The Relationship of Knowledge, Attitudes, and Scalp Care Behaviors to The Risk of Seborrheic Dermatitis in The Class of 2023 and 2024 Students of The Faculty of Medicine, Al-Azhar Islamic University In 2025

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Abstract.

Background: Seborrheic dermatitis is a chronic inflammatory skin disease in areas rich in sebaceous glands, especially the scalp, which is influenced by the growth of Malassezia sp and risk factors such as knowledge, attitudes, and scalp care behavior. Objective: To determine the relationship between knowledge, attitudes, and scalp care behavior on the risk of seborrheic dermatitis in the 2023 and 2024 intakes of students at the Faculty of Medicine, Al-Azhar Islamic University in 2025. Methods: This study was a quantitative cross-sectional study with a purposive sampling design. Data were collected through questionnaires and clinical examinations, then analyzed bivariately using the Chi-square test with a significance level of p-value <0.05. Results: Most respondents were at risk of developing seborrheic dermatitis (67.5%). The Chi-square test results showed no relationship between scalp care knowledge and the risk of seborrheic dermatitis (p-value = 1.000; PR = 0.977), while attitudes (p-value = 0.000; PR = 0.257) and scalp care behavior (p-value = 0.000; PR = 0.075) were significantly related and acted as protective factors. Conclusion: There is no relationship between the level of knowledge of scalp care and the risk of seborrheic dermatitis, but attitudes and behavior of scalp care are significantly related to the incidence of seborrheic dermatitis in students of the Faculty of Medicine, Al-Azhar Islamic University.

Keywords: *Seborrheic Dermatitis; Scalp Care; Knowledge; Attitude and Behavior.*

I. INTRODUCTION

Seborrheic dermatitis is a chronic inflammatory condition of the skin characterized by redness, peeling, and itching, especially in areas rich in sebaceous glands such as the scalp, face, upper chest, and back. The main cause of this condition is the overgrowth of the fungus *Malassezia* sp, which is actually part of the normal flora of human skin. Under normal circumstances, *Malassezia* SP lives commensally without causing symptoms, but when its activity and population increase uncontrollably, this fungus can produce lipid metabolites that stimulate the body's immune system and trigger the inflammatory process. Among the various species, *Malassezia globosa* and *Malassezia restricta* is the most dominant type found in seborrheic dermatitis lesions, while the excessive growth is generally influenced by the interaction of various factors, both from within the body (endogenous factors) and from outside the body (exogenous factors), which together create an environment that supports the colonization and activity of the fungus. This is in line with other scientific evidence that states that individuals with chronic inflammatory skin diseases such as seborrheic dermatitis have a greater risk of experiencing various mental health disorders, including symptoms of depression, general anxiety, social anxiety, and even sleep disorders such as insomnia. Thus, it is important to understand that seborrheic dermatitis is not just a skin problem, but can also have a wide impact on the psychological and social well-being of sufferers (Islam *et al*., 2024). Seborrheic dermatitis itself has a global prevalence of about 3-5%, and can affect individuals of various ethnicities and races.

A meta-analysis of 121 studies with a total of 1,260,163 participants diagnosed with seborrheic dermatitis by a physician showed a combined global prevalence of 4.38%. Of the total studies, 30 of them specifically examined prevalence in adults, 45 studies in children, and 7 studies in neonates. The results of the analysis show that the prevalence in adults is higher than the global prevalence of 5.64%. In contrast, the prevalence in children (excluding neonates) was lower, at 3.70%, while neonates showed the lowest rate at

0.23% (Lestari *et al*., 2024). These findings support the literature that seborrheic dermatitis most often appears after puberty, along with the activation of the sebaceous glands that increase sebaceous secretion and contribute to the occurrence of inflammation. In neonates, seborrheic dermatitis usually appears in the form of *Cradle Cap*, which is influenced by sebaceous gland activity due to maternal androgens, although the apparent prevalence detected is quite low (0.23%), thus reinforcing the evidence that infantile seborrheic dermatitis generally arises at 3–8 months of age. In Asia, the prevalence of seborrheic dermatitis in adults is reported to vary between 1–5%. However, the differences between regions are quite striking, for example, South Korea reported the lowest prevalence of 2.1%, while Indonesia recorded the highest rate reaching 26.5%.

