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Factors Influencing Full Immunization Coverage of the Under-5 Children in Nangoma Constituency

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ABSTRACT

After observing continued loss of lives by the children who are below the age of five years old, World Health Organisation through its branch of public health saw the needs to strengthen immunisation program for under five children among member states. This was the birth and origin of expanded program on immunisation (EPI). Owing to the scarce of data on the status of immunization in the rural parts of Zambia such as Mumbwa District. This research paper was conducted to explore, determine, as well as describing the factors that influence and the status of full coverage of immunisation of under-five children in Nangoma Constituency of Mumbwa District. A cross-sectional study comprised of 134 participants from 5 randomly selected health facilities in Nangoma Constituency was conducted. The data was collected using kobocollect toolbox and analysed using version 23.0 of SPSS and MS Excel 365. The factors that were determined to be statistically significant according to the study included marital status (0.05 >p-value = 0.07), education attainment of the mother (p-value = 0.049), age of the child (0.05 >p-value = 0.013) and knowledge of immunisation (p-value = 0.021).

Additionally, the study established that seasons play a critical role in taking a child for immunization especially when it is planting season when families are casting their seeds in the soil which also affect the roads. Distance to the health facility or delivery point, long queues, myths, traditions and culture, as well as availability of money to access the needed health service are among the many factors that affect full immunization coverage in Nangoma Constituency.

INTRODUCTION

Introduction Overview

Nangoma Constituency was established in 1991 and the first Member of Parliament was Mr Mpamba (Shamazubaula, 2014). It is located in Mumbwa District, Central province of Zambia and its geographical coordinates lies between 15° 5' 0" South and 27° 21' 0" East. It is about 106 kilometers away from Lusaka the capital city of Zambia and about 48 kilometers from Mumbwa town and is one of the fast-growing rural constituencies in Zambia. In 2010, it had a population of 84,613 (CSO, 2010) of which 41,877 were males and 42,736 were females. Nangoma Constituency is further broken down into 7 wards which are; Nangoma, Chisalu, Myooye, Nalubanda, Nakasaka, Choma and Shichanzu. Additionally, in 2010 Nangoma Constituency had a total of 13 652 households (CSO, 2010)

In the past three decades, Nangoma Constituency has witnessed a rapid population growth due to high fertility rate that Zambia as a nation is experiencing. According to Census (2010), in 2010 the constituency had a total population of 84,613 of which 41,877 were male and 42,736 were female. The population according to wards as per Census (2010) was; Nakasaka 12,855, Nangoma 15,502, Myooye 4,609, Shichanzu 12,038, Nalubanda 11,999, Choma 8,272 and Chisalu 19,338

This rapid and escalating increase in the population has brought a lot of public health issues that needs serious attention in order to have a health population and among them is Immunisation of the under five children who

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are more vulnerable to diseases due to immaturity of their immune system which is not strong enough to fight germs, viruses and other disease-causing microorganisms. Prevention is better than cure is a common adage that have been used in different fields, disciplines, and different walks of life. However, this saying is even more meaningful in public health where the primary purpose is to prevent the spread of disease rather than curing/treatment. In trying to prevent diseases and illnesses globally, the branch of public health uses different methods and among them is immunisation.

Hence, this research study was conducted in order to explore and describe the status of the factors that influence full coverage of immunisation of under-five children in Nangoma Constituency of Mumbwa District. The research study will in turn add on the little existing body of research knowledge in the constituency and will act as a steppingstone for future studies. It is cardinal to mention that the study was carried out under the motto "child health is a responsibility of everyone".

Background

After observing continued loss of life by the children who are below the age of five years old, World Health Organisation through its branch of public health saw the needs to strengthen immunisation program for under five children among member states. This was the birth and origin of the expanded program on immunisation (EPI) (WHO, 2013). In the early of 1974, World Health Organisation established the Expanded Program on Immunization (EPI) as the means to continue the many and huge successes that had been achieved earlier which included among others the eradication of smallpox. At the time this move was made less than 5 percent of the world's under-5 children especially in the developing world were receiving immunizations (Miller and Sentz, 2006). The six diseases that were targeted to be addressed under this new initiative by WHO were diphtheria, tuberculosis, pertussis, tetanus, polio, and measles (WHO, 2013).

By mid-1999, the Global Alliance for Vaccines and Immunization (GAVI) was established as a mechanism to increase access to immunization and to improve the health of the children in the developing countries. GAVI is a global health partnership which constitutes the UN agencies which includes WHO, UNICEF, and World Bank. It also constitutes the public health institutions, governments of donors and those of implementing countries, non-governmental organizations (NGOs), the vaccine providing industry, the Bill and Melinda Gates Foundation, the Rockefeller Foundation, and many other institutions (GAVI, 2022). GAVI provides both the expertise and financial sustenance to make vaccines more affordable and available in developing countries (GAVI, 2022).

In the quest to further improve the health of the masses through prevention of diseases through immunization, the World Health Organisation established the national immunization programme (NIP) which was tailored for each member state (World Health Organization, 2019). A national immunization programme is a government programme that operates within the framework of general health policy in the respective countries. All WHO affiliated countries have a national immunization programme which protect the population against the vaccine-preventable diseases (ibid).

According to IPUMS Demographic and Health Surveys (2019) after creating EPI in 1974 WHO first standardized the vaccination schedule for the six diseases. In this first manifestation, the schedule had recommended four vaccines to be administered against six diseases:

- Tuberculosis (BCG) – to be given at birth.
- Diphtheria, tetanus, and pertussis (DPT vaccine) – to be given at intervals of 6, 10, and 14 weeks from birth respectively.
- Measles - 9 months
- Poliomyelitis – to be administered at 6, 10, and 14 weeks

According to WHO and UNICEF (2005) immunization is believed to be one of the most effective, thriving and cost-effective health interventions ever to be developed. It has been key in eradicating small-pox, instrumental

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in lowering the global incidence of polio and has accomplished a remarkable milestone in reducing illness, disability and death from common diseases such as tetanus, diphtheria, whooping cough and measles. It is estimated that in 2003 alone, immunization prevented more than two million deaths globally (WHO and UNICEF, 2005). Immunization has a promising future, and it is this same future that we need to see in Zambia, working at a very effective and efficient pace.

According to WHO (2017) Immunisation has been very instrumental in eliminating illness that are brought by infectious diseases and it is also estimated to have helped in preventing between two and three million deaths each year globally. Gurmu and Etana (2016) argued that apart from being a cost-effective method of preventing child morbidity and mortality, immunizations can also have a positive effect on the economic development of the country by reducing the cost of health care.

It also imperative to state that diseases that causes morbidity and mortality that are preventable by vaccine are still very high in many poorer countries in the world (Ibnouf, et.al, 2007) and Zambia is not an exception. Hence, through immunisation these diseases can be prevented thereby reducing the levels of morbidity among the under five children. This in the long run will increase the labour force from which talent can be tapped. Although there is no or less data readily available on the deaths that are instigated by immunization preventable diseases, the mortality rate of the figures for the average under-five children in Zambia have witnessed an impressive decline in the recent years as high as 61% reduction from 191 deaths per 1,000 live births recorded in 1992 to 75 deaths per 1,000 live births in 2014 (ZDHS, 2014; Chofwe and Kwangu, 2018).

Additionally, high coverage of immunisation does not only mean more children who are under-5 are protected from the diseases but is vital to achieve herd immunity for the country. High coverage of immunization is imperative in preventing the spread of infectious diseases to those people who have not received any vaccinates due to various medical reasons (eg, children who have leukaemia while receiving medical treatment or infants who are too young to respond to some strong vaccines). High coverage of immunization can also help in reducing the spread of disease to those who may not have an effective and mature immune response to vaccines because of an underlying condition (WHO, 2017).

Statement of the Problem

In the past three decades, Nangoma Constituency has witnessed a rapid population growth due to the high fertility rate that Zambia as a nation is experiencing. The percentage of people who are under 5 years accounts for the largest share of the population in Nangoma at 19% followed by those children between 5-9 years and the least was 55-59 and 60-64 which accounted for 1% each (CSO, 2010). The majority of the population is under 5, the reason why we need to give a special attention to this population in order to have a firm foundation which contributes to overall health population and its life expectancy.

Overall, it is estimated that only 68% of children in Zambia are considered fully immunised even though these numbers still remain relatively low as most children are still not fully immunised or worse not reported (ibid). The immunisation coverage percentage rate of Zambia from 1980 to 2013 has been on the decline. For example, BCG coverage in 1990 was 97% while in 2013 it was 82%, likewise DTP1 in 1990 was at 97% and in 2013 it stood at 86% slightly above BCG (ZDHS, 2018). Despite Zambia adopting UNICEF and WHO strategies to ensure full coverage of immunisation, it has continued recording immunization coverage that is as low as less than 50% coverage in some rural areas and this situation is worse in some typical remote rural areas were health facilities are at a distant place as well as coupled with the level of ignorance on the importance of immunisation by people who are mostly uneducated (Chofwe et.al, 2018). Hence, this paper tries to determine the factors that influence full immunisation coverage in the rural areas of Mumbwa District in Central Province of Zambia.

Objectives of the study

a. Main Objective

To determine the factors affecting attainment of full immunisation coverage among under five children in Nangoma Constituency of Mumbwa District.

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b. Specific Objectives

1. To assess the level of knowledge of immunisation by women in Nangoma Constituency.
2. To determine the prevalence of full immunisation among the sampled under five children.
3. To establish the influence of socio-cultural influences on full immunisation coverage among women in Nangoma Constituency.

Purpose of the study

Having been implementing different UNICEF and WHO strategies to boost immunisation coverage, some parts of the country are still recording coverages lower than 50% and most parts of Nangoma Constituency are not known to what extent the people respond to immunisation. Hence, this study was trying to both explore the factors that affects full immunisation coverage as well as describing them in detail to ensure that these factors were met with amicable interventions.

Therefore, this study was engaged to help on the currently existing information by providing the status of immunisation coverage in Nangoma Constituency of Mumbwa District as well as determining the factors that influences full immunisation coverage.

Definitions of key terms, concepts, and variables

Immunisation : A process by which a person is made immune or resistant to a vaccine-preventable disease, by administration of a vaccine

Vaccine : an injection of a killed microbe to stimulate the immune system against the microbe, thereby preventing diseases

Full Immunisation : a child is considered to be fully immunized, when he/she has received all of the following doses; one dose of BCG at birth, three doses of DPT, three doses of OPV and one dose of measles by the age of 12 months.

GAVI : Global Alliance for Vaccines and Immunisation

Disease : a definite pathological process which has a characteristic set of signs and symptoms. It may affect either the whole body or any of its parts, and its pathology, etiology, and prognosis may be known or unknown.

Illness : Illness is the poor state of mind, body, and spirit. It is the general feeling of being sick or unwell (outside the person's belief of what is good health)

Scope of the study

According to World Health Organisation (2017) most child morbidity and mortality in most developing countries especially in Africa is mainly due to vaccine-preventable diseases and Zambia is not an exception. Due to the increasing number of under-fives coupled with the increase in mortality of the under-five due to vaccine preventable diseases it was imperative to carry out this study in order to ascertain the status quo of the issue.

