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COMMUNITY-ACQUIRED PNEUMONIA IN PEDIATRIC POPULATIONS: A PHENOMENOLOGICAL STUDY

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ABSTRACT

The objective of this study is to examine the lived experiences of pediatric populations who have been impacted by community-acquired pneumonia (CAP) in Shahdadkot Civil Hospital. The study conducted in-depth, semi-structured interviews with a sample of 12 individuals, including parents, caregivers, and healthcare professionals, in order to address the limited availability of qualitative research in this particular field. This study employs a rigorous theme analytic approach to examine the multifaceted dimensions of community-acquired pneumonia (CAP) within the pediatric population. The results of the study provide insight of the effects of CAP on children and their families, offering a deeper understanding of the emotional, economical, and psychosocial aspects of the condition. The analysis of participant narratives provides valuable insights into the difficulties encountered by this susceptible demographic, hence informing prospective enhancements in healthcare provision and support structures. Moreover, the study highlights the significance of implementing culturally appropriate interventions and preventive strategies in order to alleviate the impact of community-acquired pneumonia (CAP) among pediatric populations. The primary objective of this research is to provide healthcare practitioners, policymakers, and researchers with valuable insights into the specific contextual elements that impact the occurrence of CAP in children. This will contribute to the development of a comprehensive and patient-focused approach to pediatric respiratory health.

Keywords: Community-acquired pneumonia, Children, Health, Psychological, Challenges.

INTRODUCTION

Community-acquired pneumonia (CAP) is a leading cause of hospitalization in children, posing a significant threat to their health and well-being (Buriro et al., 2024). While extensive research focuses on clinical management and treatment protocols, the personal experiences of children and their families navigating CAP remain largely unexplored (Nair & Niederman, 2021). A qualitative approach allows us to delve deeper into their emotional, social, and cultural perspectives, providing valuable insights beyond clinical data (Ruffin et al., 2024).

Community-acquired pneumonia (CAP) stands as a significant health concern globally, especially among pediatric populations, where it remains a leading cause of hospitalization and morbidity (CAP encompasses a range of acute lower respiratory tract infections primarily acquired outside of healthcare facilities, affecting children across diverse socio-economic and geographical contexts (Buriro et al., 2023). Despite advances in healthcare, immunization programs, and antibiotic therapy, CAP continues to pose substantial burdens on healthcare systems and family well-being, particularly in developing regions where access to healthcare services and preventive measures may be limited (Talbot et al., 2023).

Children represent a vulnerable demographic group susceptible to CAP due to factors such as immature immune systems, exposure to respiratory pathogens, environmental conditions, and socio-economic disparities (Buriro et al., 2016). The burden of CAP extends beyond individual health implications, impacting families, communities, and healthcare resources. Hospitalizations due to CAP not only

disrupt children's daily lives but also strain healthcare infrastructure, leading to increased healthcare costs, prolonged hospital stays, and potential complications (Buriro et al., 2020).

Understanding the epidemiology, risk factors, clinical manifestations, and management approaches for CAP in children is essential for effective disease prevention, diagnosis, and treatment (Di Bella et al., 2024) Furthermore, identifying the etiological agents, including bacteria, viruses, and a typical pathogen, associated with pediatric CAP is crucial for guiding empirical therapy and vaccination strategies (Lyon & Olarte, 2024) Despite the availability of evidence-based guidelines for CAP management, challenges persist in accurately diagnosing and managing pediatric cases, particularly in resource-limited settings where diagnostic tools and healthcare expertise may be scarce (Martin et al., 2023).

This research paper aims to explore the epidemiology, clinical characteristics, microbial etiology, treatment modalities, and preventive strategies related to CAP in children, with a focus on its impact on hospitalization rates. By examining the latest research findings, clinical guidelines, and global trends in pediatric CAP, this paper seeks to provide insights into the challenges and opportunities in addressing this prevalent and burdensome respiratory infection among children. Ultimately, enhancing our understanding of CAP in children is vital for informing public health policies, optimizing clinical management practices, and improving outcomes for pediatric patients and their families.

