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KNOWLEDGE, ATTITUDE, AND PRACTICES TOWARDS PREVENTION OF PNEUMONIA AMONG MOTHERS OF CHILDREN BELOW FIVE YEARS AT BWEYOGERERE HEALTH CENTRE III, WAKISO DISTRICT, A CROSS-SECTIONAL STUDY.

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ABSTRACT.

Background.
The purpose of the study was to find out the knowledge, attitude, and practices towards the prevention of pneumonia among mothers of children below five years at Bweyogerere Health Centre III, Wakiso district.

Methodology.
A cross-sectional study with a simple random technique as a sampling technique. Data was collected from a sample of 50 respondents using a questionnaire written in the English language as a data collection tool; later data was systematically analyzed the data manually; and computed into frequency and percentages using Microsoft Excel with illustrated figures like tables and pie charts.

Results.
The majority of the respondents (76%) had ever heard about pneumonia prevention, 82%) of the respondents agreed that pneumonia is a contagious disease that can be fatal in children below five years,(74%) were willing to complete the immunization schedule for their children, (48%) were willing to encourage few of their neighbours to adopt pneumonia preventive measures and (58%) preferred to keep their children both indoor and outside the house. most of the respondents (48%) their children were not exclusively breastfed, (66%) their children were not fully immunized as per EPI guidelines, (40%) had ever attended health education on prevention in a month,

Conclusion.
About the overall findings, the researcher concluded that knowledge and attitude were fairly agreeable but some practices need to be improved on such as uptake of timely immunization schedule and implementation of exclusive breastfeeding to bridge the research gap.

Recommendation.
The researcher recommended that; community outreach should be continuously carried out by health workers at Bweyogerere Health Center III to establish more in-depth favourable practices towards exclusive breastfeeding timely uptake of immunization schedules and cooking behaviors among mothers of children below six months to reduce pneumonia risks.

Keywords. Attitude, Knowledge, Practices, Pneumonia
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BACKGROUND OF THE STUDY.

Pneumonia is an inflammation and fluid in the lungs caused by bacteria, viruses, or fungal infections. According to UNICEF,2020, there are over 1,400 cases of pneumonia per 100,000 children, or 1 case per 71 children every year, with the greatest incidence occurring in South Asia (2,500 cases per 100,000 children) and West and Central Africa (1,620 cases per 100,000 children Globally.

In Nigeria overall, there was a decrease in prevalence from 2011 to 2015 (from 9.6% to 2.3%) followed by an increase to 4.6% in 2018; the same trend was observed in Jigawa. In Lagos, however, following a decline between 2011 and 2013 (from 4.2% to 1.1%), the prevalence then increased, with a 2018 estimate of 2.1% for the South West region.

Ethiopia is one of the Sub-Saharan countries with the highest rates of pneumonia, with an estimated 3,370,000 children encountering pneumonia annually, which contributes to 18% of

all causes of death of more than 40,000 under-five children every year (Pires et.al, 2015).

In Bangladesh, severe pneumonia is the main cause of hospitalization among under-five children (Nasrin et al 2022). Among 156,847 admitted children identified in surveillance performed in seven hospitals in Bangladesh the most frequent diagnosis was pneumonia (Naheed et.al, 2019).

Besides, in East African countries different researchers have tried to investigate the magnitude of pneumonia in under-five children (Mengesha, A. *et al.*2020). The random-effects model analysis from those studies revealed that the pooled prevalence of pneumonia in East Africa including Uganda from 2000 up to 2019 was found to be 34% including Uganda (Biruk et al., 2020).

General objective.

The study describes the knowledge, attitude, and practices towards the prevention of pneumonia among mothers of children below five years at Bweyogerere Health Centre III, Wakiso district.

METHODOLOGY.

Study design.

Kothari & Gaurav (2014), defined a study design as methods used in selecting items to be observed for the given study. Therefore, the study employed a descriptive cross-sectional study design survey to gather data. This design was preferred because it allowed the researcher to solicit personal and self-reported information directly from mothers about the prevention of pneumonia in children below five years.

Study area.

Bweyogerere Health Centre III is located in upper Kireka, in Kira sub-county central region of Uganda, Wakiso District which is approximately12 km from Kampala city of Uganda. The facility has several departments such as; outpatient, inpatient, ART, Laboratory, and antenatal care clinic. The Health Centre receives an average of 100 patients per day. The study was conducted between August 2022- March 2023.

Study population.

The study population was comprised of mothers of children below five seeking medical services at the outpatient department of Bweyogerere Health Centre III, Wakiso district.

Sample size determination.

The sample size was determined using the formula Fisher et. al, 2003 below:

$$n=\frac{z^2p(1-p)}{d^2}$$

where:

n=minimum sample size

z= standard normal deviation at 95% confidential to 1.9

p= existing prevalence 34% of pneumonia among children in Uganda.

d=margin of error

$$\frac{(1.96)2x\ 0.34x\ (1-0.34)}{(0.05)2}$$

N=50

Therefore, 50 respondents were used as the sample size for the study

Study variables
Dependent variable

The Independent variable for this study was the prevention of pneumonia

Independent variables

Knowledge, attitude, and practices towards the prevention of pneumonia among mothers of children below five years were the dependent variables.

