

KNOWLEDGE, ATTITUDE, AND PRACTICES OF MOTHERS TOWARDS CHILD IMMUNISATION AT GOMBE DISTRICT HOSPITAL, BUTAMBALA DISTRICT. ACROSS-SECTIONAL STUDY.

Resty Namutebi*, Lydia Anywar
Medicare Health Professionals College.

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ABSTRACT

Introduction

Immunization is the process whereby a person is made immune or resistant to an infectious disease, typically by administering a vaccine. These vaccines help to stimulate the body's immune system to protect the person against subsequent infection or disease.

Methodology

This was a cross-sectional study that employed a random sampling method and each participant was assessed using a pre-designed questionnaire. Data was analyzed by use of paper, pens, and tallying and presented in tables and pie-charts for easy interpretation

Results

majority 63.2% had heard about immunization before, 50% knew that the importance of immunization was to strengthen their children's ability to fight against childhood immunizable diseases, attitude of mothers towards immunization majority 90% agreed that immunization was of importance towards a child's health, most of the mothers (79%) say they would encourage other mothers to bring their children for immunization majority of the mothers (64.2%) believe it's safe to vaccinate their children. Regarding practices of mothers towards immunization; the majority (77.9%) fully immunize their children and the minority (22.1%) did not fully immunize their children because of the fear of the post-vaccination side effects.

Conclusion

majority of the mothers know child immunization, its importance towards their children's health, and when a child needs to be vaccinated, the vids and the recommended sites for different vaccines, mothers generally had good attitude towards immunization of children since all had ever brought their children for immunization and mothers had good practices for immunization of their children which was portrayed by most of the children being fully immunized.

Recommendation

Government should come up with programs creating awareness concerning the importance of child immunization and delivery of immunization services at all health facilities among various communities as this is associated with a higher likelihood of child immunization.

Keywords: Knowledge, Attitude, Practices, Mothers, Child Immunisation.

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Corresponding author: Resty Namutebi*

Email: namutebiresty253@gmail.com

Medicare Health Professionals College.

Background of the Study

Immunization is the process whereby a person is made immune or resistant to an infectious disease, typically by

Administering a vaccine (*Immunization & Vaccines*, 2023.). These vaccines help to stimulate the body's immune system to protect the person against subsequent infection or disease, therefore it depicts the ability to develop immunity (WHO, 2022).

Immunization is a means of protecting a person against vaccine-preventable diseases by building the body's

defense system so that it can fight off diseases. This is achieved by giving vaccines through the mouth and injections in all government or non-government facilities and outreach sites in various communities at no cost (MOH, 2022). It is achieved through the use of vaccine, the concept of vaccination was introduced by Edward in

1796 when he performed an inoculation on James Philips against smallpox and was unaffected after subsequent exposure.

Globally, vaccination continues to decline in 2021 with 25 million children missing out on life-saving vaccines, 2 million more than in 2020, and 6 million more than in

2019 (UNICEF, 2021). The WHO estimates of national immunization coverage also show that 112 countries experienced declining DPT3 coverage since 2019 with 62 of those countries declining by at least 5% points as a result, 25 million children were under-vaccinated in 2021 where more than 60% live in 10 countries and 18 million did not receive any vaccines, an increase of 5 million from 2019. Asia holds the highest prevalence of non-compliance which implies notable gaps in vaccination coverage among most regions. (1680, 2023). In 2019, vaccine hesitancy (VH) was named by the World Health Organization (WHO) as one of the top 10 threats to global health, following a five-fold global increase in measles a disease that can be prevented by vaccination (WHO, 2019).

In Australia, a survey was conducted online among Australian parents to determine the associations between demographic and vaccination attitudes and behavior. It was found that 452 respondents were parents of children aged below 18 years. Despite 92% reporting their children as up to date with vaccination, 52% had concerns and their reasons for non-compliance included disagreeing that vaccines are safe odds ratio (OR), 2.79, 95% confidence interval (CI) of 1.00 to 7.76 and obtaining information from alternative health practitioners (OR), 6.54, 95% (CI), 1.71 to 25.00. The majority (83%) obtained vaccination information from their GPs (Danchin et al 2017)

In Africa, the immunization coverage in Sub-Saharan Africa is 71% which indicates a low level of

METHODOLOGY

Study Design

The study was a descriptive cross-sectional study design, because data was described without any alteration, and data was collected at one point in time. It was cross-sectional because the participants had varying characteristics of age, marital status, level of knowledge, level of education, and cultural background.

