



Treatment and Education on Prevention of Capitis Pediculosis in Female student Pesantren Al-Muslimun at Village Muda Setia, Bandar Seikijang, Pelalawan Regency, Riau

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Article History:

Received: Feb 17th 2022

Revised: April 14th 2022

Accepted: May 2022

Abstract: *Pediculosis capitis is caused by head lice infestation (*Pediculus humanus capitis*). This disease is often overlooked because it does not cause fatal symptoms but can interfere with concentration and activities of the affected individual. Infestation of parasites often affects a group of children in an orphanage, dormitory, or boarding school. This activity aims to be carried out at the Al-Muslimun Islamic Boarding School in Muda Setia Village, Bandar Seikijang District, Pelalawan, Riau Province. The target audience is students of tsanawiyah totaling 178 students. On examination, 93% were positive for pediculosis capitis. The students were given the treatment of permethrin 1% and counseling in the form of education on how to prevent and eradicate the disease. In addition to students, education is also given to musyrifah. It is hoped that students who have received treatment and education can receive and apply the knowledge gained so that they can eradicate the disease.*

Keywords: *Pediculus humanus capitis, children, Islamic boarding school*

Introduction

Pediculosis capitis is a parasitic disease that is often overlooked and is still a health problem in Indonesia.¹ Pediculosis capitis is caused by an infestation of head lice or what is known as *Pediculus humanus capitis*. *P.h.capitis* is an obligate ectoparasite that lives on the human scalp and sucks an infected person's blood.² This disease is frequent in children and generally clinically manifests that appear not to cause serious symptoms. Still, it can cause severe symptoms in some people due to complications of this head lice

¹ "Prof Teguh Wahyu Sardjono: Penyakit Parasitik Masih Terabaikan," *Prasetya Online*, last modified November 6, 2008, accessed June 4, 2022, <https://prasetya.ub.ac.id/prof-teguh-wahyu-sardjono-penyakit-parasitik-masih-terabaikan/>.

² Kosta Y Mumcuoglu et al., "International Recommendations for an Effective Control of Head Louse Infestations," *International journal of dermatology* 60, no. 3 (2021): 272–280.

infestation.³

These parasites suck blood on the scalp and when sucking blood, these ticks produce secretions that can cause irritation and cause redness of the scalp. Furthermore, there will be an itch with high intensity so that the infested person cannot bear to scratch the itchy scalp. This itching causes sleep disturbances and lack of concentration when working or studying, causing the productivity of the infested person to decrease.⁴ This head lice infestation can cause the head hair to become dull and sticky it can reduce the self-confidence of the infested child.⁵

Some of the risk factors for this head lice infestation are densely populated houses, low economic status and poor hygiene behavior. Usually this head lice infestation often occurs in children who live together in groups, namely in orphanages, dormitories and Islamic boarding schools.⁶ Several studies have reported that head lice infestation or capitis pediculosis in female students in Islamic boarding schools is quite high. In 2018, it was reported that there were 88.4% of female students were infested with head lice at the Pamijahan Village Islamic Boarding School, Bogor Regency.⁷ In the 2020 investigation at the PPAI-An Nahdliyah Islamic Boarding School, Malang Regency, it was reported that there were 64.6% of cottage students were positive for *P.h.capitis infestation*.⁸

Pondok pesantren is an educational dormitory whose students live together and study under the guidance of a teacher or ustadz / ustadzah. Male students and female students live in the dormitory together. The activities in the dormitory are carried out together such as eating, studying, sleeping and playing.⁹ This joint activity carried out by students is one of the risk factors for easily contracting the parasite infestation. In addition, a large number of students and rooms with dense housing also increase the high risk of transmission of capitis pediculosis.

³ Saleha Sungkar et al., "Effectiveness of Wet Combing Compared with 1% Permethrin Lotion for the Treatment of Pediculosis Capitis," *International Journal of Applied Pharmaceutics* 11, no. Special Issue 6 (2019): 108–110.

⁴ Mumcuoglu et al., "International Recommendations for an Effective Control of Head Louse Infestations"; Sungkar et al., "Effectiveness of Wet Combing Compared with 1% Permethrin Lotion for the Treatment of Pediculosis Capitis."

⁵ Sungkar et al., "Effectiveness of Wet Combing Compared with 1% Permethrin Lotion for the Treatment of Pediculosis Capitis."

