

REFACTORS ASSOCIATED WITH INCOMPLETION OF IMMUNIZATION AS SCHEDULED AMONG CHILDREN GOING FOR IMMUNIZATION AT NABWERU HEALTH CENTRE III, NANSANA MUNICIPALITY. A DESCRIPTIVE CROSS-SECTIONAL STUDY.

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Abstract

Introduction

Immunization is a proven tool for controlling and eliminating life-threatening infectious diseases and it is estimated to avert 2 to 3 million deaths each year. The agent in a vaccine stimulates the body's immune system to recognize the agent as foreign, destroy it, and "remember" it. In this way, the immune system can more easily recognize and destroy any of these microorganisms in future encounters.

Objective of the study. The study was intended to determine factors associated with the incompleteness of immunization as scheduled among children going for immunization at Nabweru Health Centre iii, Nansana Municipality.

Methodology:

The study was a descriptive cross-sectional study that involved collecting data from 100 respondents and the study employed structured questionnaires administered by the researcher and the research assistants to gather relevant data about factors associated with incompleteness of immunization as scheduled among children going for immunization at Nabweru Health Centre iii, Nansana Municipality. Children were got using a systemic sampling technique.

Results:

Out of the 100 respondents, the Majority, 58(58%) of the children were males. The majority, 51(51%) of the respondents were of rural residence. The majority, 61(61%) gave birth at home. The majority, 64(64%) of the respondents were aware of the threat of vaccine-preventable illnesses. The majority, 56(56%) of the respondents noted that the process was a waste of time.

Conclusion:

The study specifically sought to find out the factors associated with incompleteness of immunization among children going for immunization at Nabweru Health Centre iii, Nansana Municipality, and found out that there is still a big number of children defaulting immunization as per the immunization schedule.

Recommendation:

The government through the M.H.O of Nansana should emphasize immunization of all children under 5 by providing all necessary resources as well as educating and encouraging caretakers to take their children for immunization.

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1. Background of the study.

Immunization is a proven tool for controlling and eliminating life-threatening infectious diseases and it is estimated to avert 2 to 3 million deaths each year (Bbaale E, 2013). WHO defines Immunization as the process whereby a person is made resistant to an infectious disease by the administration of a vaccine (Defining Immunization: Types, Statistics, and Resources | Regis College Online, 2019). The agent in a vaccine stimulates the body's immune system to recognize the agent as foreign, destroy it, and "remember" it. In this way, the immune system can more easily recognize and destroy any of these microorganisms in future encounters (Vaccines and Immunization). There are available vaccines against 23 diseases (or pathogens that cause them). Combined vaccines protect against multiple diseases by using a single product (Vaccines and Immunization) Several new vaccines are in the pipeline, at different stages of development. (WHO, 2021)

According to WHO, recommended vaccination schedule for developing countries, a child is considered fully vaccinated if he/she has received a Bacillus Callmete Guerin (BCG) vaccination against tuberculosis, three doses of pentavalent vaccine (DPT- Hep B-Hi-b) to prevent diphtheria, pertussis, tetanus, Hemophilus influenza type b, and hepatitis B, at least three doses of polio vaccine, and one dose of measles vaccine. Recently, a new 10-valent pneumococcal conjugate vaccine (PCV) and a rotavirus vaccine were introduced into the routine infant immunization schedule and they are administered with the existing pentavalent vaccine (Negussie et al., 2016). It is also recommended that children receive the complete schedule of vaccinations before their first birthday and that the vaccinations be recorded on a vaccination card that is given to the parents or guardians. (Neggusie et al 2016)

Another study done in Sub-Saharan Africa about childhood immunization barriers affecting utilization and coverage in the region showed

that parental barriers were more and consistently identified than providers and health systems. Parents/caretakers reported barriers include lack of knowledge, misconceptions, financial deprivation, lack of partners' support, and distrust of the medical systems (Bangura et al., 2020). Other associated factors included the number of offspring, lifestyle, migration, place of residence, long waiting time, parent's forgetfulness, inconvenient time, being a single mother, occupation, language barrier, seasonal farm work, and feeling ashamed of poverty-associated reasons. Health system barriers included inadequate infrastructures and cold chain maintenance, distance, and poor coordination (Bangura et al., 2020). Providers' constraints include limited human resources, hostile attitudes, and knowledge. (Bangura et al., 2020)

A study done in Ethiopia about factors influencing incomplete immunization among under five years old children showed that while the literature showed the importance of social, economic, geographic, and cultural factors in the vaccination status of a child, achieving adequate vaccination coverage is not only related to the attitudes and capabilities of parents. It also demonstrated that the organization and functioning of the health care system and services, including the ways health workers perform their activities, constitute key elements in vaccination coverage, it is known that how immunization activities are organized and services are delivered and the interaction between parents and health workers are greatly associated with incomplete immunization of children.

A study done in Rwanda countries showed that poor-functioning health service delivery system impedes the efforts to meet immunization targets, especially for children living in hard-to-reach zones and displaced populations. Most die because they do not access effective interventions that would combat common and preventable childhood illnesses. Infant immunization is considered essential lifesaving and cost-effective medical intervention which reduces childhood morbidity and mortality from diseases. The same study also showed that the perception, political will, in-

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frastructures, beliefs, and practices that affect the utilization of immunization services were associated with the incompleteness of the immunization schedule. (Chinenye, 2015)

A study done in Uganda, Amach district about socio-cultural factors associated with incomplete routine immunization of children revealed that marital status, wealth level, and side effects of vaccines were found to be associated with incomplete routine immunization. Age, occupation, education, religion, utilization of the health services, family structure, and support, gender, accessibility, and health education were not found to be associated with incomplete routine immunizations. The study was intended to determine factors associated with the incompleteness of immunization as scheduled among children going for immunization at Nabweru Health Centre iii, Nansana Municipality.

2. STUDY METHODOLOGY

2.1. Area of Study

The study was conducted at Nabweru Health Center III, Wakiso District which is found in central Uganda from November 2021 to April 2022. The health center is one of the biggest health facilities in the district and it offers many health care services including immunization, child health services, obstetric and emergency care, HIV/AIDS management service, general patient management, laboratory service, nutrition service, antenatal and postnatal services, EMTCT program as well as a RCT service among many others. The health Centre serves residents of areas like Katooke, Nabweru, Kisimu, Bwaise, Kawanda, Wamala, Nakyesiga, Kazo and Muganzi.

2.2. Research Design

A cross-sectional study was used to investigate factors associated with the incompleteness of immunization as scheduled among children going for immunization at Nabweru Health Centre III, Nansana Municipality. The researcher used this study design to collect qualitative data within a short period to explain the relationship between incompleteness of immunization and,

socio-demographic factors of children, individual-related factors, and health facility-related factors. The study design also disproves assumptions that may arise during the study.

2.3. Study Population

The study population was comprised of children between 0-5 years. The researcher used this population in the study because it is the most prevalent default during immunization.

2.4. Sample size

The sampling size was generated using Kish and Leslie's (1965) $N =$, Where

$N =$ Sample size, $Z = 1.96$ (standard normal deviation at 95% confidence

interval = proportion of the population estimated to have a particular characteristic (in this case children who failed to complete the immunization as scheduled).

In the absence of a known estimate, I used $p = 0.5$ since it gives the most conservative sample size

$Q =$ proportion of the population with a characteristic ($q = 1 - p$, $q = 1 - 0.5 = 0.5$) $D =$ precision which was allowed an error of 10% or 0.1,

Thus $d = 10\%$

$N = (1.96^2 \times 0.5 \times 0.5) / 0.1^2$ $N = 96.04$

$N \approx 100$

Therefore, the estimated sample size is 100 respondents.

The researcher used an estimated error of 10% of respondents ($10\% \times 92 = 9$). Therefore, the total number of respondents that were interviewed in the study was 100 respondents.

2.5. Sampling Techniques

A systematic technique was used to select children of age 0-5 years because it was easy to conduct, was precise, and minimized bias as every nth name is taken.

2.6. Sampling Procedures

The researcher determined the study population (N), then the sample size (n), and then obtained a sample frame.

Determined interval = study population (N) /sample size (n) = nth person Then determine the start point between 1 and N then take every nth name.