Study Area

The study was conducted in Gombe District Hospital which is located 21.0 km off Masaka Road. It was the main health care facility in Butambala district, serving over 250,000 people in Butambala District, Gomba District, and parts of Mpigi and Mityana districts. The study setting was selected because the problem under study was prevalent on the ground according to the immunization records presented. The health facility offered many health care services including immunization, child health services, obstetrics and emergency care, HIV/AIDS management services, general patient management, laboratory services, and antenatal and post-natal services. EMTCT program as well as RCT services. The study was limited to mothers' knowledge, attitudes, and practices

immunization compliance in comparison to the WHO target. A total of 8.4 million children in the African region, compared with 18 million globally, were left out of immunization services in 2021, (WHO, 2023). Access to immunization services is even more difficult among poor or marginalized communities or those rendered vulnerable by conflicts or living in fragile settings (1680, 2023).

The key drivers of immunization in Uganda include education levels of caretakers or parents, cultural or religious beliefs, age of caretakers, terrain, accessibility to healthy facilities, mobility of the population, refugee status, negative or anti-vaccine sentiments, socioeconomic status, and attitudes of caretakers. Besides, there could be variations in healthy information management system (HMIS) based estimates that only 55% of children aged 12 to 23 months were found to be fully vaccinated with coverage being relatively higher in urban areas (Ombeva et al, 2019).

No study has however been conducted in the study area, therefore the researcher intends to research the knowledge, attitude, and practices of mothers toward child immunization at Gombe District Hospital

General objectives

The general objectives of the study were to determine the knowledge, attitude, and practices of mothers toward child immunization at Gombe District Hospital.

towards immunization at Gombe district hospital in Butambala district. The study was carried out from July 2023 to August 2023, for the researcher to be able to get the needed information for the study.

Study Population

The study population comprised mothers with children aged 9 months and below attending MCH at Gombe District Hospital in July.

Sample size determination.

The overall sample size was determined using Kish and Slie's (1965) formula.
$$= \frac{Z^2 E}{e^2}$$

Where sample size required

E = Acceptable error /required precision of the estimate = 0.07

Z = the standard variant (normal z-score) corresponding to the confidence interval i.e for the confidence interval of 95% Z = 1.96 .P

P = Proportion of children that received all basic vaccinations i.e 41.3% (GHSP, 2022)

$$(1-P) = \frac{1.96^2 \times 41.3 \times 0.587}{n} \quad n = 190 \text{ Respondents}$$

Therefore, 190 respondents were involved in the study

Sampling Technique

The sampling technique was a non-probability sampling method i.e. purposive sampling method was used since the

data collected was involving mothers who brought their children aged 9 months and below for immunization

Sampling Procedures

The researcher selected mothers who brought their children for immunization at MCH in Gombe Hospital, Butambala district.

Data Collection Methods

Questionnaires were used for data collection in the study and were delivered by the researcher to the selected participants where information regarding factors associated with immunization was sought.

Data Collection Tools

The only data collection tool in the study was a questionnaire which comprised close-ended questions that were typed and printed on papers in English by the researcher including other materials e.g. pens, rulers, and a pencil.

Data Collection Procedure

The respondents were informed about the content of the study and consent was sought. The researcher got information from the respondents as she recorded it herself with a serial number printed on every questionnaire for each respondent.

Study variables

The independent variable

This consisted of the knowledge and attitudes of mothers

The dependent variable

This was child immunization.

Quality Control

For quality data collection, two research assistants were recruited and trained by the principal researcher on how to answer questions in the questionnaire form, how to treat respondents ethically, and how to translate any questions in the questionnaires for respondents.

