

DOI: 10.21767/1989-5216.1000207

Prevalence of Pediculosis among Students in Pakistan

Muhammad Tufail^{1*}, Muhammad Khan² and Ishtiaq Hassan³¹Department of Zoology, Abdul Wali Khan University Mardan (Shankar Campus), KPK, Pakistan²Center for Human Genetics Hazara Univeristy, Mansehra, KPK, Pakistan³Center for Human Genetics Hazara Univeristy, Mansehra, KPK, Pakistan

*Corresponding author: Muhammad Tufail, Department of Zoology, Abdul Wali Khan University Mardan (Shankar Campus), KPK, Pakistan, Tel: 0937929123; E-mail: mtufail276@gmail.com

Received date: March 03, 2017; **Accepted date:** March 27, 2017; **Published date:** March 31, 2017

Copyright: © 2017 Tufail M, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Citation: Tufail M, Khan M, Hassan I. Prevalence of Pediculosis among Students in Pakistan. Arch Med. 2017, 9:2

Abstract

Background: Head lice, commonly known as Pediculosis, is an infestation of the skin caused by a parasite known as *Pediculus humanus capitis*. Head lice are more common among crowded families, having poor hygiene and poor living condition. It can be easily transmitting from infected to healthy person.

Methodology: This study was conducted in district Mardan of Pakistan. In this study, 202 head louse patients from 30 schools (15 males and 15 female's elementary schools) were examined. A questionnaire was designed for data collection.

Results: The occurrence of head louse was excessive among students having indigent living situation (78.7%), as compare to those students having good living condition (21.3%). Head louse rate was high (82.7%) among students with more than five family members living together. This study confirms that head louse rate was abundant in students having poor hygiene (72.8%). Head lice were more prevalent among students whose parents are illiterate (39.6%). This study shows that most functional treatment method was medication (72.3%).

Conclusion: Results showed that head lice were common among students who need proper responsiveness. Its prevalence can be lowered by improving hygiene, living condition, and by educating people.

days and start laying eggs [4]. Their lifespan is typically 3-4 weeks in which they lay up to 150 eggs [5]. The transmission of head louse is usually through a direct head - head contact with an infested person or having contact with hairbrush, towel or clothes of an infected person. Inflammation and itching of neck and scalp, presence of head louse and presence of eggs in hair provides evidence for Pediculosis [3,6].

People having deprived living condition, destitute hygiene, poor resources and homeless individuals are at high-risk [7]. Treatment of pediculosis is usually by topical-Pediculicides, oral agents and physical methods [7]. In physical method, wet comb is used to remove head louse, comb, having teeth lesser than 0.3 mm apart [7,8]. The topical-treatment is usually done by pyrethrins, pyrethroids and lindane [9-11]. In oral treatment, ivermectin is highly neurotoxic for those children whose weight is less than 45 kg and to pregnant women [7].

Using rimethoprimsulfam-ethoxazole for head louse treatment is still controversial [10,12]. Head louse is more prevalent among countries having poor living condition, this study was carried out in District Mardan because head louse is also big problem for students of district Mardan, this study was carried out to reveal the diverse factors responsible for head louse prevalence among students and aware people to control its prevalence.

Methods and Materials

Most of the populations of study area (Khyber Pakhtunkhwa KPK) is deprived, low literacy rate and having poor living conditions. This study was directed in District Mardan of KPK from July 2014 to June 2015, the duration of this study was 11 months. In this research, 15 males and 15 female's elementary schools were selected for study. To detect infestation, the whole scalp was combed gently through a louse comb, the tooth of the comb was inspected for the existence of active lice, and this is the most effective method for head louse diagnosis. Questionnaires were designed and were filled by 202 students suffered in headed louse to find out the association of different factors with head lice prevalence.

Keywords: Head lice; Prevalence; Factors; Students; Mardan

Introduction

Pediculosis or head lice are parasitic infestation of scalp or hair caused by *Pediculus humanus capitis* [1,2]. *Pediculus humanus capitis* is an obligatory parasite that suck blood from human. Their host is only human and has no connection with pests or other animals [1,3]. Head louse laid eggs near the scalp which hatches after 6-9 days; they became an adult after 9-15

Statistical analysis

Statistical analysis was done by using SPSS 20, and P-value was calculated by chi-square (χ^2) test.

Results

Rate of head louse in association with living condition, gender, family members and hygiene

It was found that percentage of head louse is high among students having poor living condition (78.7%), as compare to those students having good living conditions (21.3%). In males, the occurrence of head louse was (51%), while in females; the frequency was (49%). In this study degree of head louse was high among students having more than five family members (82.7%), while head louse rate was low among small families (17.3%). The present research shows that head louse rate was rich in students having poor hygiene (72.8%), as compare to those students having good living condition (27.2%), (Table1, Figure1).

Table 1 Rate of head Louse in association with living condition, gender, family members and hygiene.

Conditions/Parameters	Living Condition	Gender	Family Members	Hygiene
Poor	159 (78.7%)	103 (51%)	35 (17.3%)	147 (72.8%)
Good	43 (21.3%)	99 (49%)	167 (82.7%)	55 (27.2%)
P-value	<0.0005	0.779	<0.0005	<0.0005

Rate of head Louse in association with treatment method and parent's education

This study reveals that the preeminent treatment method was medication (72.3%), followed by combing (15.8%), and the use of procedures was only (11.9%). Head louse was more common among students whose parents are illiterate (39.6%), in students whose fathers were uneducated; the rate was (15.8%), while the lowest rate was found among students whose parents are literate (7.9%), (Table 2, Figure 1).

Table 2 Rate of head Louse in association with treatment method and parent's education.