This variation indicates the influence of environmental, genetic, and lifestyle factors on the difference in the prevalence of seborrheic dermatitis in different populations (Polaskey *et al*, 2024). Based on research at the Skin and Venerean Polyclinic of the NTB Provincial Hospital during the period from January 2020 to June 2023, there were 475 patient visits, consisting of 448 new patients (94.3%) and 27 old patients (5.7%). Most of the pediatric patients who came were male, which was 282 people (59.4%), while female patients amounted to 193 people (40.7%). Of the 59 cases of non-infectious dermatitis recorded, 23 cases (about 39%) were seborrheic dermatitis. When compared to total visits, cases of seborrheic dermatitis account for about 4.8% of all pediatric patients (23 out of 475 cases) (I Wayan Hendrawan *et al*., 2023).There are a number of risk factors that are suspected to play a role in the occurrence of seborrheic dermatitis. These factors include age, as the disease is often found in infants and young to middle-aged adults, as well as gender, where men are reported to have a higher tendency to develop this condition. In addition, increased activity of the sebaceous glands (oil-producing glands in the skin) also plays a role in triggering the symptoms of seborrheic dermatitis, as excessive oil production can create an ideal environment for fungal growth *Malassezia sp*, which is thought to be one of the main causes (Sugiarto & Darmawan, 2022). Environmental conditions also influence, such as a cold and dry climate that can aggravate symptoms. Some certain medical conditions are also known to be closely related to seborrheic dermatitis, such as HIV/AIDS infection that weakens the immune system, as well as neurological diseases such as parkinsonism.

Exposure to certain light therapies, such as ultraviolet A (UVA) rays in combination with psoralen substances (PUVA), can also increase the risk of developing seborrheic dermatitis (Sugiarto & Darmawan, 2022).However, modern studies after 2020 show a change in prevalence trends. With the increasing use of effective antiretroviral therapy (ART) in suppressing HIV replication and improving immune function, the prevalence of seborrheic dermatitis in HIV patients has decreased significantly. Some publications report the current prevalence in the range of 5–12%, much lower than the classic reports of the pre-ART era. Despite this, seborrheic dermatitis remains recorded as one of the most common manifestations of inflammatory skin found in patients with HIV/AIDS (Stuart FA, 2023)(Claasens et al., 2020).Adequate knowledge of this condition is important as the basis for forming positive attitudes and appropriate scalp care behaviors, which can then lower the risk of seborrheic dermatitis. A person who suffers from this skin disease can cause psychologically distressed, aesthetic or cosmetic disorders, and accompanying itching complaints (Prayogo *et al*., 2024).Adequate knowledge of seborrheic dermatitis plays an important role in efforts to prevent and control this disease. Individuals who understand the causes, risk factors, and treatment methods tend to be better able to take appropriate steps to prevent recurrence and reduce the severity of symptoms. This was reinforced by a study of 400 medical students in India that found that there was a significant relationship between knowledge level and practices to prevent dandruff and seborrheic dermatitis ($p<0.05$), where the high-knowledge group had a tendency to better care practices (Mallikarjuna, 2023).

However, different results were shown by other studies conducted on adolescent and young adult respondents. Based on statistical analysis using the chi-square test, a value of $p=0.164$ ($p>0.05$) was obtained, which showed that there was no significant relationship between the level of knowledge and scalp care practices in the respondents. These differences in results confirm that while knowledge is an important factor, the success of the prevention and control of seborrheic dermatitis is also strongly influenced by other factors such as habits, availability of resources, personal motivation, and environmental support (Lestari *et*

al., 2024).Daily behaviors related to hair and scalp hygiene are one of the important factors that can affect the risk of developing seborrheic dermatitis. Scalp care behavior, especially the frequency of shampooing, has been shown to be closely related to scalp health conditions. Recent studies in the Asian population show that shampooing with a frequency of 5–6 times per week to every day gives the best results, both objectively and subjectively, because it is able to reduce excess sebum, lipid oxidation, dandruff, bad odor, and itching complaints. Respondents also reported an increase in subjective satisfaction with hair, characterized by more "*Great Hair Days*" or a day in which the condition of the hair and scalp is felt healthy. On the other hand, infrequent shampooing behavior actually increases the risk of the appearance of excess sebum, itching, and dandruff, especially when combined with excessive use of hair oil, as these conditions create an ideal environment for growth *Malassezia sp*. Cultural variations also affect scalp care behaviors, for example in certain ethnic groups who use shampoo less frequently, making them more susceptible to scalp disorders.