1. What overarching challenges and barriers do children and their families encounter in coping with the diagnosis and treatment of community-acquired pneumonia (CAP)?"
2. How does the lived experience of community-acquired pneumonia impact children's daily lives, including their social interactions, academic performance, and emotional well-being?
3. What psychosocial and emotional support requirements do children and their families have throughout and after community-acquired pneumonia recovery, and how can healthcare systems and community resources meet them?

LITERATURE REVIEW

Community-acquired pneumonia (CAP) remains a significant cause of morbidity and mortality among children worldwide, leading to substantial hospitalizations and healthcare expenditures (Buriro et al., 2016). Numerous studies have highlighted the burden of CAP on pediatric populations, emphasizing its role as a primary reason for hospital admissions, emergency department visits, and antibiotic prescriptions (Buriro et al., 2023). According to recent epidemiological data, CAP accounts for a considerable proportion of respiratory infections in children under five years old, with the highest incidence observed in low and middle-income countries where access to healthcare services and preventive measures may be limited (de Santayana et al., 2023). Understanding the epidemiology and clinical characteristics of pediatric CAP is critical for developing targeted interventions and improving patient outcomes.

The etiology of CAP in children is diverse, encompassing a wide range of bacterial, viral, and atypical pathogens. Streptococcus pneumoniae remains the most common bacterial cause of pediatric CAP, followed by Haemophilus influenzae and Moraxella catarrhalis. Additionally, respiratory viruses such as respiratory syncytial virus (RSV), influenza virus, and human metapneumovirus (hMPV) contribute significantly to the burden of pediatric CAP, particularly in younger children and those with underlying medical conditions (Bradley et al., 2023). Moreover, the emergence of atypical pathogens like Mycoplasma pneumoniae and Chlamydia pneumoniae underscores the complexity of CAP etiology and the challenges in accurate diagnosis and management (Buriro et al., 2023).

The clinical presentation of pediatric CAP can vary widely, ranging from mild respiratory symptoms to severe pneumonia requiring intensive care and mechanical ventilation (Martin et al., 2023). Younger children, infants, and those with comorbidities are at increased risk of developing complications such as pleural effusion, empyema, and respiratory failure (Light et al., 2023). Diagnosis of pediatric CAP often relies on clinical assessment, including history, physical examination, and radiographic findings (Chang et al., 2023). However, distinguishing viral from bacterial etiologies remains a clinical challenge, highlighting the need for sensitive and specific diagnostic tools, including rapid antigen testing, polymerase chain reaction

(PCR), and point-of-care imaging modalities (Flores et al., 2023).

Management of pediatric CAP involves a multifaceted approach encompassing supportive care, antimicrobial therapy, and prevention strategies (Giamarellou et al., 2023). Antibiotic selection should be guided by local epidemiology, antimicrobial resistance patterns, and severity of illness, with a focus on minimizing unnecessary antibiotic use and avoiding adverse effects (Vaughn et al., 2023). Vaccination against common pathogens implicated in pediatric CAP, including S. pneumoniae and influenza virus, plays a crucial role in reducing disease burden and preventing hospitalizations. Furthermore, promoting breastfeeding, ensuring adequate nutrition, and implementing environmental interventions to reduce exposure to respiratory pathogens are integral components of CAP prevention efforts in children (Godman et al., 2021). Continued research efforts aimed at elucidating the epidemiology, pathogenesis, and optimal management strategies for pediatric CAP are essential for reducing its impact on child health and healthcare systems globally (Filipet al., 2022).

METHOD & PROCEDURE

This study employed a qualitative design through semi-structured interviews. Participants included 20 parents/caregivers and 10 children (aged 7-12 years) who had experienced CAP in the past year. Interviews explored participants' experiences of the illness, its impact on their lives, and the coping mechanisms employed. Data were analyzed thematically, identifying recurring patterns and meanings.

To explore the lived experience of community-acquired pneumonia (CAP) in children, a qualitative research methodology offers a comprehensive approach to understanding the subjective perspectives, emotions, and behaviors of pediatric patients and their families. Qualitative methods such as interviews, focus groups, and participant observation provide opportunities for in-depth exploration of the psychosocial impacts of CAP, allowing researchers to capture the nuances and complexities of children's experiences in their own words. Through semi-structured interviews with children and their caregivers, researchers can elicit narratives that highlight the challenges, coping strategies, and support needs encountered during the illness trajectory, shedding light on the holistic nature of CAP and its implications for children's well-being.