Sampling technique

Mubazi (2016), defined the sampling technique as a technique of selecting individual members or a subset of the population to make statistical inferences from them and estimate characteristics of the whole population. For this study, a simple random sampling technique was used to select the sample. The technique was preferred because it ensured that every individual unit in the population under investigation got a chance to be selected from the sample.

Selection criteria
Inclusion criteria

Eligible mothers seeking medical services at Bweyogere Health Centre III, Wakiso district who consented and willingly voluntarily during the time of data collection to participate in the study were inclusively considered.

Exclusion criteria

Mothers and children who fall within the category but are not willing to take part in the study and unable to respond were excluded from the study.

Data collection method

According to Basavanthappa (2007), data collection methods are various techniques that are used during data gathering. The

researcher collected data using a semi-structured questionnaire written in the English language with open-ended questions designed based on the specific objectives. Questions were later translated into the local language (Luganda) to some respondents who didn't understand the English language by the researcher and research assistants. A questionnaire was preferred over other methods because data can easily be quantified, it is also a cheap way of collecting data, and a large group of respondents were covered within a short time.

Pretesting of the questionnaire

To ensure the validity and reliability of the study tools; the researcher tested the first draft of the questionnaire among 10% of respondents from Komamboga Health Centre IV to make necessary corrections to produce a final copy. Results from the pretested questionnaire were excluded from the final study.

Data collection procedure

An introductory letter from Kampala School of Health Sciences was obtained and delivered to the in charge of Bweyogerere Health Centre III, Wakiso district seeking permission to conduct the study. When permission was granted, the researcher trained two assistants about the questionnaire and how to collect the data. The researcher introduced and explained the purpose of the study to respondents verbally and upon their acceptance consent was obtained from the respondents. The data collection process commenced with a systematic sampling of mothers of children below five years seeking medical services meeting the inclusion criteria. Every third mother was recruited after randomly selecting the first respondent. In case the recruited mother would wish to withdraw from participating the next mother was included. Data collection was done within one week until the required sample size was attained.

Quality control

To keep consistency, the questionnaire was brief, elaborate, and easy to understand.
All study participants received a unique participant identification number that was recorded on the questionnaire.
During the data collection period, SOPs for coronavirus were vigilantly observed and maintained by the researcher.

Data analysis and presentation

The researcher systematically analyzed the data manually and computed it into frequency and percentages using Microsoft Excel with illustrated figures like tables and pie charts.

Ethical considerations

To ensure that the research met ethical standards, approval was sought from the principal of Kampala School of Health Sciences to introduce the researcher to the in charge who gave the researcher permission to collect data. Once permission was granted, before quantitative data was collected, the researcher clearly explained the purpose of the study and secured informed verbal consent and written consent from every participant. After voluntary and informed consent; only those mothers, who met the study requirements, consented and voluntarily signed the consent forms were enrolled in the study. Confidentiality of participants' information was assured to them.

RESULTS

Demographic data

Table 1: Shows the distribution of respondents according to demographic data (N=50)

Response	Frequency(f)	Percentage (%)
Sex of the children		
Male	20	40
Female	30	60
Total	**50**	**100**
Children's age		
>1 year	27	54
2-3 years	15	30
4-5 years	8	16
Total	**50**	**100**

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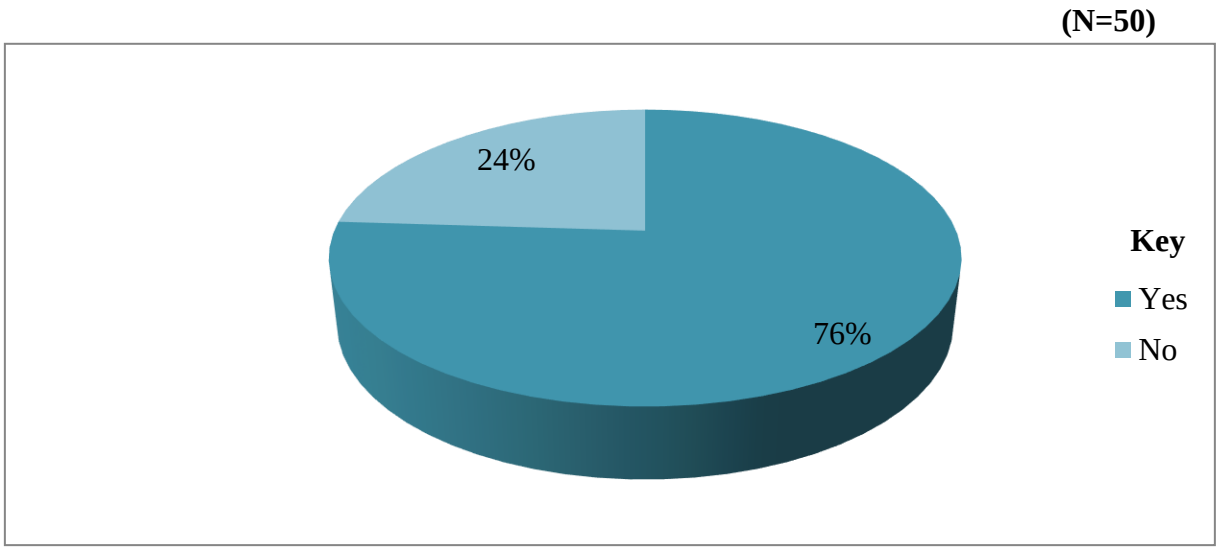
Table 1 (Continuation) Shows the distribution of respondents according to demographic data (N=50)		
Marital status		
Single	7	14
Married	40	80
Divorced	2	4
Widowed	1	2
Total	**50**	**100**
Religion		
Muslim	9	18
Catholic	20	40
Protestants	10	20
Others	11	22
Total	**50**	**100**
Respondent's education level		
Never went to school	3	6
Primary	6	12
Secondary	31	62
Tertiary institution/university	10	20
Total	**50**	**100**
Weight of child (Kg)		
5-5.9	2	4
6-6.9	8	16
7-7.9	5	10
>8	35	70
Total	**50**	**100**

