

Vector Role of *Pediculus humanus*

Zain Hassan Khan¹, Muhammad Awais Gishkori^{1*}, Zain Raza¹

1. Riphah International University, Lahore, Pakistan.

*Corresponding author: awaisgishkori789@gmail.com

ABSTRACT

Pediculosis is a worldwide disease that impacts school students. Due to the presence of head to head. Head lice are an economic and social concern whereas body lice pose a more serious public health threat. The head louse, also Known as *Pediculus humanus*, is a parasitic insect that infects millions of people primarily children.

Introduction:

Human lice (Pediculosis) suck blood and inject saliva that causes allergic reactions and pruritus. The human head louse, *Pediculus (P.) humanus* is an ectoparasite found on the scalp and hair of man (7). Infotainment is spread all over the world and is especially prevalent among schoolchildren in two developed countries. *P. humanus* infection causes skin irritation, pruritus, and sleep, as well as secondary bacterial infections. Although the symptoms are milder, *P. humanus* capitulation causes various social, mental, and economic problems (1). Plant essential oil has been proposed as an alternative source for insect control because it is a source of bioactive chemicals and is commonly used as a fragrance and flavoring agent for food and beverages to determine the intensity of Pediculosis infestation. Gender and socioeconomic status of children were analyzed as covariates for overall prevalence (2, 3). Data on the global burden of pediculosis and the epidemiological landscape of pediculosis are limited.

Epidemiology

In the United States, head lice infestation is most common among preschool and elementary school-aged children and their household members and caregivers (4). Lice are not known to transmit disease. The human louse is a vector of human pathogens responsible for epidemics (8). A person infected with lice can be attacked by thousands of lice, each biting five times a day. The louse injects biologically active proteins into the skin, which include an anticoagulant and an anesthetic. These antigens induce an allergic reaction within 3–4 weeks. After the bite, which can lead to itching, severe infestation with body lice (5).

Vector role of lice

1. Trench fever

The disease known as "trench fever," which was first identified during World War I, afflicted German and Allied soldiers who were pressed into trench warfare. The gram-negative bacterium *Bartonella (B.) quintana* is the cause of the illness. Following World War II, *B. quintana*'s occurrence drastically decreased. Trench fever was identified as a significant re-emerging disease in the substandard living circumstances of urban homeless populations in developed nations at the beginning of the 1990s (6).

2. Epidemic typhus

More people died from epidemic typhus than from all of history's wars combined. Charles Nicolle proved that it is spread by body lice. The obligate intracellular bacterium *R. prowazekii*, which also kills lice within a week of infection, is the cause. Typhus's origins are debatable; some believe it originated from an ancient European illness that led to the Plague of Athens, while others think (9).

Conclusion

Human pediculosis is a public health problem that affects millions of people worldwide. Like the Kormanj tribe in North Khorasan, the improvement of personal conditions in humans and the treatment of common infestations in cattle's feet can significantly reduce human head lice infestation. If emphasis is placed on applying revolutionary omics technologies to clarify the mechanisms fundamental the physiological, ecological, and evolutionary aspects of lice, more progress can be made.

References

- [1] Clark JM, Yoon KS, Lee SH, Pittendrigh BR. Human lice: Past, present and future control. *Pesticide Biochemistry and Physiology*. 2013 Jul 1;106(3):162-71.
- [2] Titchener RN. The control of lice on domestic livestock. *Veterinary parasitology*. 1985 Oct 1;18(3):281-8.
- [3] Hansen RC. Overview: the state of head lice management and control. *Am J Manag Care*. 2004 Sep 1;10(9 Suppl):S260-3.
- [4] Richards SM. Treatment of head lice. *The Lancet*. 2000 Dec 9;356(9246):2007
- [5] Vander Stichele RH, Dezeure EM, Bogaert MG. Systematic review of clinical efficacy of topical treatments for head lice. *Bmj*. 1995 Sep 2;311(7005):604-8.
- [6] Burkhart CG, Burkhart CN, Burkhart KM. An assessment of topical and oral prescription and over-the-counter treatments for head lice. *Journal of the American Academy of Dermatology*. 1998 Jun 1;38(6):979-82.

- [7] Takano-Lee M, Edman JD, Mullens BA, Clark JM. Home remedies to control head lice: assessment of home remedies to control the human head louse, *Pediculus humanus* (Anoplura: Pediculidae). *Journal of Pediatric Nursing*. 2004 Dec 1;19(6):393-8.
- [8] Frankowski BL, Weiner LB, Committee on School Health, Committee on Infectious Diseases. Head lice. *Pediatrics*. 2002 Sep 1;110(3):638-43.
- [9] Williams LK, Reichert A, MacKenzie WR, Hightower AW, Blake PA. Lice, nits, and school policy. *Pediatrics*. 2001 May 1;107(5):1011-5.