In the past three decades, Nangoma Constituency has witnessed a rapid population growth due to the high fertility rate that Zambia as a nation is experiencing. With the increasing needs for immunization and the need to protect the newborn against various diseases. Immunization is a very important undertaking that needs to be looked at critically in all parts of the country. The aim of this study was to determine the factors affecting attainment of full immunization coverage among under five children in Nangoma Constituency of Mumbwa District.

The study concentrated on data from 2017 to 2022 and the geographical location was restricted to catchment

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area for health facilities in Nangoma Constituency of Mumbwa District. The study was based on 120 under 5 children's mothers who were the primary targets with 18 key informants who include the health facility in-charges and district staffs making a total of 138 participants. The study used two theories which are combined into one to come up with the best way of describing the factors that influence full immunization in the location under study. The two theories that were used are; the health belief model (HBM) and the theory of reasoned action (TRA)

The study was limited with the geographical area only concentrating on under 5 children in Nangoma Constituency. It is also imperative to state that the limited resources available for the study was a very significant obstacle in ensuring a more successful study. In some of the constituency there was a language barrier that also complicated the flow of data collection.

LITERATURE REVIEW

Overview

This chapter brings the empirical, theoretical as well as conceptual information on the study so that there is a linkage between the past studies, theories and bringing out the road map of the factors that determine or influences full immunisation coverage by using a conceptual framework. The empirical evidence and theories help in strengthening the understanding of the topic at hand. Several research papers have been written across the global trying to find out the important factors that influence or deter the likelihood of full immunization among the under-five children. Some pertinent factors that have been found to be influencing vaccine uptake includes among others highest education attainment of the mother, mother's/child's age, households' socioeconomic status, religion, exposure to the media and utilization of the health services.

Knowledge of immunisation by women

Studies (Nath, 2007; Pandey and Lee, 2011; and Tadesse, 2009) have revealed that mother's background factors are more likely to determine/influence the likelihood of a child to get vaccinated. For example, mothers with higher education attainment were better informed thereby being empowered to take their children for vaccinations or follow up with the vaccination schedules than their counterparts with lower education attainment (Ibnouf, et.al, 2007; Tadesse, 2009; Pandey and Lee, 2011). Other studies (Mosand et.al, 2012 and Ozaydin et.al, 2005) have revealed that compliance to the schedule of immunization increased with an increase in the economic status of mothers. This means that mothers with higher economic status werre more likely to have their children immunized as opposed the mothers with a poorer economic status. Compliance to immunization was also higher among mothers who previously utilized antenatal care services during pregnancy as well as delivered in health facilities as they would have received the information from the health providers (Luma, 2005; Babalola, 2009; Etana and Deressa, 2011; Masand et.al., 2012; Pandey and Lee 2011).

According to Ibnouf, et.al (2007) vaccination rate increased with an increase in the age of the children as well the increase in the highest education attainment of the mother/caregivers. The knowledge of and attitudes towards vaccination by the mother/respondents exhibited a strong positive association with the status of vaccination for their children. The study showed that economic status of the mothers' households significantly affected only the BCG at birth vaccine coverage this is due to the fact that most vaccinations occurred in public outlet agencies where information through sensitizations was readily available.

From 1st to 30th October, 2018, a cross-sectional study was conducted, in a randomly selected rural and urban areas of kebeles in Somali among a total of 612 children by Yadita and Ayehubizu. The study established that only 238(39.5%) of participants had good knowledge about vaccination and ignorance on the next visits to the health facility recorded 197(55.8%) and were the major reason for dropout. Mothers residing in urban were twice more likely to get their children immunized as compared to rural (AOR = 2.0, 95%CI: 1.0, 3.9), education had also an impact as lower educated mothers had an AOR of 2.2 (95%CI: 1.0, 5.0), marital status was another factor with married mothers (AOR = 4.2, 95%CI:1.0, 18), socioeconomic status in terms of higher average monthly income (AOR = 2.5, 95%CI 1.1, 5.2)and delivered at health facilities (AOR = 3.8, 95%CI 1.9, 7.3) are the factors that were statistically significantly associated with full-immunization. The survey used

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a relatively bigger sample size and also used both the recall oral answers from mothers together with the entries on the card which was latter on triangulated and this was the most pertinent strength of the study.

According to a study conducted by Adekunle et.al (2017) in a rural community of Nigeria there is a positive correlation between higher educational attainment status of mothers and full immunization coverage of their children. It is imperative to state that there has never been a lot if information or studies on the knowledge of women towards full immunization coverage hence this study will be of great significancy in enhancing this information.

Full immunization coverage

Research has shown that children living in urban areas (big cities or towns) are more likely to be fully vaccinated than their counter part in rural areas (Masand and Dixit,; Wiysonge et.al, 2012, and 2012 Fermandez et.al, 2011). Additionally, accessing the health facilities and health services in rural areas is poor compared to those in urban areas as a result the availability of health facilities and the utilization of health services are among the factors that has an influence on full immunization coverage. According to research by Ibnouf et al (2007) and Rup et al (2008) revealed that immunization was significantly higher where distance to the health facility was lower and it was lower in those rural areas where distance to the health facilities was longer.

Adekunle et.al (2017) conducted a study in a rural community of Nigeria and their findings were that complete overall immunization rate was at 72.2% with 83.3% for males and 69.5% for females. Additionally, the study established that children from mothers aged below 20 years of age whereas for those over 50 years of age mothers had 100% vaccination rate for most of the vaccines but the study also revealed that it was 47.7% among children of mothers aged between 20 and 50 years old. Mother's illness was the commonest reason which largely contributed to their failure to immunize their children.

Ibnouf, Borne & Maarse (2007) conducted a study in Khartoum State, Sudan on factors prompting immunization for the children below five years old. The results by the study were that there is a substantial difference between children in urban based areas and rural areas in their correct vaccination rates and their receipt of each separate vaccine dosage. The time spent on walking to the service delivery point in rural areas was found to be by far longer than that of the urban areas. Although the study was about finding out the factors influencing the coverage of full immunisation among children who are below five years old in Khartoum State, their many concentrations in the results were the differences between rural and urban factors. The other important aspect of the study was the choice of the study area which specifically picked Khartoum instead of the whole of the Sudan. This simply means for individual studies it is imperative to just pick a district or town as the specific area to have your findings inferred to that same specific place/location.

It was a cross-sectional study in nature among a randomly selected representative sample of children under the age of five from households with different socioeconomic status in urban and rural localities in Khartoum Sudan. Finally, it is worth noting that the major strength of this study was its methodology that was used in selecting participants and data collection. The sample was representative of the population which makes it fit for inferences within that particular district.

A cross-sectional study consisting of 364 women randomly selected representative with children below the age of five years old from families of different socioeconomic background in Ndola, was performed by Chofwe et.al, (2018). The study established that 44.8% of the respondents were found to be fully immunised. Additionally, children aged between 1-12 months old were less likely to be fully immunised (30.7%) than those younger or older age groups who accounted for 56.5% for children aged <1month, 50.0% for those aged 13-24 months old, and finally 55.6% for those aged 25-60 months. Contrary to other studies conducted in trying to establish factors of full immunization (Fermandez et.al, 2011; Wiysonge et.al, 2012; Mosand and Dixit, 2012), distance from health services delivery point and highest education attainment were not factors found to influence/affect the outcome of the immunisation status of a child as revealed by Chofwe et.al, (2018). The study further found out that coverage of full immunisation in Ndola's Lubuto Compound, was lower than it is in other surveys conducted in the country and also within Sub-Saharan Africa.

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Vaccine preventable disease are the causes of child morbidity and mortality in most poorer countries and Zambia is not an exception according as per World Health Organizations public health experts. Although a number of interventions have been made to increase immunisation coverage, it is also true to say that full immunisation remains relatively low in Zambia at 68% (Chofwe and Kwangu, 2018). Zambia as the signatory to World Health Organisation adopted the Expanded Program on Immunization in the 80s and since then have been making national plans for EPI including Global Alliance for Vaccine Immunisation.

Zambia has adopted the guidelines for childhood immunisation by both UNICEF and WHO, and is the signatory to above mentioned bodies that advocates for improved child health. According to these guidelines it is required that for a child to attain full immunization, he/she must be receiving BCG vaccination which protects him/her from contracting tuberculosis, DPT vaccine three doses, polio vaccine three doses, and a dose of measles vaccine by the age of 12 months or the child must be up to date with the vaccines he/she is supposed to have received for his/her age at the time of contact (ZDHS, 2013-2014).

Some of the strategies that WHO and UNICEF have been using that are currently running in Zambia to advance full immunisation coverage includes among them, the Expanded Programme on Immunisation (EPI), Universal Child Immunisation (UCI) which was developed in order to reinforce the efforts and progress made by Expanded Programme on Immunisation, Integrated Management of Child Illness programme, Reach Every Child which was adopted in 2003, and the Global Alliance for Vaccines and Immunisation (GAVI), which is a public-private global health partnership (Babaniyi et.al, 2013; MOH, 2005 and MOH, 2011).

Table 1 shows the immunisation coverage percentage rate of Zambia from 1980 to 2013. From the table it is clear that the coverage rates of immunisation is on the decline since 1990 to date. For example, BCG coverage in 1990 was 97% while in 2013 it was 82%, likewise DTP1 in 1990 was at 97% and in 2013 it stood at 86% slightly above BCG.

Table 1: National Immunization Coverage Rate

National coverage rates (%) (WHO/UNICEF estimates, 2013)													
	2013	2012	2011	2010	2009	2008	2007	2006	2005	2000	1995	1990	1980
BCG	82	83	88	92	92	91	91	92	92	94	97	97	0
DTP1	86	86	87	92	96	95	93	92	92	94	97	97	0
DTP3	79	78	81	83	94	87	80	81	82	85	86	91	0
HepBB	0	0	0	0	0	0	0	0	0	0	...	...	...
HepB3	79	78	81	83	94	87	80	81	82	0	0	0	...
Hib3	79	78	81	83	94	87	80	81	82	0	0	0	...
rota (last)	0	0	0	0	0	0	0	0	...	...	...	...	...
PcV3	0	0	0	0	0	0	...	...	...	...	...	...	...
Pol3	74	70	83	80	93	90	77	83	84	85	84	90	0
MCV1	80	82	83	96	90	87	93	85	85	85	86	90	0
MCV2	0	0	0	0	0	0	0	0	0	0	...	...	...
PAB	81	81	81	90	90	90	89	90	91	78	85	62	0

Socio-cultural influences on full immunisation coverage among women

A study conducted by Becker and others in 1993 established that the possession of a radio cassette and a television set was an important determinant of full immunization by the children. Those households in possession of the radio or television had increased the likelihood of immunization due to information obtained from the devices. This assession was supported by Duah-Owusu (2004) in a study conducted to determine the social determinants of immunization in Ghana which concluded that possession of the radio cassette and TV devices augmented the access to health-related information by the general public. Hence, media is very important in establishing the full immunisation coverage especially in the urban setup.

Research findings (Nath 2007, Babalola 2009) also exhibited that the likelihood by the under-five children to

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receive the vaccination is significantly affected by the religious beliefs of their mothers, with the children who are born to Muslim mothers less likely to be vaccinated as compared to children born to Christian mothers who are more likely to receive the vaccine. In a cross-sectional study which was conducted by Kalule et.al (2014) it concluded that Christians mothers tend to utilize the health care services more frequently compared to mothers with background of Muslims and African Traditions religion due to their modernity. This is also revealed in the research study conducted by Ha et.al (2009) in Zimbabwe, which showed that children in apostolic faith affiliated households were by far less likely to have BCG, Polio and measles vaccination compared to those children in households affiliated to other Christian denominations.