⁶ Saleha Sungkar, "Penyakit Yang Disebabkan Artropoda," *Parasitologi Kedokteran (4th Ed.) Balai Penerbit FKUI Jakarta* (2008); Sungkar et al., "Effectiveness of Wet Combing Compared with 1% Permethrin Lotion for the Treatment of Pediculosis Capitis"; Inna Nutanson et al., "Pediculus Humanus Capitis: An Update," *Acta Dermatovenerol Alp Panonica Adriat* 17, no. 4 (2008): 147–159.

⁷ Sungkar et al., "Effectiveness of Wet Combing Compared with 1% Permethrin Lotion for the Treatment of Pediculosis Capitis."

⁸ Kementerian Agama RI Direktorat Jenderal Pendidikan Islam., "Identitas Madrasah MTs Al Muslimun."

⁹ Amang Fathurrohman, "PERKEMBANGAN PENDIDIKAN PESANTREN DI INDONESIA DARI ERA PRA KEMERDEKAAN SAMPAI ERA 'INDONESIA BERSATU' DALAM PERSPEKTIF TEORI ARAHAN MASYARAKAT AMITEI ETZIONI," *Jurnal Ilmu Tarbiyah "At-Tajdid"* 5, no. 1 (2016): 105–128.

This community service activity was carried out at the Al-Muslimun Islamic Boarding School, Muda Setia Village, Bandar Seikijang District, one of the Islamic boarding schools in Pelalawan Regency, Riau Province. This pesantren was founded in 1991. Currently, Pesantren has 216 madrasah tsanawiyah students.¹⁰ This Islamic Boarding School has quite a lot of students so that it is suspected that the risk of contracting capitis pediculosis is very high. Therefore, it is necessary to carry out community service in the pondok pesantren in the form of treatment for female students who are positive for capitis pediculosis. Before treatment is carried out on female students, a physical examination of the hair and scalp will be carried out to establish a diagnosis of capitis pediculosis, find out the risk factors and then provide education for the prevention and eradication of infestations by the *Pediculus humanus capitis*.

Method

This community service activity was carried out at the Al-Muslimun Islamic Boarding School, Muda Setia Village, Bandar Seikijang District, Pelalawan Regency, Riau Province in October 2021. There are several stages carried out on the service activities as shown in figure 1. the following, namely the preparation stage in the form of a survey of the place or location in the Islamic boarding school and then managing the activity permit. At the implementation stage, filling identity forms and observation sheets of risk factors for capitis pediculosis is carried out. A physical examination is carried out on the female students' hair and head, which aims to diagnose whether the female students suffer from capitis pediculosis. After the examination, female students suffering from capitis pediculosis were given 1% permethrin lotion treatment. A clinical parasitology specialist carries out examination and treatment.

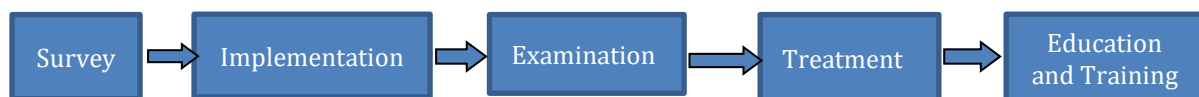


Figure 1. Methods of Implementation of Activities

Female students are also given education and education about capitis pediculosis, starting from the definition, etiology of the disease, geographical distribution of the disease, risk factors, clinical symptoms, complications, treatment to how to prevent the disease so that it is not infested again. This education and training are carried out by doctors / medical personnel from the Faculty of Medicine, Riau University, totaling 4 people. The provision of education and training for the eradication of this disease is not only given to female students but also given to musyrifah – musyrifah companions of students and ustadzah. In addition to providing therapy in the form of 1% permethrin

¹⁰ Kementrian Agama RI Direktorat Jenderal Pendidikan Islam., "Identitas Madrasah MTs Al Muslimun."

lotion, a serit comb was also given to positive students for capitis pediculosis.

The main target audience of this service activity is the students of the princess tsanawiyah of the Al-Muslimun Islamic Boarding School which amounts to 178 female students. The tool for the achievement of this service activity is the known incidence of capitis losis pedicure in female students in Islamic boarding schools, knowing the risk factors for parasitic infestation, the implementation of health education or education in the form of counseling about parasitic diseases and the implementation of treatment to female students who are positive for infestation. *Pediculus humanus capitis* accompanied by musyrifah and ustadzah.

