

Attitudes Toward and Clinical Pneumonia Factors Among Children Attending Jinja Regional Referral Hospital in Jinja District

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ABSTRACT

A study conducted at Jinja Regional Referral Hospital involved 220 children aged five and below, identifying various predisposing factors to pneumonia. Out of these, 35 (15.9%) had pneumonia. Risk factors included early weaning (11.3%), prematurity (48.2%), and failure to adhere to the immunization schedule (9.7%). HIV infection (22.9%), malnutrition (12.7%), and caretakers' attitudes towards pneumonia were also identified. The prevalence of pneumonia in children aged five years and below was 15.9%. Factors such as early weaning, less adherence to the immunization schedule, prematurity, malnutrition, and HIV infection were identified as predisposing factors. To reduce the prevalence of pneumonia, it is crucial to avoid these factors and educate caretakers about risk factors and preventive measures.

Keywords: attitudes, clinical factors, pneumonia, children

INTRODUCTION

Pneumonia is an infection of the lungs, caused by among other etiologies, bacteria or viruses. It is an infection of the lung parenchyma and is caused by a wide variety of organisms in pediatric patients. Anyone can be affected, but young children and the elderly are most susceptible. Pneumonia is almost often preceded and triggered by a cold or bout of flu [1, 2].

Pneumonia kills more children than any other illness, more than AIDS, malaria and measles combined. Over 2 million children die from pneumonia each year, accounting for almost 1 in 5 (20%) under five deaths worldwide. Yet, the disease is receiving less attention than it deserves (Victorian Department of Human Services, 2014).

The under-fives, being among the most vulnerable group, demand more attention and surveillance than is currently given. This is necessary if we are to reduce pneumonia mortality, a key step towards the achievement of the millennium development goal on child mortality.

There are studies that have suggested a close association among socioeconomic status, malnutrition and infectious diseases, especially pneumonia, leading to a vicious and silent course of disease

especially in vulnerable children. There is evidence that goes both ways on a causal relationship between pneumonia and poor living conditions, the latter frequently encountered in crowding settings, housing with inadequate water and sanitation, where children are repeatedly exposed to viral and bacterial infections. For instance, it has been irrefutably documented that children attending day-care centers are at higher risk of getting pneumonia [3, 4].

Prevalence of individual risk factors for bacterial pneumonia, including HIV-infection and severe malnutrition, contribute to higher pneumonia burden in poorer communities and less developed countries [5, 6].

In regions where *Haemophilus influenzae* type b (Hib) vaccination coverage is low or has not been introduced, pneumonia cases are mainly due to Hib and *Streptococcus pneumoniae*. *S. pneumoniae* is the most common etiology of severe pneumonia and the leading cause of vaccine-preventable death in children less than five years of age [7].

It is in the backdrop of these facts that the researcher conducted this research on the incidence of and factors associated with

community-acquired pneumonia among children under five attending Jinja Regional

Referral Hospital between September and October 2022.

METHODOLOGY

Research Design

The research was a cross-sectional study.

Study area

The study was conducted in Jinja Regional Referral Hospital.

Study population

In accordance to MOH-UG 2014 national population census, the hospital was serving a population of 471,242 with a current total of about 600 beds from all over Jinja, Kaliro, Kamuli, Buyenda, Luuka, Bugweri and other surrounding districts.

Sampling methods

Sampling is the process of selecting a segment of the population to represent the entire population. The study utilized random sampling as it allowed the researcher to select subjects from a population using random procedures [8]. Systematic sampling was used to select participants.

Inclusion criteria

The study included all children under five years old admitted at Jinja Regional Referral Hospital with a diagnosis of community-acquired pneumonia during the study period whose caretakers consented.

Exclusion criteria

Any child above five years admitted at Jinja Regional Referral, or under-five with a diagnosis other than community acquired pneumonia or who was eligible to participate but whose caretaker failed to consent was excluded from participating.

Sampling size determination

Sample size was calculated according to M. Fishers formula 2006.

$$N = \frac{Z^2 PQ}{D^2}$$

Where;

N=Desired sample size

Z=standard deviation at the desired degree of accuracy = 95% (standard value of 1.96)

P= Proportion of the under-fives estimated to have community-acquired pneumonia 16.4% (estimated from [9]) Therefore 16.4%=0.164 was used.