These findings confirm that proper grooming behaviors, especially optimal shampooing frequency, play an important role in maintaining a healthy scalp and preventing conditions such as seborrheic dermatitis (Punyani *et al*., 2021) Based on this gap, this study was designed as an observational study with a *cross-sectional design* to investigate the relationship between the level of knowledge, attitudes, and scalp care behaviors and the risk of seborrheic dermatitis in students of the Faculty of Medicine, Al-Azhar Islamic University class of 2023 and 2024. The assessment was carried out through a standardized questionnaire that measured the three variables, while the diagnosis of seborrheic dermatitis was carried out by direct clinical examination. Although medical students have good knowledge about health, this knowledge is not always directly proportional to their daily attitudes and behaviors. For example, they know the importance of scalp care, but the practice of shampooing, shampoo selection, and hygiene habits are not necessarily up to the recommended standards. This is interesting to research because it can illustrate the gap between knowledge and the application of behavior. In addition, medical students are included in the early adult young age group who are more prone to experiencing seborrheic dermatitis, considering that the activity of the sebaceous gland increases after puberty. Other factors such as a busy academic schedule, stress, and lack of sleep can also trigger or worsen the symptoms of seborrheic dermatitis. The results of this population study remain an important scientific contribution because they can be the basis for further educational interventions. In addition to providing an overview of the extent to which their knowledge affects attitudes and behaviors, this study also fosters awareness from an early age so that prospective health workers are able to become role models in implementing healthy behaviors.

II. METHODS

The research design in this study is observational with an analytical type, that is, this study aims to explain the situation or situation to determine whether there is a relationship between variables. This study uses the *cross sectional*, that is, to find out the correlation between risk factors (free variables) and effects (bound variables) carried out at the same time and measured or assessed based on the circumstances at which observations were made (Sari & Legiran, 2024). The population used in this study is all preclinical students of the Faculty of Medicine, Al-Azhar Islamic University for the 2023 and 2024 batches, with a total of 229 students based on attendance for the 2023 and 2024 batches at the Faculty of Medicine, Al-Azhar Islamic University Mataram. The sampling technique in this study uses the *Non-Probability* sampling is *Consecutive Sampling*. Based on the results of the calculations, the number of samples obtained was 70 people from the 229 student population of the Faculty of Medicine, Al-Azhar Islamic University in 2023 and 2024. The researcher added 10% of the initial sample amount to prevent errors during the study so that the number of samples in this study was at least 77 people. To enrich the sample, the researcher added samples so that the total sample used was 80 people. In this study, the data collection method was carried out through questionnaires and observations. The data analysis used in this study is bivariate and univariate analysis.

III. RESULT AND DISCUSSION

Univariate Analysis

Table 1. Univariate Analysis of the Risk of Seborrheic Dermatitis

Risk of Seborrheic Dermatitis	Frequency	
	(n)	(%)
Risky	54	67,5
No Risk	26	32,5
Total	80	100

Source: Primary Data

Based on Table 1, the results of the risk assessment of seborrheic dermatitis obtained through symptom scoring showed that most of the respondents were in the risk category. This assessment is based on the number of scores collected from existing symptoms. The results of the analysis showed that 54 respondents (67.5%) had a score that was in the risk category, meaning they showed enough symptoms to indicate a potential for seborrheic dermatitis. Meanwhile, 26 respondents (32.5%) were in the non-risk category, namely respondents who had low symptom scores or did not show significant symptoms.

Table 2. Analysis of the Scalp Care Knowledge Universe

Scalp Care Knowledge	Frequency	
	(n)	(%)
Good	64	80
Enough and Less	16	20
Total	80	100

Source: Primary Data

Based on Table 2, the results of the scalp care knowledge assessment measured using the knowledge questionnaire show that most of the respondents have a good level of knowledge. The questionnaire contains items related to respondents' understanding of how to take care of the scalp, such as the frequency of shampooing, the use of appropriate products, the importance of maintaining hair hygiene, and causative factors. The results of the analysis showed that 64 respondents (80%) had a questionnaire score that was in the good category, indicating that they understood basic to advanced concepts regarding scalp care. As many as 16 respondents (20%) were included in the category of sufficient and deficient, namely the group that obtained a lower score because they still had limitations in answering questionnaire items correctly. With a total of 80 respondents, these results show that the majority of participants have a good understanding according to the results of the questionnaire scoring.