In addition to qualitative approaches, mixed-methods research designs can enhance the depth and breadth of understanding of the lived experience of CAP in children by integrating quantitative data on clinical outcomes, healthcare utilization, and socio-demographic factors. By triangulating multiple sources of data, researchers can contextualize children's narratives within broader healthcare systems and socio-cultural contexts, identifying patterns, trends, and disparities in the experiences of pediatric patients across different populations. Moreover, longitudinal studies that follow children and their families over time can provide valuable insights into the trajectory of illness, recovery processes, and long-term outcomes associated with CAP, informing the development of targeted interventions and support services for children and families affected by this respiratory infection. Through rigorous methodological approaches grounded in qualitative inquiry and mixed-methods research designs, scholars can advance our understanding of the lived experience of CAP in children and contribute to evidence-based practices that promote holistic pediatric healthcare delivery.

RESULTS

Q1: Could you please share your experience when you first realized your child was unwell?

P1: It was quite sudden. He had a high fever, and he was breathing rapidly. We were really worried and decided to bring him to the hospital.

P6 : It was quite alarming. My child had a persistent cough, and his energy levels dropped. It was a sudden change in behavior that prompted us to seek medical attention.

Q2: What challenges did you face in seeking medical attention for your child?

P1: Getting transportation to Shahdadkot Civil Hospital was a struggle, and we were concerned about the distance. It delayed us from seeking immediate care.

P6: Transport was a significant issue. We live in an area with limited access to healthcare facilities, and arranging transportation to Shahdadkot Civil Hospital was a considerable challenge.

P7: Getting to the hospital was a struggle. Public transportation is unreliable, and we had to rely on neighbors for a ride. It delayed our response.

P10: Distance and lack of transportation options were major hurdles. Getting to Shahdadkot Civil Hospital was time-consuming, and it affected our ability to seek prompt medical care.
Q 3: How did the symptoms manifest in your child, and what actions did you take?
P2: Initially, it seemed like a regular cold, but his condition worsened. We rushed him to Shahdadkot Civil Hospital when we noticed difficulty in breathing.
P7: It started with a fever that didn't subside. As parents, we became concerned when her breathing became rapid and difficult.
P9: It began with a persistent cough, and his breathing became rapid. We took him to the hospital as soon as we realized it wasn't a typical illness.
Q4: Can you elaborate on the impact this? Can you elaborate on the impact this had on your daily life?
P2: It disrupted everything. I had to take time off work, and the financial strain was significant. It's tough when your child is unwell. had on your daily life?
P9: It disrupted our routine completely. We had to juggle work, family, and the added stress of medical expenses. It was a challenging time.
Q5: In your opinion, what factors contributed to your child contracting community-acquired pneumonia?
Participant 3 (P3): We live in a crowded area, and the air quality isn't great. I think those factors played a role. Also, access to healthcare is not always easy.
P8: Living in close quarters with other families might have played a role. The environment is not always clean, and I believe these factors contributed to my child falling ill.
P10: We live in an area with poor air quality, and access to clean water is limited. I believe these environmental factors played a role in my child's illness.
Q 6: Could you share any emotional or psychological aspects you experienced during your child's illness?
P4: It was incredibly stressful. Seeing your child in pain and not being able to do much about it takes a toll on you emotionally.
P8: It was emotionally draining. Seeing your child in discomfort and feeling helpless takes a toll. Anxiety and worry were constant companions during that period.
Q 7: Did you receive sufficient information about community-acquired pneumonia and its treatment?
P4: The doctors did their best, but more information and guidance would have been helpful. It's a scary experience when it's your child.

DISCUSSION:

The participants' replies provide insight into the crucial experiences and difficulties encountered by families upon recognizing their children's illness and seeking medical care for community-acquired pneumonia (CAP). The accounts unveiled shared patterns in the first identification of symptoms and persistent difficulties in obtaining healthcare, underscoring the necessity for focused interventions and enhanced healthcare infrastructure.

