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Research Article

UNMASKING THE SILENT THREAT: PREVALENCE AND RISK FACTORS OF SCHISTOSOMIASIS AMONG SCHOOL-AGED CHILDREN IN NORTHERN NIGERIA

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ABSTRACT

Schistosomiasis is a neglected tropical disease that affects millions of individuals worldwide, particularly in sub-Saharan Africa. This study aimed to determine the prevalence of schistosomiasis and identify associated risk factors among school-aged children in Northern Nigeria. A cross-sectional survey was conducted, involving a sample of school-aged children from selected schools in the region. Stool and urine samples were collected and examined for the presence of Schistosoma eggs using standard parasitological techniques. Questionnaires were administered to gather information on demographic characteristics and potential risk factors. The prevalence of schistosomiasis was determined, and statistical analysis was performed to identify significant risk factors associated with the infection. The findings provide valuable insights into the burden of schistosomiasis in Northern Nigeria and highlight the importance of implementing effective control and prevention strategies to reduce the disease's impact on the health and well-being of school-aged children.

KEYWORDS

Schistosomiasis, prevalence, risk factors, school-aged children, Northern Nigeria, neglected tropical disease, parasitological examination, control and prevention.

INTRODUCTION

Schistosomiasis, a neglected tropical disease caused by parasitic worms of the genus Schistosoma, poses a significant health threat to millions of individuals worldwide, particularly in sub-Saharan Africa. It is estimated that over 200 million people are infected

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globally, with the majority residing in Africa. Among the affected population, school-aged children are particularly vulnerable due to their frequent contact with contaminated freshwater sources.

Northern Nigeria is known to have a high burden of schistosomiasis, but comprehensive studies focusing on the prevalence and associated risk factors among school-aged children in this region are limited. Understanding the extent of the problem and identifying the factors contributing to the transmission of the disease are crucial for implementing effective control and prevention measures.

This study aims to unmask the silent threat of schistosomiasis by investigating its prevalence and identifying the risk factors among school-aged children in Northern Nigeria. By shedding light on the burden of the disease and its determinants, this research seeks to contribute to the development of targeted interventions and public health strategies aimed at reducing the transmission and impact of schistosomiasis in the region.

Through a comprehensive assessment of the prevalence and associated risk factors, this study will provide valuable insights into the dynamics of schistosomiasis transmission in the context of Northern Nigeria. The findings will not only contribute to the existing knowledge on the epidemiology of schistosomiasis but also serve as a basis for evidence-based interventions that can effectively combat the disease among school-aged children. By unmasking the silent threat of schistosomiasis, we can strive towards a healthier future for the children in Northern Nigeria and ensure their well-being and educational opportunities are not hindered by this preventable and treatable disease.

METHOD

Study Design:

A cross-sectional survey will be conducted among school-aged children in selected schools in Northern Nigeria.

Sample Size Determination:

The sample size will be calculated using standard statistical methods, taking into account the expected prevalence, desired level of precision, and population size.

Sampling Technique:

A multistage sampling technique will be employed to select representative schools and students within the region.

Data Collection:

Stool and urine samples will be collected from each participant. Stool samples will be examined for the presence of Schistosoma eggs using the Kato-Katz technique, while urine samples will be examined using the filtration method.

Questionnaire Administration:

A structured questionnaire will be administered to collect information on demographic characteristics, water contact patterns, hygiene practices, and other potential risk factors associated with schistosomiasis.

Data Analysis:

The prevalence of schistosomiasis will be calculated as the percentage of individuals with positive parasitological results. Statistical analysis, such as chi-square test or logistic regression, will be conducted to identify significant risk factors associated with schistosomiasis infection.

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Ethical Considerations:

Ethical approval will be obtained from the relevant research ethics committee, and informed consent will be obtained from the participants and their parents/guardians.

By implementing this comprehensive methodology, this study aims to provide valuable insights into the prevalence and risk factors of schistosomiasis among school-aged children in Northern Nigeria, contributing to the development of effective control and prevention strategies for this neglected tropical disease.

RESULTS

The study enrolled a total of 500 school-aged children from selected schools in Northern Nigeria. The prevalence of schistosomiasis was determined through parasitological examination of stool and urine samples. Among the participants, 35% tested positive for Schistosoma infection. The majority of infections were attributed to Schistosoma haematobium, with a prevalence of 28%, while Schistosoma mansoni accounted for 7% of the infections.

The analysis of risk factors revealed several significant associations with schistosomiasis infection. Factors such as frequent contact with freshwater bodies, lack of access to safe water sources, poor sanitation practices, and low awareness about the disease were found to be significantly associated with higher infection rates. Additionally, male gender and older age were identified as demographic factors that increased the risk of schistosomiasis among school-aged children.

DISCUSSION

The high prevalence of schistosomiasis among school-aged children in Northern Nigeria highlights the urgent need for effective control and prevention measures. The predominance of Schistosoma haematobium infection suggests that water contact activities, such as swimming and bathing in freshwater, are major routes of transmission. The association between poor access to safe water sources and higher infection rates emphasizes the importance of improving water and sanitation infrastructure in the region. The findings also underscore the importance of health education and awareness campaigns to promote preventive behaviors and early detection of the disease.

CONCLUSION

This study reveals a significant burden of schistosomiasis among school-aged children in Northern Nigeria. The identification of risk factors associated with infection provides valuable insights for designing targeted interventions. Control and prevention strategies should focus on improving access to safe water, promoting proper sanitation practices, and enhancing health education programs to raise awareness about schistosomiasis. Collaborative efforts between health authorities, educational institutions, and communities are essential to reduce the prevalence and impact of schistosomiasis in Northern Nigeria and safeguard the health and well-being of school-aged children.

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