Theoretical Framework

The study will use two theories which are combined into one in order to come up with the best way of describing the factors that influence full immunisation in the location under study. The two theories used are; the health belief model (HBM) and the theory of reasoned action (TRA). The Health Belief Model (HBM) as a psychological model attempt to explain and predict health behaviours' of people within a defined locality. This is done by looking at the beliefs and attitudes of individuals under investigations. The mode which was first developed in the 1950s by social psychologists Hochbaum, Rosenstock and Kegels in response to the failure of a free tuberculosis (TB) health screening program at the time of the development. Since then, the model has been adapted by many to explore a variety of long and short-term health behaviours, which included sexual risk behaviours and the transmission of HIV/AIDS. (Rosenstock, 1974 and Eisen et.al, 1992).

Additional research studies (Montano, 1986 and Gargano et al, 2011) also indicates that alternative theories to HBM, such as the Theory of Reasoned Action (TRA), may also be as appropriate for understanding the vaccination behaviour. Hence, Gargano et al (2011) successfully employed a framework using HBM and TRA in their school-based intervention study to increase the uptake of influenza vaccine among middle and high school students. Their conceptual framework used to guide their intervention for the problem of influenza vaccine and it was very much positive. In this study, the designed conceptual framework was based on both the health belief model as well as the theory of reasoned action to come up with three main groupings that leads to people finally get their children fully immunized.

Conceptual framework

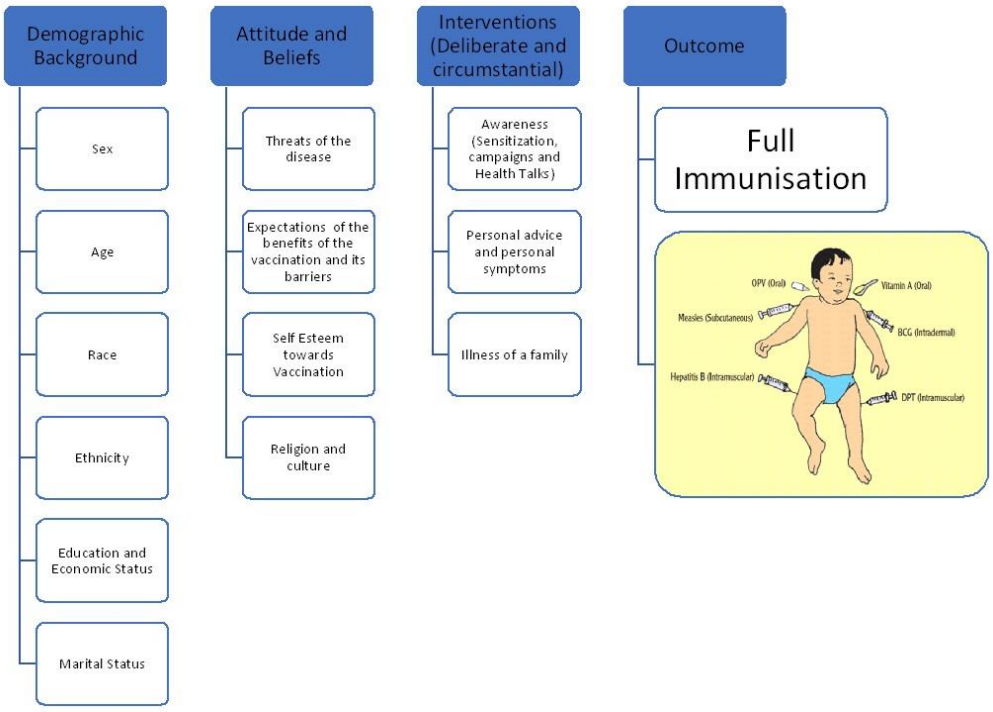

Figure 1: The conceptual framework of factors that influence full immunization

The conceptual framework shows that the order of influence tend to go from demographic background of the

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mother of the children to attitude and believe ending by interventions that could be either deliberate such as sensitization and campaigns through outreach programs, posters, billboards as well as radio and televisions shows or/and circumstantial such a loss of a family due to the disease, or illness of a family member or friend. These different Mother's characteristics help at the end to raise the motivations by the mothers to take these children for immunisation. Other motivations include fear by the parents that their children can get very sick if they are not immunised.

METHODS

Research Design

The study used a cross sectional design to determine factors influencing full immunization coverage among the under-five (5) years children in Nangoma Constituency of Mumbwa District in Zambia. This study used both open and closed ended questions to gather information and consequently answer the problem question by highlighting the factors that influence full immunisation coverage and the status of immunization coverage for Nangoma Constituency.

Target Population

The target population for the study constituted 134 mothers with babies less than 5 years old and other key stakeholders such as the in-charges for the selected health facilities that are being used by these women. The target group also constituted people who oversee data at the district level as well as the province level. The study mostly concentrated on under 5 children as the priority primary targets though caregivers and the health facility in-charges were also engaged as key informants to the topic of study.

Sampling Frame and Sample Size

The sampling frame for the respondents was the list of all mothers or households with children who were less than five years old from Chiwena Health Post, Myooye Rural Health Center, Nangoma HACH, Namabanga Health Post and Nalubanda Rural Health Centre of Nangoma Constituency. The five health facilities were randomly selected using the RAND () function in MS Excel from the 13 health facilities that are found in Nangoma Constituency.

The delivery and postnatal registers were used as the source for the sampling frame and the sample size of the study was 134 participants. The sample size was calculated using the Raosoft online based sample size calculator with a population of 16150, the margin of error of 5%, with 95% confidence level and response rate at 90%. It is also pertinent to state that 6 key informants were also interviewed based on two questions.

Sampling Strategy

The study employed a stratified systematic sampling techniques on the mothers with children who were less than five years old. The strata in this study consisted of the five randomly selected health facilities using the RAND () function in excel. The health facility delivery/postnatal registers were used as sampling flame due to the fact that there was no much data on which a perfect sampling frame were to be drawn from the target population in the area. five health facilities were chosen from the 13 in the constituency and these health facilities formed five sampling strata which will contribute 24 participants each. Hence, each health facility with a roughly estimate of at least 250 children aged between 24 to 59 months old was part of the five formed strata and the interval was as shown in the calculation below;

Sampling interval= (Total Population)/(Sample Size)
Sampling interval= 250/24
Sampling interval= 10

Instruments of Data Collection

The instrument of data collection for primary data was a structured questionnaire which was divided into three

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sections which were A, B and C. Section A was further subdivided into two sections A1 and A2. Section A1 captured the background information of the mother such as the name of the health facility attended, age, education, and income whereas Section A2 captured the background information of the child in terms of age, sex and the birth order. Section B captured the knowledge of mothers on immunization. Section C on the other hand looked at both the status of full immunization coverage of the children under study and also took snapshot into some of the myths, cultural and traditional practices that hinders immunization.

The questionnaire contained both closed and open-ended questions for the mothers and individual under-five children in each section. Open-ended questions gave room for the respondents to express their opinions without being restricted which resulted in unexpected answers that helped in exploring the topic under study. The questionnaire was administered by the researcher and the key responded were the mothers/caregivers of under five children in the target population.

Data Analysis

The data was extracted from KoboCollect to MS Excel, cleaned, edited and imported into SPSS window version 23. Then, the tables from SPSS were later exported back to MS Excel 2016 version for further analysis and refinement of visual graphics. Descriptive statistics were done by computing measures of central tendency, proportions and summary statistics for key indicators using SPSS 23.0. Chi-square testing was used, and level of normality was checked to ensure that there were no abnormalities in the data before analysis. Crosstabulations of key indicators with 95% CI was calculated and factors with a p-value less than 0.05 were declared as the independent predictors of full immunization. Further analysis was also done on the differences in the levels of knowledge among the health facilities under study based on the levels of education and income for the households.

Table 2 shows the different variables that were used in the study with their definitions as well as the type of scales to be used to categorize them. Most of the variables are categorical in nature which in itself tells us about the limitations in terms of data analysis.

Table 2: Variable operation definition table

Variable	Type of Variable	Definition	Scale
Full immunization coverage	Dependent	a child who received all basic vaccinations	Binary categorical
Age of the mother	Independent	The completed years of the mother of the under 5 child	Numerical
Age of the child	Independent	The completed years of under 5 child	Numerical
Sex of the child	Independent	The sex of the child	Categorical
Knowledge on Immunization	Independent	The level of knowledge on immunization by the mother	Categorical
Marital status	Independent	The marital status of the respondent	Categorical
Highest education qualification	Independent	The highest education attained by the respondent	Categorical
Birth order of the child	Independent	The order at which the child was born	Categorical

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Ethical Considerations

The study was guided by the following ethical considerations;

Voluntary participation

The participation was voluntary and all the respondents either answered or decided not to answer any particular questions that they weren't comfortable with. The participants had the right to either end the interview midway if they felt it was not in their personal interests. This also applied to them revoking any information collected from them from the study.

Anonymity

The identities of the research participants were kept secret by ensuring that answers were not connected back to specific respondents. No personal identification information such as names, geographical coordinates and residential addresses were collected during data collection or disseminated to anyone. Additionally, all the information that was collected was published as aggregates.

Potential for harm

As far as the researcher was concerned, there were no any grave potential risks associated with the subject's participation in research either physical or emotional injury and other inconveniences. The cases of the information leakage was taken care off.

Informed consent

The researcher started by providing sufficient research related information to the participants and assurances about taking part in the study to allow the respondents to understand the implications of their participation and to have full information which led into an informed freely decision about whether or not to participate in the study, without the exercise of any pressure or coercion on them. Hence, the participants joined the research study of their own will with full disclosure from the researcher about what the study was all about and nature of questions to be expected in the interview. Consent was obtained verbally, and no undue influence was exerted on the research participants by the researcher.

Confidentiality

The researcher ensured that the research participants' identities and responses were protected both online and on hardware through password and encryption respectively. The researcher understands the importance of confidentiality in health research, where a breach of confidence could stigmatize participants known to suffer from an ailment or their loss of trust in the health system. The researcher made sure that no one outside the realm of research accessed respondents' confidential information unless otherwise.

Results communication

The communication of research results will done through District Health Office and health facilities involved with the representations from the community in a honest, transparent and credible manner. The study strove to acknowledge all references that were used to give due respects to the authors who laboured to come up with them.

Oversight by the Ethics Committee and Mumbwa District Health Office

Finally, it is imperative to state that, the study was approved by University of Luska Ethics Committee and a close oversight was done by Mumbwa District Health Office where the permission was obtained in order to collect data using the different catchment areas. The District Health Office kept a constant communication with the researcher throughout the data collection process so as to ensure that ethics were followed to the later.

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PRESENTATION OF RESEARCH FINDINGS

Chapter Overview

This chapter presents the research findings on the factors that influence full immunisation coverage of under-5 children in Nangoma Constituency. The data for the study was analysed both descriptively and analytically to find the best picture of the problem under investigation. The analysis was done using SPSS version 23.0 and later exported to MS Excel for further refinement of tables and visualisation. It is imperative to state that the results of the questionnaire were presented in this chapter according to how they follow each other in the questionnaire under each questionnaire sub-heading.

