

# Overview of Pediculosis Capitis Risk Factors in Students of the Thafizul Qur'an Wahdah Islamiyah Islamic Boarding School in Makassar City

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## ABSTRACT

*Pediculosis capitis* is a skin disease caused by the parasite *Pediculus humanus capitis*. Some of the risk factors for this disease are influenced by the environment and individual habits. This research aimed to know an overview of risk factor on *Pediculosis capitis* for Thafizul Qur'an Wahdah Islamiyah Boarding School in Makassar. This research is a categoric observational studies which was collected using primary and secondary data. There were 73 students who meets this category and 44 respondents (60,3%) were positive for *Pediculosis capitis*. Based on level of study, *Pediculosis capitis* happened at Junior High School by 23 (52,3%), Senior High School by 21 (47,7%), age of 13-15 by 23 (52,3%) age for 16-18 by 21 (47,7%), the use of shampoo less than twice by 19 (43,2%), less than 3 times by 25 (56,8%), hair thickness by 34 (77,3%), thin hair by 10 (22,7%), shoulder length hair by 26 (59,1%), hair length over shoulder by 18 (40,9%), shared hair accessories by 31 (70,4%), shared bed by 24 (54,5%), shared towel by 13 (29,5%), roommate suffering from *Pediculosis capitis* by 35 (79,5%), using veil alternatively by 18 (40,9%), straight hair by 17 (38,6%), wavy hair by 27 (61,4%) and number of roommates were 2-4 people by 22 (50%) and 3-6 people by 22 (50%). Some risk factors that affecting *Pediculosis capitis* were level of study, age, shared hair accessories, shared bed, roommate suffering from *Pediculosis capitis*, hair type, hair length, hair thickness and number of friends at boarding school.

**Keywords:** *risk fact, pediculosis capitis, pediculus humanus capitis, students of boarding school*

## ABSTRAK

*Pediculosis capitis* sebagai penyakit kulit dan rambut kepala yang disebabkan oleh *Pediculus humanus capitis*. Penyebaran *Pediculosis capitis* dipengaruhi oleh sejumlah faktor lingkungan dan kebiasaan individu. Penelitian ini bertujuan untuk mengetahui gambaran faktor risiko *Pediculosis capitis* pada Siswi Pondok Pesantren Thafizul Qur'an Wahdah Islamiyah di kota Makassar. Metode penelitian yaitu deskriptif kategorik menggunakan data primer dari kuesioner dan data sekunder melalui informasi pihak pesantren secara langsung. Terdapat 73 siswi yang memenuhi kriteria inklusi. Sebanyak 44 (60,3%) responden yang positif *Pediculosis capitis*. Berdasarkan faktor risiko jenjang pendidikan, positif *Pediculosis capitis* pada SMP 23 (52,3%) dan SMA 21 (47,7%), usia 13-15 tahun sebanyak 23 (52,3%), usia 16-18 sebanyak 21 (47,7%), penggunaan sampo < 2 kali 19 (43,2%), > 3 kali 25 (56,8%), ketebalan rambut tebal

34 (77,3%), tipis 10 (22,7%), panjang rambut sebahu 26 (59,1%), melebihi bahu 18 (40,9%), penggunaan sisir atau aksesoris rambut bergantian 31 (70,4%), penggunaan tempat tidur bersama 24 (54,5%), penggunaan handuk bersama 13 (29,5%), teman satu kamar yang menderita *Pediculosis capitis* 35 (79,5%), menggunakan jilbab bergantian 18 (40,9%), jenis rambut lurus 17 (38,6%), gelombang 27 (61,4%), dan jumlah teman sekamar 2-4 orang 22 (50%) dan 3-6 orang 22 (50%). Beberapa faktor risiko seperti jenjang pendidikan, usia, penggunaan sisir atau aksesoris bergantian, penggunaan tempat tidur bersama, penggunaan hijab secara bergantian, penggunaan handuk bersama, teman satu kamar yang sedang mengalami *Pediculosis capitis*, jenis rambut, panjang rambut, ketebalan rambut dan jumlah teman dalam sekamar mempengaruhi kejadian *Pediculosis capitis*.

**Kata Kunci:** faktor risiko, *Pediculosis capitis*, *Pediculus humanus capitis*, siswi pesantren

## INTRODUCTION

*Pediculosis capitis* is a skin disease caused by *Pediculus humanus*. This parasite can only live and thrive on the human scalp. *Pediculosis capitis* can happen to anyone, both in terms of individuals, age groups, genders, races and socioeconomics<sup>1</sup>.