Table 3. Univariate Analysis of Scalp Care Attitudes

Scalp Care Attitude	Frequency	
	(n)	(%)
Positive	35	43,8
Negatives	45	56,3
Total	80	100

Source: Primary Data

Based on Table 3, the results of the respondents' attitude assessment towards scalp care measured using a likert scale-based attitude questionnaire showed that most respondents had negative attitudes towards scalp care practices. A total of 45 respondents (56.3%) were in the category of negative attitudes, which means they tend to disagree or do not support correct scalp care behaviors, such as maintaining hair hygiene, appropriate shampooing routines, choosing the right products, and precautions against seborrheic dermatitis. The 35 respondents (43.8%) had a positive attitude, namely respondents who showed support, acceptance, and willingness to carry out scalp care practices in accordance with health recommendations. This category reflects respondents who are more aware of the importance of taking care of their scalp regularly and consistently. With a total of 80 respondents, these findings show that the majority of respondents actually have a less supportive attitude towards good scalp care, even though most of the respondents' previous knowledge is relatively good.

Table 4. Univariate Analysis of Scalp Care Behavior

Scalp Care Behavior	Frequency	
	(n)	(%)
Good	27	33,8
Enough and Less	53	66,3
Total	80	100

Source: Primary Data

Based on Table 4, the results of the scalp care behavioral assessment obtained through the behavioral questionnaire show that most of the respondents are in the category of sufficient and deficient. A total of 53 respondents (66.3%) fell into this category, which means they have not consistently applied scalp care measures. This can include behaviors such as infrequent hair washing, inappropriate product use, not maintaining scalp hygiene, or not taking precautions against problems such as dandruff or seborrheic dermatitis. Meanwhile, 27 respondents (33.8%) showed good behavior, namely those who applied scalp care habits regularly and correctly according to health recommendations. This good behavior can include the right frequency of shampooing, the use of appropriate products, maintaining the cleanliness of hair and scalp, and paying attention to the triggering factors for scalp problems.

Bivariate Analysis

Table 5. Bivariate Analysis of Scalp Care Knowledge with the Risk of Seborrheic Dermatitis

Scalp Care Knowledge		Seborrheic dermatittis		Total	*p-value*	PR	95% CI
		No Risk	Risky				
Good	n	21	43	64	1,000	0,977	0,674 – 1,418
	%	32,8	67,2	100			
Enough and Less	n	5	11	16			
	%	31,3	68,8	100			
Total		26	54	80			
		32,5	67,5	100			

Source: Primary Data

Based on the results of the analysis of the relationship between scalp care knowledge and the incidence of seborrheic dermatitis in 80 respondents, data was obtained that respondents who had good knowledge were mostly in the risk category of seborrheic dermatitis, which was 67.2% (43 respondents), while those who were not at risk were 32.8% (21 respondents). Meanwhile, in respondents with sufficient and insufficient knowledge, the proportion at risk of seborrheic dermatitis was also high, namely 68.8% (11 respondents), and those who were not at risk as much as 31.3% (5 respondents). The results of the statistical test showed a p-value = 1,000, which means that there was no significant association between scalp care knowledge and the risk of seborrheic dermatitis. The prevalence *ratio* (PR) value = 0.977 with *a confidence interval* (95% CI: 0.674 – 1.418) indicates that good knowledge does not have a meaningful effect on reducing the risk of seborrheic dermatitis. Because the PR is close to 1 and the confidence interval crosses the 1 number, knowledge is not a related factor in the incidence of seborrheic dermatitis in the respondents.

Table 6. Bivariate Analysis of Scalp Care Attitudes with the Risk of Seborrheic Dermatitis

Scalp Care Attitude		Seborrheic dermatittis		Total	*p-value*	PR	95% CI
		No Risk	Risky				
Positive	n	26	9	35	0,000	0,257	0,146 – 0,452
	%	74,3	25,7	100			
Negatives	n	0	45	45			
	%	0	100	100			
Total		26	54	80			
		32,5	67,5	100			

