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Medical Research Paper

Head Lice Infestation and Frequency among Students at Latifabad Elementary School In Hyderabad, Sindh, Pakistan

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Abstract

Head lice are found all throughout the world and are considered a major health concern in many countries. One obligatory ectoparasite of humans is the head louse (Pediculus humanus capitis). (Buxton et al., 1947). Head lice are wingless insects that only consume human blood and live their whole lives on the scalp (Buxton et al., 1947). Because of their short, stumpy legs, head lice are unable to jump or even walk effectively on level surfaces. They are also unable to fly (Maunder, J. W. 1983). Estimating the prevalence of head lice infestations and the factors that contribute to it is the goal of studies. During the present studies, the frequency of head lice infestation with the consent of the students was collected on a random basis. In order to determine the incidence of head lice infestations, out of the 624 elementary school students, twenty-seven (27 cases) involving elementary school pupils in Latifabad, Hyderabad, Sindh, Pakistan, (ranging in grade from one to six), were observed during the current study. Children and families may experience worry, diminished self-esteem, and missed school time as a result of head lice. Children frequently get head lice, particularly in low-income nations and rural settings.

Keywords: Head lice *(Pediculus humanus capitis),* frequency, Infestation, Latifabad, elementary School, District Hyderabad, Sindh, Pakistan

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INTRODUCTION

Pediculus humanus capitis, commonly known as the head louse, is a parasitic insect that resides on the human scalp and feeds on blood several times a day. Its infestation is a widespread public health concern, particularly affecting children and populations living in socioeconomically disadvantaged areas with limited access to healthcare and sanitation. Head lice infestation is not merely a dermatological nuisance; it has been recognised globally as a significant public health problem due to its persistent prevalence and the associated physical and psychological consequences (Falagas et al., 2008). The issue is particularly pronounced in developing countries, where the infestation is often compounded by socioeconomic disparities, inadequate healthcare systems, and poor hygiene awareness, all of which facilitate the spread and persistence of lice within vulnerable communities (Falagas et al., 2008; Burgess et al., 2011; Naz et al., 2012).

In the context of South Asian countries such as Pakistan, head lice infestation is frequently observed among school-age children. Several factors contribute to this high incidence, including crowded living conditions, overcrowded classrooms, shared grooming items, and a general lack of awareness regarding preventive measures (Alam et al., 2011; Ahmed et al., 2018; Mumtaz et al., 2017). The problem is exacerbated by poor hygienic practices, which are often the result of insufficient infrastructure and health education. Children, being in close physical contact with one another throughout the school day, are particularly vulnerable, and the infestation frequently leads to significant discomfort, itching, and skin irritation, which in turn affects their psychological and social well-being.

The implications of head lice infestation in children extend beyond physical discomfort. Persistent infestations have been associated with poor academic performance, frequent absenteeism, and reduced classroom participation, thereby impeding a child's educational development and self-esteem (Ashraf A et al., 2019; Sultan B et al., 2020). The social stigma surrounding head lice further contributes to emotional distress, as both children and their families may experience shame, embarrassment, and social exclusion due to misconceptions surrounding cleanliness and hygiene (Shah et al., 2015). These psychosocial impacts underscore the importance of addressing the infestation not only as a medical issue but also as a social and educational concern.

In order to effectively combat this problem, it is essential to implement holistic management strategies that focus on awareness creation, education, and improved personal hygiene. Public health initiatives must prioritise community-level engagement by educating parents, teachers, and children about the life cycle of lice, methods of transmission, and available treatment options. In Pakistan, such interventions have been encouraged and documented, highlighting the need for multifaceted approaches that integrate both preventive and therapeutic measures (Sarwar et al., 2015; Siddiqui MI et al., 2002; Akhtar A et al., 2013; Naveed et al., 2015).

The economic and social burdens associated with head lice infestations in Pakistan are substantial. Every year, millions of children and adolescents endure infestations, which result in significant healthcare expenditures for treatment and contribute to social humiliation, particularly in school environments and low-income households (Khan et al., 2017). These challenges necessitate ongoing research and policy-driven actions aimed at mitigating the spread of lice and improving health literacy among school communities.