Q=1-P

D=Acceptable level of error=5%=0.05

Therefore N=220

Data collection method

Both primary and secondary data was utilized for the study. Primary data was collected in the form of a self-administered questionnaire that had been appropriately structured as to meet the objectives of the study. Secondary data was obtained from doctors' records in patients' files for diagnosis and laboratory findings on probable etiology.

Data Processing and Analysis

The data collected using semi-structured questionnaires was checked for uniformity, consistency and accuracy. Quantitative data was processed using Epi-data 3.10 software. This program is ideal for quantitative data since it has an advantage over other program in that it permits skip instructions for filter questions. Data validation was performed on 10% of the questionnaires entered. This was done using a double data entry system. The raw data was exported to the Statistical Package for Social Sciences Software (SPSS) via a data entry query for analysis. Frequency tables and cross tabulations was produced. Bi-variate analysis was performed on certain variables to establish existence of relationships. Contingency tables was used to facilitate presentation of findings. Qualitative data [10] obtained from focus group discussions was transcribed and then manually analyzed using themes.

Ethical considerations

The researcher ensured that all information collected remained in privacy. Anonymity was taken into account by not disclosing names. The study will also obtain informed consent from the informants. Informed consent of the minors to participate in the study was taken by their guardians or care takers [11].

RESULTS

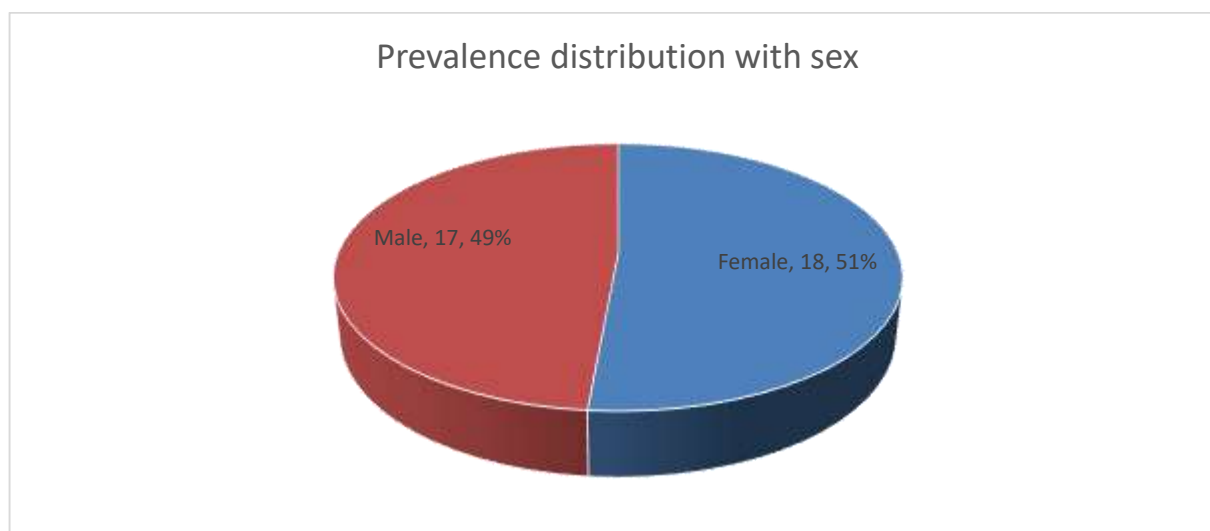


Figure 1: Sex of study participants diagnosed with pneumonia

51% (18) of the participants with a primary diagnosis of pneumonia were females whereas 49% (17) were males.

