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Analysis of Socio-Economic Status, Morphology, and Dominant Factors of Personal Hygiene Behavior on the Incidence of Pediculosis Capitis at Orphanages in Palembang City, Indonesia

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Abstract

Pediculosis capitis affects all races and all social levels, but low socio-economic status is more affected by this disease. The mode of transmission can be direct (hair to hair) or through intermediaries such as hats, pillows, mattresses, combs, and veils. This study aims to analysis of socio-economic status, morphology, and dominant factors of personal hygiene behavior on the incidence of pediculosis capitis at Orphanages in Palembang City, Indonesia. The cross-sectional design is a sample of all orphanages in Palembang City. The results obtained were then analyzed by chi-square, logistics regression statistical test, and correspondence analysis. Morphology of pediculosis capitis female body length is 2461.70µm, male is 2596.90µm. Antenna shape are shorter and wider, abdomen curve is protruding. Crest of the paraterga plate is extends into the intersegmental membrane. Knowledge of respondents is not good and suffers from pediculosis capitis by 43 (74.1%), knowledge of respondents is good 52 (57.8%), attitude of respondents is negative and suffers from pediculosis capitis 27 (87.1%), positive attitude of the respondent suffered from pediculosis capitis 25 (42.4%), the respondent's actions were not good and suffered from pediculosis capitis 34 (75.6%), the respondent's action was good 18 (40%). The results of the logistic regression test: the most dominant factor is the attitude of the respondents (OR: 6.260 95% CI: 1.836-21.34). This research needs to be continued with individual characteristics in improving behavior in preventing pediculosis capitis.

Keywords
knowledge; behavior; pediculosis capitis

I. Introduction

Pediculosis capitis affects all races and all social levels, but low socio-economic status is more affected by this disease. The mode of transmission can be direct (hair to hair) or through intermediaries such as hats, pillows, mattresses, combs, and veils. Pediculosis capitis humanis is a parasitic disease found in human hair, causing itching (Galassi et al., 2018). Transmission of parasitic diseases through direct contact with patients. Head lice can cause pruritus, excoriations, conjunctivitis, secondary bacterial infections, dermatitis, posterior neck adenopathy, anemia, and allergic reactions (Gulgun et al., 2013; Barbosa et al., 2015). The prevalence of pediculosis capitis humanis from several countries; 4.1% in England, 8.9% in

Belgium, 3.3% in France, 52% in Ukraine, 87% in Pakistan, 35% in Malaysia, 23.2% in Thailand, 4.1% in Korea, 42.7% in Brasil, 29.7% in Argentina, dan 9.1% in Peru (Abedin et al., 2017). Indonesia in the Jatinangor region 55.3% (Karimah, 2016). In Bogor 88.4% (Karimah, 2016), in Palembang City 62% (Fitria, 2015). Psychic impact by Pediculosis capitis can affect the self-quality of student achievement (Feldmeier, 2015). Poor personal hygiene can make it easier for infections to occur in the body, especially the skin on the hair (Sajida, 2012). Diagnosis of Pediculosis capitis humanis by detecting adult lice, nymphs or eggs living on the human head, active investment used for appropriate treatment in control (G. A et al., 2013). The initial control needed is in the form of personal hygiene behavior. Good knowledge of children about preventing pediculosis capitis but not taking action will still have a risk of being infected with pediculosis humanus capitis (Aisy and Basuki, 2013). This study aims to analysis of socio-economic status, morphology, and dominant factors of personal hygiene behavior on the incidence of pediculosis capitis at Orphanages in Palembang City, Indonesia.

II. Research Methods

This research method is qualitative with an analytical survey design with a cross sectional approach. Qualitative research is a process of naturalistic inquiry that seeks an in-depth understanding of social phenomena within their natural setting. Moleong in Amrizal (2018) qualitative research is research that intends to understand the phenomenon of what is experienced by the subject of research such as behavior. It focuses on the "why" rather than the "what" of social phenomena and relies on the direct experiences of human beings as meaning-making agents in their every day lives (Pandiangan et al., 2021; Pandiangan, 2022). Analytical survey design. Analytical survey design attempt to describe and explain why certain situations exist. In this approach two or more variables are usually examined to test research (Octiva, 2018). Cross sectional approach is a type of research that observes population or sample data only once at a time (Pandiangan et al., 2022).