*Pediculus humanus capitis* is an ectoparasite and has a color that can change according to hair color. *Pediculus humanus capitis* has a flat dorso ventral body, has a suction-piercing mouth type to suck human blood. Transmission of the infection must be from objects or hair sticking together, the size of the female is larger than the male<sup>2</sup>.

The spread factor of *Pediculus humanus capitis* is influenced by the dense environment and individual behavior. *Pediculus humanus capitis* most infects in school age<sup>3</sup>. *Pediculus humanus capitis* occurs in developing countries, especially women because the majority of women have long hair so it is more difficult to clean and damp<sup>4</sup>. Insufficient hair washing frequency

can also affect the incidence of *Pediculus humanus capitis*. In addition, habits such as exchanging hair accessories like using the same comb, alternating use of headscarves, and sharing a bed together will also have the potential for *Pediculus humanus capitis*<sup>3</sup>. Some of these risk factors are prone to occur in the boarding school environment, on the other hand, the density of boarding school is another factor that makes *Pediculus humanus capitis* easy to spread<sup>5</sup>.

Based on study by Nindia (2016), shown that the transmission of *Pediculus humanus capitis* infection can increase with various risk factors, such as gender, hair characteristics, sleeping together habits using alternating combs, hair tools, and frequency of washing hair.

Based on this description, the researchers were interested in knowing the description of the risk factors for *Pediculosis capitis* at the Thafizul Qur'an Wahdah Islamiyah Islamic Boarding School in Makassar City.

## MATERIAL AND METHOD

This type of research is an observational study with a categorical descriptive design. The research population is junior high school and high school students at Islamic boarding schools, the research sample is students who are willing to fill out informed consent and questionnaires that show clinical symptoms of *Pediculosis capitis* in Islamic boarding schools that meet the inclusion and exclusion criteria, data collection was obtained in two ways, namely primary data obtained through filling out questionnaires using google forms and secondary data from the administrative section of Islamic Boarding Schools. The data obtained were processed in a descriptive way. and presentation of data is made in the form of tables and graphs.

### Procedures

#### a. Pre-analytical

1. Observations were made first at the Thafizul Qur'an Wahdah Islamiyah Islamic Boarding School in Makassar City
2. Conducted outreach and approval of research respondents
3. Prepared research instruments, the instrument used is a questionnaire

#### b. Analytic

1. The link is distributed to the students of the Thafizul Qur'an Wahdah Islamiyah Islamic Boarding School in

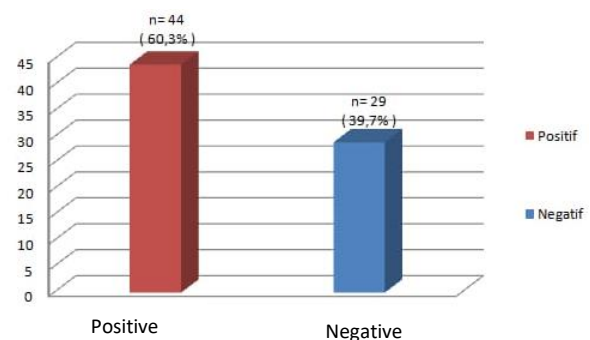
Makassar City who are ready to be sampled

2. Filling out android-based questionnaires using google forms
- c. Post analytics
  1. Collecting data from filling out the questionnaire
  2. Data management in the form of tables and graphs

## RESULT

Based on the results of research from 73 students conducted at the Thafizul Qur'an Islamic Boarding School Wahdah Islamiyah Makassar City, the results are shown in Graph 1.

Graph 1 *Pediculosis capitis* case at the Thafizul Qur'an Islamic Boarding School Wahdah Islamiyah Makassar City



Source: primary data (July 2020)

Based on the incidence of *Pediculosis capitis* in female students at Pondok Pesantren Thafidzul Qur'an Wahdah Islamiyah Makassar, from the 73 students studied, 44 (60.3%) positive students had *Pediculosis capitis* and 29 (39.7%) negative *Pediculosis capitis* students.

Table 1. Risk factors for the incidence of *Pediculosis capitis* in the Thafidzul Qur'an Wahdah Islamiyah Islamic Boarding School Makassar.