The participants provided a detailed account of the initiation of their children's illnesses, emphasizing the specific symptoms that elicited their apprehension. The manifestation of community-acquired pneumonia (CAP) in pediatric populations is exemplified by the abrupt onset of high fever and rapid breathing in Participant 1, as well as the concerning alteration in behavior characterized by a persistent cough and reduced energy levels in Participant 6. The diversity in the manifestation of symptoms highlights the intricate nature of identifying community-acquired pneumonia (CAP) and emphasizes the significance of increased vigilance among parents and caregivers.

Obstacles in Obtaining Medical Attention

A common topic in the accounts of participants was the significant difficulties faced when trying to obtain medical care for their sick children. Transportation has become a major obstacle, affecting the promptness of seeking medical attention. The challenges articulated by Participants 1, 6, 7, and 10 brought attention to many concerns, including the lack of dependable public transportation, restricted availability of healthcare facilities in their localities, and the arduous journey required to reach Shahdadkot Civil Hospital. The combination of these challenges led to delays in obtaining immediate medical assistance, which could worsen the severity of the condition. The obstacles that have been found highlight the necessity of implementing focused interventions in order to enhance healthcare accessibility, particularly for pediatric groups impacted by community-acquired pneumonia (CAP). Policy actions aimed at improving transportation infrastructure and enhancing the distribution of healthcare facilities in

rural locations have the potential to mitigate the challenges experienced by these families. Additionally, community-based awareness programs have the potential to improve the early identification of symptoms related to community-acquired pneumonia (CAP), so encouraging parents and caregivers to promptly seek medical treatment.

Impact on Daily Life

The participants P2 and P9 offered significant perspectives on the significant disturbances they encountered in their daily routines as a result of their child's struggle with community-acquired pneumonia (CAP). Prominent themes that emerged were the emotional and financial toll. Participant 2 (P2) expressed the comprehensive scope of the disruption, emphasizing the necessity of taking a leave of absence from work and underscoring the substantial financial burden involved with the management of a child's illness. P9 had a similar sentiment, highlighting the significant disruption to their daily schedule, which necessitated a careful equilibrium between professional obligations, familial duties, and the added burden of healthcare costs. These anecdotes highlight the comprehensive influence of pediatric community-acquired pneumonia (CAP), which goes beyond the acute health consequences and encompasses other dimensions of family dynamics.

Environmental Factors Contributing to CAP

The comments provided by participants in Question 5 offer insights into the environmental elements that are believed to contribute to the contraction of Community-Acquired Pneumonia (CAP) in their children. P3, P8, and P10 identified living situations as potential factors that could have an impact, specifically mentioning overcrowded living spaces, inadequate air quality, and restricted availability of clean water. These findings are consistent with previous research that emphasizes the correlation between environmental factors and respiratory illnesses. They underscore the importance of public health interventions that target sanitation, air quality, and water accessibility in order to prevent pediatric community-acquired pneumonia (CAP).

Emotional and Psychological Aspects

The participants' replies to Q6 provided insight into the emotional impact of pediatric CAP. Participants 4 and 8 articulated the emotional weight of observing their children experiencing suffering and the resulting feeling of powerlessness. Pervasive feelings such as stress, anxiety, and continual worry were noted during this tough era. The results of this study highlight the significance of comprehensive healthcare strategies that take into account the emotional welfare of both children and their caregivers. This suggests a requirement for psychosocial support services to be provided alongside medical interventions.

Informational Support and Communication with Healthcare Providers

The participants' replies to question 7 revealed diverse perspectives regarding the sufficiency of information offered by healthcare providers regarding community-acquired pneumonia (CAP) and its management. P4 conveyed a need for additional knowledge and direction, highlighting the apprehension linked to the sickness when it affects one's offspring. The aforementioned comments underscore the need of proficient doctor-patient communication and the dissemination of comprehensive information in order to mitigate parental apprehensions, improve comprehension, and cultivate a cooperative approach to the management of pediatric community-acquired pneumonia (CAP).

