Bernhardt E, Burstorm B. (2003) Trends in infant and child mortality in Mozambique during and after a period of conflict. Royal institute of public health pg. 221-227.

MacDorman M.F, Mathews T.J (2009). "The challenge of infant mortality: have we reached a plateau?"

Mahgoud S.E (2006). "Factors Affecting Prevalence of Malnutrition Among Children Under Three Years of Age in Botswana".

March of Dimes Birth Defects Foundation. (2012). Born too soon; the global action report on preterm birth. World Health Organization.

Martins V.J, Toledo Florêncio T.M, Grillo L.P, Do Carmo P, Franco M, Martins P.A (2011). "Long-lasting effects of undernutrition". International Journal of Environmental Research and Public Health.

McNeil D (2012). "U.S. Lags in Global Measure of Premature Births".

Moon, B., & Dixon, W. (1985). Politics, state, and basic human needs: A cross-national study. American Journal of Political Science pg, 6661-6694.

Moutquin J.M (2003). "Classification and heterogeneity of preterm birth" pg. 30-33

Myraskyla M, Fenelon A, (2012). Maternal age and offspring adult health, evidence from the health and retirement study pg 49.

National Center for Biotechnology Information, U.S. National Library of Medicine.

National Demographic and Health Survey (2013). National Population Commission (NPC) [Nigeria] and ICF Macro. 2009. Nigeria Demographic and Health Survey 2008. Abuja, Nigeria: National Population Commission and ICF Macro.

Neuman L.W, (2006). Social research method: qualitative and quantitative approaches Boston, Pearson educational incorporation.

Norheim O.F, Jha P, Admasu K, (2014). Avoiding 40% of the premature death in each country, review of national mortality trends to help quantify the UN sustainable development goal for health. Lancet 2014, published online September 18.

Nussbaum M (2011). Creating Capabilities. The Belknap Press of Harvard University Press.

Ojikutu R.K (2008). “Patterns of under five deaths in Lagos state, Nigeria,” Sudanese Journal of Public Health, vol. 3, pg. 176–185.

Okekea E.N and Charib A.V (2018). “Health care at birth and infant mortality: evidence from nighttime deliveries in Nigeria,” Social Science Medicine, vol. 196, pg 86–95.

Oladejo B (2006). “Attributions on hypertension as expressed by selected adults in Ogbomoso metropolis Ilorin,” University of Ilorin, Ilorin, Nigeria.

Olorundare A (1998). “Superstitious belief on science subject,” Nigerian Journal of Guidance and Counselling, vol. 6, no. 1, pg. 131–133.

Omariba, D.W.R, Beaujot R, Rajulton F. (2007). Determinants of infant and child mortality in Kenya: An analysis controlling for frailty effects, Population Resource Policy. Rev 26: 299-321.

Omariba D.W.R, Boyle M.H, (2007). Family structure and child mortality in sub-Saharan Africa; National effects of polygyny pg 528-543.

Otite O, (2002). Ethnic pluralism and ethnicity in Ibadan, Nigeria. Shaneson limited policy project of Nigeria.

Otite O. “Ethnic pluralism and ethnicity in Nigeria. Ibadan, Nigeria: shaneson limited. Policy project of Nigeria (2002),” Reproductive Health in Nigeria, Situation, Response, and Prospects: Key Issues, Policy Project, Abuja, Nigeria, 1990.

Palusci V.J, Covington T.M (2014). "Child maltreatment deaths in the U.S. National Child Death Review Case Reporting System". Child Abuse & Neglect. pg 25–36.

Rich, B. (1994). Mortgaging the earth. Boston: Beacon Press.

Rostow, W. (1990). The stages of economic growth: A non-communist manifesto. London: Cambridge University Press.

Rubens C.E, Sadovsky Y, Muglia L, Gravett M.G, Lackritz E, Gravett C (2014). "Prevention of preterm birth: harnessing science to address the global epidemic"

Shen, C., and Williamson, J. B. (2001). Accounting for differences in cross-national infant mortality decline among less developed countries: Effects of women’s status, economic dependency, and state strength. Social Indicators Research pg. 257-274.

Shen, C and Williamson, J. B. (1997). Child Mortality, Women's Status, Economic Dependency, and State Strength: A Cross-National Study of Less Developed Countries. Social Forces pg. 667–700.

Smith Greenaway E, Trinitapoli J (2014). "Polygynous contexts, family structure, and infant mortality in sub-Saharan Africa".

Tette E.M, Sifah E.K, Nartey E.T (2015). "Factors affecting malnutrition in children and the uptake of interventions to prevent the condition".

Torpy J.M, Lynm C, Glass R.M (2004). "JAMA patient page. Malnutrition in children".

United Nations Children's Emergency Fund, "The state of the world children," 1990.