Given this backdrop, the primary objective of the present study is to assess the prevalence and epidemiological patterns of head lice infestation among schoolchildren in Pakistan, with particular attention to variables such as gender, age group, and family income. Understanding these factors will inform targeted interventions and provide a foundation for future public health strategies aimed at reducing the incidence and impact of head lice in school-aged populations.

MATERIALS AND METHODS

The relevant data was collected through a predesigned questionnaire from students and their parents, teachers and school administrations. The survey questionnaire of participants was distributed via physical and electronic means to assure secrecy of the data and anonymity of honest responses of participants. The consent from participants, their parents, teachers and school administration was taken prior to the study to guarantee consistency in the collection of data. During the survey and data collection, I worked closely with the school administration to secure authorisation to administer and outline the survey's objectives and requested their voluntary participation. The occurrences of head lice findings and their infestations were examined by applying the magnifying glass and fine-toothed comb method to observe live lice and nits. Carefully collected data from surveys and its findings associated with head lice identification and its infestations were documented in accordance with the demographics, gender, age, hygienic conditions, and infestation status. All relevant parameters of collected data were summarised and analysed statistically by applying appropriate statistical techniques.

RESULTS AND DISCUSSION

The study sample consisted of students enrolled in grades one through six, with an age range spanning from six to twelve years. Within this population, a total of 27 students (4.33%) were found to have head lice infestation. All cases (8.39%) occurred exclusively among female students, while none of the boys were found to be infested. The application of the chi-square statistical test revealed a highly significant association between gender and lice infestation ($P = 0.00$), indicating that gender is a critical variable influencing the prevalence of pediculosis in this context.

When analysing the infestation data according to academic grade, it was observed that fifth-grade students exhibited the highest prevalence of head lice (6.73%), which was above the overall average. Following closely, both first and fourth grades recorded infection rates exceeding 4%. In contrast, second and third grades showed the lowest prevalence at 2.88%. Despite these variations, the chi-square test did not show a statistically significant relationship between infestation rates and academic grade or age group ($P = 0.75$). This suggests that some fluctuation exists across grade levels; these differences may not be driven by age-related vulnerability but possibly by other social or behavioural factors..

Table-1: Showing head lice infestation and frequency among the students at Latifabad Elementary School in Hyderabad, Sindh, Pakistan.

Variables	Number	Infected Percentage	Number	Uninfected Percentage	Total Number	Percentage	p
Gender							
Girl	**(27)**	**(8.39) %**	**(295)**	**(91.61) %**	**(322)**	**(100) %**	
Boy	**(0)**	**(0) %**	**(302)**	**(100) %**	**(302)**	**(100) %**	**(0.00)**
total	**(27)**	**(4.33) %**	**(597)**	**(95.67) %**	**(624)**	**(100) %**	
Grade							
First	**(5)**	**(4.81) %**	**(99)**	**(95.19) %**	**(104)**	**(100) %**	
Second	**(3)**	**(2.88) %**	**(101)**	**(95.12) %**	**(104)**	**(100) %**	
Third	**(3)**	**(2.88) %**	**(101)**	**(95.12) %**	**(104)**	**(100) %**	
Fourth	**(5)**	**(4.88) %**	**(99)**	**(95.19) %**	**(104)**	**(100) %**	**(0.75)**
Fifth	**(7)**	**(6.73) %**	**(97)**	**(93.27) %**	**(104)**	**(100) %**	
Sixth	**(4)**	**(3.85) %**	**(100)**	**(96.15) %**	**(104)**	**(100) %**	
Total	**27**	**4.33**	**597**	**95.67**	**624**	**100**	

The present study's results show a marked gender disparity in infestation rates, with head lice disproportionately affecting girls. One plausible explanation for this trend lies in the differences in hair length and grooming practices between boys and girls. Boys typically have shorter hair, which may reduce the surface area for lice to colonise, while girls with longer hair may be more vulnerable, especially when in close contact with one another, such as sharing desks or grooming tools [17–19]. Moreover, cultural and behavioural norms, including hair care routines and the use of shared accessories, may contribute to these differences.