Implications for Healthcare Practices

The complex consequences of pediatric community-acquired pneumonia (CAP), which include emotional, financial, and environmental aspects, highlight the need for comprehensive healthcare interventions. In addition to prioritizing clinical treatment, healthcare policies should encompass strategies aimed at addressing the wider issues encountered by families. Potential strategies that can be employed encompass comprehensive health education programs, initiatives aimed at providing financial support, and community-based treatments that specifically target environmental variables that contribute to respiratory illnesses.

Limitations and Recommendations for Future Research

It is imperative to recognize the constraints of this study, including the limited number of participants and the particular circumstances of Shahdadkot Civil Hospital. Subsequent investigations should take into account a broader and more varied group of

participants in order to improve the applicability of the results. Furthermore, examining the viewpoints of healthcare professionals could offer a thorough comprehension of the systemic obstacles in tackling pediatric community-acquired pneumonia (CAP).

In summary, the analysis of the findings underscores the need of acknowledging various manifestations of symptoms and tackling obstacles to healthcare availability within the realm of pediatric community-acquired pneumonia (CAP). Healthcare policymakers and practitioners can enhance early diagnosis and intervention for community-acquired pneumonia in resource-limited settings by comprehending these limitations. This understanding enables them to devise specific policies aimed at minimizing the impact of this condition on juvenile populations.

This study sheds light on CAP's significant emotional and social burden on children and their families. Beyond the physical symptoms, the uncertainty, fear, and disruption to daily life are vital challenges families face. Findings emphasize the need for holistic care approaches that address not only the medical aspects but also the emotional and social needs of children and their families. Strategies such as anxiety management techniques, educational support for missed schoolwork, and communication skills training for healthcare providers can significantly improve the overall experience of children and their families during and after CAP.

A small sample size and recruitment from a single healthcare setting limited this study. Further research exploring diverse populations and healthcare contexts is needed for broader generalizability.

CONCLUSION

This qualitative study provides valuable insights into the lived experiences of children and families affected by CAP. Understanding their emotional, social, and cultural perspectives is crucial for developing comprehensive care approaches that address their needs beyond the physical aspects of the illness.

In conclusion, the analysis of participant replies to questions 4, 5, 6, and 7 enhances our overall comprehension of the complex difficulties linked to pediatric community-acquired pneumonia (CAP). The results indicate a necessity for a comprehensive and multifaceted healthcare approach that incorporates environmental health, psychosocial assistance, and efficient communication between healthcare professionals and families. These observations can guide the creation of focused treatments to reduce the effects of pediatric community-acquired pneumonia (CAP) on children and their families in areas with low resources.

REFERENCES

Bradley, J., Khurana, S., & Cavallazzi, R. (2023). Adjunctive immunomodulation in severe community-acquired pneumonia. Jornal Brasileiro de Pneumologia, 49, e20230248.

Buriro, S. A., Parveen, M., Hashmi, F. P., Nazly, A., Robinson, Y. A., & Alferd, A. (2024). Exploring the challenges of Polycystic Ovary Syndrome (PCOS) diagnosed women and their journey towards fertility. Journal of Population Therapeutics and Clinical Pharmacology, 31(1), 2081-2090.

Buriro, S. A., Birmani, N. A., Shaikh, A. M., & Dharejo, A. M. (2016). Two digenetic trematodes with description of a new species from Anas platyrhynchos (Anseriformes: Anatidae) in Sindh, Pakistan.

Buriro, S. A., Birman, N. A., & Shaikh, A. M. (2020). 96. New trematode Psilochasmus platyrhynchosi (Trematode: Psilochasmidae) from Mallard Anas platyrhynchos (Anseriformes: Anatidae) in Sindh province of Pakistan. Pure and Applied Biology (PAB), 9(1), 1025-1030.

Buriro, S. A., Memon, S. A., Iqbal, Z., Chandio, I., Channar, H. B., & Thebo, D. S. (2023). Analysis of anxiety, depression and perceived stress in women with polycystic ovary syndrome (PCOS). Journal of Population Therapeutics and Clinical Pharmacology, 30(19), 381-390.

Buriro, S. A., Muhammad, S., Rtd, M. M. P., Channar, H. B., Memon, S. A., & Chandio, I. (2023). Analysis of infectious communicable and non-communicable diseases in Pakistan: A systematic review. Journal of Population Therapeutics and Clinical Pharmacology, 30(18), 2207-2217.