From table 1, most of the respondents (60%) their children were females whereas the least (40%) their children were males.
To add on that, more than half of the respondents (54%) their children were less than 1 year of age bracket whereas the least (16%) their children were within the age bracket of 4-5 months.
In view of the data revealed from the study, majority of the participants (80%) were marriedwhereas the minority (2%) were widows.
In regards to religion, most of the respondents (40%) were Catholics by religion whereas the least(18%) were Muslims by religion.
The study also revealed that more than half of the respondents (62%) had attained secondary level of education whereas the least (6%) had never gone to school.
From the study findings, majority of the respondents of the respondents (70%) their children hadweight of > 8 kilograms whereas the minority (%) their children had weight of 5-5.9 kilograms.

KNOWLEDGE TOWARDS PNEUMONIA PREVENTION AMONG MOTHERS OF CHILDREN BELOW FIVE YEARS

Figure 1: Shows the distribution of respondents according to whether they had ever heard about pneumonia prevention



From figure1 , majority of the respondents (76%) had ever heard about pneumoniaprevention whereas the minority (24%) had never heard about pneumonia prevention.

Table 2: Shows the distribution of respondents according to where they obtained information about pneumonia prevention. (N=38)

Response	Frequency (f)	Percentage (%)
Friends	2	5
Health facility	25	66
Mass media	7	18
Others	4	11
Total	**38**	**100**

From table 2, more than half of the respondents (66%) obtained information about pneumonia prevention from health facilities

whereas the least (5%) obtained information about pneumonia prevention from friends.

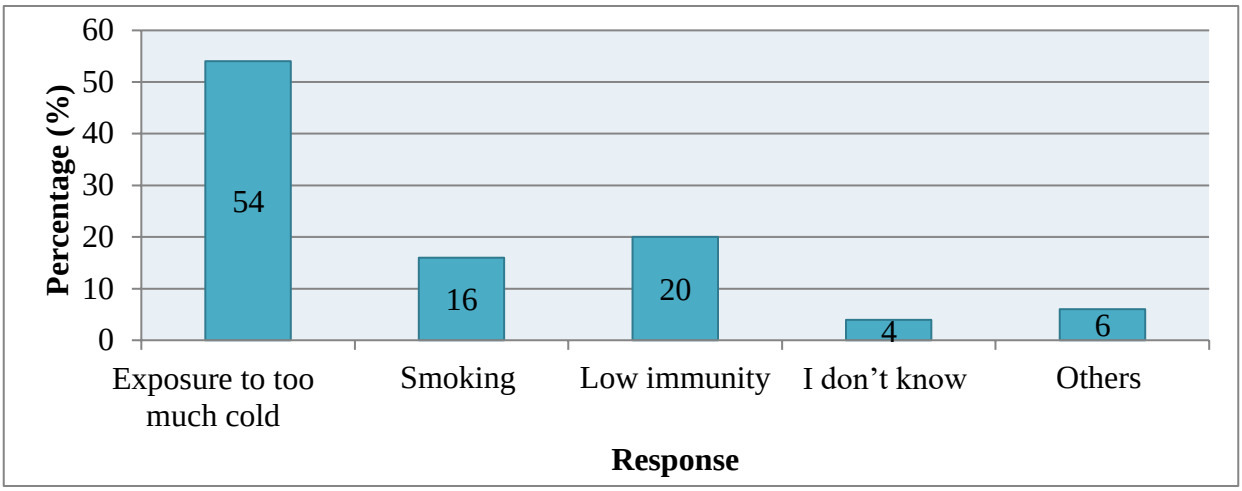
Table 3: Shows the distribution of respondents according to their knowledge about signs and symptoms of pneumonia. (N=50)

Response	Frequency (f)	Percentage (%)
Fast breathing	25	50
Chest drawing	11	22
Severe weakness	7	14
I don't know	3	6
Others	4	8
Total	**50**	**100**

From table 3, half of the respondents (50%) knew fast breathing as the sign and symptomof pneumonia whereas the least (6%) they didn't know the signs and symptoms of pneumonia.