These assisted in interviewing mothers with children aged 9 months and below and filled in the questionnaire according to the responses given.

Pre-testing of the research tool

The researcher before the exercise, the questionnaire and interview guide were pre-tested at Nkozi Hospital located in the Mpigi district because it experiences the same immunization cases and the same level as the Gombe district hospital, for proper capturing of all data required

to answer the research objectives and help in the effectiveness of the questionnaires and interview guide by making the question simple and direct to reduce the time required for each question and determination of the validity and reliability of the question in the study tools.

Training of Research assistants

Research assistants were trained two days before the start of the research which involved different research procedures like ethical considerations, quality control, the definition of the study population, study area and the sample size, and the full research protocol of how the research especially in data collection and data analysis was conducted in the study area.

Periodic monitoring was conducted to ensure that the protocol of research was followed and to minimize bias during the study.

Inclusion Criteria

The study included mothers with children aged 9 months and below who attended immunization services at the MCH department in Gombe district hospital. Only mothers who consented to participate in the study were considered.

Piloting the study

The researcher sought permission from relevant authorities and then developed a questionnaire which was presented at Nkozi Hospital to check the effectiveness, reliability, and sustaining of the researcher.

Data Analysis and Presentation

The data collected was analyzed using Microsoft Excel, to generate frequencies and percentages. Findings were presented in the form of tables, pie charts, and graphs.

Ethical Considerations

A letter of introduction from the principal of Medicare Health Professionals College was presented to the administration of Gombe District Hospital seeking permission to conduct the study within the hospital. A copy of the letter was presented to the head of the Department of MCH seeking permission to carry on data collection among mothers. Informed consent was sought from the respondents after a thorough explanation of the study and high-quality confidentiality was ensured by the use of serial numbers instead of names on the questionnaire forms. Participation was entirely voluntary.

RESULTS

Socio-demographic characteristics of respondents

Table 1: Distribution of respondents by socio-demographic characteristics (n=190)

| Variable | Frequency | Percentages (%) |
|------------------------|-----------|-----------------|
| Age | | |
| Below 20 | 35 | 18.4 |
| 21-30 | 95 | 50. |
| 31-40 | 45 | 23.7 |
| 41 And Above | 15 | 7.9 |
| Marital Status | | |
| Single | 45 | 23.7 |
| Married | 90 | 47.4 |
| Separated | 55 | 28.9 |
| Religion | | |
| Catholic | 78 | 41.0 |
| Protestant | 67 | 35.3 |
| Moslem | 45 | 23.7 |
| Born Again | 20 | 10.5 |
| Adventist | 10 | 5.3 |
| Occupation | | |
| Unemployed | 140 | 73.7 |
| Employed | 50 | 26.3 |
| Education Level | | |
| Primary | 52 | 27.4 |
| Secondary | 80 | 42.1 |
| Tertiary | 38 | 20 |
| None | 20 | 10.5 |

The results show that the majority 95(50%) of the respondents were between (21-30) years of age while the minority 15(7.9%) were 41 and above years old. About 90(47.4%) of the respondents were married while the least, 45(23.7%) were single. Majority, 140(73.7%) of the respondents were unemployed and 50(26.3%) were

employed. Most 80(42.1%) of the respondents had attained a maximum of secondary level education and the least 20(10.5%) of the respondents had attended none.

Knowledge of mothers about immunization

Table 2: Distribution of respondents by whether they have heard about immunization (n=190)

| Respondents | No. Of Respondents | Percentage (%) |
|-------------|--------------------|----------------|
| Yes | 120 | 63.2 |
| No | 70 | 36.8 |
| Total | 190 | 100 |

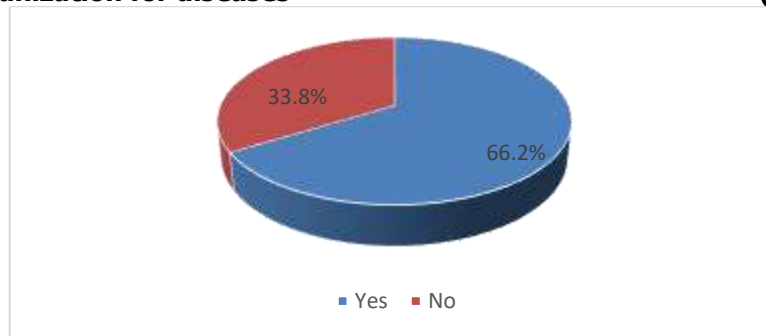
The majority of the respondents 120(63.2%) had heard about immunization and 70(36.8%) of the respondents had never heard about immunization.