Result

Community service activities have been carried out at the Al-Muslimun Islamic Boarding School, Muda Setia Village, Bandar Seikijang, Pelalawan Regency, Riau in October 2021. The main target audience in this service activity is the female student tsanawiyah as shown in figure 2. The implementation of this service activity is still in the condition of the COVID-19 pandemic and at the time this activity was carried out the COVID-19 case had decreased considerably but the activities carried out still implemented health protocols. Before the examination, the female students are collected in the field to be explained the technicalities of the medical examination to be carried out. After that, the female students were put into the room for examination.



Figure 2. Female students collected in the field to prepare for medical examination

In this activity, as many as 178 students were obtained from Tsanawiyah. An overview of the age of the students can be seen in the following table.1.

Table.1 Descriptive statistical distribution of age variables of female students

Variable	n	Mean	SD	95% CI
Age	178	13,38	0,99	13,24 - 13,53

In table.1, it can be seen that the average age of female students is 13.38 years among 178 female students who participated in this service activity. The age of students is at least 12 years old and a maximum of 15 years old.

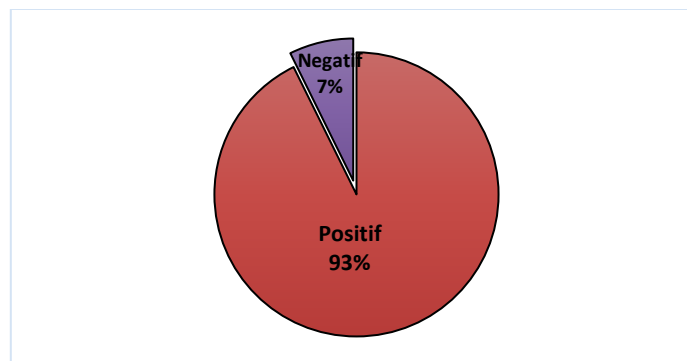


Figure 3. Percentage of Capitis Pediculosis Examination Results in Female student

In figure 2, as many as 165 (93%) female students tested positive for capitis pediculosis from the physical examination of the head hair carried out in this service activity. Treatment and education activities for students can be seen in figure 3.



Figure 4. Some Photos of Capitis Pediculosis Treatment and Education Activities

Discussion

Pesantren is a community-based institution that the community, foundation or institution can establish.¹¹ Pesantren is a place where students or students study Islam led by a kyai or ustadz and during the educational process, students live or settle in cottages/dormitories. Recently, many Islamic boarding schools have been established with a better education system. Along with that, the community's enthusiasm to choose to plant their children in pesantren is quite high. This makes pesantren a strategic place to carry out community service activities, such as economic empowerment of the pesantren community,¹² increasing the spirit of entrepreneurship of students¹¹ in economics. In addition, in the health sector, it is necessary to carry out activities in the form of medical examinations of students, treatment and education on diseases that often affect students in Islamic boarding schools, especially infectious parasitic diseases including capitis pediculosis.

In this service activity, a physical examination of the head hair of 178 female students was carried out and 165 suffered from capitis pediculosis. The incidence of head lice infestation is quite high, as much as 93%. This result is also not much different from the incidence of capitis pediculosis at the Islamic Boarding School, Kandis District, Siak Regency, obtained by 36 out of 39 (92%) female students who were positive for capitis pediculosis.¹³ The life of students in the dormitory is carried out together such as studying together in one room, studying, playing, sleeping, eating and other activities. This increases the risk factors for transmission of the capitis pediculosis disease. Actions such as wearing personal items together such as combs, hair accessories, headscarves, pillows and other items add to the easy transmission of *Pediculus humanus capitis* from individual people.¹⁴

School-age children are an age group that is often affected by *Pediculus humanus capitis* infestation because this group often does not pay attention to personal hygiene

¹¹ Presiden Republik Indonesia, *Undang Undang Republik Indonesia No. 18 Tahun 2018 Tentang Pesantren* (Indonesia, 2018), <https://www.hukumonline.com/pusatdata/detail/lt5dae6ed07247f/undang-undang-nomor-18-tahun-2019>.

¹² Toha Masum and Muh Barid Nizarudin Wajdi, "Pengembangan Kemandirian Pesantren Melalui Program Santripreneur," *Engagement: Jurnal Pengabdian Kepada Masyarakat* 2, no. 2 (2018): 221-232.