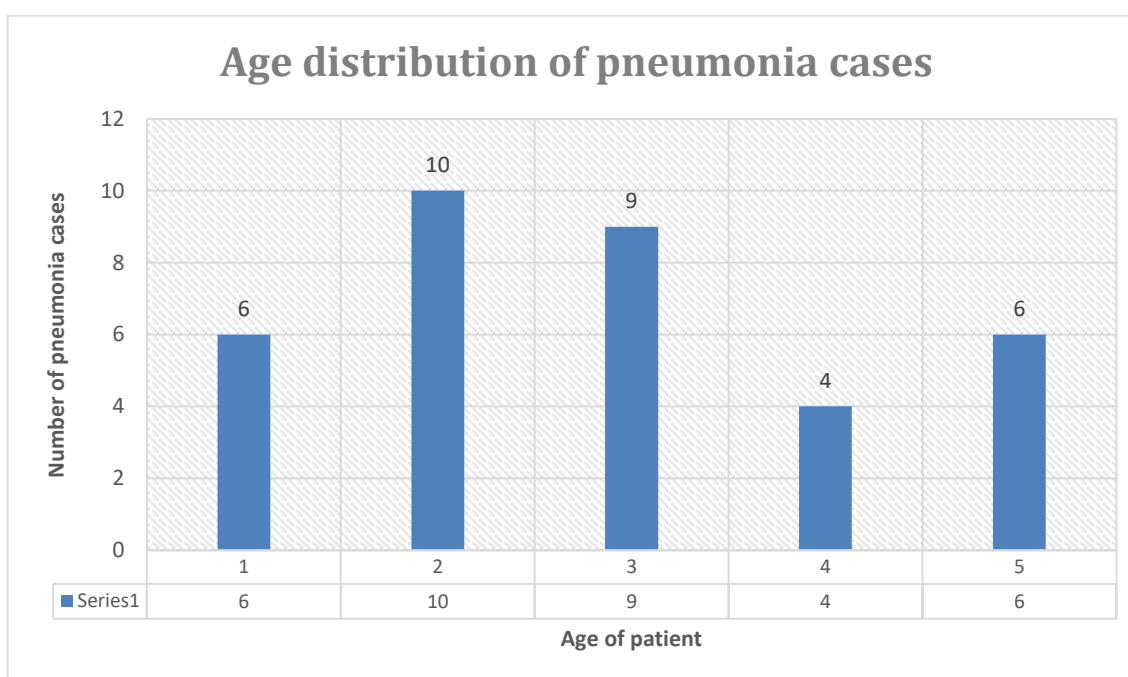


Figure 2: Age distribution of the study participants diagnosed with pneumonia

From the number of pneumonia cases in the age group of zero to one year were six (27.3%). The number of pneumonia cases from one to two years were ten (26.3%), while from two years to three years I found nine (20%) children to have

pneumonia. The number of cases of pneumonia from three to four years were four (10%), while four to five years I found six (8.0%) patients had pneumonia.

From the sample size of 220 patients aged five years and below, 35 patients had pneumonia.

Therefore, the prevalence of pneumonia in children aged five years and below attending Jinja Regional Referral Hospital was $35/220 \times 100 = 15$.