Table 3: Distribution of respondents by the knowledge of the importance of immunization, n=190)

| Response | Respondents | Percentage (%) |
|---|-------------|----------------|
| Strengthens child's ability to fight against childhood immunizable diseases | 95 | 50 |
| Contributes to a child's proper growth and development | 57 | 30 |
| Reduces costs in terms of time and money spent on treatment | 9 | 4.7 |
| Protects women and their future babies from tetanus | 29 | 15.3 |
| Total | 190 | 100 |

The majority, 95(50%) of the respondents knew that immunization is important in strengthening a child's ability to fight against childhood immunizable disease and the least 9(4.7%) knew that immunization is important in reducing costs in terms of time and money spent on treatment.

Figure 1: Showing Distribution of respondents by their knowledge of when to begin and complete immunization for diseases (n=190)



The majority, 130(63.4%) of the respondents knew when to begin and complete immunization, and the minority, 60 (31.6%) of the respondents didn't know when to begin and complete immunization.

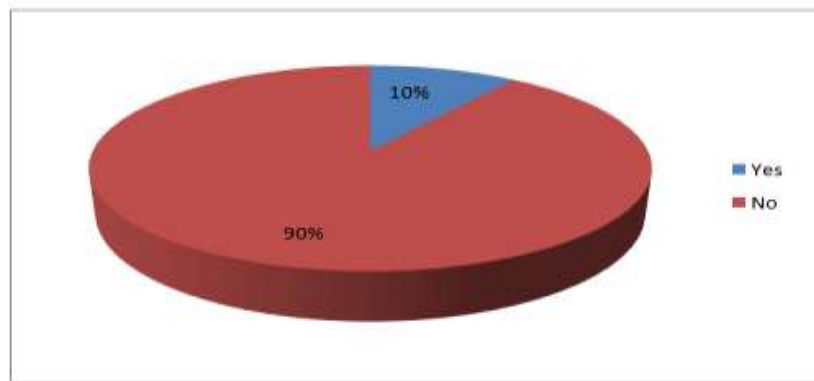
Table 4: Distribution of respondents by their knowledge about immunizable diseases

| Respondents | Number Of Respondents | Percentage (%) |
|--------------|-----------------------|----------------|
| Polio | 59 | 31.1 |
| Tuberculosis | 38 | 20 |
| Measles | 81 | 42.6 |
| Chicken Pox | 12 | 6.3 |
| Total | 190 | 100 |

The majority of the respondents 81(42. %) knew measles as an immunizable disease, 59(31.1%) knew polio, 38(20%) knew tuberculosis and the minority 12(6.3%) knew chicken pox as an immunizable disease.

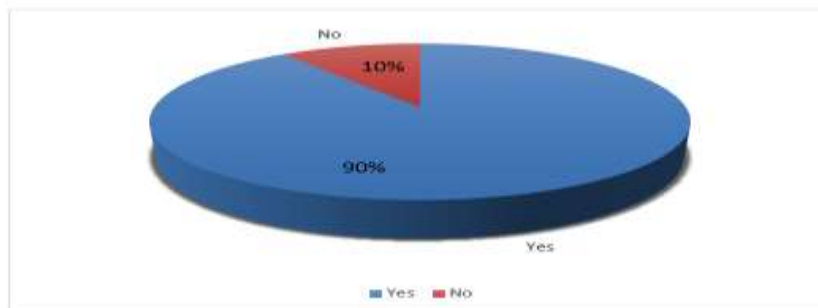
The attitude of mothers towards immunization of children.