2.7. Data Collection Method

The researcher used the questionnaire method to collect data from the caretakers of children aged 0-5 years because it enabled data collection in a short period at relatively low costs and it was also easy to quantify the data for analysis.

2.8. Data Collection Tool

. self-administered questionnaire was used to collect data from the caretakers because enabled the researcher to collect data from many respondents in a short period. The questionnaire method also eased the quantification of data for analysis.

2.9. Data Collection Procedures

The researcher introduced herself to the caretakers of children aged 0-5 years, then explained the procedure, meaning of the study, level of confidentiality, and purpose of the study. The researcher sought consent by offering a consent form to voluntary participants who were administered the questionnaires after. The researcher read as someone translated the questions in Luganda for the respondents and recorded the data.

2.10. Data Analysis and Presentation

Data was statistically analyzed manually using simple calculators to minimize data entry errors and was presented in frequency tables, pie charts, and bar graphs. This method of data analysis gave time for the researcher to look at the mistakes of the data collection tool and presented data in frequency tables, pie charts, and bar graphs statistically revealing the distribution of different variables.

2.11. Ethical Considerations

A letter of introduction was obtained from Medicare Health Professionals College, addressed to the Municipal Health Officer (MHO) Nansana

Municipality, and sought permission to conduct a study in the Nabweru Health Centre III.

Permission was also sought from the In Charge Nabweru Health Centre III to carry out a study in their areas of jurisdiction.

The researcher sought consent from each caretaker by giving a consent form before administering the questionnaire. In the consent form, caretakers were given a right to deny or withdraw from participation in the study.

The information obtained from the caretakers was kept with utmost confidentiality by the researcher by not disclosing the caretakers' information to anyone during and after the study and in the same way, the information that was obtained was only to be used for study purposes.

The welfare of caretakers was assured by explaining the research procedure, the purpose of the study, and the level of confidentiality to them before issuing a consent form.

The caretakers were assured anonymity, as no names of the respondents were taken by the researcher and the data that was collected was only used for statistical purposes.

2.12. Quality Assurance

The researcher assured quality by pre-testing of the research tool. Pre-testing of the questionnaire was carried out in Nassolo Health Centre, Katooke village because of similar facilities and services that the Centre shares in common with the study area. The questionnaire was pretested for time, cost-effectiveness, flexibility, reliability, and validity.

The researcher also ensured quality by having clear inclusion and exclusion criteria for the respondents. Children of age 0-5 years were included in the study and those greater or equal to 5 years were excluded from the study.

The researcher trained the research assistants on how to use the questionnaire for two days.

2.13. Selection criteria.

This showed the different qualities the respondent needed to have to participate in the study or not participate.

2.13.1. Inclusion criteria

All children who never completed immunization as scheduled among children going for immunization at Nabweru Health Centre III, Nansana Municipality and caretakers consented to participate in the study.

2.13.2. Exclusion criteria

All caretakers in Nabweru Health Centre III without fluency in English, and Luganda, who had not consented to participate were not considered to be part of this study.

2.14. Study variables:

This included the independent and dependent variables.

2.14.1. Independent variable:

Children who never complete the immunization process.

2.14.2. Dependent variables:

Factors associated with failure to complete immunization among children less than five years, that is say, socio-demographic factors, knowledge of patients, and economic factors.

The researcher carried out a pilot study to test the data collection tool and checked how much time was required for the sampling procedure and the reaction of the respondents to the question procedure.

3. RESULTS

3.1. Respondent's particulars data.

In table 1, Most, 46(46%) of the respondents were of age group 27-37 years. Majority, 87(87%) of the respondents were females. Majority 63(63%) of the respondents were Baganda. Majority, 63(63%) of the respondents stopped at primary level. Majority, 53(53%) of the respondents were married. Majority 53(53%) of the respondents shop attendants. Most, 49(49%) of the respondents were protestants.

3.2. Socio-cultural factors associated with incompleteness of immunisation among children.

Majority, 58(58%) of the children reported were males.

Majority of the respondents 61(61%) gave birth from home.

Majority of the respondents 51(51%) were of rural residence.

In table 3, majority of the respondents 68(68%) reported walking for more than 30 minutes to reach the health facility.

Most of the respondents 41(41%) were widowed.

3.3. Individual related factors associated with incompleteness of immunization.

From figure 4, majority of the respondents 58(58%) were aware about the threat of vaccine preventable illnesses.

Majority of the respondents 69(69%) had bad attitude towards vaccines.

Majority of the respondents 56(56%) noted that the process was a waste of time.

Majority of the respondents 56(56%) replied that immunization was a waste of time.

Majority of the respondents 84(84%) replied that their occupations affected the child's immunization schedule.

Majority of the respondents 51(51%) replied that they lacked time off work to go to the immunization centers.

Majority of the respondents 58(58%) reported that vaccines are bad.

From table 6, most of the respondents 23(23%) reported that vaccines boosted the child's immunity and most of the respondents 19(19%) noted that they feared side effects that came with the vaccines.

3.4. Health facility related factors associated with incompleteness of immunisation.

Majority of the respondents 63(63%) knew how to read, write and speak English.

Majority of the respondents 63(63%) could fill their children's immunisation card.

Table 1: respondents' demographic data. =100

FACTORS	FREQUENCY	PERCENTAGE (%)
AGE		
18-28	18	18
27-37	46	46
36-46	16	16
45-55	20	20
SEX		
Male	13	13
Female	87	87
TRIBE		
Muganda	63	63
Munyakole	14	14
Musoga	12	12
Others	11	11
EDUCATION STATUS		
Primary	63	63
Secondary	10	10
University	3	3
Tertiary institution	1	1
Other	23	23
MARITAL STATUS		
Married	53	53
Single	36	36
Widowed	9	9
Divorced	2	2
OCCUPATION		
Farmer	17	17
Government worker	1	1
Shop keeper	53	53
Unemployed	24	24
Other	5	5
RELIGION		
Catholic	28	28
Muslim	23	23
Protestant	49	49

Table 2: Shows the place of delivery. N= 100

PLACE	FREQUENCY	PERCENTAGE (%)
Home	61	61%
Health facility	21	21%
TBA	16	16%
others	03	03%