Conditions/Parameters	Treatment	Parent's Educations
Combing	32 (15.8%)	-
Medications	146 (72.3%)	-
Procedures	24 (11.9%)	-
P-value	<0.0005	-
Literate father	-	27 (13.4%)
Illiterate father	-	32 (15.8%)

Literate mother	-	20 (9.9%)
Illiterate mother	-	27 (13.4%)
Literate parents	-	16 (7.9%)
Illiterate parents	-	80 (39.6%)
P-value	-	<0.0005

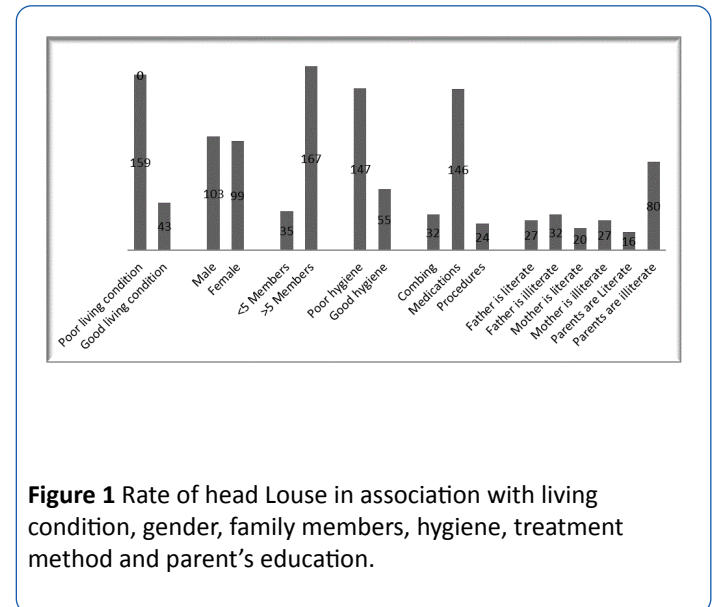


Figure 1 Rate of head Louse in association with living condition, gender, family members, hygiene, treatment method and parent's education.

Discussion

Head Louse is very common parasitic infestation in youngsters [1]. The current research was conducted in District Mardan of Khyber Pakhtunkhwa, Pakistan. In this investigation, 202 students having head louse shared their data through questionnaires. This study shows that head louse was common among students having poor living condition (78.7%), while head louse prevalence was low among students having good living condition (21.3%). In males, the prevalence was slightly higher (51%), than females (49%). Contrary results were found by Rukke et al. [13]. It was found in the current examination; that rate of head louse was high among students having more than five family members (82.7%), as compare to those having less than five family members (17.3), because it is a parasitic infestation and can be easily transmitted from one family member to another via head-head contact and clothes. Similar results were found by Rukke et al. [13].

The present's study shows that hygiene has strong relation with head louse; head louse was very common among students having poor hygiene (72.8%), as compare to students having good hygiene (27.2%). Current study revealed that medication was most widely cure method for treating head louse (72.3%), as compare to combing (15.8%), and procedures (11.9%). Similar results were found by Roberts et al. [14]. Rate of head louse was high among students whose parents are illiterate (39.6%). Similar results were found by Rukke et al. [13].

Current study shows that the key factor which plays a key role in head louse prevalence was Parent's education, followed by family members and hygiene; while gender was the less

important aspect that contributes in head louse prevalence. Frequency of head louse can be reduced by educating people to observe cleanliness and be neat and try to improve living conditions.

Conclusion

Current analysis shows that percentage of head louse was very common among students who need proper attention to be controlled. This study also concluded that parent's education, living condition, hygiene and family members having a strong relation with head lice prevalence.

References

1. Nutanson I, Steen CJ, Schwartz RA, Janniger CK (2008) *Pediculus humanus capitis*: An update. *Acta dermatovenerologica* 17: 147-154.
2. Frankowski BL, Bocchini JA (2010) Head Lice. *Pediatrics* 126: 392-403.
3. www.Healthofchildren.com
4. van der Wouden JC, Klootwijk T, Le Cleach L, Vander Stichele R, Knuistingh Neven A, et al. (2011) Interventions for treating head lice.
5. Tebruegge M, Pantazidou A, Curtis N (2010) What's bugging you? An update on the treatment of head lice infestation. *Archives of disease in childhood-education and practice* edition.
6. <http://emedicine.medscape.com/article/225013-overview>
7. Burkhart CG, Burkhart CN (2005) Safety and efficacy of pediculicides for head lice. *Expt Opin Drug Saf* 5: 169-179.
8. Downs AMR (2004) Managing Head Lice in an Era of Increasing Resistance to Insecticides. *American J Clinical Dermatol* 5: 169-177.
9. Feldmeier H (2012) Pediculosis capitis: new insights into epidemiology, diagnosis and treatment. *Eur J Clin Microbiol Infect Dis* 31: 2105-2110.
10. (2008) Head lice infestations: A clinical update. *Paediatr Child Health* 13: 692-704.
11. Chosidow O, Giraudeau B, Cottrell J, Izri A, Hofmann R, et al. (2010) Oral Ivermectin versus Malathion Lotion for Difficult-to-Treat Head Lice. *New England J Med* 362: 896-905.
12. Lebwohl M, Clark L, Levitt J (2007) Therapy for head lice based on life cycle, resistance, and safety considerations. *Pediatrics* 119: 965-974.
13. Rukke BA, Soleng A, Lindstedt HH, Ottesen P, Birkemoe T (2014) Socioeconomic status, family background and other key factors influence the management of head lice in Norway. *Parasitol res* 113: 1847-1861.
14. Roberts R, Casey D, Morgan D, Petrovic M (2000) Comparison of wet combing with malathion for treatment of head lice in the UK: a pragmatic randomised controlled trial. *The Lancet* 356: 540-544.