Wang, Guang-zhen (2014). The Impact of Social and Economic Indicators on Maternal and Child Health. Social Indicators Research pg. 935–957.

Wimberly, D (1990). Investment dependence and alternative explanations of third world mortality: A cross-national study. American Sociological Review 55: 830-854.

Woodruff T.J, Darrow L.A, Parker J.D (2008). "Air pollution and post neonatal infant mortality in the United States, 1999-2002". Environmental Health Perspectives.

York R and Ergas C (2011). Women's Status and World-System Position: An Exploratory Analysis. Journal of World-Systems Research pg. 147–164

DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING

UNIVERSITY OF BENIN

BENIN CITY

APPENDIX I

This study is completely an academic exercise. The main purpose is to know the about infant mortality and how it affects population growth in Nigeria, using Egor Local Government Area as a study area. I shall be very grateful if you provide the necessary information as regards the questions below.

SECTION A

LOCATIONAL ATTRIBUTES OF RESPONDENTS

1. Name of community _____
2. GPS coordinate of the household
   Lat 31N _____ Long 31N _____
3. Sex of respondent (A) Male (B) Female
4. Age of respondent (A) 18-27 (B) 28-37 (C) 38-47 (D) 48-57 (E) 58 and above.
5. Marital status of respondent (A) Single (B) Married (C) Separated (D) Divorced
6. If married, how many wives do you have _____
7. How many children do you have (A) None (B) 1-2 (C) 3-4 (D) 5-6 (E) 6 and above.
8. How many are you in your household _____
9. What tribe do you come from? _____
10. What religion are you? _____
11. Education level of the respondent (A) Primary school (B) Secondary school (C) Tertiary institution.
12. Occupation of the respondent _____
13. Monthly income of the respondent (A) Less than N30,000 (B) N30,000-N59,000 (C) N60,000-N89,000 (D) N90,000-N119,000 (E) N120,000 and above.

SECTION B:
INFANT MORTALITY AND ITS CAUSES

1. Have there been any case of infant mortality in this household (A) Yes (B) No
2. If yes, how many cases _____

3. Pre-mature birth is a factor that can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
4. Excessive drinking can lead to pre-mature birth (A) Agree (B) Undecided (C) Disagree
5. Excessive smoking can lead to pre-mature birth (A) Agree (B) Undecided (C) Disagree
6. The use of illegal drugs can lead to pre-mature birth (A) Agree (B) Undecided (C) Disagree
7. Infectious diseases can lead to pre-mature birth (A) Agree (B) Undecided (C) Disagree
8. Infant malnutrition can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
9. Dirty living space can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
10. Pest infested surroundings can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
11. Unkept feeding utensils can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
12. Physical abuse can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
13. Sexual abuse (rape) can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
14. Negligence from parents/guidance can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
15. The use of herbal mixtures during pregnancy can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
16. The use of herbal mixtures on infants can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
17. The use of traditional centers can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
18. Self-medication during pregnancy can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
19. Self-medication on infants can lead to infant mortality (A) Agree (B) Undecided (C) Disagree

DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING

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APPENDIX II

This study is completely an academic exercise. The main purpose is to know the about infant mortality and how it affects population growth in Nigeria, using Egor Local Government Area as a study area. I shall be very grateful if you provide the necessary information as regards the questions below.

SECTION A

LOCATIONAL ATTRIBUTES

1. Name of hospital _____
2. GPS coordinate of the hospital
   Lat 31N _____ Long 31N _____
3. How old is the hospital? _____
4. How many cases of infant mortality do this hospital have in a year? _____

SECTION B:
INFANT MORTALITY AND ITS CAUSES

1. Pre-mature birth is a factor that can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
2. Excessive drinking can lead to pre-mature birth (A) Agree (B) Undecided (C) Disagree
3. Excessive smoking can lead to pre-mature birth (A) Agree (B) Undecided (C) Disagree
4. The use of illegal drugs can lead to pre-mature birth (A) Agree (B) Undecided (C) Disagree
5. Infectious diseases can lead to pre-mature birth (A) Agree (B) Undecided (C) Disagree
6. Infant malnutrition can lead to infant mortality (A) Agree (B) Undecided (C) Disagree

7. Dirty living space can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
8. Pest infested surroundings can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
9. Unkept feeding utensils can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
10. Physical abuse can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
11. Sexual abuse (rape) can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
12. Negligence from parents/guidance can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
13. The use of herbal mixtures during pregnancy can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
14. The use of herbal mixtures on infants can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
15. The use of traditional centers can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
16. Self-medication during pregnancy can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
17. Self-medication on infants can lead to infant mortality (A) Agree (B) Undecided (C) Disagree
18. How can infant mortality be prevented?_____