Figure 1: Shows the child's sex. N=100

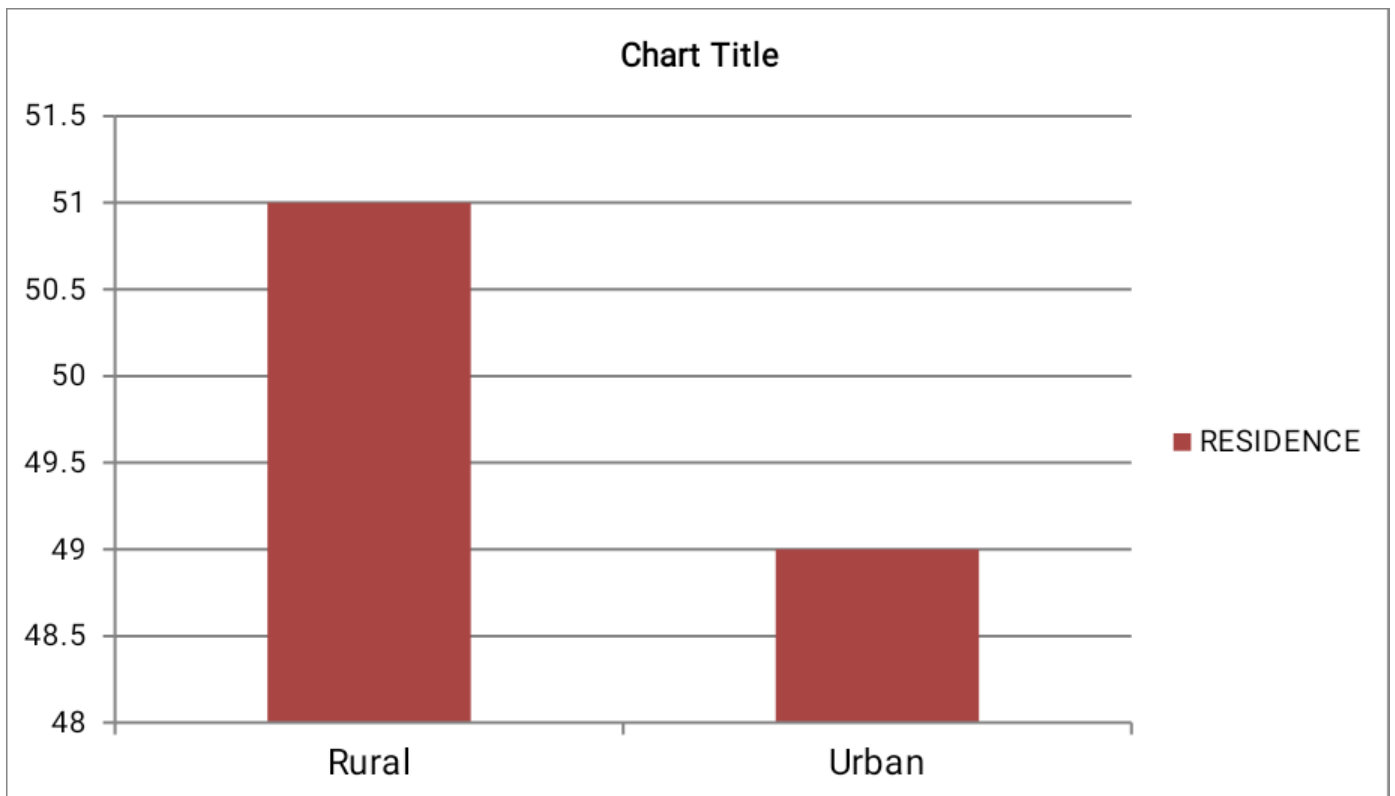


Figure 2: Shows the respondents residence. n=100

Table 3: Shows the factors that significantly associated with incompleteness of immunisation. n=100

FACTOR	FREQUENCY	PERCENTAGE (%)
Walking more than 30min	68	68%
Home delivery	13	13%
Having more than 3 children	12	12%
Unemployment	07	07%

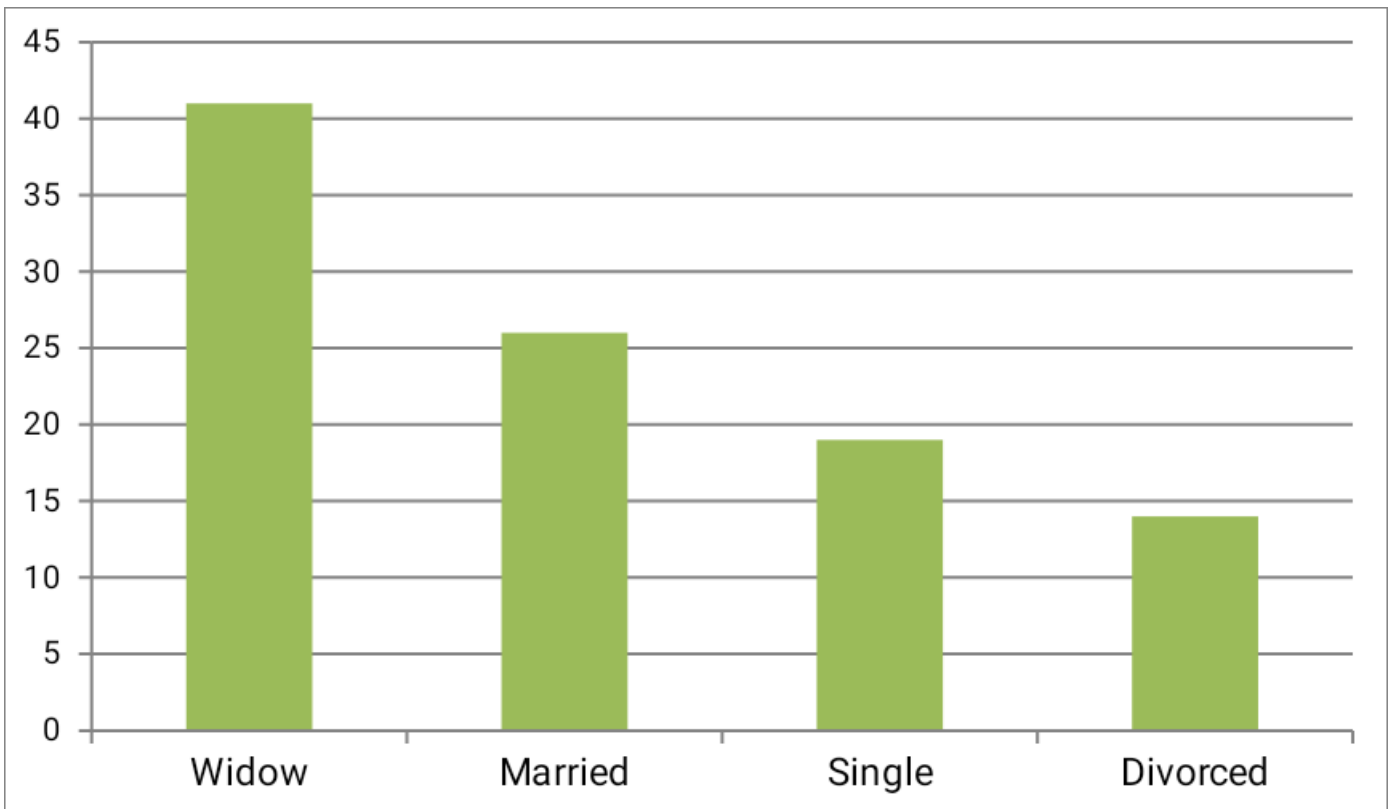


Figure 3: Shows the parents marital status. n=100

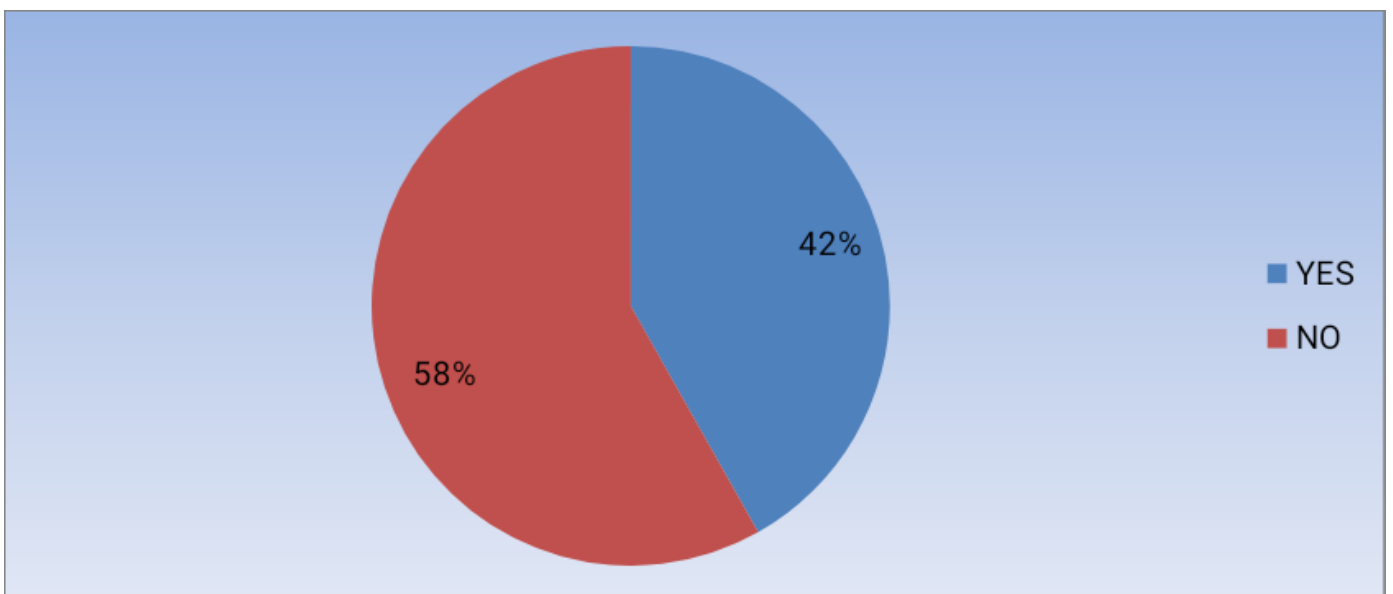


Figure 4: Showing whether respondents were aware about the threats of vaccine preventable illnesses. n = 100