Figure 2: Shows the distribution of respondents according to their knowledge about the risk factors that predispose to pneumonia in children below five years

(N=50)



From figure 2, most of the respondents (54%) knew exposure to too much cold as the riskfactor that predispose to pneumonia whereas the least (4%) they didn't the risk factors that predispose to pneumonia.

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Table 4: Shows the distribution of respondents according to their knowledge about preventive measures of pneumonia. (N=50)

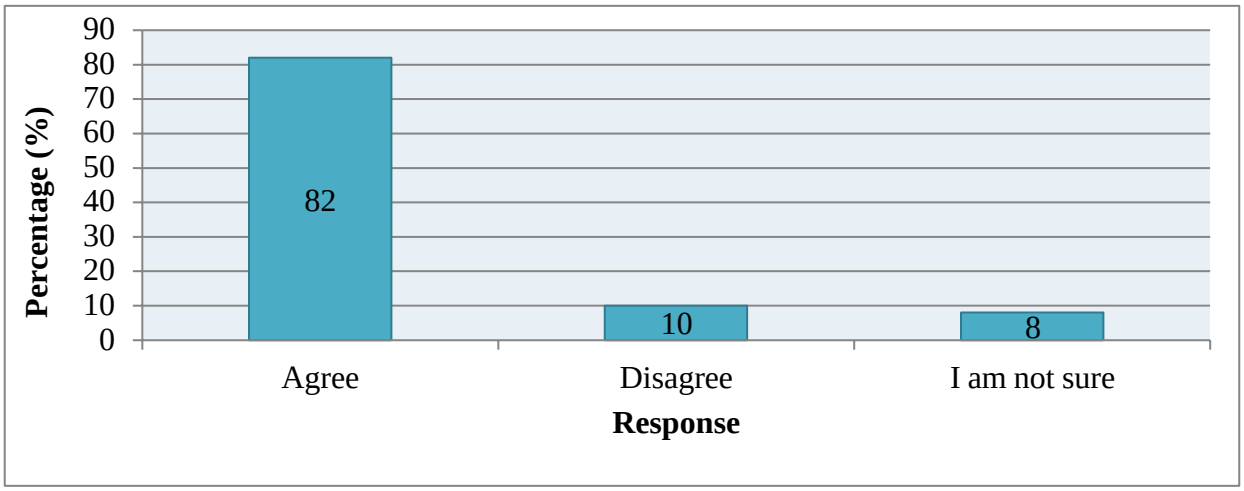
Response	Frequency (f)	Percentage (%)
Providing fresh air	9	18
Keeping warm	30	60
Vaccination	10	20
I don't know	1	2
Total	**50**	**100**

From table 4, majority of the respondents (60%) knew keeping children warm as the preventive measure for pneumonia whereas the minority (2%) they didn't know the preventive measures for pneumonia.

ATTITUDE TOWARDS PREVENTION OF PNEUMONIA IN CHILDREN BELOWFIVE YEARS

Figure 3: Shows the distribution of respondents according to whether pneumonia is contagious disease that can be fatal in children below five years

(N=50)



From figure 3, majority of the respondents (82%) agreed that pneumonia is contagious disease that can be fatal in children below five years whereas the minority (8%) were not sure whether pneumonia is contagious disease that can be fatal in children below five years.

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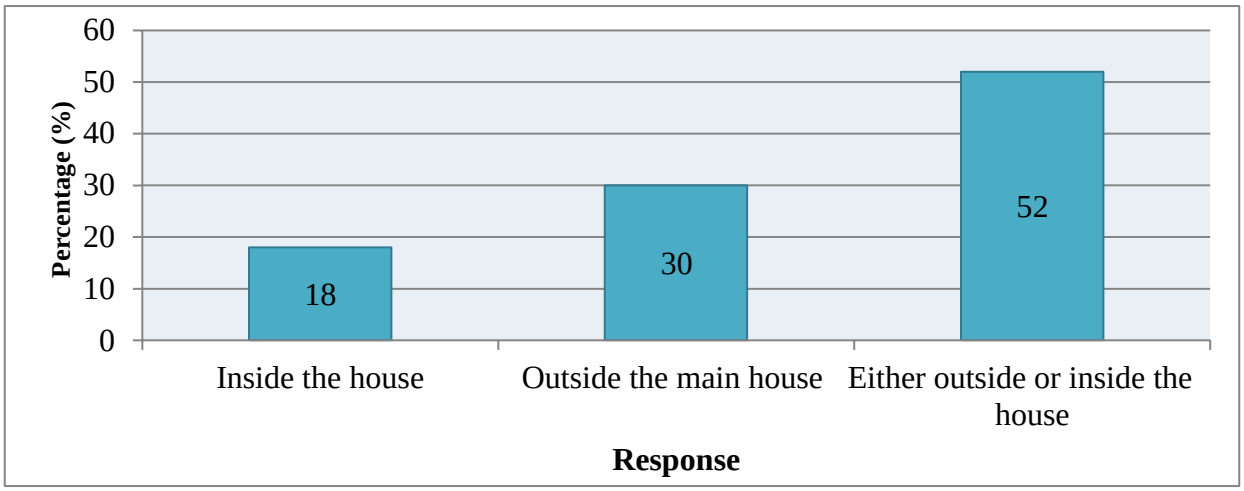
Table 5: Shows the distribution of respondents according to whether were willing to complete the immunization schedule for their children. (N=50)