¹³ Esy Maryanti et al., "Pemeriksaan Dan Pendidikan Pencegahan Pedikulosis Kapitis Pada Santri Pesantren Jabal Nur Kecamatan Kandis, Kabupaten Siak, Provinsi Riau," *ETHOS: Jurnal Penelitian dan Pengabdian kepada Masyarakat* 9, no. 2 (2021): 161-168.

¹⁴ Sungkar et al., "Effectiveness of Wet Combing Compared with 1% Permethrin Lotion for the Treatment of Pediculosis Capitis"; Maryanti et al., "Pemeriksaan Dan Pendidikan Pencegahan Pedikulosis Kapitis Pada Santri Pesantren Jabal Nur Kecamatan Kandis, Kabupaten Siak, Provinsi Riau"; Nor Faiza Mohd Tohit, Lekhraj Rampal, and Lye Mun-Sann, "Prevalence and Predictors of Pediculosis Capitis among Primary School Children in Hulu Langat, Selangor," *Med J Malaysia* 72, no. 1 (2017): 12-17.

and place of residence. In this activity, the age of children who are infested by head lice is 12-15 years, because the target audience in this service is students or tsanawiyah students. Based on research, it was found that the children who were most infested with head lice were in the age group of 5-13 years because at this age it was a period of play and had close contact with their friends.¹⁵

Head lice infestation is a disease that generally does not cause serious abnormalities, clinical symptoms in the form of itching in the head that can sometimes interfere with the activities of the affected person. The intensity of severe infestation in children can interfere with the quality of sleep due to itching in the head and decrease concentration when studying which will certainly reduce the child's academic performance.¹⁶ In addition, capitis pediculosis infestation can cause complications in the form of severe infections, namely dull, sticky and hardened hair because there has been a secondary infection by bacteria that causes pus or pus. In addition, the fungus can also aggravate the infection, this condition is called plica palonika.¹⁷ Before complications occur, treatment against capitis pediculosis is necessary. In this study, treatment in infested female students was given 1% permethrin. In addition to this therapy, the female students are also given a serit comb, its use is for mechanical management of pediculosis, namely the serit comb can be used after shampooing, because head lice and their eggs (nits) can be easily filtered when combed on wet hair. This method must be done at a severe intensity of infection in order to speed up the process of eliminating head lice.

After treatment, students are given education about the disease so that students know capitation pediculosis. This education is in the form of knowledge about the disease's general description, including causes, risk factors, disease symptoms, complications, management, and disease prevention. This is done so that the affected students are not infested anymore and pediculosis can be eradicated, especially in Islamic boarding schools. Students who have received education and can apply this education to themselves will be able to become health cadres in Islamic boarding schools.

Pesantren should have a pesantren health post (POKESTREN) and foster its students as cadres who can be the leading pillar in dealing with health problems in the Pesantren environment.¹⁴ Infectious disease eradication activities need to be carried out by involving various parties and carried out continuously.

¹⁵ Nutanson et al., "Pediculus Humanus Capitis: An Update"; Tohit, Rampal, and Mun-Sann, "Prevalence and Predictors of Pediculosis Capitis among Primary School Children in Hulu Langat, Selangor."

¹⁶ Mumcuoglu et al., "International Recommendations for an Effective Control of Head Louse Infestations"; Sungkar, "Penyakit Yang Disebabkan Artropoda"; Sungkar et al., "Effectiveness of Wet Combing Compared with 1% Permethrin Lotion for the Treatment of Pediculosis Capitis."

¹⁷ Sungkar et al., "Effectiveness of Wet Combing Compared with 1% Permethrin Lotion for the Treatment of Pediculosis Capitis."

Conclusion

Community service activities at Female student tsanawiyah at the AL-Muslimun Islamic Boarding School have been carried out and in this activity it was found that the incidence of capitis pediculosis was quite high, namely 93% in female students. The students were given treatment and education as well as training on the management and prevention of capitis pediculosis disease. This has a positive impact on students and needs to be carried out continuously by working with local health centers and continuing to *be followed up* to eradicate capitis pediculosis, especially in Islamic boarding schools.

Acknowledgement

The author would like to thank the Faculty of Medicine, Riau University for supporting this activity and the Al-Muslimun Islamic Boarding School for allowing the activity so that it can be carried out.

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