Demographic Characteristics

Distribution of respondents by targeted health facilities in Nangoma Constituency

Nangoma constituency has a total of 13 health facilities out of which 5 health facilities were randomly selected to be considered for data collection. According to the figure 2, a total of 134 respondents were administered with the questionnaires. Of the 134 total respondents, 33 came from Nangoma Mission Hospital representing 24.6%, 26 came from Miyooye Rural Health Centre representing a share of 19.4%, Chiwena Rural Health Centre, Nalubamba Rural Health Centre and Namabanga contributed 25 respondents each respectively and represented a share of 18.7% each to the total respondents. Finally, the findings indicated that there was 100% coverage as indicated by the sample size in the methodology section.

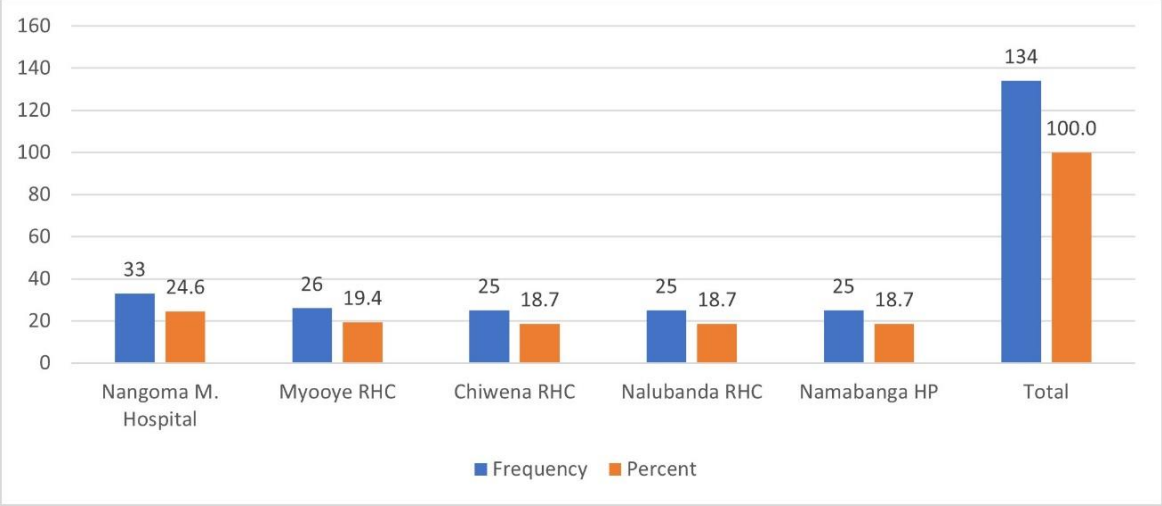

Figure 2: Health facilities representations

Demographic information of the mother/caregiver

Table 3 shows that the majority of the mothers were between 20–29 years old with 50.7% and the least was 40-49 years with 3%. The data reveals that age is not significantly associated with full immunization with a p-value of 0.359. The median age was 26, mode of 19, Std. Deviation of 6.8 with the range of 33, minimum age of 16 and maximum age of 49.

The table shows that 76.1% were married 15.7% never been married and 8.2% were divorced. The table shows that marital status is significantly associated with full immunization with a p-value of 0.007. In terms of occupation, Farmer scored the highest with 67.9% with a p-value of 0.001 indicating a statistically significant relationship with full immunization, Housewife 40.3% with a p-value of 0.000 indicating a statistically significant association with full immunization, Shop/Small trader at 15.7%, p-value of 0.002 indicating a statistically significant association with full immunization, Casual Labourer 5.2%, p-value of 0.144 indicating that there is no association with full immunization, Professional worker 3.7% with p-value of 0.255 indicating that there is no association with full immunization and Domestic worker at 1.5% with p-value of 0.697 indicating lack of association with full immunization.

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Most of the mothers came from the households with less than 500 income 63(47.0%) and there was no association between average income and full immunization with a p-value of 0.882.

Table 3: Demographic characteristics of mothers/caregivers with children administered full or no full immunization(n=134)

	Full Immunization of the child			
Characteristic Variable	Overall	No	Yes	p-value
Age Groups				0.359a
10 - 19 years	19(14.2)	8(42.1)	11(57.9)	
20 - 29 years	68(50.7)	36(53.7)	31(46.3)	
30 - 39 years	43(32.1)	28(65.1)	15(34.9)	
40 - 49 years	4(3)	2(50.0)	2(50.0)	
Marital Status				0.007a
Married	102(76.1)	64(62.7)	38(37.3)	
Never been married	21(15.7)	7(33.3)	14(66.7)	
Divorced	11(8.2)	3(27.3)	8(72.7)	
Highest level of education			0.049a	
Primary Education	81(60.4)	47(58.0)	34(42.0)	
Secondary Education	40(29.9)	17(42.5)	23(57.5)	
Tertiary Education	7(5.2)	3(42.9)	4(57.1)	
Never attended school	6(4.5)	6(100.0)	0(0.0)	
Income Levels				0.882a
Less than 500	63(47.0)	36(57.1)	27(42.9)	
500 - 1499	50(37.3)	28(56.0)	22(44.0)	
1500 - 2500	14(10.4)	6(42.9)	8(57.1)	
Above 5000	4(3.0)	2(50.0)	2(50.0)	

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2501 - 5000	3(2.2)	2(66.7)	1(33.3)	
Occupation				
Farmer	91(67.9)	59(64.8)	32(35.2)	0.001a
Housewife	54(40.3)	40(74.1)	14(25.9)	0.000a
Shop/Small trader	21(15.7)	5(23.8)	16(76.2)	0.002a
Casual Labourer	7(5.2)	2(28.6)	5(71.4)	0.144a
Professional worker	5(3.7)	4(80.0)	1(20.0)	0.255a
Domestic worker	2(1.5)	1(50.0)	1(50.0)	0.697a
Measure of central tendency				
Mean	27			
Median	26			
Mode	19			
Std. Deviation	6.8			
Range	33			
Minimum	16			
Maximum	49			

a= Chi-Square test, n=134

Demographic information of the Children

Table 4 shows the distribution of children that had to access immunization services in the various 5 health facilities by age, sex and birth order. From the findings the data shows that there were 48 children between 10 - 19 months captured giving 35.8% of the total, 36 children aged between 20 - 29 months with the percentage coverage of 26.9%, 24 children aged between 1 - 9 months showing 17.9%, 22 children aged 30 - 39 months amassed 16.4% and those who were 40 months and above were 4 giving 4% of the total proportion. The p-value for age and full immunization was 0.013 depicting a significant association between age of the child and full immunization status.

Majority of the children were male 70 (52.2%) compared to female 64 (47.8) with the p-value of 0.905 exhibited lack of significant association between sex and full immunization. Majority of the children were 1st in terms of birth order with a score of 39 representing 29.1% and the least was 9th and 11th birth orders with a score each representing 0.7% of the total.

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Table 4: Demographic information of the Children with full or no full immunization

		Full Immunization of the child		
Characteristic Variable	Overall	No	Yes	p-value
10 - 19 Months	48(35.8)	27(56.3)	21(43.8)	0.013a
20 - 29 Months	36(26.9)	22(61.1)	14(38.9)	
1 - 9 Months	24(17.9)	11(45.8)	13(54.2)	
30 - 39 Months	22(16.4)	12(54.5)	10(45.5)	
40+ Months	4(3.0)	2(50.0)	2(50.0)	
Sex				0.905a
Male	70(52.2)	39(55.7)	31(44.3)	
Female	64(47.6)	35(64.7)	29(45.3)	
Birth Order				0.375a
1	39(29.1)	16(41.0)	23(59.0)	
2	22(16.4)	14(63.3)	8(36.4)	
3	23(17.2)	12(52.2)	11(47.8)	
4	19(14.2)	13(68.4)	6(31.6)	
5	13(9.7)	9(69.2)	4(30.8)	
6	6(4.5)	3(50.0)	3(50.0)	
7	7(5.2)	5(71.4)	2(28.6)	
8	3(2.2)	2(66.7)	1(33.3)	
9	1(0.7)	0(0.0)	1(100.0)	
11	1(0.7)	0(0.0)	1(100.0)	
Measures of central tendency				

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Mean	19.9			
Median	18			
Mode	24			
Std. Deviation	10.4			
Range	44			
Minimum	2			
Maximum	46			

a= Chi-Square test, n=134

Knowledge of immunisation by the mother/caregiver

Know about immunisation by the mother.

The women of reproductive age groups who were interviewed were also asked about their knowledge on immunization. And from the findings it was revealed that 25 mothers indicating 19% purely said they did not know what immunization was at the time the research was conducted and only 108 showing 81% of the total proportion said yes, implying that they knew what immunization was all about.

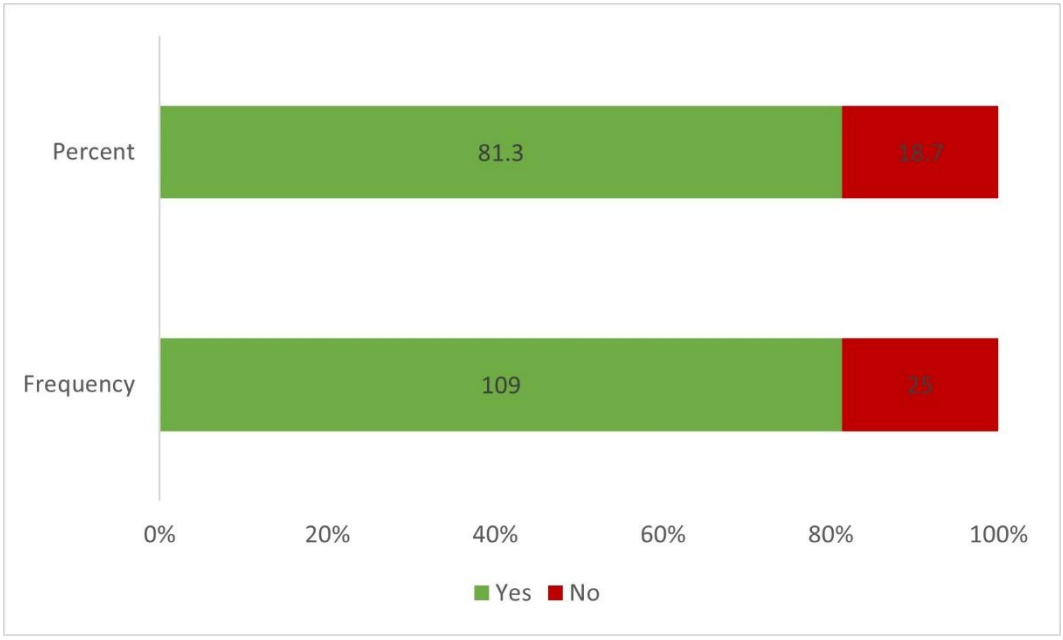

Figure 3: Knowledge about immunisation

Importance of immunisation

Immunization is an important aspect of maternal and child health development and hence the study sought also to examine the level of knowledge on the importance of immunization on the study population. The 109 respondents who said they knew about immunization were further asked to list down reasons why they think that immunisation is important. Table 8 shows that ‘protection against dangerous diseases hence saves lives’ was the most common reason why the respondent felt that immunization was important with 104 out of 109 representing 95.4%. This was followed by ‘Various types of disabilities in children can be avoided by timely immunization and intervention’ which had 58 score depicting 53.2% and the least reason was ‘Immunization

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can help save money' which scored 44 equivalents to 40.4% of the 109.