Source: Primary Data

Based on the results of a study on the relationship between scalp care attitudes and the incidence of seborrheic dermatitis in 80 respondents, a picture was obtained that showed a significant difference between respondents who had a positive and negative attitude towards scalp care. Respondents with a positive attitude totaled 35 people. From this group, as many as 26 respondents (74.3%) were included in the category not at risk of developing seborrheic dermatitis, while 9 respondents (25.7%) were classified as at risk. This

condition shows that the majority of respondents with a positive attitude are able to implement good scalp care behaviors, such as maintaining cleanliness, choosing appropriate hair products, and taking care of them regularly so that the risk of the appearance of seborrheic dermatitis is lower. In contrast, all respondents who had a negative attitude towards scalp care, namely 45 people (100%), were included in the risk category of experiencing seborrheic dermatitis. These findings suggest that negative attitudes, such as a lack of concern for hair hygiene, infrequent hair washing, or using inappropriate products, contribute greatly to the increased risk of seborrheic dermatitis. The stark difference in risk proportions between the two groups shows that attitude plays an important role in determining the risk of seborrheic dermatitis.The results of the statistical test using Chi-Square showed a p-value of 0.000 which means that there is a very significant relationship between the attitude of scalp care and the incidence of seborrheic dermatitis. The prevalence *ratio* (PR) value of 0.257 with a 95% *confidence interval* (0.146 – 0.452) strengthens the result. A PR value smaller than one indicates that a positive attitude plays a protective factor, where respondents with a positive attitude have a much lower risk of developing seborrheic dermatitis than respondents with a negative attitude.

Table 7. Bivariate Analysis of Scalp Care Behaviors with the Risk of Seborrheic Dermatitis

Scalp Care Behavior		Seborrheic dermatittis		Total	***p-value***	**PR**	**95% CI**
		No Risk	Risky				
Good	n	25	2	27			
	%	92,6	7,4	100			
Enough and Less	n	1	52	53	0,000	0,075	0,020 – 0,287
	%	1,9	98,1	100			
Total		26	54	80			
		32,5	67,5	100			

Source: Primary Data

Based on the results of a study on the relationship between scalp care behavior and the incidence of seborrheic dermatitis in 80 respondents, it was obtained that care behavior has a very strong influence on the risk of seborrheic dermatitis. In the group of respondents who had good scalp care behavior, there were 27 respondents. Of these, as many as 25 respondents (92.6%) were in the category not at risk of developing seborrheic dermatitis, while only 2 respondents (7.4%) were included in the risk category. These findings show that good care behavior plays an important role in maintaining the cleanliness and health of the scalp so that it can reduce the likelihood of seborrheic dermatitis. In contrast, in the group of respondents with sufficient and insufficient scalp care behaviors, totaling 53 respondents, it was found that most of the respondents were in the risk category. A total of 52 respondents (98.1%) in this group were recorded as at risk of developing seborrheic dermatitis, while only 1 respondent (1.9%) was in the non-risk category. The very striking difference in proportion between these two groups indicates that suboptimal scalp care behavior is significantly associated with a higher risk of seborrheic dermatitis. Lack of attention to hair hygiene, inappropriate use of products, or irregularity in performing care can increase the potential for the condition to appear.The results of the statistical test using Chi-Square showed a p-value of 0.000 which indicates that there is a significant relationship between scalp care behavior and the incidence of seborrheic dermatitis. In addition, a *prevalence ratio* (PR) value of 0.075 with a 95% *confidence interval* (0.020 – 0.287) reinforces that good care behavior functions as a protective factor. A PR value well below 1 indicates that respondents with good care behavior have a much lower risk of seborrheic dermatitis than respondents with moderate and less behavior.

The Relationship of Scalp Care Knowledge Level to the Risk of Seborrheic Dermatitis

Cognitive knowledge is one of the important aspects that shape a person's actions. Various experiences and research results show that knowledge-based behaviors tend to last longer (Irawan *et al*., 2022). A person's knowledge is influenced by several factors, including education, experience, and facilities. With education, a person tends to get more information, both from other people and the mass media, the more information received, the more information obtained about health (Nola & Nadhillah, 2021). Based on the results of research conducted at SMA Negeri Unggul Sigli, it is known that the level of students' knowledge about the prevention of seborrheic dermatitis is relatively high. The students understand various important aspects of this disease, ranging from the definition of seborrheic dermatitis as a chronic

inflammatory condition of the skin that appears in certain areas, to typical symptoms such as itching, redness, and peeling. They also know various triggering factors that can worsen the condition, such as changes in the weather, and understand that seborrheic dermatitis can occur in infants and adults. In addition, students demonstrate an understanding of the increasing symptoms in adolescence and the impact of direct sun exposure on skin conditions (Nola & Nadhillah, 2021).The findings of this study also illustrate that the higher a person's level of knowledge about a health problem, the more positive the attitude that tends to be shown towards its prevention. This knowledge is influenced by various factors, including education level, personal experience, and ease of access to information sources. Formal education encourages individuals to be more active in seeking and receiving information from the environment and mass media, thereby broadening their horizons and deepening understanding.