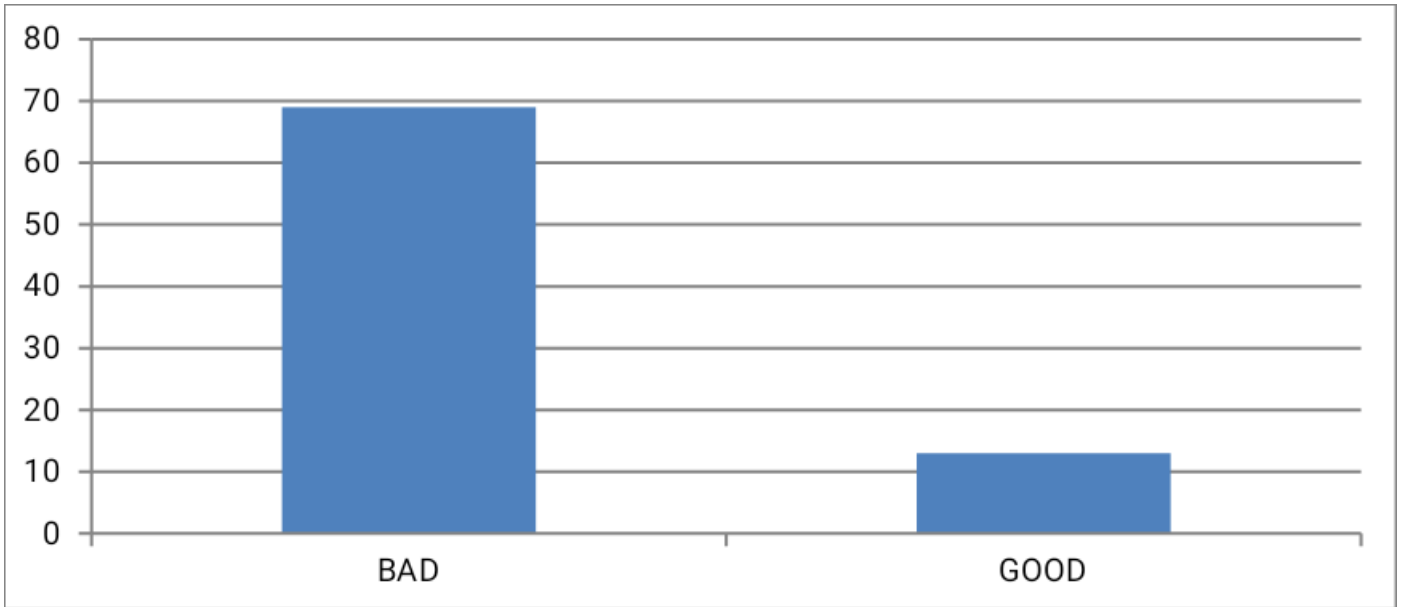


Figure 5: Shows the attitude of respondents about vaccines. n =100

Table 4: Shows reasons why respondents had poor attitude towards vaccines. n=100

REASON	FREQUENCY	PERCENTAGE (%)
It's a waste of time	56	56%
Fear of side effects	12	12%
Poor perception of the process	23	23%
No confidence in vaccine safety	09	09%