Figure 2: Distribution of respondents by attitude on the importance of immunization towards a child's health. n =190



The majority 171(90%) of the respondents agreed that immunization was of importance towards their children's health while the least 19(10%) said that immunization was of no importance.

Figure 3: Distribution of respondents by whether they would encourage others to bring their children for immunization n=190



The majority 150(79%) of the respondents said that they would encourage other mothers to bring their children for immunization and a few 40(21%) said that they would not encourage others to bring them by choosing no.

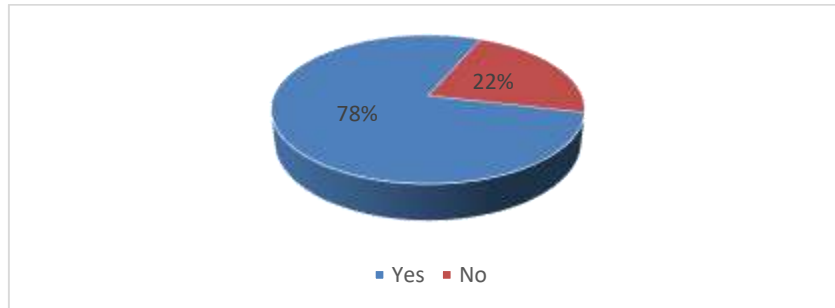
Table 5: Distribution of Respondents by Whether They Think It Is Safe To Have Their Children Immunized, Where N=190

| Response | Respondents | Percentage |
|----------|-------------|------------|
| No | 68 | 35.8% |
| Yes | 122 | 64.2% |
| Total | 190 | 100 |

The majority 122(64.2%) of the respondents agreed that it is safe to have their children immunized and a few 68(35.8%) believed that it is not safe to have their children immunized.

Practices of Mothers towards Immunization

Figure 4; Showing Distribution of respondents by whether their children are fully immunized n=190



The majority, 148(77.9%) of the respondents had children that were fully immunized and the minority 42(22.1%) had children that were not fully immunized.

Table 6; Distribution of respondents by why their children are not fully immunized (n=190).

| Response | Respondents | Percentage (%) |
|---|-------------|----------------|
| Fear that my child would be infertile | 14 | 7.3 |
| I forgot to follow the schedule | 43 | 22.6 |
| I don't know the importance of second and third vaccination | 17 | 9 |
| Fear of post-vaccination side effects | 80 | 42.1 |
| Fear of the child's illness | 36 | 19 |
| Total | 190 | 100 |

The majority, 80(42.1%) of the respondents didn't fully immunize their children because of the fear of the post-vaccination side effects, and the minority, 14(7.3%) didn't fully immunize their children because of the fear that their children would be infertile.

Discussion Knowledge of mothers towards immunization compliance

The study showed that the majority of the respondents (63.2%) had heard about immunization before and (36.8%) of the respondents had never heard about immunization in their area. This could be because of the availability of different sources of information such as media, and health workers who are sensitized about the importance of immunization which is not in line with the study conducted by Mariam Jaiani *et.al.*, (2019) which showed that a few respondents had heard about immunization where rates of full immunization were relatively low for the first child compared to the second and third child.

The study showed that the majority of the respondent (50%) knew that the importance of immunization was to strengthen their children's ability to fight against childhood immunizable diseases and the minority (4.7%) knew that the importance of immunization was to reduce costs in terms of money and time spent on treatment which contributes to social economic development. This could be because the majority of respondents had been sensitized by health workers about the usefulness of immunization to the health of their children which

correlates with the study report MoH (2022) which showed that the importance of immunization was to strengthen child's ability to fight against immunizable diseases, contributes to child's proper growth and development and reduction of costs in terms of time and money spent on treatment which contributes to social economic development and protects the women and her future babies from tetanus.

The study showed that the majority (63.4%) of the respondents knew when to begin and complete immunization while the minority of the respondents (31.6%) did not know when to begin and complete immunization. This could be because they were provided with immunization cards that indicate the proper schedule of when to take their children for immunization which is in line with the study carried out by Verulava *et.al.*, (2019) in Georgia which reported that 63% of the respondents had information about routine immunization, 10% didn't have any information about routine vaccination schedule and 27% found it hard to answer this question.