Table 5: Perceptions on the importance of Immunisation

Importance of Immunization	Frequency	Percent
Protection against dangerous diseases hence saves lives	104	95.4
With timely immunization and intervention, various types of disabilities in children can be avoided	58	53.2
Vaccination is very safe and effective	55	50.5
Helping to protect the health of the whole community	42	38.5
Helps protect future generations by eradicating diseases	51	46.8
Immunization can help save money	44	40.4

Perception towards immunization by mothers/caregivers

In the quest to understand the perception of the respondent, respondents were asked 'in your own opinion, do you think immunization is important to your child?' Was among the questions that was asked to the respondent to determine their understanding of immunization. Figure 3 shows that 127 respondents representing 94.8% thought that immunization was important with only 2 respondents thinking otherwise. It is also imperative to state that 5 respondents representing 3.7% did not know about the question.

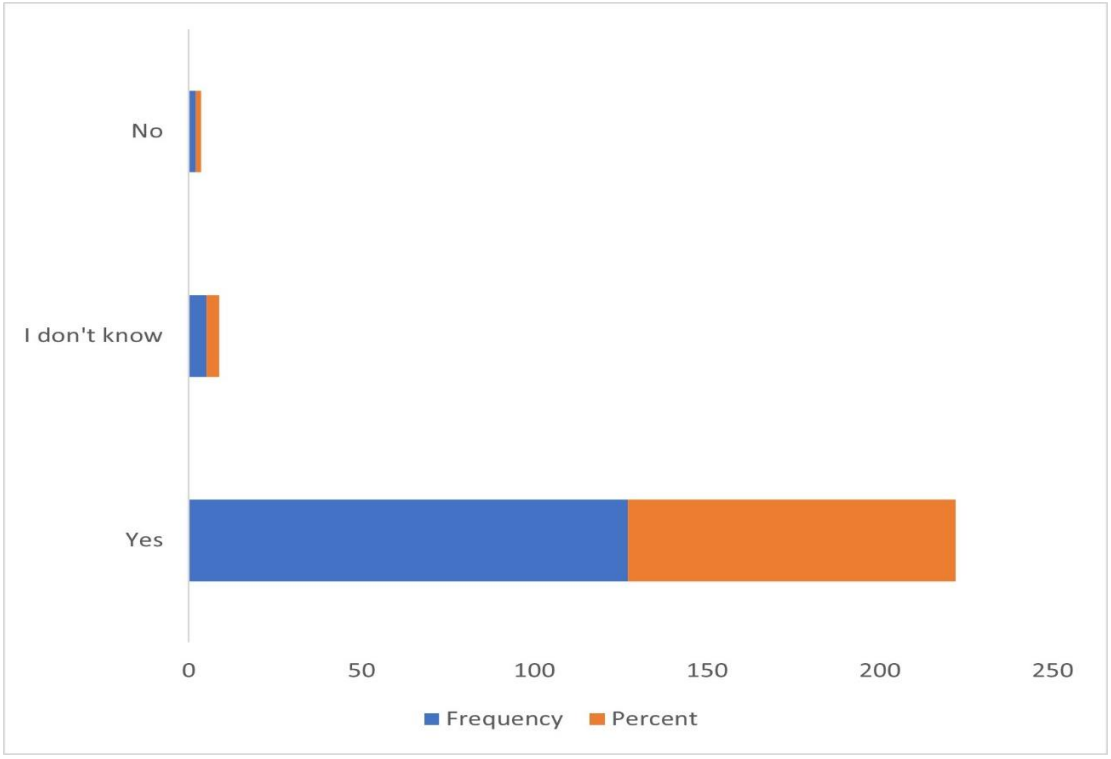

Figure 4: Perception towards immunization by mothers/caregivers

Child Immunization Status

Type of immunization received by the children

Table 6 shows the status of immunization of the children by different vaccines based on the age of the child.

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This was later used to determine whether the child was fully immunized or not. Table 4 shows that all children received BCG at birth (100%), 121 children received OPV 0 between birth to 13th day representing 90.3%, 132 received OPV 1 6 weeks after OPV 0 representing 98.5% and the listing continues till measles rubella 2 which is administered at 18 months were 66 out of the 79 who were eligible were vaccinated. The trends in the levels of vaccinations shows that the vaccination tends to reduce as children grow.

Table 6: Types of vaccines/immunization received by the children

Type of Immunization	Yes		No		Not Applicable	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
BCG (At birth)	134	100	0	0	0	0
OPV 0 (At birth to 13 days)	121	90.3	12	9	1	0.7
OPV 1 (At 6 weeks)	132	98.5	1	0.7	1	0.7
OPV 2 (At least 4 weeks after OPV 1)	126	94	7	5.2	1	0.7
OPV 3 and IPV (At least 4 weeks after OPV 2)	127	94.8	6	4.5	1	0.7
OPV 4 (At 9months only if OPV 0 was not given)	10	7.5	2	1.5	122	91
PCV 1 (At 6 weeks)	129	96.3	4	3	1	0.7
PCV 2 (At least 4 weeks after PCV 1)	122	91	11	8.2	1	0.7
PCV 3 (At least 4 weeks after PCV 2)	111	82.8	21	15.7	2	1.5
DPT-HepB-Hib 1 (At 6 weeks)	132	98.5	1	0.7	1	0.7
DPT-HepB-Hib 2 (At least 4 weeks after DPT-HepB-Hib 1)	125	93.3	8	6	1	0.7
DPT-HepB-Hib 3 (At least 4 weeks after DPT-HepB-Hib 2)	114	85.1	19	14.2	1	0.7
Measle Rubella 1 (At 9 months)	112	83.6	2	1.5	20	14.9
Measle Rubella 2 (At 18 months	66	49.3	13	9.7	55	41
Rota Vaccine 1 (At 6 weeks)	92	68.7	41	30.6	1	0.7
Rota Vaccine 2 (At least 4 weeks after ROTA 1)	75	56	53	39.6	6	4.5

Missing of vaccination by the children.

Full immunization was analysed by looking at the cards to find out if the child had missed any vaccination up to the time the study was conducted based on the age. The findings showed the following results in the figure 4. The figure shows that 76 (56.7%) of the respondents reported at some point their child missed any vaccination and 57 indicating 42.5% reported that their children never missed any vaccination.

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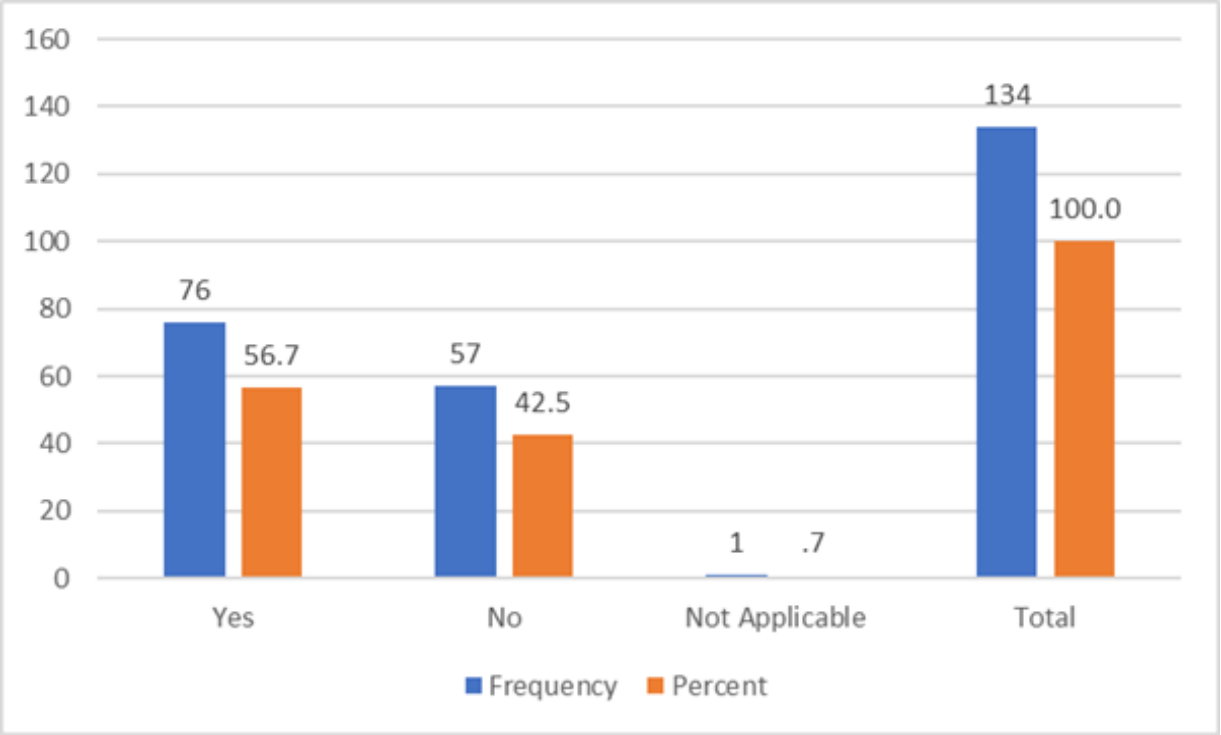

Figure 5: Missing of vaccinations by the children

Reasons for missing the vaccine.

The reasons for missing the vaccination were also inquired with the majority saying that they missed the vaccination because they were not available when the vaccine was rolled out 77.6% (59), followed by 26.3% (20) who reported that they missed due to long distances from their homes to the health facility. Further, 21.1% (16) said they did not access the vaccine because they were ignorant or unaware of the need for immunization, 6 (7.9%) maintained that the roads from home to the health facility were in a deplorable state and 13 (17.1%) argued that they missed the vaccination because of covid-19, while others reported that the mother was too busy, fear of reaction and illness of the mother.

Table 7: Reason for missing the vaccine (s)

Reason for missing the vaccine (s)	Yes		No	
	Frequency	Percent	Frequency	Percent
Not available	59	77.6	17	22.4
Distance to the health facility	20	26.3	56	73.7
Ignorance or unawareness on the need for immunization	16	21.1	60	78.9
Access to the health facility (Bad Road and terrain)	6	7.9	70	92.9
COVID-19	5	6.6	71	93.4
Mother too busy	4	5.3	72	94.7
Fear of reaction	3	3.9	73	96.1
Illness of Mother	1	1.3	75	98.7

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Illness of the child	0	0	76	100
Lack of trained staff	0	0	76	100

Full Immunization status of the child

The golden question of the whole study was to find out whether the child was fully immunized or not and this was done by looking at the vaccinations on the under-5 card. When rolling immunization world health organisation has recognised the need to give vaccines based on different stages of the child development. Therefore, to accomplish the objective of the study immunization as per the age was sought. According to figure 5, it was found that 60 children giving 44.8% had full immunization as at the time the study was conducted and 74 indicating 55.2% out of the total 134 whose cards were checked did not do have full immunization on their cards as per the age of immunization.