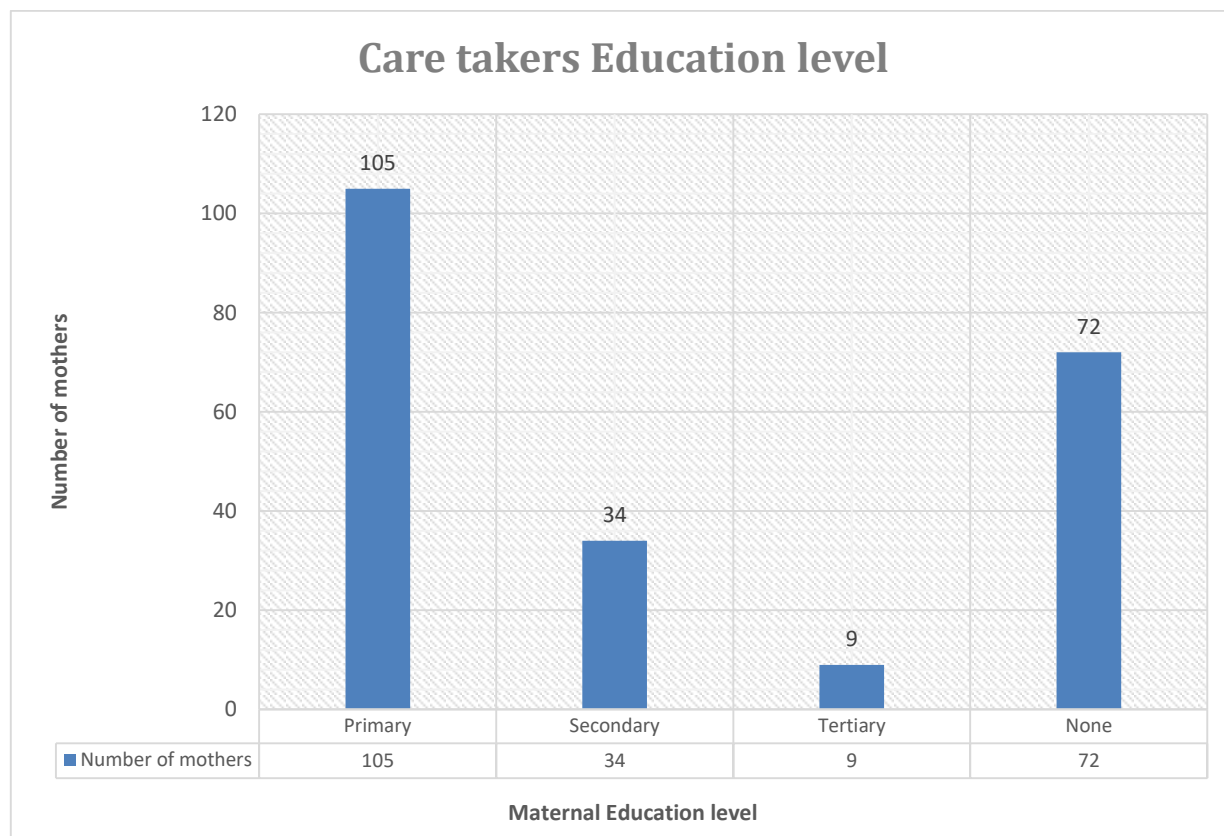


Figure 3: Education, Occupation and Marital Status of Mother and Occupation of Father
Education level of mother

Table 3: Occupation of mother

Occupation	Number of mothers	Percentage (%)
Peasant	109	49.7
Housewife	78	35.4
Businessman/woman	27	12.3
Student	6	2.6

Table 4: Marital status of mother

Marital status	Number of mothers	Percentage (%)
Married	162	73.8
Single	43	19.5
Widowed	15	6.7
Divorced	0	0

Table 5: Occupation of father (for those who are married)

Occupation	Number of fathers	Percentage (%)
Peasant	81	49.7
Mason	57	35.4
Businessman	20	12.3
Student	4	2.6

Out of the all the children with pneumonia interviewed, 36.9% (13) had not received immunization for their appropriate ages, 9.7% (3) were born before 37 weeks of gestation, 48.2% (6)

were not breastfeed exclusively for 6 months while 11.3% (4) had reported history of ever choking or coughing during a feed.