Risk Factor	<i>Pediculosis capitis</i> (+)	<i>Pediculosis capitis</i> (-)
<b>Age</b>		
13-15 years	23 (52,3%)	19 (65,5%)
16-18 years	21 (47,7%)	10 (34,5%)
<b>Shampoo use</b>		
< 2 times a week	19 (43,2%)	9 (31,0%)
>3 times a week	25 (56,8%)	20 (69,0%)
<b>Hair Thickness</b>		
Thick	34 (77,3%)	19 (65,5%)
Thin	10 (22,7%)	10 (34,5%)
<b>Long hair</b>		
Shoulder	26 (59,1%)	16 (55,2%)
Over the shoulder	18 (40,9%)	13 (44,8%)
<b>Use of comms or hair accessories alternately</b>		
Yes	31 (70,4%)	15 (51,7%)
No	13 (29,6%)	14 (49,3%)
<b>Sharing bed</b>		
Yes	24 (54,5%)	10 (34,5%)
No	20 (45,5%)	19 (65,5%)
<b>Sharing towels</b>		
Yes	13 (29,5%)	9 (31,0%)
No	31 (70,5%)	20 (69,0%)
<b>Roommate suffering <i>Pediculosis capitis</i></b>		
Yes	35 (79,5%)	18 (62,1%)
No	9 (20,5%)	11 (37,9%)
<b>Sharing veil</b>		
Yes	18 (40,9%)	7 (24,1%)
No	26 (59,1%)	22 (75,9%)
<b>Hair style</b>		
Straight	17 (38,6%)	19 (65,5%)
Wavy hair	27 (61,4%)	10 (34,5%)
<b>Number of rommates</b>		
2-4 students	22 (50%)	17 (58,6%)
3-6 students	22 (50%)	12 (41,4%)

Source: primary data (July 2020)

Based on the risk factors for the incidence of *pediculosis capitis* based on education level, age, use of shampoo, hair thickness and length, hair type, use of

combs or accessories and hijab in turn, use shared beds and towels, roommates suffering from *pediculosis* and the number of roommates indicated in table 1.

Classification based on age obtained 23 (52.3%) female students from the age of 13-15 years and 21 (47.7%) students from the age of 16-18 years who were positive for *Pediculosis capitis*. Based on hair thickness, there were 34 (77.3%) students with thick hair and 10 (22.7%) students with thin hair while the length of hair was found that 26 (59.1%) students had shoulder length hair and 18 (40.9%) had long hair. ) female students have hair that exceeds shoulder length. Based on hair type, it is known that 17 (38.6%) female students have straight hair and 27 (61.4%) female students have wavy hair.

The results also showed that habitual factors such as the frequency of washing their hair using shampoo showed that 19 (43.2%) students washed their hair < 2 times and 25 (56.8%) students washed their hair > 3 times. In addition, there are 31 (70.4%) students who use combs or hair accessories in turn, use a shared bed as many as 24 (54.5%) and 13 (29.5%) students who use shared towels and there are 18 (40, 9%) female students use the shared veil.

Based on roommates who suffer from pediculosis, it is known that 35 (79.5%) students have roommates who suffer from *pediculosis capitis*. Based on the number of roommates from 44 (60.3%) students who were positive for *Pediculosis capitis*, it was found that 22 (50%) students had 2-4

roommates and 22 (50%) students had 3-6 roommates.

## **DISCUSSION**

In this study, the number of students at the Islamic Boarding School Thafidzul Qur'an Wahdah Islamiyah Makassar was 170 people, and the number of students who were the research subjects were 73 people.

The research subject is women, this is supported by the theory that girls are most affected by *Pediculosis capitis*. This can happen because almost all girls have long hair, another habit, namely women have the habit of using combs and hair accessories interchangeably.

The description of the incidence of *Pediculosis capitis* at the Thafidzul Qur'an Wahdah Islamiyah Islamic Boarding School Makassar, namely from the 73 students studied there were 44 (60.3%) students who were positive for *Pediculosis capitis* while those who were negative or did not experience *Pediculosis capitis* were 29 female students (39.7%) The results of this study are in line with previous research conducted by Restiana 2010 at Pondok Pesantren Yogyakarta, it was found that 71.3% of students experienced *Pediculosis capitis*.