There is an urgent need to dispel the stigma surrounding pediculosis and to promote educational interventions within school communities. Head lice infestations should be recognised not merely as a hygienic issue but as a communicable parasitic condition that warrants proper attention. The discomfort, itching, secondary skin infections, and psychological effects, including embarrassment and social isolation, underline the importance of prevention and early treatment [20-22]. Students affected by head lice may face teasing or exclusion from peers, further amplifying the emotional toll of the condition.

The findings show a relatively higher rate of infestation in students of upper primary grades, particularly fifth grade. This pattern aligns with earlier studies and may be attributed to factors such as increasing social interactions among older children, decreased parental supervision of hygiene practices, and a general lack of awareness regarding prevention. These results call for future research to investigate behavioural patterns, family health literacy, and hygiene education across different age brackets to better understand vulnerability factors.

In conclusion, this study offers important perspectives on the epidemiology of head lice infestation in a Pakistani school setting. It demonstrates the importance of continuous health education, particularly targeted at young schoolgirls and their carers. Preventive strategies, including discouraging the sharing of personal items such as combs, scarves, and caps, should be actively promoted. Moreover, school-based awareness campaigns and parental involvement in monitoring personal hygiene can significantly reduce infestation rates. These findings contribute valuable baseline data for policymakers, school administrators, and public health workers seeking to develop culturally appropriate and

sustainable interventions against pediculosis.

CONCLUSION

The current findings revealed that female individuals had the highest infestation frequency, followed by males. This gendered variation in prevalence is consistent with previous research, which has frequently highlighted higher vulnerability among females, often due to behavioural patterns, hair lengths, and social interactions that facilitate transmission. While Pedic*ulus humanus capitis* is primarily known for infesting the scalp, it is important to distinguish it from *Pediculus humanus humanus*, also known as body lice, which is responsible for causing *pediculosis corporis.* Unlike head lice, body lice do not reside on the skin but inhabit the seams of clothing and bedding, only coming into contact with the skin when feeding.

Body lice are known to cause significant dermatological irritation, beginning with small red patches that may develop into painful papules. The associated itching tends to intensify at night, thereby disrupting sleep and causing considerable discomfort. Infestation is particularly common in environments characterised by overcrowding, poor hygiene, and limited access to clean clothing or laundry facilities. Such prevalence makes the condition a notable public health concern in marginalised or displaced populations, as well as among individuals living in poverty.

Effective treatment and prevention of body lice require a comprehensive hygiene-based approach. Essential measures include thoroughly washing the body, clothing, and any potentially contaminated items in hot water with soap, followed by drying them at high temperatures. For garments or items that cannot be machine-washed, alternatives such as dry cleaning or ironing at high heat can be employed to eliminate lice and their eggs. Regular personal hygiene practices, including changing and laundering clothes at least once per week, play a vital role in reducing the risk of infestation and preventing recurrence.

Given the physical discomfort, social stigma, and potential for secondary infections associated with both head and body lice, there is a pressing need to raise awareness about their prevention and control. Public health education campaigns must prioritise informing individuals—particularly those in vulnerable communities about effective hygiene practices, early detection, and treatment options. This article thus serves as a critical platform to advocate for greater public understanding of *pediculosis* and its broader implications for health, dignity, and well-being.

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REFERENCES

Ahmed, K. S., Waseem, T., Shaikh, R. S., Usmani, F. A., Mohyuddin, A., Ali, S. (2018). Prevalence and risk factors associated with head lice infestation among primary schoolchildren in Karachi, Pakistan. Int J Dermatol., 57(1):96-101.

Akhtar, A., Yousafzai, A. W., Qazi, et al. (2013). Knowledge, attitudes and practices regarding head lice infestation in rural district Swabi, Pakistan. J Ayub Med Coll Abbottabad., 25(3-4):78-81.