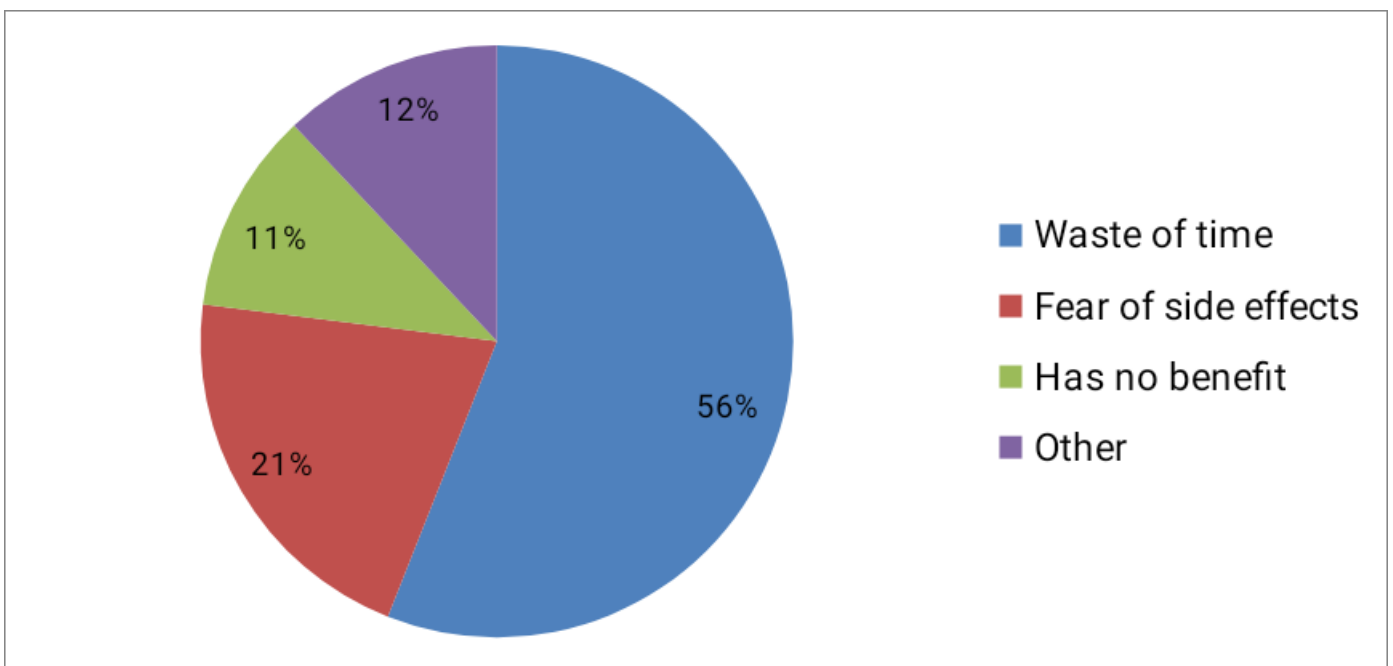


Figure 6: Shows why respondents didn't complete immunisation. n=100

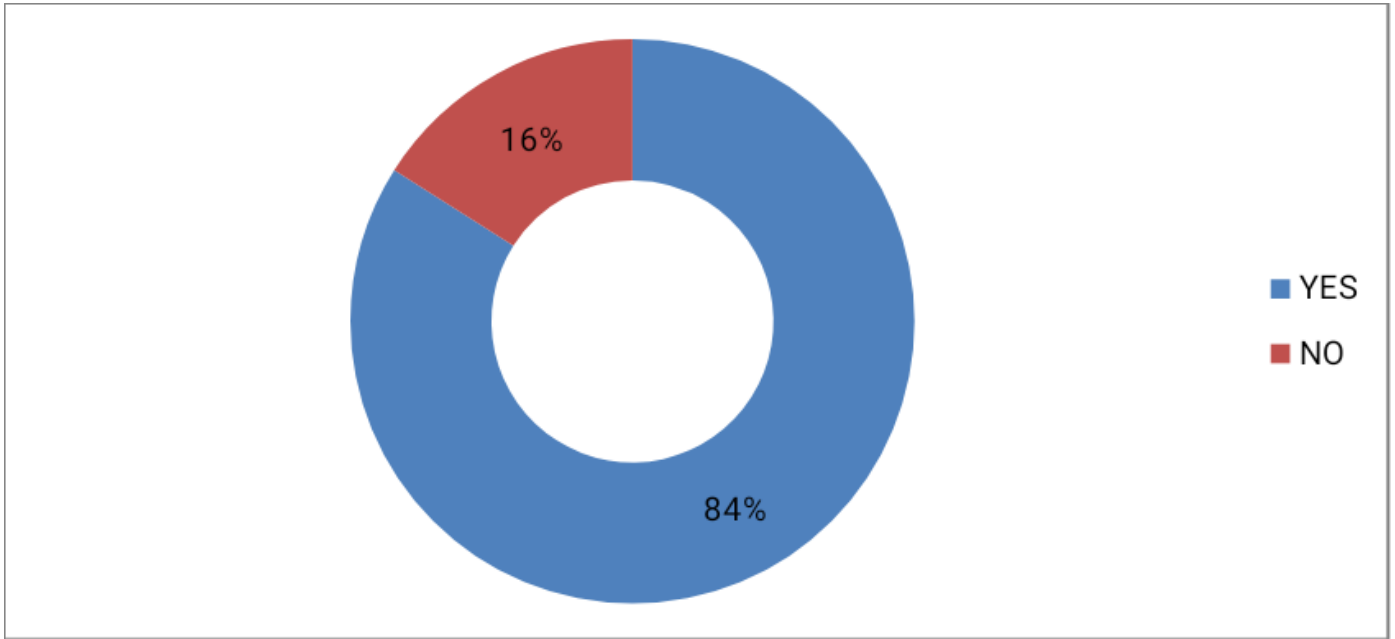


Figure 7: Shows whether occupation affected the child's immunisation. n=100

Table 5: Shows reasons how occupation affected the child's immunisation. n =100

REASON	FREQUENCY	PERCENTAGE (%)
Lack of time	51	51%
I get time off from work	15	15%
I work near the hospital	09	09%
Reached late	15	15%
Busy Schedule	06	06%
Lack of transport	04	04%

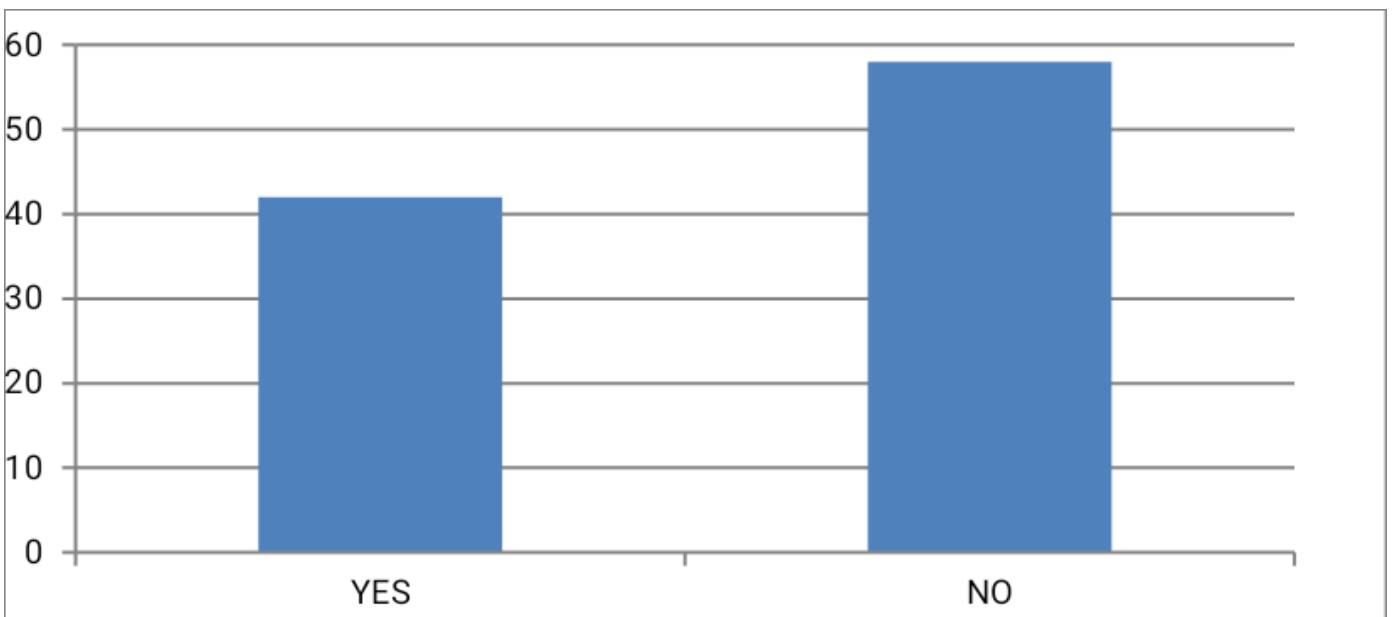


Figure 8: Shows whether respondents thought vaccines are good. n =100

Table 6: Shows reasons why respondents thought whether vaccines are good or bad. n =100

REASON	FREQUENCY	PERCENTAGE (%)
GOOD		
Prevent immunisable illnesses	19	19%
Boast immunity	23	23%
BAD		
Vaccine have no benefit	10	10%
Religious beliefs	08	08%
Distrust in vaccines	01	01%
Fear of side effects	19	19%
Cultural customs	17	17%
Lack of awareness	03	03%

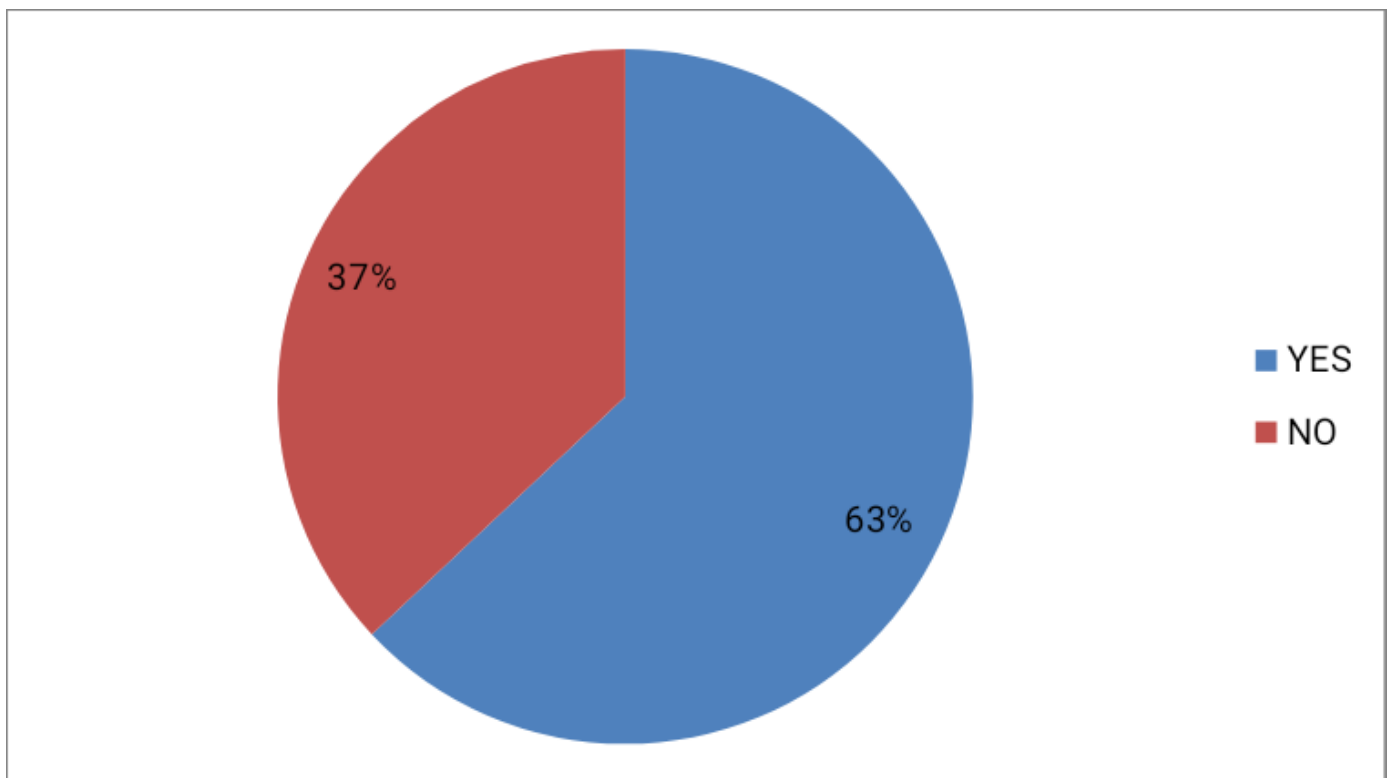


Figure 9: Shows whether patients knew how to speak, write, or read English. n =100