Response	Frequency (f)	Percentage (%)
Yes	37	74
No	13	26
Total	**50**	**100**

From table 5, majority of the respondents (74%) were willing to complete theimmunization schedule for their children whereas the minority (26%) they were not willing.

Figure 4: Shows the distribution of respondents according to where they preferred toprepare food from

(N=50)



From figure 4, most of the respondents (52%) preferred to prepare food from either insideor outside the main house whereas the least (18%) preferred to prepare food inside the house.

Table 6: Shows the distribution of respondents according to whether they were willing toencourage their neighbors to adopt pneumonia preventive measures. (N=50)

Response	Frequency (f)	Percentage (%)
Yes, but to a notable few	24	48
Yes	23	46
No	3	6
Total	**50**	**100**

From table 6, almost half of the respondents (48%) were willing to encourage few of theirneighbors to adopt pneumonia preventive measures whereas the least (6%) were not willing to encourage few of their neighbors to adopt pneumonia preventive measures.

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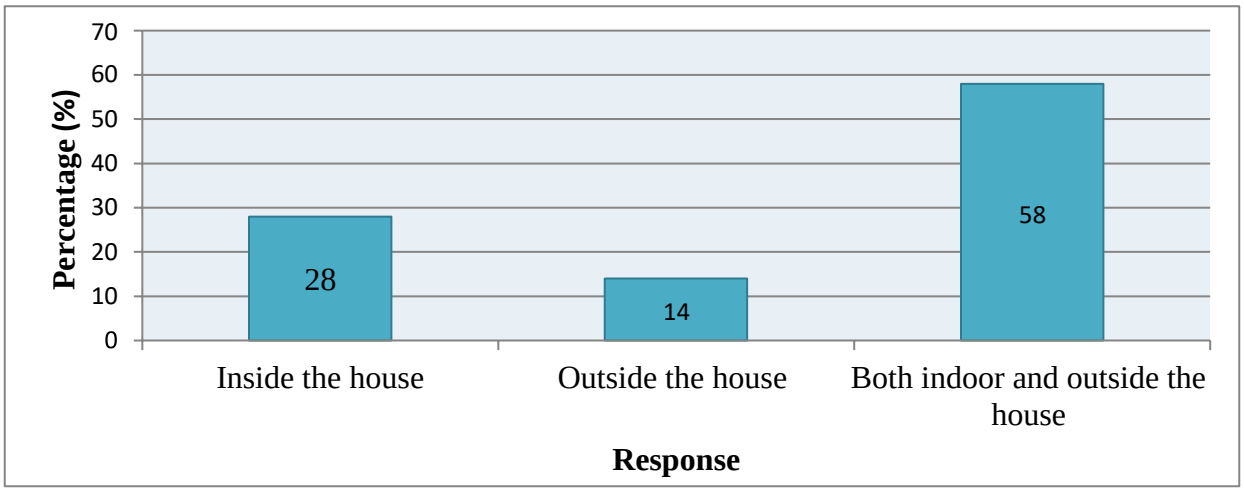
Figure 5: Shows the distribution of respondents according to where they always prefer to keep their children

(N=50)



From figure 5, more than half of the respondents (58%) preferred to keep their children both indoor and outside the house whereas the least (18%) preferred to keep their children outsidethe main house.

PRACTICES TOWARDS PREVENTION OF PNEUMONIA AMONG MOTHERS OFCHILDREN BELOW FIVE YEARS

Table 7: Shows the distribution of respondents according to whether their children wereexclusively breastfed. (N=50)

Response	Frequency (f)	Percentage (%)
Still exclusive breast feeding	7	14
Yes	19	38
No	24	48
Total	**50**	**100**

From table 7, most of the respondents (48%) their children were not exclusively breastfedwhereas the least (14%) were still exclusive breastfeeding their children.