The study showed that the majority (42.6%) of the respondents knew measles as an immunizable disease 31.1% knew polio, 20% knew tuberculosis, and 6.3% knew chicken pox. This could be because the children of the majority of respondents were affected by measles more than other immunizable diseases hence they knew measles which is not in line with the study carried out by Kaur *et al* (2021) which showed that the majority of the respondents 75.7% knew polio as an immunizable disease, 41.2% knew tuberculosis, 18.4% knew measles while the least 1.9% knew chicken pox

The attitude of mothers toward immunization

The study showed that the majority (90%) of the respondents agreed that immunization was of importance to a child's health and a few (10%) disagreed that immunization was not of importance to a child's health. This could be because the majority of mothers were aware of the importance of immunization through health education which correlates with the study carried out by Samuel (2019) which revealed that the attitude of mothers towards immunization was positive. Similarly, the study carried out by Almutairi, *et al*, (2021) shows that the attitude of mothers towards immunization was positive. According to this study, most of the mothers (79%) said they would encourage other mothers to bring their children for immunization and a few (21%) disagreed that they would not encourage other mothers to bring their children for immunization. This may be due to awareness about the importance of immunization by the mothers which correlates with the study carried out by Adedire, *et.al*, 2021 showed that mothers advised other mothers for routine immunization which showed a highly positive attitude towards childhood immunization.

The majority of the mothers (64.2%) believe it's safe to vaccinate their children and a minority (35.8%) say it's not safe to vaccinate their children. This may be because fully immunized children were not frequently falling sick compared to those who were not immunized which correlates with the study carried out by Adedire, *et.al*, 2021 showed that immunization was beneficial for their children and childhood immunization was safe.

Practices of mothers towards immunization

The majority, of the respondents (55%) did not fully immunize their children and the minority (45%) fully immunized their children. This does not correlate with the study carried out (Mohamed *et. al*,2020) in Somalia which showed that (45.2%) of the mothers had fully immunized their children following the immunization schedule, and out of the mothers who didn't fully immunize their children,42.1% gave their reasons as fear of the post-vaccination side effects,22.6% forgot to follow the schedule, 19% feared the child's illness,9% didn't know the importance of second and third vaccination and 7.3% feared that their children would be infertile.

Conclusions

The study findings indicate that the majority of the mothers know child immunization, its importance towards their children's health when a child needs to be vaccinated, the VPDS, and the recommended sites for different vaccines.

Results have shown that mothers generally have a good attitude toward the immunization of children since all had ever brought their children for immunization.

The findings revealed that mothers had good practices for immunization of their children which was portrayed by their children's child health cards.

Recommendation

The study recommended that:

The government should come up with programs creating awareness concerning the importance of child immunization and delivery of immunization services at all health facilities among various communities as this is associated with a higher likelihood of child immunization. The hospital administration should also put more campaigns on the importance of child immunization to the community through social and development women groups; this can be done through seminars.

Health workers should promote child immunization by properly teaching the mothers the benefits of child immunization and trying to bring out the false beliefs and cultures that affect child immunization.

The health workers should also train and skill more VHTs (Village Health Teams) on child immunization this can help information reach every mother in the community especially mother-in-laws who play a big role in advising their daughters on how to take their children for full immunization

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List of Abbreviations and Acronyms

| | |
|---------|--|
| AIDS | Acquired Immune Deficiency Syndrome |
| AOR | Adjusted Odds Ratio |
| DHS: | Demographic and Health Survey. |
| EMTCT | Elimination of Mother-to-child Transmission |
| HIV | Human Immunodeficiency Virus |
| MCH | Maternal and Child Health |
| MOH: | Ministry of Health |
| RCT: | Routine Counselling and Testing |
| UNEPI | Uganda National Expanded Program for Immunization |
| UNICEF: | United Nations International Children's Emergency Fund |
| VPDS: | Vaccine-Preventable Diseases |
| WHO: | World Health Organization |

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Conflict of interest


The author had no conflict of interest.

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