Table 7: Shows reasons why respondents never took their children to hospital for to complete immunisation. n =100

REASON	FREQUENCY	PERCENTAGE (%)
Fear of COVID-19	61	61%
Long distance to hospital	18	18%
Un-awareness	11	11%
Unavailable vaccines	8	08%
Fear of side effects	2	02%

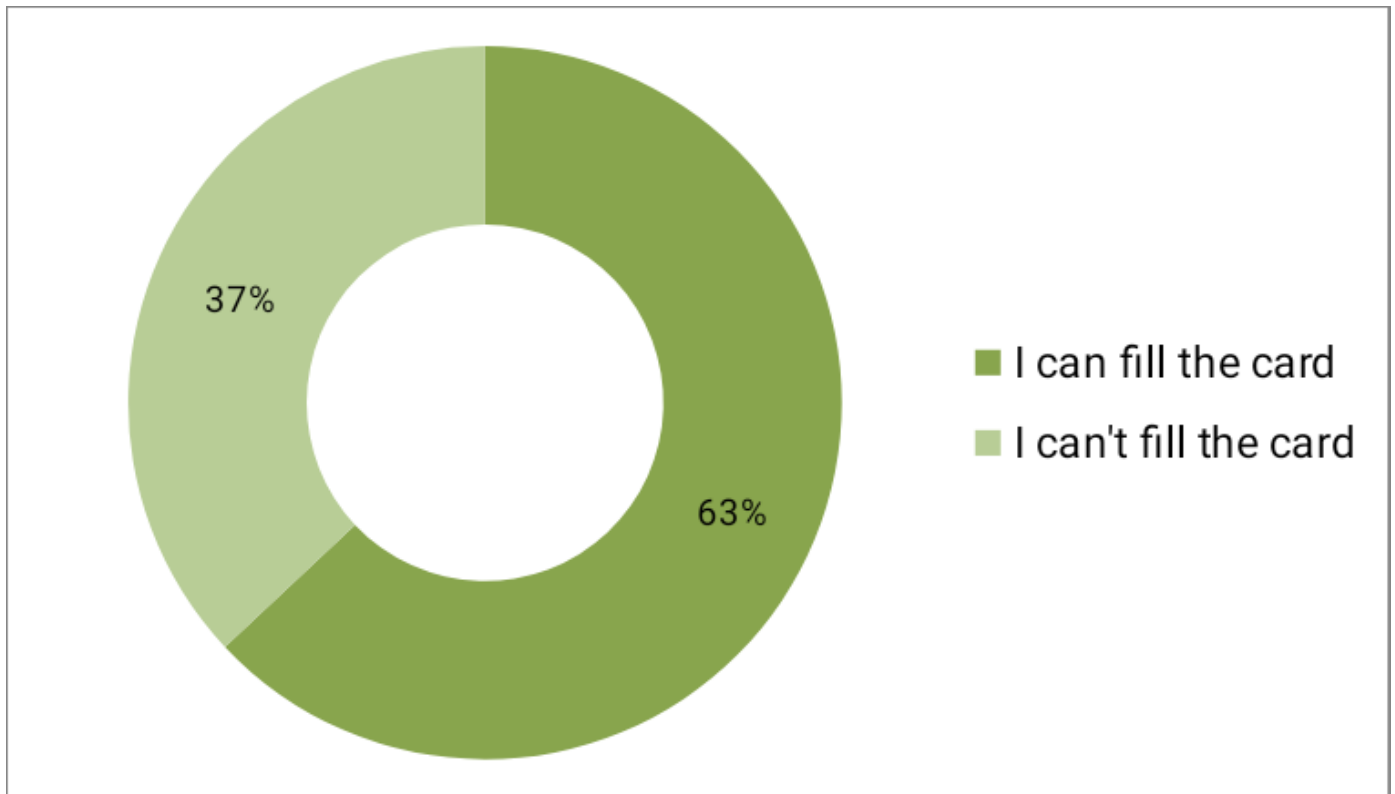


Figure 10: Shows how writing, reading and speaking English influenced completion of immunisation.

Majority of the respondents 63(63%) reported that they feared COVID-19 at the hospital.

Majority of the respondents 56(56%) reported long waiting hours at the health facility.

From figure 12, majority of the respondents 81(81%) replied that distance to the health facility influenced their children's completion of the immunisation process.

Most of respondents 43(43%) reported that walking to the health facility influenced their children's completion of immunization.

Majority of the respondents 58(58%) reported inadequate power supply

4. Discussion.

4.1. Socio-cultural characteristics of respondents.

The majority of the respondents reported that the majority (58%) of the children were males and this was possible because caretakers had thought that male children had heard immunity and they were always strong and this agreed with a study

done in Bangladesh by Sultana et al in 2018 about determinants of incomplete immunization where 52.85% of the children were males.

The majority of the respondents (61%) gave birth from home and this was possible because they did not have transport means to the health facility and some preferred home birth because of cultural and religious beliefs. However, the study contradicts with that done in Nigeria by Chioma et al in 2019 about factors associated with immunization incompleteness of children under five where 28.1% were born in the home of TBAs and 71.9% were born in a health facility.

The majority of the respondents (51%) were of rural residence and this affected immunization due to the low cost of living in rural areas this is in line with a study done in Nigeria by Chioma et al in 2019 about factors associated with immunization incompleteness of children under five which revealed that 94.4% were rural dwellers.

The majority of the respondents (68%) reported walking for more than 30 minutes to reach the health facility because they were so far away