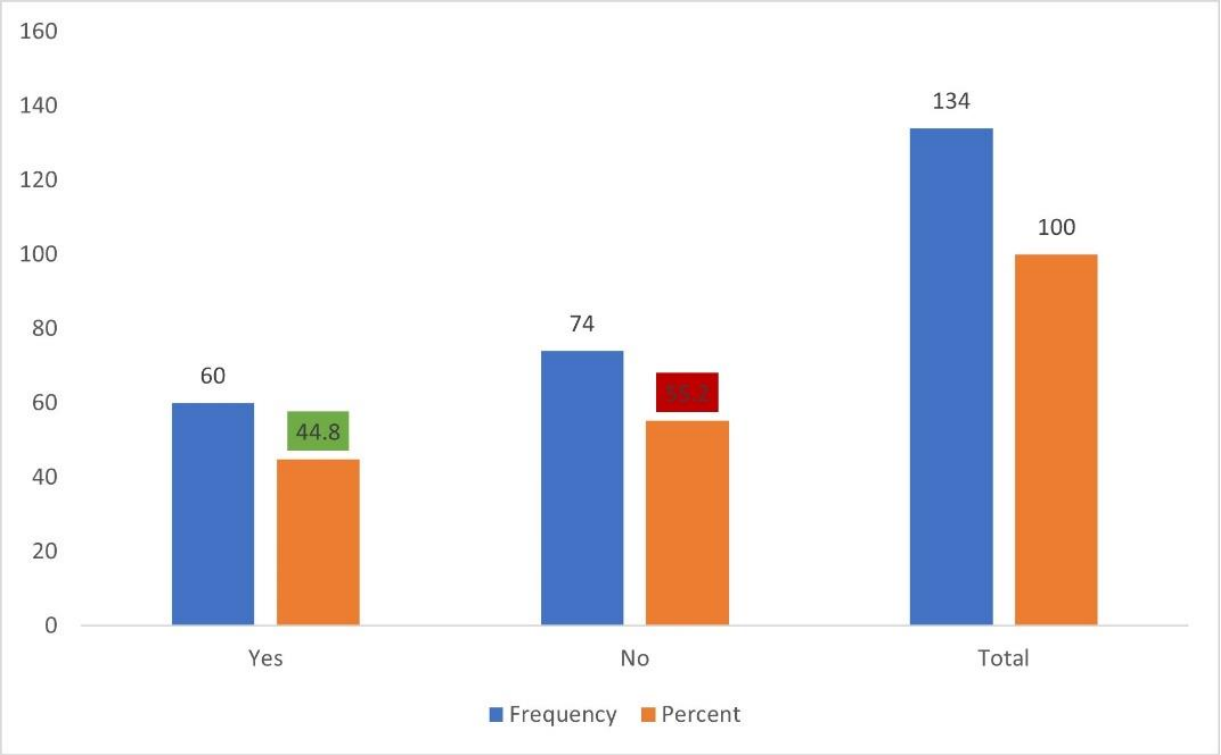

Figure 6: Full Immunization status of the child

Factors to consider when planning on taking a child for immunization.

There are a number of factors that are considered by the society to play when taking a child for immunization and according to the study it was discovered that seasons play a critical role in taking a child for immunization especially when it is planting season and 78 respondents representing 58.2% of the 134 interviewed. Distance to the health facility or delivery point was second 73 representing 54.5%, 50 (37.3%) women reported that long queues affect the decision they make to take their children for immunization. Furthermore, myths, tradition and culture and availability of money to access the service amounted to 25(18.7%) women and 3 (2.2%) women respectively.

Table 8:Factor Influencing Immunization Coverage

Factors	Yes		No	
	Frequency	Percent	Frequency	Percent
Seasons (whether planting season or not)	78	58.2	56	41.8

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Distance to the health facility/service delivery point	73	54.5	61	45.5
Long queues	50	37.3	84	62.7
Myths, Traditions and Culture	25	18.7	109	81.3
Fees for the services (availability of money)	3	2.2	131	97.2

Knowledge of immunisation and Full Immunization

The differences between those who knew about immunization and those who didn't in table 14 shows that there is a relationship between knowing and getting immunized. This is further supported by the p-value of 0.017 which is less than 0.05. This simply means that there is a significant relationship between knowing immunization and getting immunized. Thosse who knew what immunization was, were more likely to get their children immunized as opposed to those without that knowledge. This is simply because you can't do what you don't know.

Table 9: Association between knowledge of immunisation and full immunization

		Do you know what immunization is?		Total	P-value
		No	Yes		
Is the child fully immunized as per the age?	No	19	55	74	0.017
	Yes	6	54	60	
Total		25	109	134	

Regression analysis

Table 10 shows that exposure to highest level of education had a higher odd of having the children not becoming immunized with the OR of 1.625 whereas the rest of the factors had lower odds of having the children get fully immunized which is exhibited by the odd ratio which is less than 1.

Table 10:Factors associated with full immunization(n=134)

	Full Immunization of the child				OR	p-value
Characteristic Variable	Overall	No	Yes	p-value	CI (95%)	
Knowledge on immunization				0.017	0.403 (0.144 – 1.123)	0.082
No	25(18.7)	19(76.0)	6(24.0)			
Yes	109(81.3)	54(49.5)	55(50.5)			
Marital Status				0.007a	0.842 (0.402 – 1.765)	0.648
Married	102(76.1)	64(62.7)	38(37.3)			

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Never been married	21(15.7)	7(33.3)	14(66.7)			
Divorced	11(8.2)	3(27.3)	8(72.7)			
Highest level of education				0.049a	1.625 (0.926 – 2.852)	0.091
Primary Education	81(60.4)	47(58.0)	34(42.0)			
Secondary Education	40(29.9)	17(42.5)	23(57.5)			
Tertiary Education	7(5.2)	3(42.9)	4(57.1)			
Never attended school	6(4.5)	6(100.0)	0(0.0)			
Ages of the child				0.013a	0.977 (0.943 – 1.012)	0.2
10 - 19 Months	48(35.8)	27(56.3)	21(43.8)			
20 - 29 Months	36(26.9)	22(61.1)	14(38.9)			
1 - 9 Months	24(17.9)	11(45.8)	13(54.2)			
30 - 39 Months	22(16.4)	12(54.5)	10(45.5)			
40+ Months	4(3.0)	2(50.0)	2(50.0)			

a= Chi-Square test, n=134

Summary

In a nutshell, this chapter dealt with the research presentation of the findings and its interpretation which was done for each table or figure that was developed in the study in an honest and credible way. An interviewer-administered questionnaire and key informant schedule were the main data collection tools in the study and they were monitored for both accuracy and completeness. The findings were presented using varieties of format which included among them the bar graphs, frequency tables, pie charts, and finally cross tabulation tables.

DISCUSSION OF FINDINGS

Discussion of findings

After observing the continued death of children who are under five years of age, World Health Organisation through its branch of public health saw the needs to strengthen immunisation program for under five children among member states. In the quest to further improve the health of the masses through prevention of diseases through immunization, the World Health Organisation established the national immunization programme (NIP) which was tailored for each member state (World Health Organization, 2019).

Despite Zambia adopting UNICEF and WHO strategies to ensure full coverage of immunisation, it has continued recording immunization coverage that is as low as less than 50% coverage in some rural areas and this situation is worse in some typical remote rural areas were health facilities are at a distant place as well as

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coupled with the level of ignorance on the importance of immunisation by people who are mostly uneducated (Chofwe et.al, 2018). However, there is still scarce data to explore and describe the status of immunization in the rural parts of Zambia as most studies are done from big cities. Hence, this study was conducted to explore, determine, and describe the status of the factors that influence full coverage of immunisation of under-five children in Nangoma Constituency of Mumbwa District.

The study comprised of 134 participants from 5 randomly selected health facilities in Nangoma Constituency. It is imperative to state that of the 134 total respondents that were interviewed, majority came from Nangoma Mission Hospital with the second most coming from Miyooye Rural Health Centre and the least came from Chiwena Rural Health Centre, Nalubamba Rural Health Centre and Namabanga which contributed similar number of participants.

Demographic, Socioeconomic, and Cultural Factors

The research was conducted in order to explore the influence of socioeconomic and cultural factors on full immunization. Some socioeconomic and cultural factors such as age of the mother, marital status, highest education attainment, occupation, and the average monthly income of the household. Additionally, the study also looked at the influence of sex and birth order of the child, and a short analysis of data on the myths, cultural and traditional practices if any that would influence the decisions of mothers to take their children for immunization.

The findings described that the majority of the participants were married followed by those who were never married before at the time the research was conducted and the least of them were divorced. The study suggested that there is a significant relationship between marital status and full immunization status which was in line with what Boke et.al (2022), Abdulraheem et.al (2011), Kuroda et.al (2022) and Mekonnen et.al (2019) found in their studies that marital status has influence on full immunizations. Mothers who were divorced and never been married were more likely to have their children vaccinated as opposed to their counterparts who were married. This is in contradiction to studies conducted by Boke et.al (2022) and Abdulraheem et.al (2011) whose studies suggested that those who are married are more likely to take their children for vaccines than the divorced and never married due to their social connections.

The study suggested that there is a significantly statistical relationship between educational attainment of the mother and the child getting full immunization. Mothers with higher education were more likely to have their children immunized. This is in line with studies conducted by Pandey and Lee (2011) and Tadesse (2009) which established that mothers with higher education attainment were better informed and more empowered likewise more likely to have their children immunized than their counterparts with primary or no education.

The study also suggested that both occupation and average monthly income did not have any effect on the completeness of immunization by the under-5 children. This is in contrast with other studies (Ozaydin et al 2005, Masand et al 2012 and Mukungwa (2015) that have upheld the relationships between occupation/average income and full immunization. These studies suggested that mothers from higher income families are more likely to have their children vaccinated than those from the lower income (Suarez et.al, 1997).

This study revealed that there is a strong association between the age of the child and their immunization status. The younger the child the more likely to get full immunization and the opposite is true. This is supported by Chofwe et.al, (2018) which established that children young than 1 month old were more likely to be vaccinated than the older ones. This is further supported by Lim et.al (2008), whose study revealed that young, aged children had a higher chance of being fully immunized. The study also indicated that the majority of the children were male as compared to female children. It is imperative to state that, the study suggested that there was no relationship between gender of the child and their being fully immunized. Not much has been talked about the association between sex of the child and full immunization in the previous research. However, United Nations shows that the sex ratio at birth and young ages is above 1 which this study also exhibited among the sampled respondents.

Birth order is another factor that was looked at critically in this study in order to establish its influence on full

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immunization. However, the analysis identified that there is no significant association between birth order and full immunization. This is in contrast with a lot of studies that have revealed that this association exists by and large as children of lower birth orders are more likely to get full immunization than those of large birth orders (Patra, 2006 and Mukungwa, 2015). This is because for the lower birth order children, their mothers are just in their early days of child bearing are enthusiastic making them exert fitting care and upbringing to their children so that they grow health and safe from harm and diseases.

Traditional, cultural and religion beliefs are among the key factors that extremely pertinent in shaping human behaviour in the health fraternity. There were some people who reported that there are traditional and cultural perspective that deter them from accessing some vaccines as soon as possible. However, no tests were done on this due to lacking enough data. Hence, the data support the Health Belief Model (HBM) that attitudes and beliefs of individuals are critical in determining the response towards health-related issue.