Table 8: Shows the distribution of respondents according to whether their children were

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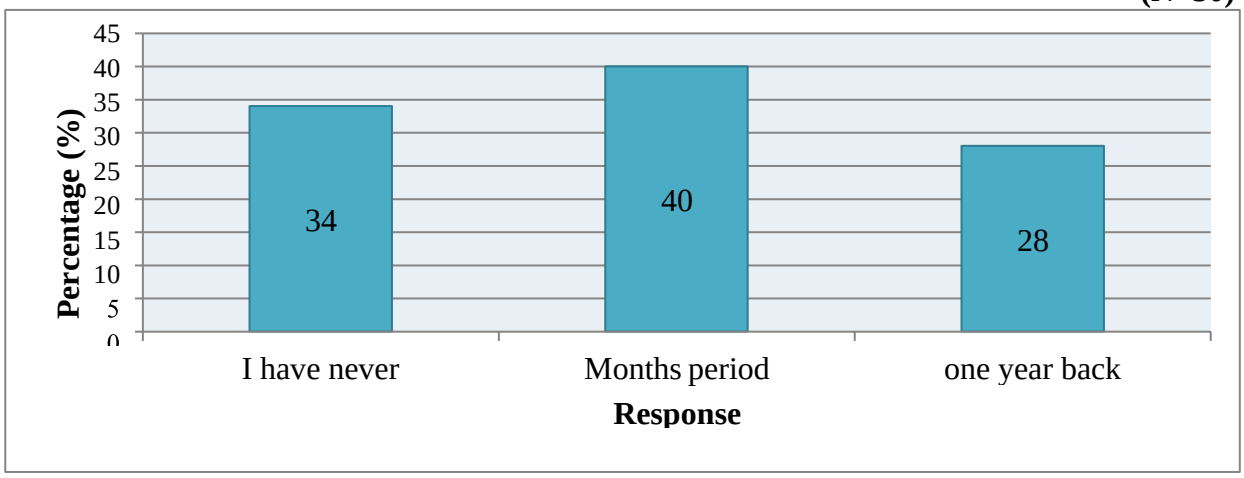
fully immunized as per the Expanded Programme on Immunization (EPI) guide line.(N=50)

Response	Frequency (f)	Percentage (%)
Yes (provide evidence of child heath card)	17	34
No	33	66
Total	**50**	**100**

From table 8, majority of the respondents (66%) their children were not fully immunizedas per the Expanded Programme on Immunization (EPI) guide line whereas the least (34%) their children were immunized as per the Expanded Programme on Immunization (EPI) guide line.

Figure 6: Shows the distribution of respondents according to when they last attended healtheducation on pneumonia prevention

(N=50)



From figure 6, most the respondents (40%) had ever attended health education on pneumonia prevention in month's period whereas the least (28%) last attended health education on pneumonia prevention one year back.

Table 9: Shows the distribution of respondents according to where they cook from. (N=50)

Response	Frequency (f)	Percentage (%)
Inside the main house	9	18
Outside the house	26	52
Sometimes outside or inside the house	15	30
Total	**50**	**100**

From table 9, most of the respondents (52%) reported that they cook from outside their houses where the least (18%) reported that they cook from inside their houses.

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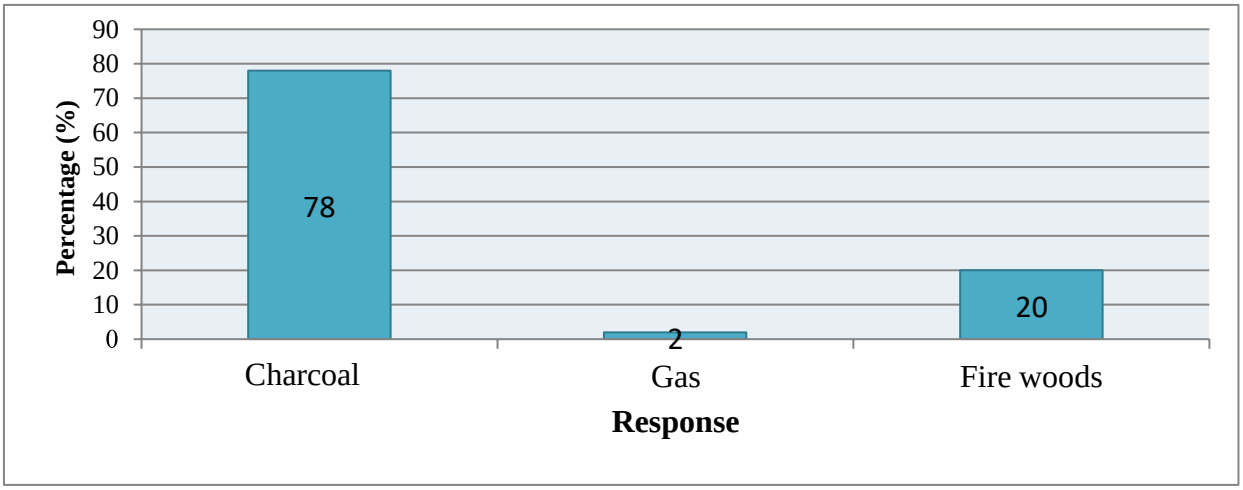
Figure 7: Shows the distribution of respondents according to what they use to prepare food at home

(N=50)