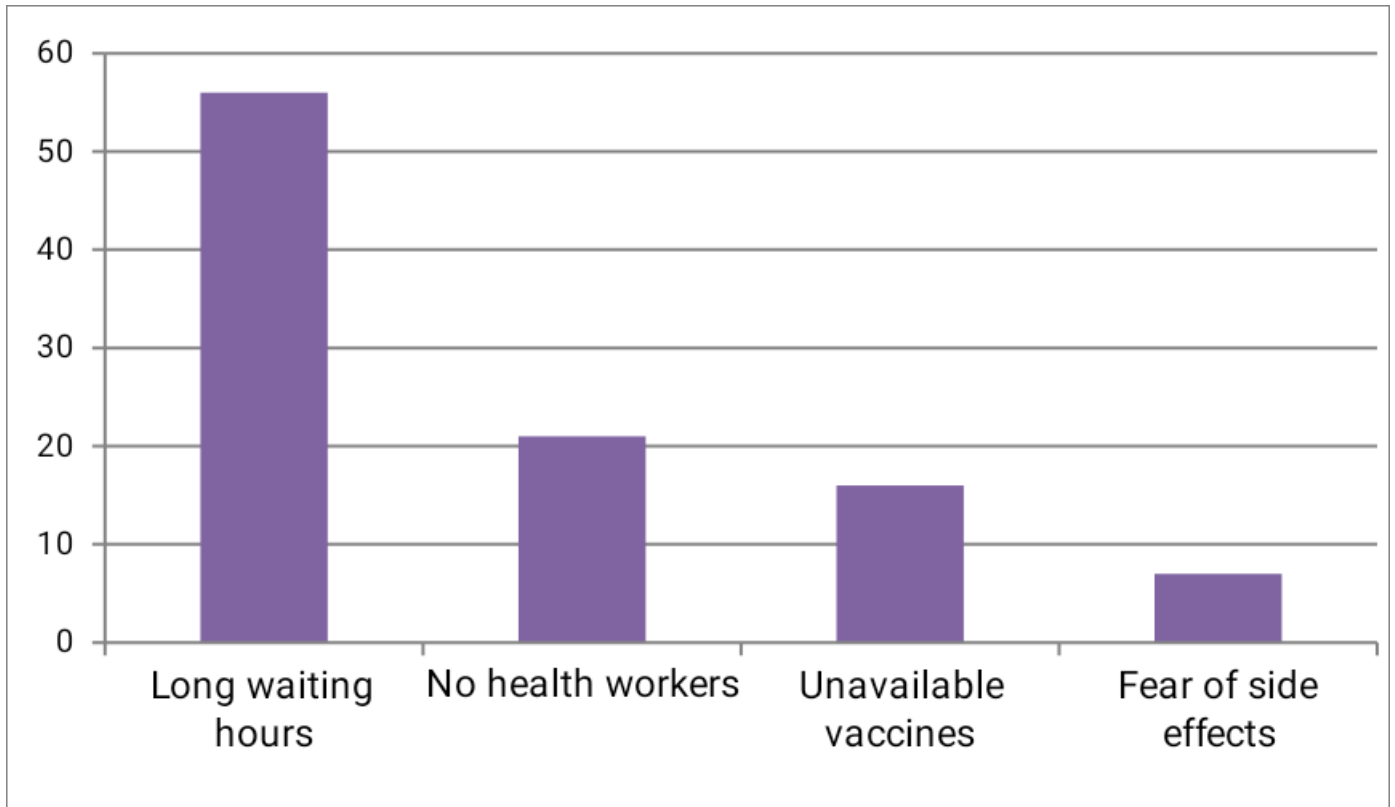


Figure 11: Shows the challenges at the hospital that led to incompleteness of immunisation.

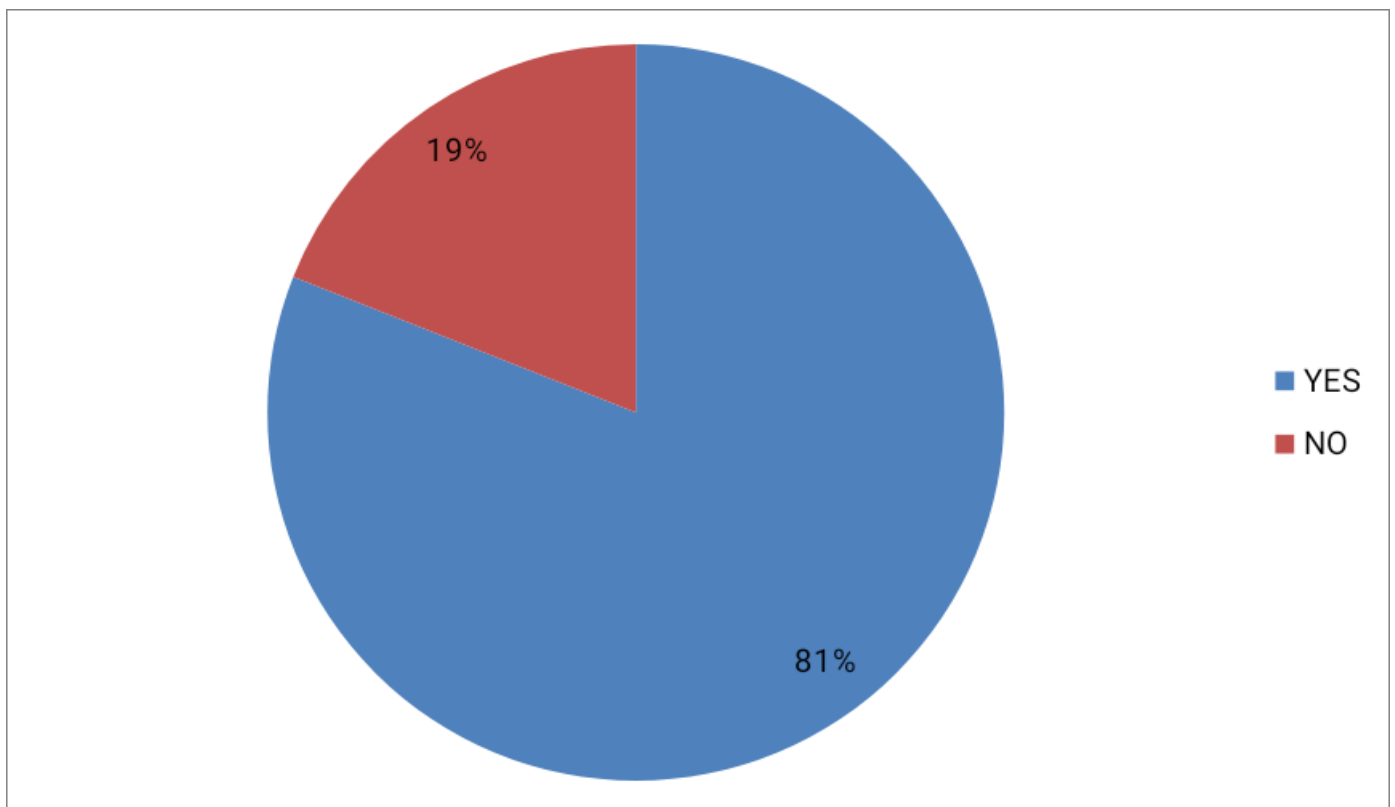


Figure 12: Shows whether patients thought that health facilities influence completion of the child's immunisation.

Table 8: Shows how distance influenced child's completion of immunisation.

REASON	FREQUENCY	PERCENTAGE (%)
Walking to the health facility	43	43%
Long distance to the facility	25	25%
High transport cost	21	21%
Lack of transport means	09	09%
Other reasons	02	02%

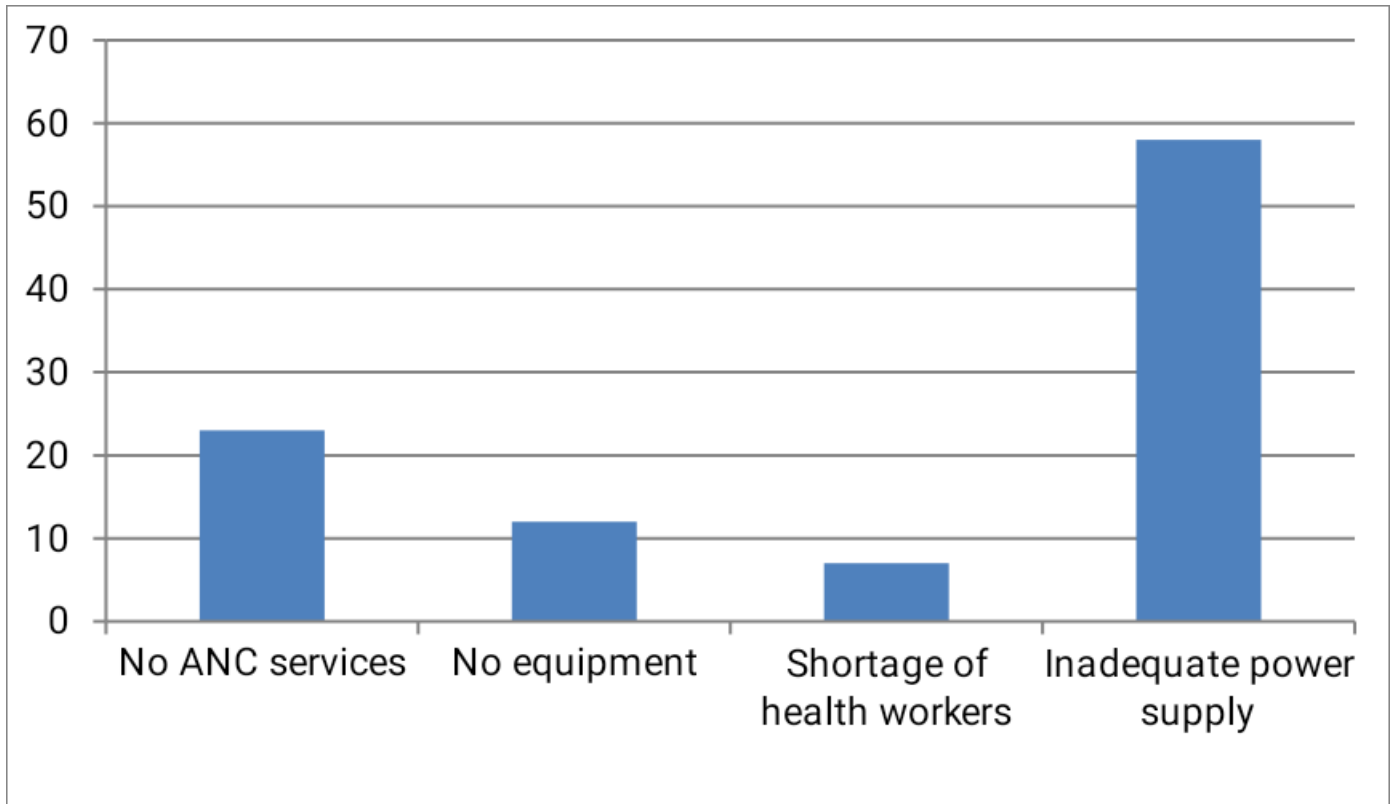


Figure 13: Showing the current state of the health facility.

from the hospital and also had slippery roads on rainy days. This is in line with a study done in Rwanda by Mauthe et al in 2020 about factors influencing incomplete immunization among under five years old children where 66.5% took 2-3 hours.