Population is typically refers to the number of people in a single area, whether it be a city or town, region, country, continent, or the world (Octiva et al., 2021; Pandia et al., 2018). Sample is part of the population studied in a study and the results will be considered a reflection of the original population, but not the population itself. The sample is considered as representative of the population whose results represent the overall observed symptoms (Asyraini et al., 2022; Pandiangan et al., 2018). The sample of population is all orphanage children in Palembang City. The sampling technique uses probability sampling with stratified random sampling, the sample is 90 respondents. The variables studied in this study were knowledge, attitudes, and actions against head lice. Lice are stored in bottles containing 70% alcohol, and labeled. So, it is prepared to be observed under a microscope in a Parasitology Laboratory. After the data is collected, the data is presented in the form of tables and morphological pictures of head lice. This research has conducted a clearen ethics test at the Politeknik Kesehatan Palembang, No: 1165/KEPK/Adm 2/VIII/2021.

A measuring instrument is a device to measure a physical quantity. In the physical sciences, quality assurance, and engineering, measurement is the activity (Octiva et al., 2018; Pandiangan, 2018). The measuring instruments used in this study were a microscope and a questionnaire sheet. The respondent's hair was examined, while the questionnaire was used to obtain data about the respondent's behavior. The data obtained were analyzed using displayed in tabular form. Tobing et al. (2018) and Pandiangan (2015), the relationship between the dependent variable and the independent variable was determined by the chi-square test (α=0.05), followed by a linear logistic regression test to determine the most dominant factor.

III. Discussion

3.1 Results

a. Socio-Economic Status

Pediculosis capitis affects all races and all social levels, but low socio-economic status is more affected by this disease. The mode of transmission can be direct (hair to hair) or through intermediaries such as hats, pillows, mattresses, combs, and veils.

Several factors that can help spread pediculosis capitis infestations include socio-economic factors, level of knowledge, poor personal hygiene, density of residence, and individual characteristics.

Through direct contact with other sufferers or indirectly as a result of individual characteristics (hair length, and hair type), for example, pediculosis capitis is said to be rare in black Americans, possibly due to the characteristic oval or circular shape of their hair. hard to reach.

Although pediculosis capitis is not a chronic health problem, but the result of untreated pediculosis capitis infestations can have various impacts on the sufferer, including reduced sleep quality of children at night due to itching, academic problems due to not being able to focus during the learning session, stigma social, being ridiculed by friends, shyness, and low self-esteem.

Some dormitories or orphanages in Indonesia still have not received good attention from the owners, administrators, and the government both in terms of cleanliness, behavior, and concern for health. There are some traditional cultures that they have to exchange food, bed, and knowledge with each other. Conditions like this greatly support the survival of the head lice life cycle.

Low socio-economic status is a significant risk with pediculosis capitis infestation, as well as the inability to treat the infestation effectively.

b. Microscopic Examination

Figure 1. *Pediculus Humanus Capitis Male Sex*

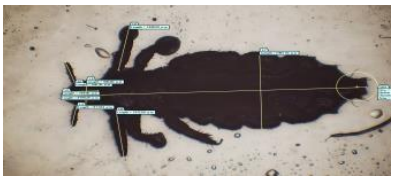

Figure 2. *Adult Female Sex*

Microscopic examination using 10x magnification.

c. Questionnaire Analysis

Table 1. Effect of Risk Factors Respondent Knowledge on the Incidence of PediculosisCapitis

Respondent Knowledge	Pediculosis Capitis Yes		No		Total		p-value	PR 95% CI
	n	%	N	%	N	%		
Not Good	43	74.1	15	25.9	58	100	0.000	7.326
Good	9	28.1	23	71.9	32	100		(2.77 – 19.31)
Total	47	100	50	100	97	100		

