Pneumonia in Children under five years old in KPK: Symptoms and presentation

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ABSTRACT

Background: The lung parenchyma is affected by pneumonia, an acute infectious disease that can be brought on by fungus, bacteria, or viruses. By vaccination, a healthy diet, and the abolition of environmental variables, pneumonia can be avoided. All worldwide deaths of children under the age of five are due to it.

Aim: To prevent pneumonia with easy steps, and can be treated with easy, affordable medications with adequate care, early detection, and prompt admission of sick children to hospitals.

Methods: This case series study was carried at pediatric department of district kohat hospital from august 2022 to Feb 2023. Ethical acceptance certificate was obtained from the hospital. Informed written consent was taken from those parents who were willing to answer and were fully qualified the inclusive criteria. Total 139 patients were enrolled in the study. The results were analyzed through spss-ver 24.

Results: In clinical sign and symptoms highest ratio was seen in lethargy 33(23.74%) and lowest ratio seen in cyanosis 4(2.87%), in gender wise the male 82(59%) presentation was more than females 57(41%). Lowest ratio of vaccination was seen in 2(28%) dose 6 and highest in non-vaccination was 21(44%) in dose 1.

Conclusion: The health planners should concentrate on the missed epi schedule. Efficacy, we must employ media like radio, television, and newspapers

Keywords: Pneumonia, education, health, presentation, Kohat

INTRODUCTION

Pneumonia, which is responsible for an estimated 1 million fatalities per year from infectious diseases in children, is most common in underdeveloped nations²⁵. According to the UNICEF Pakistan report deaths due to pneumonia in children less than five year of age were 58000 in 2019. Statistics show that although pneumonia mortality has dropped since 2000, it is still a major public health concern²⁶.²⁷

Streptococcus pneumonia, Haemophilus influenza type B, and respiratory syncytial virus have been identified as the main recognized causal microorganisms (RSV)⁶. Season and place have an impact on dispersion. There is still a lack of information regarding the etiology and epidemiology of pediatric pneumonia in poor nations²⁷.

According to study⁸ estimates, among its 14.9 million residents, more than 900,000 cases of pneumonia in children under 5 are reported each year, resulting in nearly 8,000 fatalities. In a descriptive analysis, the most common reason for hospital admission—representing 18% of all admissions—was pneumonia. On the clinical appearance and etiology of probable pneumonia patients, however, there was a lack of comprehensive information⁹.

The best defense against pneumonia is vaccination against Haemophilus influenza type b (Hib), pneumococcus, measles, and influenza. In wealthy nations, vaccination can avert at least a third of serious episodes and two-thirds of pneumonia-related fatalities. Pneumococcal conjugate vaccine (PCV), Hib vaccine, and influenza vaccine were all a part of national vaccination programs in 129, 192 and 102 member states, respectively, as of 2015⁶⁰⁶ⁱ.

If the proper treatments for this disease are not administered to children in a timely manner, not only will their physical and mental health be severely compromised, but even their lives could be in danger¹². Providing nursing care in a preset way based on the child's state for a particular disease is the goal of comprehensive nursing intervention, a new kind of nursing technique¹³.

METHODOLOGY

After ethical approval this case series study was conducted at pediatric ward at DHQ Kohat category A hospital. This hospital is 449 bed capacity entertaining 1500 patients pouring in from adjacent districts in OPD and accident & emergency departments on daily basis.

Inclusive criteria: Children with pneumonia were hospitalized if they met the following inclusive requirements: - Cough and/or dyspnea, - Tachypnea, as defined by the World Health Organization (WHO) in children between the ages of 2 and 12 months: breathing rate 50 cycles per minute; in children between the ages of 12 and 59 months: breathing rate 40 cycles per minute.

Exclusive criteria: Absence of wheezing at auscultation, - First symptoms appearing within the past 14 days, - Radiological confirmation of pneumonia in accordance with WHO. Wheezing during auscultation or minors whose parents or legal guardians refused to sign the informed consent statement were the exclusion criteria for cases.

Sampling technique: To identify the causes of pneumonia, questionnaires related to the disease were created. Each patient's questionnaire was gathered independently. Before filling out the questionnaire, the patient's attendant gave a brief explanation of the research study's objectives. All data of 139 patients was collected through non-probability sampling technique. Results were analyzed through spss-24 version.

RESULTS

Total 139 patients were enrolled in study after getting consent.