Research findings (Nath 2007, Babalola 2009) have also shown that religious beliefs have significant influence on the likelihood of the child receiving vaccination with children that are born from the Muslim mothers are less likely to be vaccinated than those children born to counterpart Christian mothers with Western modernity. This is also depicted by Ha et al (2009) in their study in Zimbabwe which exhibited that children from families affiliated in apostolic faith denominations were by far less likely to receive BCG at birth, Polio and measles vaccination than children in households affiliated to other Christian denominations.

Knowledge on immunization

There are two common old adages which state that knowledge is power and that ignorance has no defence. They try to explain the importance of knowledge, information in decision making. Hence, the knowledge of the respondent was gagged using three questions of which two were directing asking the mothers whether they knew immunization and if they know it, what is its importance in the lives of their children. The third question was based on the perception that the respondents have towards immunization.

The findings revealed that majority of the respondents had knowledge about immunization is at the time the research was conducted, implying that they knew what immunization was about. Hence, it is safe to say that majority of the respondents knew what immunization is about. Additionally, the data suggests that statistically there is a significant association between knowing immunization and the child getting full immunization. Meaning those who had information about immunization were more likely to have their children immunized than those who didn't know it. This is in conformity with the study by Ibnouf, et.al (2007) which concluded that the mothers' knowledge of and attitudes to vaccination showed a strong relationship with the vaccination status of their children. Additionally, a cross-sectional study which was conducted from in 2018, in randomly selected rural and urban areas of kebeles in Somali region by Yadita and Ayehubizu established that participants who were ignorant about immunization were more likely to forget about their next schedule and consequently drop out.

Hence, knowledge is very important in decision making as well as keeping up with the immunization schedule. Among those who reported knowing immunization, the majority went further to report that immunization was important for protection against dangerous diseases hence saves lives. This was followed by those who reported that various types of disabilities in children can be avoided by timely immunization and intervention. The least was those who reported that immunization can help save money.

In the quest to understand the perception of the mothers towards immunization, the respondents were asked whether they think that immunization is important or not in their own view regardless of whether they knew immunization or not after explaining to them. The data revealed that the majority thought that immunization was important for their children.

Full immunization status

Apart from establishing the factors that influence full immunization coverage, it was also imperative to describe the status of full immunization coverage of the under-5 children in Nangoma Constituency. Hence, the under-5 cards were used to capture the status of immunization as per the give age of the child. Yes, no or

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not applicable were the available options to determine the status of different vaccines and consequently determine the full immunization. This information can be found in table 10 which clearly indicates that the percentage of those who received a particular vaccine dropped as the ages increase. The data revealed that all the investigated children received BCG at birth but the numbers reduced drastically they reach Measle Rubella at 18 months with 83% of the eligible.

The data showed that several children missed some vaccines due to various reasons. Majority of the respondent reported that they missed the vaccination because they were not available when the vaccine was rolled out others reported that they missed due to long distances from their homes to the health facility. Furthermore, unawareness of the need for immunization, deplorable state of the roads (bad roads), COVID-19, excessiveness business of the mother, fear of child's reaction to the vaccines and illness of the mother were other reasons that caused the children to miss vaccinations. This supports the findings exhibited by Rup et al (2008) and Ibnouf et al (2007) which discovered that immunization was significantly higher in places where distance to a health service delivery point was lower as it is with urban areas and lower where distance was longer as the case with the rural areas.

It is imperative to state that, the data established that 44.8% of the children under investigations were fully immunized as at the time of the study. Going by Measles Rubella 1 (At 9 months) we can deduce that 83.6% were fully immunized at the time of study. Whereas Measle Rubella 2 (At 18 months) indicate that at least 49.3% of the eligible children had received the dose at 18months or even after at the time of the study which is a little bit higher than 44.8% which was observed using the under-5 cards. The full immunization status was lower than the national status according to ZDHS (2013-2014) which stands at 68%. This means that the study is relatively lower than the national overall for ZDHS maybe this is due to the rural nature of the study area. It is pertinent to state that, this study is very close with what Chofwe et.al (2018) study which established that only 44.8% of the investigated subjects were found to be fully immunised in Lubuto Compound of Ndola District.

The regression analysis revealed that the data was a not a good fit for the independent variables to predict full immunization and that the percentage of the data to predict the dependent variable was very low. However, the independent variables predicted the dependent variable statistically significant. Additionally, the data showed that increase in the age of the child reduced the chances of immunization so was movement from being unmarried to marriage and knowledge. Finally, the data exhibited that movement from one level of education to the next increased the chances of the child to get vaccinated.

Other Factors

Efforts were made to investigate other factors that mothers consider before taking their under-5 children for immunisation in Nangoma District. The study established that seasons play a critical role in taking a child for immunization especially when it is planting season when families are casting their seeds in the soil which also affect the roads. The second most popular factor was distance to the health facility or delivery point while. Other reasons such as long queues, myths, traditions and culture, as well as availability of money to access the needed health service were also reported by women to have an affect on their decisions in taking children for immunization. Studies by Ibnouf et al (2007), Masand and Dixit (2012), Wiysonge et.al (2012). and Rup et al (2008) revealed that immunization was significantly higher where distance to a health facility was lower as the case with urban areas and lower where distance was longer as the case with the rural areas. Mukungwa (2015) stated that during the planting seasons there is a high probability of children dropping off/missing immunization due to the unavailability of mothers and other family members who go to the field.

Recommendations

Recommendation #1: Awareness and Information Dissemination

The people have an idea about what immunization is but don't really understand what it can do to their children hence chose to farm instead of under-5 clinic where children are given relevant vaccines as per the age group.

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Recommendation #2: Utilizing Universal Child Immunization (UCI)/ Expanded Programme on Immunisation (EPI)

Health facilities should make use of the outreach programs under EPI to enhance child immunization and see to it that all the children have the right doses at the right time.

Recommendation #3: Increasing budgets for outreach programs during rain season

Government through MOH should consider increasing the budgets for outreach program during rain season to ensure that health services are closer as possible to the client. This will increase health services seeking behaviour by the public which in turn even increase access to under-5 clinic by mothers at their convenience.

Recommendation #4: Digitalizing under-5 clinic

The best way to monitor vaccines uptake by the under-5 children is to come up with a digital platform at facility level that will ensure that all the under-5 are captured in system and tracked with notifications for those due for various vaccinations to be done. This will make the tracking easier as well as receiving live notifications for those who are due or late.

Recommendation #5: A similar study to be conduct for the whole district.

A similar research study needs to be done in the whole district with a similar methodology in order to validate this study and be able to have data that can be transmitted to the whole district.

Policy Implication

5.3.1. There is need for government through MOH to increase funding toward health promotion activities which includes awareness and information dissemination by trained health workers. When people are properly informed, they are willing to make better and informed decisions.

5.3.2. There is need to increase budget allocation to under-5 clinics especially during planting seasons (summer) to enable health workers to take the health care services near to the people as a way of reducing distances and also increasing access.

5.3.3. Ministry of Health needs to work hand in hand with technological companies/NGOs to come up with an online tracking system for under-5 immunization. The system should be able to pop up reminders for those due for each immunization. This can help in ensuring that the majority of the eligible children receive their immunization

5.3.4. Going forward, the Ministry of Health should just have a deliberate plan to conduct studies that brings out health related issues in real time from Rural areas unlike having most of the studies being conducted from urban areas.

Limitations of the Study

Operating within a scarce resource world requires sacrifice and courage to use what you have at hand to get what you don't have without infringing the rights of others. The data for the study was only collected from one constituency in Mumbwa District with five randomly selected facilities taking part. Hence, the first limitation is due to the geographic catchment area of the study which was small owing to the financial constraints at play. The small sample size coupled with the limited geographical catchment areas renders the outcome of the study difficult to be generalized for a wider population be it nationally or continentally. Hence, with enough resources its imperative to conduct studies with large samples and wider geographical locations to come up with information or findings that can be generalized for a wider population.

The second limitation is to do with both the number of questions asked and the analysis done which very limited due to time and financial constraints. Some cardinal questions were left out from the questionnaire so

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were some interesting analyses which would have given us a more clear and detailed status quo. Finally, since the sampling frame was the under-5 clinic registers, it did not take care of those who either delivered from home and did not visit the health facility for under-5 clinic or delivered from the health facility but did not participate in under-5 clinic.

Despite the above limitations, the data, analysis and consequently the research report is still very valid and reliable since the methodology that was followed is clear and utmost as planned.

CONCLUSION

Owing to the scarce of data on the status of immunization in the rural parts of Zambia such as Mumbwa District. This study was conducted to explore, determine, and describe the factors that influence and the status of full coverage of immunisation of under-five children in Nangoma Constituency of Mumbwa District. The study comprised of 134 participants from 5 randomly selected health facilities in Nangoma Constituency. The data was collected using kobo collect toolbox and analysed using SPSS version 23.0 and MS Excel 365. Additionally, the findings of the study were presented descriptively and analytically, and the discussions were expounded based on the presentations of findings that were of course controlled with literature. The factors that were determined to be statistically significant according to the study included marital status, education attainment of the mother, age of the child and knowledge of immunisation.

The study established that seasons play a critical role in taking a child for immunization especially when it is planting season when families are casting their seeds in the soil which also affect the roads. Distance to the health facility or delivery point, long queues, myths, traditions and culture, as well as availability of money to access the needed health service are among the many factors that affect full immunization coverage in Nangoma Constituency.

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socially, and financially. Thank you all and God bless you in abundancy.