Table. 2 Effect of Risk Factors Respondents Attitude on the Incidence of Pediculosis Capitis

Respondent Attitude	Pediculosis Capitis Yes		No		Total		p-value	PR 95% CI
	n	%	N	%	N	%		
Negative	11	44	14	56	25	100	0.000	9.18
Positive	36	50	36	50	72	100		(2.849 – 29.58)
Total	47	100	50	100	97	100		

Table 3. Effect of Risk Factors Respondent Action on the Incidence of Pediculosis Capitis

Respondent Action	Pediculosis Capitis Yes		No		Total		p-value	PR 95% CI
	n	%	n	%	N	%		
Not Good	34	75.6	11	24.4	45	100	0.001	4.63
Good	18	40	27	60	45	100		(1.877 – 11.451)
Total	47	100	50	100	97	100		

Table 4. Multivariate Analysis of Risk Factors Respondents on the Incidence of Pediculosis Capitis

No	Variable	Sig	Exp B
1	Knowledge	0.220	5.061
2	Attitude	0.003	6.260
3	Action	0.000	0.003

3.2 Discussion

The results of the study of head lice morphology female lice body length is 2461.70µm, male lice body length is 2596.90µm head lice have three pairs of legs, each with a pointed tip. The body of the head louse is black, surrounded by hair. Head lice are oval in shape with a pair of antennae. This research is supported by Yessica's theory, namely elongated body, head lice Have three pairs of legs, body with hairs that clump in the respiratory tract to obtain food. Head lice can crawl quickly up to 23 cm/minute (Simbolon, 2020).

In Table 1 from the results of the study, there is a significant influence of respondents' knowledge on the incidence of pediculosis capitis in orphanages. This study is in line with the results of Dagne's research that knowledge, attitudes have a significant relationship to

pediculosis capitis (Henoket et al., 2019). Knowledge is a very important factor in performing personal hygiene actions (Notoatmodjo, 2012). Knowledge is the result of an individual's ability to relate, assess, and consider the occurrence of disease (Orlowski and Marietta, 2016). Personal hygiene knowledge is obtained from everyone's experience (Mubarak, 2012). Lack of knowledge about signs and symptoms, modes of transmission, prevention affects the incidence of pediculosis capitis (Mitriani et al., 2017).

In Table 2 from the results of the study there is a significant influence on the attitude of respondents to the incidence of pediculosis capitis in orphanages. This study is in line with the results of Dagne's research that knowledge, attitudes have a significant relationship to pediculosis capitis (Henoket et al., 2019). Attitude is a person's way of responding well or not well to an object (Anthony and Greenwald, 2014). The worse a person's attitude is, the more it will support him to behave badly, bad behavior in the health sector can easily contract various diseases, including pediculosis capitis (Notoatmodjo, 2012).

In Table 3 from the results of the study, there is a significant effect of respondents' actions on the incidence of pediculosis capitis in orphanages. This study is in line with the results of Salbia's research that personal hygiene measures have a significant relationship to the incidence of pediculosis capitis (Salbiah, 2018). Personal hygiene practice is a movement and physical coordination, motor skills and physical abilities of a person in personal hygiene (Glanz et al., 2015). Personal hygiene practices that can affect the incidence of pediculosis capitis include is the use of personal tools with others through direct contact. The use of shared items such as headscarves, hats, accessories, bedding, combs, pillows, sweaters, between the transmission of pediculosis capitis to others (Kassiri and Esteghali, 2016).

Multivariate analysis results show that the most dominant factor is the attitude of the respondents. The respondent's attitude is a person's response to the object being observed to an event of disease. Respondents who have good personal hygiene attitudes can reduce the incidence of pediculosis capitis.

IV. Conclusion

Microscopic observation is very effective to determine the morphology of human head lice that causes pediculosis capitis knowledge, attitudes, and actions have a significant effect on the incidence of pediculosis capitis. Attitude is the dominant factor that has a risk of causing pediculosis capitis. This research needs to be continued with individual characteristics in improving behavior in preventing pediculosis capitis.

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