In this study, there were twelve categories of risk factors that were used as benchmarks including education level, age, alternating use of combs or accessories, use

of shared beds, alternate use of hijab, use of shared towels, roommates experiencing *Pediculosis capitis*, hair type, hair length, hair thickness, number of friends in the room and different results were obtained.

Based on education level, it shows that respondents who have a lower level of education experience *Pediculosis capitis*. This research is in accordance with research conducted by<sup>6</sup> carried out at two levels of education, namely Tsanawiyah and Aliyah. The results obtained at the level of tsanawiyah education are low education levels of 76 (50.3%).

Based on age, it is known that young people are more susceptible to *Pediculosis capitis*. The results of this study have similarities with previous studies, namely those carried out by<sup>7</sup> in school-age children in ten North Sulawesi Provincial Orphanages, the results obtained at the age of respondents between 7-13 years of (27.9%) were positive for *Pediculosis capitis*. Another study<sup>3</sup> showed that the peak incidence of *Pediculosis capitis* is between 5 and 13 years of age.

Based on the frequency of hair washing, it shows that the frequency of washing the hair that is sufficient and good actually experiences greater *Pediculosis capitis*. The results of this study are in line with research conducted by Lukman<sup>3</sup> that respondents with a frequency of washing their hair more than 3 times a week obtained

positive results (76.4%) infected with *Pediculus humanus capitis*. Meanwhile, based on the hair thickness of 44 (60.3%) students who were positive for *Pediculosis capitis*, it was found that 34 (77.3%) students had thick hair and 10 (22.7%) students who had thin hair. In theory, *Pediculosis capitis* is more common in long, thick and difficult to care for hair<sup>8</sup>.

Based on hair length, it shows that the incidence of *Pediculosis capitis* is higher in female students who have shoulder-length short hair. Based on the use of combs or hair accessories interchangeably cause transmission of *Pediculosis capitis*. These results are in line with research conducted that the number of students who use combs or shared accessories and experience *Pediculosis capitis* is 115 students (89.85%)<sup>9</sup>. Based on the use of shared beds, this study shows that many students who use shared beds have *pediculosis capitis*. The results of this study are in line with research conducted by Maryanti, Lesmana and Novira<sup>9</sup> which shows a relationship between the incidence of *Pediculosis capitis* with the use of shared beds. This is due to contact with the patient's head.

Based on the use of towels, it shows that someone who uses towels interchangeably has fewer incidences of *Pediculosis capitis*. These results are in line with the research conducted Maryanti, Lesmana and Novira<sup>9</sup>. Regarding the

factors associated with the incidence of Pediculosis capitis in Junior High School Darul Hijrah Putri, the results of the chi square test showed that there was no relationship between the factor of sharing towels with the incidence of Pediculosis capitis.

The incidence of Pediculosis capitis is most common in students who have roommates who have Pediculosis capitis compared to those who do not. The results of this study are in line with research conducted by Zubaidah, Madonna and Pratinigrum<sup>10</sup> that there are 125 students who have Pediculosis capitis and have roommates who also suffer from Pediculosis capitis (97.66%). Based on the use of the hijab alternately from 44 (60.3%) students who were positive for Pediculosis capitis, it was found that 18 (40.9%) students used the hijab alternately and 26 (59.1%) students who did not use the hijab alternately.

The results obtained are in line with research conducted by Bachok et al., (2006)<sup>11</sup> that from the statistical tests carried out, it was concluded that there was no relationship between knowledge and habits of individuals using the hijab alternately with the incidence of Pediculus humanus capitis in Muhammadiyah Boarding students. Based on the type of hair, it shows that the incidence of Pediculosis capitis mostly occurs in female students who have

wavy hair. Based on the number of roommates, the results showed that the incidence of Pediculosis capitis in students who had roommates of 2-4 and 3-6 students obtained the same results. Previous research conducted by Fauzan Azim<sup>1</sup> that respondents who have more than one room occupant also experience Pediculosis capitis.

## **CONCLUSION**

Based on the research that has been done, it can be concluded that the incidence of Pedicilosis capitis in this Islamic boarding school is quite high, namely 60.3%. Several risk factors such as education level, age, use of alternating combs or accessories, use of shared beds, alternate use of hijab, use of shared towels, roommates experiencing Pediculosis capitis, hair type, hair length, hair thickness, number of friends in the room can affect the incidence of Pediculosis capitis in female students of the Thafizul Qur'an Wahdah Islamiyah Islamic Boarding School in Makassar City.

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