List of Acronyms

NIP National Immunization Programme
GAVI The Global Alliance for Vaccines and Immunization
EPI Expanded Program on Immunization
CRS Congenital Rubella Syndrome
MR Measles and Rubella vaccine
RCV Rubella Containing Vaccine
MCV Measles-Containing Vaccine
OPV Oral Polio Vaccine
IPV Inactivated Polio Vaccine
NIHFW National Institute of Health and Family Welfare
ZDHS Zambia Demographic and Health Survey
DPT Diphtheria, Pertussis and Tetanus
IMCI Integrated Management of Child Illness
GIVS Global Immunization Vision and Strategy
HBM Health Belief Model
TRA Theory of Reasoned Action
SPSS Statistical Packages in Social Sciences

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REFERENCE

1. Abdulraheem I et.al (2011). Reasons for incomplete vaccination and factors for missed opportunities among rural Nigerian children. Journal of Public Health and Epidemiology 2011, 3:194–203.
2. Adekunle S Adediran et.al (2017). Immunization Status of Under-5 Children in A Rural Community in Nigeria. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 16, Issue 1 Ver. II (January. 2017), PP 126-130 www.iosrjournals.org
3. Babaniyi O, et.al (2013): Child nutrition and health campaign in 2012 in Zambia: Coverage rates for measles, Oral polio vaccines, vitamin A and de-worming. The open vaccine journal (2013) volume 6:1-8
4. Boke MM et.al, (2022) Determinants of incomplete childhood immunization among children aged 12–

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23 months in Dabat district, Northwest Ethiopia: Unmatched case- control study. PLOS ONE 17(10): e0274501. https://doi.org/10.1371/journal.pone.0274501

5. Centers for Disease Control and Prevention. (2013). For parents: Vaccines for your children. Retrieved 20th October, 2022, from https://www.cdc.gov/vaccines/parents/FAQs.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fvaccines%2Fparents%2Fparent-questions.html
6. Central Statistical Office (2010). 2010 Census of Population and Housing; Population Summary Report. Central Statistical Office.
7. Chofwe M and Kwangu M. (2018). Full Immunisation Coverage of Under Five Children and Its Correlates among Women in Lubuto, Ndola, Zambia. Health Press Zambia Bull. 2018 2(7);
8. Dudovskiy John (2022). The Ultimate Guide to Writing a Dissertation in Business Studies: a step by step approach. Business Research Methodology
9. Eisen, M et.al. (1992). A Health Belief Model — Social Learning Theory Approach to Adolescents' Fertility Control: Findings from a Controlled Field Trial. Health Education Quarterly. Vol. 19.
10. GAVI (2022). Accessed on 29th September, 2022 from https://www.gavi.org/our-alliance/about
11. Gurmu E and Etana D (2016). Factors influencing Children's full immunization in Ethiopia. African Population Studies (2016) Vol. 30, No. I: 2306 - 2317
12. Ibnouf AH, et.al (2007). Factors influencing immunization coverage among children under five years of age in Khartoum State, Sudan: SA FamPract(2007): vol 49(8): 14
13. IPUMS Demographic and Health Surveys. Accessed on 20th August, 2022 from https://www.idhsdata.org/idhs/vaccines.shtml
14. Kuroda H, et.al (2022). Association between a single mother family and childhood under vaccination, and mediating effect of household income: a nationwide, prospective birth cohort from the Japan Environment and Children's Study (JECS). BMC public health 2022, 22:1–10.
15. Lim S. S., Stein D. B., Charrow A., Murray C. J. (2008). Tracking progress towards universal childhood immunisation and the impact of global initiatives: a systematic analysis of three-dose diphtheria, tetanus and pertussis immunisation coverage. Lancet 2008
16. Mark A. Miller and John T. Sentz. (2006). Disease and Mortality in Sub-Saharan Africa. 2nd edition. Accessed on 10th September, 2022 from https://www.ncbi.nlm.nih.gov/books/NBK2284/
17. Mekonnen AG, Bayleyegn AD and Ayele ET (2019). Immunization coverage of 12–23 months old children and its associated factors in Minjar-Shenkora district, Ethiopia: a community-based study. BMC pediatrics 2019, 19:1–8.
18. Ministry of Health (2017). Immunisation Handbook. Wellington: Ministry of Health. MOH (2005): Zambia Immunization Programme Comprehensive Multi-year Plan, 2006-2010
19. MOH (2011): National Human Resources for Health Strategic Plan 2011-2015 Mukungwa Tinashe (2015). Factors Associated with full Immunization Coverage amongst children aged 12 –23 months in Zimbabwe. African Population Studies Vol. 29, No. 2, 2015
20. National Institute of Health and Family Welfare (NIHFW) (2012). Health Workers Information Series No.1: Immunization. Norway India Partnership Initiative (NIPI)
21. Rosenstock, I. (1974). Historical Origins of the Health Belief Model. Health Education Monographs. Vol. 2 No. 4.
22. Shamazubaula Stephen F. (2014). The Factors Influencing Small Scale Farmer's Food Production and Consumption In Nangoma Constituency: A Case Study Of Nangoma Ward.
23. Suarez L, Simpson DM, and Smith DR (1997). The impact of public assistance factors on the immunization levels of children younger than 2 years. Am J Public Health.
24. Tinashe Mukungwa (2015). Factors Associated with full Immunization Coverage amongst children aged 12 – 23 months in Zimbabwe. African Population Studies Vol. 29, No. 2.
25. WHO (2012). Vaccine Fact Book 2012. WHO
26. WHO (2017): Immunisation. Accessed on 10th August, 2022 from http://www.who.int/topics/immunisation/en/
27. WHO (World Health Organization) and UNICEF (United Nations Children's Fund) (1996). State of the World's Vaccines and Immunization. Geneva: WHO.
28. WHO and UNICEF (2005). Global Immunization Vision and Strategy 2006-2015. World Health Organization Department of Immunization, Vaccines and Biologicals.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XI Issue XI November 2024

29. Wiysonge CS, et.al (2012). Individual and contextual factors assocated with low immunization coverage in sub-Saharan Africa; A multilevel analysis. PLoS ONE (2012)7(5):37905
30. World Health Organization (2019). National immunization programme (NIP). Accessed on 8th 30th August, 2022 from https://vaccine-safety-training.org/national-immunization-programmes.html
31. ZDHS (2013-2014): Demographic and Health Survey 2013-2014, Preliminary report
32. Zemenu Shiferaw Yadita and Liyew Mekonen Ayehubizu (2021). Full immunization coverage and associated factors among children aged 12-23 months in Somali Region, Eastern Ethiopia. Accessed on 21st October 2022 from https://pubmed.ncbi.nlm.nih.gov/34874949/

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WORK PLAN

S/N	Activities	Week 1	Week 2	Week 3		Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
1.	Identifying a research topic and have it approved										
2.	Research on the topic										
3.	Putting together all researched information										
4.	Writing first chapter of the proposal										
5.	Writing chapter 2, and 3 of research proposal										
6.	First Draft research proposal completed										
7	Questionnaire development										
8.	Final proposal completed										
9.	Ethical Approval										
10	Data collection										
11	Data entry										
12.	Data Cleaning and analysis										
13.	Report writing										
14.	First draft report										
18.	Final report completed										
19.	Submission of final Research Report										

INFORMED CONSENT

Factors Influencing Full Immunization Coverage of Under-5 Children in Nangoma Constituency

Title of Study

Factors Influencing Full Immunization Coverage of Under-5 Children in Nangoma Constituency

Principal Investigator

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Purpose of Study

I am kindly asking you to take part in this research study. Before you decide to participate in this study, it is imperative that you understand why this research study is being conducted and what it will involve. Please listen carefully to the following information. Please feel free to ask if there is anything that is not clear or if you need more information about the study. The purpose of this study is to explore the factors that affects full immunization coverage as well as describing them in detail to ensure that these factors are met with amicable interventions. Therefore, this study will help on the currently existing information by providing the status of immunization coverage in Nangoma Constituency of Mumbwa District as well as determining the factors that influences full it which can help in the future interventions and studies.

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Confidentiality

Your responses to this study will be anonymous. Please note that no of your identifying information will be collected or entered or used in the study. For the purposes of this research study, your comments and all any other views, opinions and insights you will give, will remain anonymous. Every effort will be made by the researcher to preserve your privacy and confidentiality.

Contact Information

If you have questions at any time about this study that have not been answered now, or you experience adverse effects as the result of participating in this research study, you may contact the researcher. If you have questions regarding your rights as a research participant, or if problems arise which you do not feel you can discuss with the Primary person responsible for the study, please contact the Ethics Committee on.

UNILUS Ethics Committee
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Plot No. 37413, off Alick Nkhata Road,
P.O. Box 36711,
Lusaka, Zambia.

Voluntary Participation

Your participation in this study is voluntary. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason. Withdrawing from this study will not affect the relationship you have, if any, with the researcher.

CONSENT

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without any charges. I voluntarily agree to take part in this study.

Participant's signature _____ Date _____

Investigator's signature _____ Date _____

QUESTIONNAIRE

SECTION A: GENERAL INFORMATION

Section A.1: Background Information of the mother

A1. Name of the health facility: ……

A2. Age of the mother: ……..

10 – 19 years [ ]
20 – 29 years [ ]
30 – 39 years [ ]
40 – 49 years [ ]
above 50 years [ ]

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A4. What is your marital status?

Never been married [ ]
Married [ ]
Divorced [ ]
Widowed [ ]

A5. What is your highest level of education?

Never attended school [ ]
Primary [ ]
Secondary [ ]
College level [ ]
University [ ]

A6. What is your occupation?

Farmer [ ]
Shop/Small trader [ ]
Casual labourer [ ]
Housewife [ ]
Domestic worker [ ]
Professional worker [ ]
Other (please specify) ……..

A7. What is your average monthly income?

Less than 500 [ ]
500 - 1499 [ ]
1500 - 2500 [ ]
2501 - 5000 [ ]
Above 5000 [ ]

Section A.2: Background Information of the child

A8. Age of the child in months: ……..

A9 What is the gender of the child?

Male [ ]
Female [ ]

A10. What is the birth order of the child? .....

A11. Does the child have any allergies to immunization vaccine?

No [ ]
Yes [ ]

A12. If "yes" to question 11 above please specify …… ……..
……..

SECTION B: INFORMATION ON IMMUNIZATION

B1. Do you know what immunization is?

No [ ]

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Yes [ ]

B2. If yes, what is the importance of immunization? (Multiple answers, tick all that is mentioned)

Protection against dangerous diseases hence saves lives [ ]
Various types of disabilities in children can be avoided by timely immunization and intervention [ ]
Vaccination is very safe and effective [ ]
helping to protect the health of the whole community [ ]
helps protect future generations by eradicating diseases [ ]
Immunization can help save money [ ]

B3. In your own opinion, do you think immunization is important to your child?

Yes [ ]
No [ ]
I don't know [ ]

C9. If yes, why?

……
……
……

SECTION C: CHILD IMMUNIZATION STATUS

C1. Has the child received the following type of immunization?

Type of Immunization	Yes	No
BCG (At birth)		
OPV 0 (At birth to 13 days)		
OPV 1 (At 6 weeks)		
OPV 2 (At least 4 weeks after OPV 1)		
OPV 3 and IPV (At least 4 weeks after OPV 2)		
OPV 4 (At 9months only if OPV 0 was not given)		
PCV 1 (At 6 weeks)		
PCV 2 (At least 4 weeks after PCV 1)		
PCV 3 (At least 4 weeks after PCV 2)		
DPT-HepB-Hib 1 (At 6 weeks)		
DPT-HepB-Hib 2 (At least 4 weeks after DPT-HepB-Hib 1)		
DPT-HepB-Hib 3 (At least 4 weeks after DPT-HepB-Hib 2)		
Measle Rubella 1 (At 9 months)		

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Measle Rubella 2 (At 18 months		
Rota Vaccine 1 (At 6 weeks)		
Rota Vaccine 2 (At least 4 weeks after ROTA 1)		

C2. Is the child fully immunized as per the age?

Yes [ ]
No [ ]

C3. Did the child miss any vaccination?

Yes [ ]
No [ ]

C4. If yes, what was the reason for missing the vaccine (s)?

Fear of reaction [ ]
Illness of Mother [ ]
Illness of the child [ ]
Mother too busy [ ]
Not available [ ]
Ignorance or unawareness on the need for immunization [ ]
COVID-19 [ ]

C5. What factors do you consider when planning on taking a child for immunization?

Distance to the health facility/service delivery point [ ]
Long queues [ ]
Fees for the services (availability of money) [ ]
Seasons (whether planting season or not) [ ]
Traditions and culture [ ]
Myths [ ]
Other use (please state)……

C6. Do you have any cultural or traditional practices that restricts the management of under 5 children?

Yes [ ]
No [ ]
I don’t know [ ]

C7. What type of cultural aspect affects the immunization decisions of your child?
……
……