Most of the respondents (41%) were widowed because the area had a high prevalence of communicable diseases and a poor health care system hence high deaths. However, this is not in conjunction with a study conducted by Mauthe et al in 2020 in Rwanda about factors influencing incomplete immunization among under five years old children which revealed that about 2.4% were

widows.

4.2. Individual-related factors associated with incompleteness of immunization.

The majority of the respondents (64%) were aware of the threat of vaccine-preventable illnesses because they had gotten the minimum level of education however the study does not agree with that done by Anderson in 2016 about the parent barriers to immunization which showed that 16% reported that they lacked knowledge about childhood vaccinations.

The majority of the respondents (69%) had a bad attitude towards vaccines. This was possible

because they had preconceived ideas about vaccines such as vaccines leading to death, infertility, impotence, lameness, and blindness however it is not in line with a study conducted by Galadima in 2021, Sub-Saharan Africa about factors influencing childhood immunization uptake where 9% mothers lacked confidence towards vaccine safety and this was due in their religious and cultural beliefs against immunization where some reported that vaccines contained an anti-fertility component and therefore could destroy the eggs of females and cause damage and the rest had a good attitude towards it.

The majority of the respondents (56%) noted that the process was a waste of time because they went to the hospital early and waited for a long before the health workers arrived however this is not in line with a study by Galadima in 2021 conducted in Sub Saharan Africa about factors influencing childhood immunization uptake cited that poor attitude of mothers was the major cause for poor childhood immunization process where most, 45% of mothers considered the process to be a waste of time.

The majority of the respondents (56%) replied that immunization was a waste of time because they saw that the child was very healthy and saw no need to go for immunization again after the first shot but this is not in agreement with a study done by Galadima in 2021, Sub Saharan Africa about factors influencing childhood immunization uptake which cited that most, 45% mothers considered the process to be a waste of time.

The majority of the respondents (84%) replied that their occupations affected the child's immunization schedule because most of them were shopkeepers who were always busy at their shops and the time taken during immunization was always much as it makes them make loses when they close the shops.

The majority of the respondents (51%) replied that they lacked time off work to go to the immunization centers because of the many customers they had to serve at their workplaces. However, it's not in line with a study done by Kamau et al in 2020 in Kenya about adherence to immunization schedules among children which cited that

37% of the participants reported a lack of time off to take children for immunization due to their busy form of employment.

The majority of the respondents (58%) reported that vaccines were bad and this was possible because the respondents had cultural and religious beliefs this is in agreement with done by Anderson in the United States of America, Arkansas, 2016 about the challenges of getting vaccines showed that parent barriers to immunization showed that 52% of the respondents reported that they had unreasonable fears about the vaccines and hence they were bad.

Most of the respondents (23%) reported that vaccines boasted the child's immunity

because they had been taught by the village health teams and the minority had distrust in vaccines because they had never been oriented by any health worker. This is not in line with a study done in Rwanda by Chinenye et al in 2020 about factors influencing incomplete of immunization among under five years old children where 17% of the respondents lacked knowledge of the immunization process and the rest had knowledge about it.

The majority of the respondents (63%) reported that they feared COVID-19 at the hospital and this was possible because the research was carried out during the times of pandemic of COVID 19 and this agrees with a study done by Jimma et al, 2021 in Ethiopia about full vaccination coverage and associated factors among 12 to 23 months children which noted that fear of covid-19 was the major cause of incompleteness of immunization

4.3. Health facility-related factors associated with incompleteness of immunization.

The majority of the respondents (63%) knew how to read, write and speak English because they had attended up to the minimum level of education.

The majority of the respondents (63%) could fill out their children's immunization cards because they knew how to read and write. The majority of the respondents (63%) reported that

they feared COVID-19 at the hospital and they strongly believed their children would contract from the hospital this was possible because the research was carried out during the times of pandemic of COVID 19 and this is during agreement with a study done by Jimma et al, 2021 done in Ethiopia about full vaccination coverage and associated factors among 12 to 23 months children which noted that fear of covid-19 was the major cause of incompleteness of immunization

The majority of the respondents (56%) reported long waiting hours at the health facility because vaccines were delivered late at the immunization Centre and the health workers also arrived late. This is in line with a study done by Nakabuye, 2018 in Uganda about factors influencing the completion of the immunization schedule of children where 54.2% of the respondents reported that immunization equipment was unavailable at the health facility hence waiting for long.

The majority of the respondents (81%) replied that distance to the health facility influenced their children's completion of the immunization process. This was possible because they never had transport means and the transport cost was high since the research was carried out in the times of the COVID-19 pandemic and they stayed far. It is not in agreement with a research study carried out by Nakabuye, 2018 in Uganda about factors influencing completion of the immunization schedule of children which cited that 37.4% of the respondents lived more than 5 km from the nearest health facility.

Most of the respondents (43%) reported that walking to the health facility influenced their children's completion of immunization. This was because there was no direct access route to from their home to the health facility and they left far from the immunization center. The study is in line with a study done by Nakabuye, 2018 in

Uganda about factors influencing completion of the immunization schedule of children where 88.7% used foot to walk to the health facility hence distance influenced their going to the health facility.

The majority of the respondents (58%) reported inadequate power supply because the gov-

ernment had not completed the installation process of the electrical system and this is in agreement with a study by Ogunsola et al, 2019 in Nigeria about exploring factors influencing immunization utilization of health services where 45% cited inadequate electrical power supply further challenged the vaccine cold chain and thwarted the possibility to store vaccines at facilities.

5. Conclusion.

In conclusion, therefore, most of the respondents were of the age group 27-37 years, Majority of the respondents were females, majority, of the respondents stopped at the primary level. The majority, of the respondents, were married, majority of the respondents shop attendants Majority, 56% of the respondents replied that immunization was a waste of time. The majority of the respondents replied that they lacked time off work to go to the immunization centers. Some notified that health workers reached the hospital late and they waited for long hours.

6. Recommendations.

The government should employ more health workers such that the majority can go for outreach services in different areas so that they sensitize all people about immunization, its benefits, and ANC and let people know about the different services offered at the respective health facilities.

Channels of communication like televisions and radios should be intensely used by health workers to spread the message about Immunisation services available so that the incidences of failure to complete immunization are reduced.

Communities should be encouraged and sensitized about the side effects of the vaccines and also encourage to attend outreaches put on by the health providers and seek medical attention about immunization.

Village health teams should be employed to help and teach communities in their respective villages about immunization.

Adequate medications should be provided by the government to help these people be free and

go to the health facility for ANC, immunization, and child care.

7. Acknowledgement

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8. List of Abbreviations and Acronyms

BCG: Bacillus Calmette-Guérin
DPT: Diphtheria, Pertussis, Tetanus, and Hepatitis B
HBV: Hepatitis B Vaccine
IPV :
Inactivated polio vaccine
MHO : Municipal Health Officer
OPV : Oral Polio Vaccine
PCV: Pneumococcal Conjugate vaccine
PENTA: Pentavalent Vaccine against Haemophilus influenzae type B,
UNICEF: United Nations Children's Fund
USAID: United States Agency for International Development
USAID: United States Agency for International Development
VDPV: Vaccine-derived polioviruses
WHA: World Health Assembly
WHO: World Health Organization

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