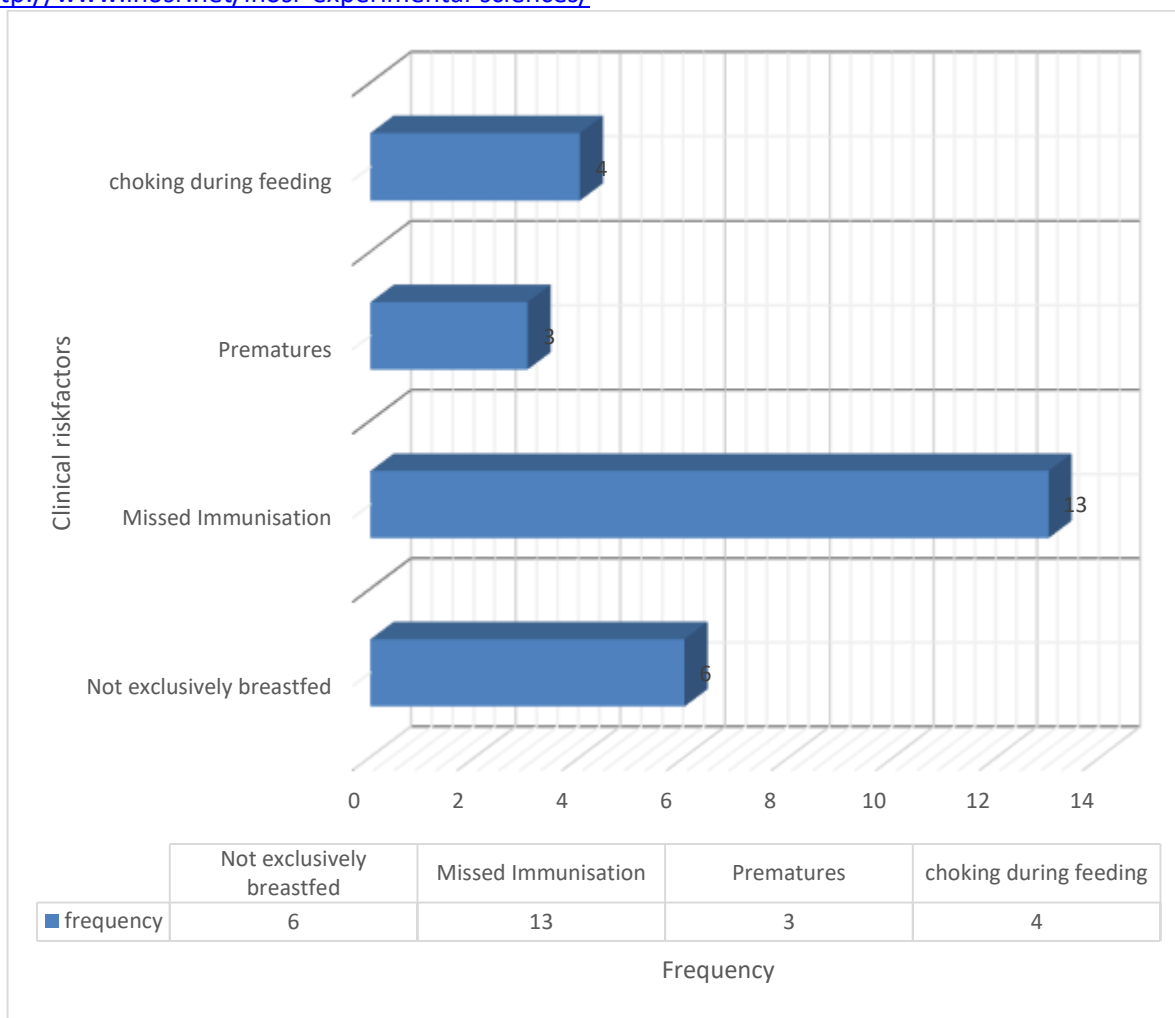


Figure 4: Clinical riskfactors associated with pneumonia in underfives



Figure 5: Nutritional status

37% (13) of the children with pneumonia were underweight, 57% (20) were stunted while 6% (2) were wasted. Out of the 35 pneumonia cases, 25(71.4%) were HIV

negative, 8(22.9%) were HIV positive or HIV exposed while the sero-status of two was not known.