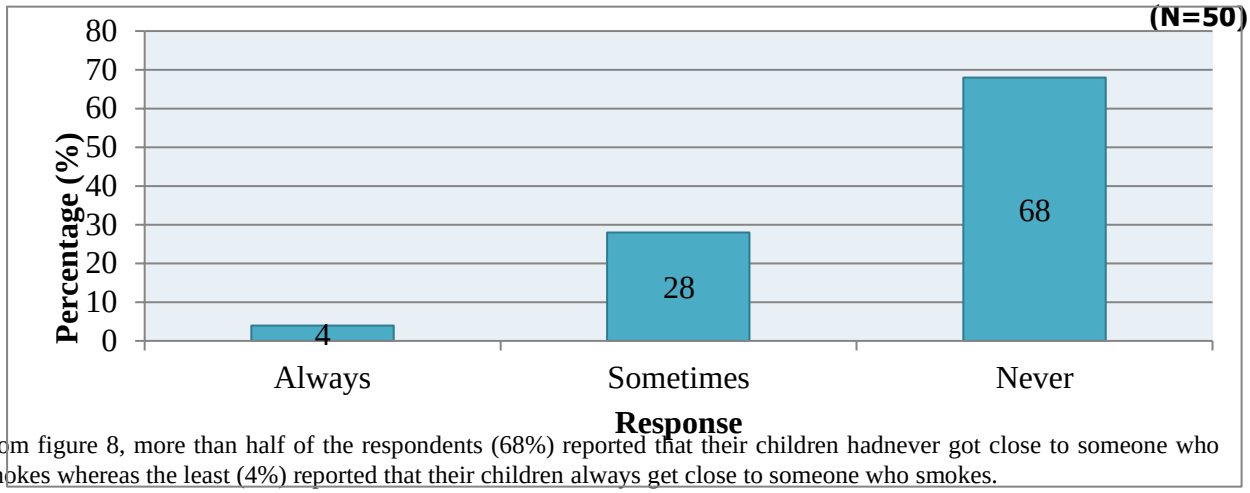
From figure 7, majority the respondents (78%) reported that they use charcoal to preparefood at home whereas the least (2%) reported that they use gas to prepare food at home.

Table 10: Shows the distribution of respondents according to often they carry their childrenat the back while cooking. (N=50)

Response	Frequency (f)	Percentage (%)
I have never	7	14
Sometimes	25	50
Always	18	36
Total	**50**	**100**

From table 10, half of the respondents (50%) reported that they carry their children at the back while cooking where the least (14%) they had never carried their children at the back while cooking.

Figure 8: Shows the distribution of respondents according to how frequently do their children get close to someone who smokes



From figure 8, more than half of the respondents (68%) reported that their children hadnever got close to someone who smokes whereas the least (4%) reported that their children always get close to someone who smokes.

DISCUSSION.

Knowledge of pneumonia prevention among mothers of children below five years

About study findings that were obtained from 50 respondents, the majority of the respondents (76%) had ever heard about pneumonia prevention. This indicates that a considerable number of participants were responsive about the study background. This is consistent with Reaksa & Thanattheerakul (2021)**,** where 78% of the participants had ever heard about pneumonia.

To add on that, more than half of the respondents (66%) obtained information about pneumonia prevention from health facilities. This could be a result of the fact health facilities provide access to more comprehensive information about pneumonia than other sources. The results were in line with Shireen et al l (2016), whose findings revealed that 60% of respondents obtained information from health workers.

Results revealed that half of the respondents (50%) knew fast breathing as the sign and symptom of pneumonia. This denotes a significant relationship between the general awareness of the study context and sources of information. The study results were in disagreement with Tuhebwe et.al (2014), where results showed that many of the caretakers (65.1%) knew severe weakness.

The study further revealed that most of the respondents (54%) knew exposure to too much cold was the risk factor that predisposed them to pneumonia. This implies that an average number of mothers were aware of the risk factors that predispose them to pneumonia.

The study results were in line with findings from a study that was carried out in Nigeria in Benin City by Nwaneri et al, 2016), where 1060(86.7%) of the respondents knew exposure to too much cold was the most common risk factor to pneumonia

Findings from the study also indicated that (60%) of the respondents knew keeping children warm was the preventive measure for pneumonia. This could be attributed to the fact that an outstanding number of the mothers had ever been sensitized and therefore, were most likely to be aware of the preventive measures. The study results were in agreement with Kaaria et.al (2020), where most of the caregivers indicated keeping warm 128(85.0%) as the main preventive measure for pneumonia.

Attitude towards prevention of pneumonia in children below five years

The study revealed that the majority of the respondents (82%) agreed that pneumonia is a contagious disease that can be fatal in children below five years. This implies that study participants were afraid of the consequences that result from pneumonia. The study results were in line with Reaksa & Thanattheerakul (2021), whose findings showed that 78% agreed that Pneumonia is a contagious disease that can be fatal in children under the age of five

The study also revealed that the majority of the respondents (74%) were willing to complete the immunization schedule for their children. This reveals that mothers could have perceived positive health-seeking behaviours toward pneumonia prevention. The current results were consistent with a study that was done by Kaaria et al (2020), where (78%) of respondents were willing to complete the immunization schedule for their children.