Alam, M. M., Rashid, A., Zahoor, D., Farooq, U. (2011). Effects of pediculosis capitis on the school performance of primary school children. J Coll Physicians Surg Pak., 21(5):289-292.

Ashraf, A., Khan, A. A., Ara, J., et al. (2019). Epidemiology of pediculosis capitis in school children of Muzaffarabad, Azad Jammu and Kashmir. Pak J Zool., 51(6):2293-2299.

Buxton, Patrick, A. (1947). The biology of Pediculus humanus. In The Louse; an account of the lice which infest man, their medical importance and control (2nd ed.), London: Edward Arnold, pp. 24–72.

Burgess, I.F. (2011). Head lice. BMJ Clin Evid., 2011:1703.

Falagas, M. E., Matthaiou, D. K., Rafailidis, P.I., Panos, G., Pappas, G. (2008). Worldwide prevalence of head lice. Emerg Infect Dis., 14(9):1493-1494.

Frankowski, B. L., Weiner, L. B. (2002). Head lice. Pediatrics, 110(3), 638-643.

Heukelbach, J., Ugbomoiko, U. S. (2011). Knowledge, attitudes and practices regarding head lice infestations in rural Nigeria. The Journal of Infection in Developing Countries, 5(09):652-7.

Hodjati, M.H., Mousavi, N., Mousavi, M. (2008). Head lice infestation in school children of a low socioeconomy area of Tabriz city, Iran. African Journal of Biotechnology., 7(13).

Khan, A., Raza, A., Hassan, M., et al. (2017). A community-based survey of head lice infestation among children in District Multan, Pakistan. Int J Biosci., 11(1):13-19.

Maunder, J. W. (1983). The Appreciation of Lice. Proceedings of the Royal Institution of Great Britain., 55: 1–31.

Moradi, A., Bathayy, C., Shojaeian, M., et al. (2012). Outbreak of Pediculosis capitis in students of Bahar in Hamedan province. Journal Dermatology and Cosmetic., 3:26–32.

Mumtaz, K., Kamal, M., Nasir, N., Memon, Z., Farooq, M. U., Majeed, S. (2017). Head lice infestation (Pediculosis) in schoolchildren and treatment strategies in Pakistan: A review. Int J Health Sci (Qassim)., 11(4):49-55.

Moosazadeh, M., Afshari, M., Keianian, H., et al. (2015). Prevalence of head lice infestation and its associated factors among primary school students in Iran: a systematic review and meta-analysis. Osong Public Health Res Perspect., 6(6):346-56.

Naveed, A., Qamar, M. (2018). Response of head lice towards different therapeutic options available in local market of Quetta, Pakistan. Ann King Edward Med Univ., 24(Special Issue):108-112.

Naz, S., Iqbal, Z., Yousafzai, M. T., Taj, M. (2012). Pediculus humanus capitis infestation in children of lower socioeconomic status in Islamabad, Pakistan. East Mediterr Health J., 18(2):185-189.

Shah, A., Ahmad, A., Musharraf, S.G., Khan, F.A. (2015). Socioeconomic impact of pediculosis capitis in district Chitral, Pakistan. Gomal J Med Sci., 13(1):20-23.

Sarwar, M. S., Yaseen, M., Khurshid, U., Bhatti, N.S., Naeem, U., Jahangir, M. (2015). Head lice infestation (pediculosis) and associated factors among primary school girls in district of Lahore, Pakistan. Biomedica., 31:70-73.

Siddiqui, M. I., Bilqees, F.M., Iqbal, J., Rehman, N. (2002). Head lice, Pediculus humanus capitis (Anoplura: Pediculidae), in Pakistan: A neglected public health problem. J Med Entomol., 39(3):432-435.

Sultan, B., Ali, L., Raza, Z., Shafiq, N. (2014). Impact of pediculosis capitis infestation on school going children of primary schools of Rawalpindi and Islamabad, Pakistan. Prof Med J., (4):615-619.