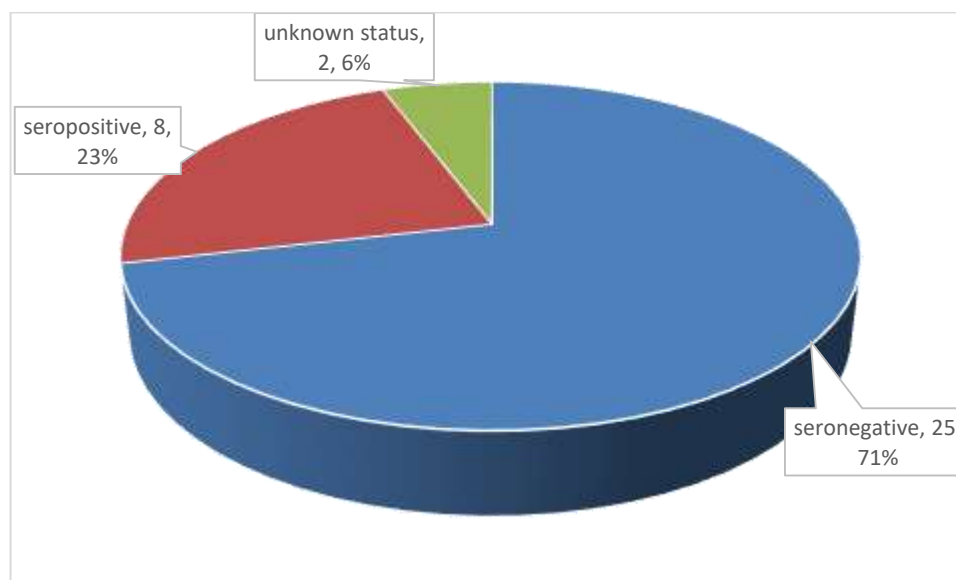


Figure 6: HIV serostatus

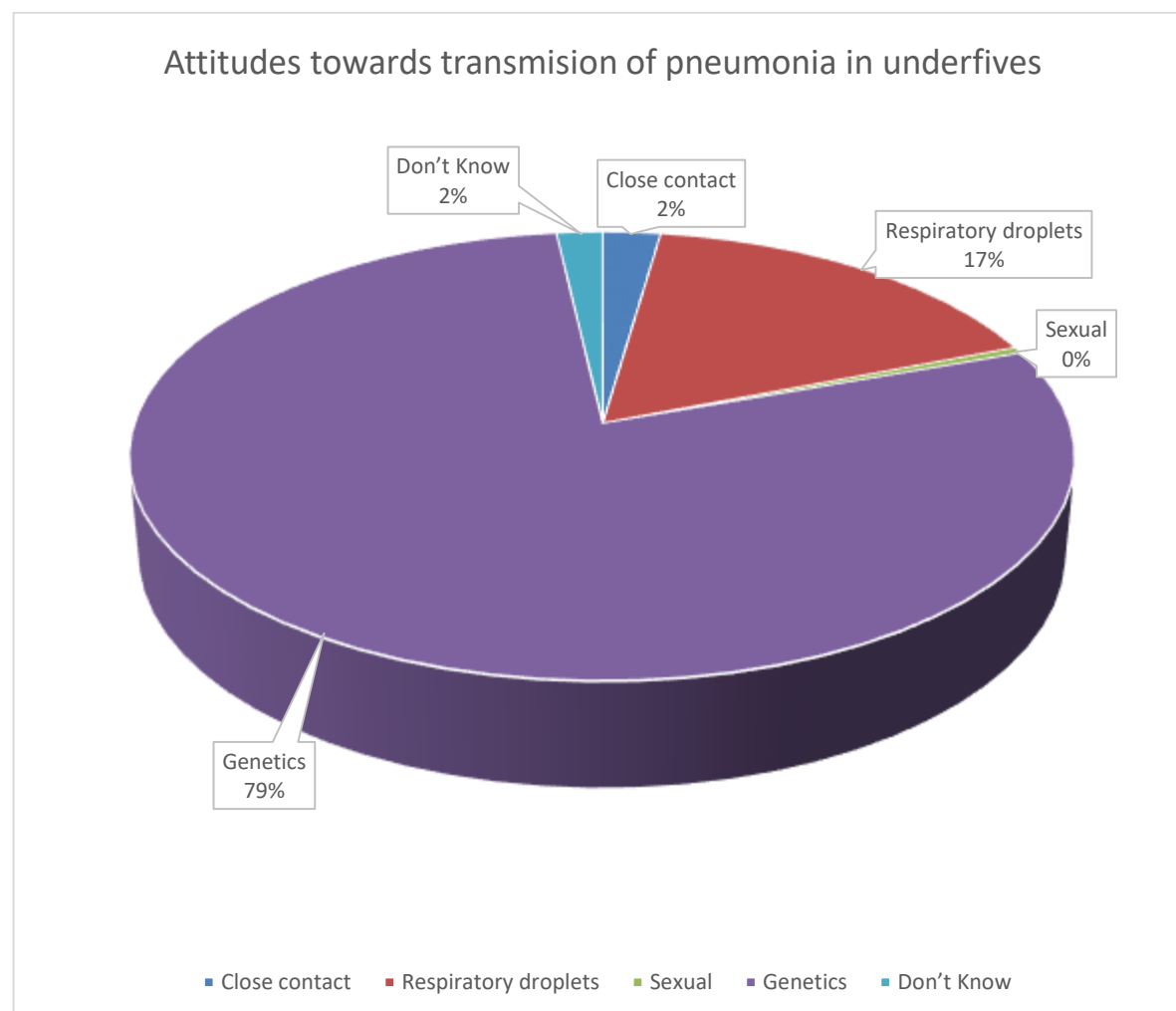


Figure 7: Attitudes towards transmission of pneumonia in underfives

As far as transmission on pneumonia is concerned, the majority of respondents (78.8%) believed it to be a genetic

condition, indicating the lack of knowledge and thus problems related to its prevention.