Nevertheless, most of the respondents (52%) preferred to prepare food from either inside or outside the main house but such perception might predispose to risks of pneumonia. The study results were in line with Nwaneri et al (2016), whose findings showed that (56%) of participants agreed that they cook inside their houses which exposes the children to risks of pneumonia.

Almost half of the respondents (48%) were willing to encourage a few of their neighbors to adopt pneumonia preventive measures. This could be a result of the fact that they were afraid of complications that may result from pneumonia infection. The study results were quite similar to Maysa & Mustafa (2022), where 50 (59.52%) of the mothers were willing to encourage their neighbors to adopt pneumonia preventive measures.

Study results revealed that more than half of the respondents (58%) preferred to keep their children both indoors and outside

the house. This is attributed to the fact that the outstanding number of the mothers had children with age brackets less than one year and children within that age bracket are highly at risk of being exposed to infections. The study results were in agreement with Reaksa & Thanattheerakul (2021), whose findings showed that 251(61.2%) of mothers preferred to keep their children indoors.

Practices towards prevention of pneumonia among mothers of children below five years

Interestingly, most of the respondents (48%) their children were not exclusively breastfed. Therefore, this is clear evidence that signifies that they were predisposing their children to the risk of getting pneumonia infection. The study results were contrary to Nwaneriet al (2016), where results revealed 66% of the children were exclusively breastfed up to six months.

The majority of the respondents (66%) their children were not fully immunized as per the Expanded Programme on Immunization (EPI) guideline. Such evidence notifies that a significant number of participants had low uptake of immunization hence lowering the immunity of their children. This is in line with Balinga (2019), where results revealed that parents possessed children with unfavorable immunizations (73.68%).

The study also revealed that most of the respondents (40%) had ever attended health education on prevention in a month. However, the study has yet to reveal the major reasons why they had partial immunization cards despite having been ever sensitized. The study results were in agreement with study findings that were obtained by Yordanos et.al (2019), where results depicted that 63.8% had heard/been trained on how to handle domestic smoking by health extension workers.

Given the study results most of the respondents (52%) reported that they cook from outside their houses. This implies that most of the study participants were trying to comply with some preventive measures for pneumonia infection. The study results were in agreement with Kiconco et al (2021), whose findings showed that most of the children (76%) came from families that cook from outside the main house using biomass.

However, half of the respondents (50%) reported that they carry their children at the back while cooking. This could probably be attributed to the fact they were afraid that their children might get burnt yet indirectly they were exposing them to risks of pneumonia.

Finally, more than half of the respondents (68%) reported that their children had never gotten close to someone who smokes. This implies that mothers used to critically observe the people who were associating with their children. The study results were inconsistent with Shireen et al (2016), where (56%) of children were not exposed to smoking.

CONCLUSION

In regards to inclusive findings that were obtained from a sample of 50 respondents, the following conclusions were made The researcher discovered that the knowledge of pneumonia prevention was satisfactorily fair since (76%) of the participants had ever heard about pneumonia prevention (66%) obtained information from health facilities, (50%) knew fast breathing as the sign and symptom of pneumonia, (54%) knew exposure to too much cold as the risk factor that predispose to pneumonia and (60%) of the respondents knew keeping children warm as the preventive measure for pneumonia.

The study further revealed that the attitude towards pneumonia was positive since (82%) agreed that pneumonia is a contagious disease that can be fatal in children below five years, (74%) were willing to complete the immunization schedule for their children, (48%) were willing to encourage few of their neighbours to adopt pneumonia preventive measures and (58%) preferred to keep their children both indoor and outside the house

Based on overall findings on practices were partially agreeable since (48%) their children were not exclusively breastfed, (66%) their children were not fully immunized, and (50%) carried their children at the back while cooking.

Generally, the researcher concluded that knowledge and attitude were fairly agreeable but some practices need to be improved such as the uptake of timely immunization schedules and implementation of exclusive breastfeeding to bridge the research gap.

RECOMMENDATIONS

- The Ministry of Health should intensively encourage timely childhood immunization and also work hand in hand with the Ministry of Environment and Sanitation to monitor and evaluate industrialized areas since wastes pollutes the environment and perhaps increase the risk of pneumonia.
- Community reaches should be continuously carried out by health workers at Bweyogere Health Centre III to establish more in-depth favourable practices towards exclusive breastfeeding timely uptake of immunization schedules and cooking behaviours among mothers of children below six months to reduce pneumonia risks.
- The local authorities and community health workers should sensitize the community more so industries about the proper disposal of industrial wastes to avoid hazards of toxicity around the households.

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I thank God for being with me from the beginning to the end of this course.

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LIST OF ABBREVIATIONS/ ACRONYMS

ARI: Acute Respiratory Infection
BCG: Bacilli Calmette Guerin
DPT: Diphtheria Pertussis Tetanus
IMCI: Integrated Management of Child Illness
MoH: Ministry of Health
EPI: Expanded Programme on Immunization
SOPs: Standard Operating Procedures
UAHEB: Uganda Allied Health Examinations Board
UNICEF: United Nations International Child Emergency Fund.
WHO: World Health Organization

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