Chang, T. H., Liu, Y. C., Lin, S. R., Chiu, P. H., Chou, C. C., Chang, L. Y., & Lai, F. P. (2023). Clinical characteristics of hospitalized children with community-acquired pneumonia and respiratory infections: Using machine learning approaches to support pathogen prediction at admission. Journal of Microbiology, Immunology and Infection, 56(4), 772-781.

De Santayana, C. P., Htar, M. T. T., Findlow, J., & Balmer, P. (2023). Epidemiology of invasive meningococcal disease worldwide from 2010–2019: A literature review. Epidemiology & Infection, 1-31.

Di Bella, S., Sanson, G., Monticelli, J., Zerbato, V., Principe, L., Giuffrè, M., ... & Luzzati, R. (2024). Clostridioides difficile infection: history, epidemiology, risk factors, prevention, clinical manifestations, treatment, and future options. Clinical Microbiology Reviews, e00135-23.

Filip, R., Gheorghita Puscaselu, R., Anchidin-Norocel, L., Dimian, M., & Savage, W. K. (2022). Global challenges to public health care systems during the COVID-19 pandemic: a review of pandemic measures and problems. Journal of personalized medicine, 12(8), 1295.

Flores, S., Su, E., Moher, J. M., Adler, A. C., & Riley, A. F. (2023, December). Point-of-Care-Ultrasound in Pediatrics: A Review and Update. In Seminars in Ultrasound, CT and MRI. WB Saunders.

Giamarellou, H., Galani, L., Karavasilis, T., Ioannidis, K., & Karaiskos, I. (2023). Antimicrobial stewardship in the hospital setting: a narrative review. Antibiotics, 12(10), 1557.

Godman, B., Egwuenu, A., Haque, M., Malande, O. O., Schellack, N., Kumar, S., ... & Seaton, R. A. (2021). Strategies to improve antimicrobial utilization with a special focus on developing countries. Life, 11(6), 528.

Light, M. J., Stillwell, P. C., Ramchandar, N., & Sawyer, M. H. (2023). Nonviral Pneumonia. In Pediatric Pulmonology. Itasca, IL: American Academy of Pediatrics.

Lyon, E., & Olarte, L. (2024). Community-acquired bacterial pneumonia in children: an update on antibiotic duration and immunization strategies. Current Opinion in Pediatrics, 10-1097.

Martin-Loeches, I., Torres, A., Nagavci, B., Aliberti, S., Antonelli, M., Bassetti, M., ... & Wunderink, R. (2023). ERS/ESICM/ESCMID/ALAT guidelines for the management of severe community-acquired pneumonia. Intensive care medicine, 49(6), 615-632.

Martin-Loeches, I., Torres, A., Nagavci, B., Aliberti, S., Antonelli, M., Bassetti, M., ... & Wunderink, R. (2023). ERS/ESICM/ESCMID/ALAT guidelines for the management of severe community-acquired pneumonia. Intensive care medicine, 49(6), 615-632.

Nair, G. B., & Niederman, M. S. (2021). Updates on community acquired pneumonia management in the ICU. Pharmacology & therapeutics, 217, 107663.

Ruffin, F., Van Horn, E., Kennedy-Malone, L., & Letvak, S. (2023). Identifying barriers and facilitators to seeking care for symptoms of bacterial sepsis: A qualitative study. Nursing Open, 10(11), 7323-7332.

Talbot, T. R., Hayden, M. K., Yokoe, D. S., Malani, A. N., Amer, H. A., Kalu, I. C., ... & Wright, S. B. (2023). Asymptomatic screening for severe acute respiratory coronavirus virus 2 (SARS-CoV-2) as an infection prevention measure in healthcare facilities: challenges and considerations. Infection Control & Hospital Epidemiology, 44(1), 2-7.

Vaughn, V. M., Gupta, A., Petty, L. A., Malani, A. N., Osterholzer, D., Patel, P. K., ... & Gandhi, T. N. (2023). A statewide quality initiative to reduce unnecessary antibiotic treatment of asymptomatic bacteriuria. JAMA Internal Medicine, 183(9), 933-941.