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>male</td>
<td>82</td>
<td>59%</td>
</tr>
<tr>
<td>women</td>
<td>57</td>
<td>41%</td>
</tr>
</tbody>
</table>
Pneumonia in Children under five years

Table 2: Clinical sign and symptoms

<table>
<thead>
<tr>
<th>Feature</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyspnea</td>
<td>15(10.79%)</td>
</tr>
<tr>
<td>Lower chest in drawing</td>
<td>9(6.47%)</td>
</tr>
<tr>
<td>Cough</td>
<td>26(18.70%)</td>
</tr>
<tr>
<td>Pulmonary crackles</td>
<td>22(15.82%)</td>
</tr>
<tr>
<td>Rhinitis</td>
<td>9(6.47%)</td>
</tr>
<tr>
<td>Lethargy</td>
<td>33(23.74%)</td>
</tr>
<tr>
<td>Cyanosis</td>
<td>4(2.87%)</td>
</tr>
<tr>
<td>Diminished breath sound</td>
<td>10(7.19%)</td>
</tr>
<tr>
<td>Dullness to precaution</td>
<td>11(7.91%)</td>
</tr>
</tbody>
</table>

Table 3: Epi vaccine schedule (n=139)

<table>
<thead>
<tr>
<th>Dose</th>
<th>Vaccinated</th>
<th>Non vaccinated</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bcg, opv, hep-b</td>
<td>27(56%)</td>
<td>21(44%)</td>
<td>48(34.53%)</td>
</tr>
<tr>
<td>Rota virus-1, pentavalent, opv-1, pneumococcal-1</td>
<td>18(53%)</td>
<td>18(47%)</td>
<td>36(26.46%)</td>
</tr>
<tr>
<td>Ovp-2, pneumococcal-2, rota virus-2, penta valent-2</td>
<td>7(54%)</td>
<td>6(46%)</td>
<td>13(9.35%)</td>
</tr>
<tr>
<td>Ovp-3, pneumococcal-3, ipv-1, penta valent-3</td>
<td>19(67%)</td>
<td>3(13%)</td>
<td>22(15.82%)</td>
</tr>
<tr>
<td>Mr-1, typhoid, ipv-2</td>
<td>11(73%)</td>
<td>4(27%)</td>
<td>15(10.79%)</td>
</tr>
<tr>
<td>mr-2</td>
<td>2(28%)</td>
<td>5(72%)</td>
<td>7(5%)</td>
</tr>
</tbody>
</table>

Table 4: Socio-economic status of family

<table>
<thead>
<tr>
<th>Status</th>
<th>n</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>71</td>
<td>51%</td>
</tr>
<tr>
<td>Medium</td>
<td>62</td>
<td>45%</td>
</tr>
<tr>
<td>High</td>
<td>6</td>
<td>4%</td>
</tr>
</tbody>
</table>

DISCUSSION

Prior research in Khyber Pakhtoonkhwa, Pakistan, revealed vaccination rates of 65% in rural areas and 37.6% in hospitals. Result found was quite similar that 21% highest ratio was seen in first schedule dose of epi, as kohat hospital entertain adjacent patients at out-door department. The inability to perform a single trustworthy test makes diagnosing pneumonia challenging. At the individual level, it can be challenging to determine if a positive nose swab indicates nasopharyngeal colonization or aetiology, especially for bacteria like S. pneumonia due to their high asymptomatic carriage rates. By include a control group, it is possible to assess and account for the prevalence of carriage in asymptomatic children at the population level. Since the study was only conducted in one hospital in Kohat, its external validity may be constrained. Our study was just related to presentations at our hospital admissions.

CONCLUSION

For significant advancements, we must put in a lot of effort. To effectively raise awareness of education, children's health and immunization, as well as their necessity and efficacy, we must employ media like radio, television, and newspapers. We must enhance the educational system. By launching health education initiatives in this area, we can raise the health literacy level not just of our mothers but also of the entire nation. The health planners should concentrate on the missed epi schedule.

AUTHORSHIP AND CONTRIBUTION DECLARATION: Each author of this article fulfilled following Criteria of Authorship:

1. Conception and design of or acquisition of data or analysis and interpretation of data.
2. Drafting the manuscript or revising it critically for important intellectual content.
3. Final approval of the version for publication.

All authors agree to be responsible for all aspects of their research work.

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REFERENCES


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