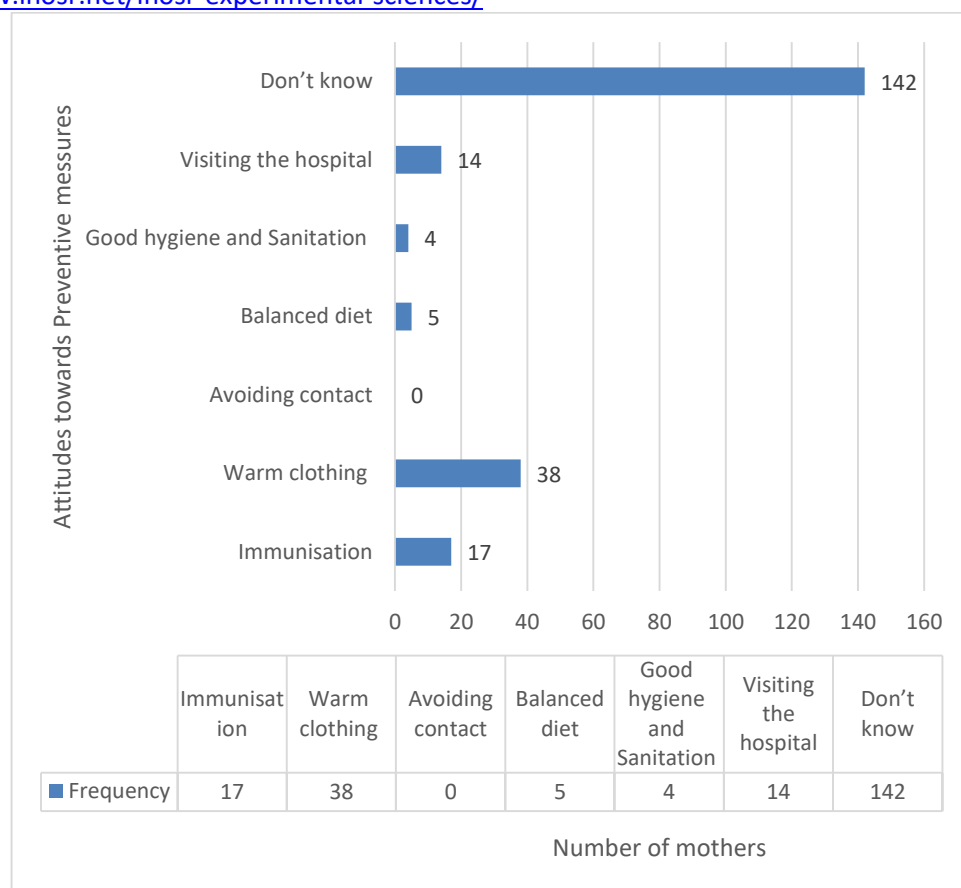


Figure 8: Attitudes towards pneumonia in under-fives prevention

The majority of the respondents had no idea however on how pneumonia is prevented (64.6%) with the exception of a few who had some views for example

immunization (7.6%), warm clothing (17.2%), visiting the hospital (6.6%), balanced diet (2.3%), good hygiene and sanitation (1.7%).

DISCUSSION

The predisposing factors from the child's history was mainly failure to exclusively breastfeed for 6 months and not being immunized for their appropriate ages [12-16], [17-21]. Prematurity and choking while feeding were also found to be significant in some children. Malnutrition had a significant association with prevalence of pneumonia among the under-fives. All the above risk factors agree with the findings in Brazil by [3] and more recently in Rwanda by [12] India by [13], South west Ethiopia by [14] and North west Ethiopia by [15].

There was a significant association between HIV infection and pneumonia prevalence among the under-fives. 8 (22.9%) out of the 35 pneumonia cases were found to be HIV positive linking

immunosuppression state, and pneumonia acquisition. Despite the numbers being low compared to those found in Swaziland by [5] (60%), our findings agree with the results of the global study conducted in 2010 that showed that underlying HIV infection is an important risk factor for pneumonia morbidity and mortality in children. The results also echo those of a study by [16-21].

As far as transmission on pneumonia is concerned, the majority of respondents (78.8%) believed it to be a genetic condition, indicating the lack of knowledge and thus problems related to its prevention. The majority of the respondents had no idea however on how pneumonia is prevented (64.6%) with the exception of a few who had

some views for example immunization (7.6%), warm clothing (17.2%), visiting the hospital (6.6%), balanced diet (2.3%),

CONCLUSION

The prevalence of pneumonia in children aged five years and below attending Jinja Hospital at the time of study was 15.9%. Numerous factors were established as predisposing these children to pneumonia such as early weaning with malnutrition, less

good hygiene and sanitation (1.7%): this is in line with the findings by [17] in eastern Uganda.

adherence to immunization schedule, HIV co-infection as well as poor attitudes towards pneumonia transmission and prevention measures. Avoidance of these factors as well as educating caretakers about pneumonia will drastically reduce its prevalence.

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