The more information received, the better a person's knowledge in maintaining health, including in efforts to prevent seborrheic dermatitis (Nola & Nadhillah, 2021).Based on the results of the study conducted, it was shown that there was no relationship between the level of knowledge and the risk of seborrheic dermatitis in respondents. These findings indicate that high knowledge does not automatically provide a protective effect against the risk of developing seborrheic dermatitis, nor does low knowledge necessarily cause individuals to be more at risk of developing the disease. Thus, knowledge is not a direct determining factor in the onset of seborrheic dermatitis in the studied population.These results are in line with the research of Singh et al. (2025) who also found that the level of knowledge was not related to the incidence of seborrheic dermatitis. In the study conducted, although the prevalence of seborrheic dermatitis is quite high in medical students (69.9% have experienced it and 48.5% still experience it), the level of knowledge of the respondents is low, only 21.4% know that SD is chronic inflammation and only 28.5% know the cause. This condition suggests that the experience of suffering from seborrheic dermatitis does not automatically improve a person's understanding of the disease. Similar findings were also seen in my study, where respondents with high and low knowledge had a relatively similar incidence of seborrheic dermatitis. This confirms that the incidence of seborrheic dermatitis is more influenced by biological factors, skin conditions, environment, and individual susceptibility, rather than solely by the level of knowledge that respondents possess (Singh *et al*., 2025).

The Relationship of Scalp Care Attitudes to the Risk of Seborrheic Dermatitis

In this study , it is shown that attitudes towards scalp care have a significant relationship with the risk of developing seborrheic dermatitis**.** Of the 80 respondents, 35 people were in the group with a positive attitude, and most of them (74.3%) were in the category not at risk of developing seborrheic dermatitis. This shows that a good attitude towards self-care encourages individuals to maintain scalp hygiene, choose the right hair products, and perform regular grooming, so that the risk of the appearance of symptoms of seborrheic dermatitis is lower. On the other hand, all respondents who had a negative attitude towards scalp care (45 respondents) were in the risk category of developing seborrheic dermatitis. The absence of respondents with negative attitudes in the non-risk category illustrates that attitudes that are less supportive of scalp health are directly related to behaviors that have the potential to increase the risk of developing the condition.Findings of this study in line with Dawson's (2012) research which emphasizes that individual attitudes including beliefs, perceptions, and emotional responses to dandruff and seborrheic dermatitis conditions affect a person's level of concern in carrying out treatment. Dawson explains that while dandruff is considered a common and treatable condition, negative attitudes such as shame, discomfort, or reluctance to seek treatment can hinder treatment efforts. Conversely, a positive attitude that includes awareness of the importance of scalp hygiene and a desire to take regular medication can increase success in managing or preventing seborrheic dermatitis (Dawson, 2012).

The Relationship of Scalp Care Behavior to the Risk of Developing Seborrheic Dermatitis

The results of this study show that scalp care behavior has a significant relationship with the risk of developing seborrheic dermatitis. Of the 80 respondents, the group with good scalp care behavior amounted to 27 people, and most of them (92.6%) were in the category not at risk of developing seborrheic dermatitis. Only 2 respondents (7.4%) remained in the risk category. These findings confirm that good care behaviors such as regularly washing hair, using appropriate shampoo, maintaining the cleanliness of hair care tools,

and paying attention to ventilation in the use of hijab can play a role in maintaining the condition of the scalp and preventing the growth of *the Malassezia Sp* fungus which is one of the main triggers of seborrheic dermatitis. On the other hand, in the group with sufficient and insufficient care behavior (53 respondents), almost all respondents (98.1%) were in the risk category of developing seborrheic dermatitis. This very striking difference in the proportion of risk suggests that suboptimal treatment behavior is a factor closely related to the increased likelihood of developing seborrheic dermatitis.

The results of this study in line with Puyani findings *et al*. (2021) which explains that hair hygiene behavior, especially the frequency of shampooing, is an important factor in reducing the risk of seborrheic dermatitis. The study shows that shampooing 5–6 times per week up to every day can significantly reduce excess sebum production, dandruff, itching, and odor on the scalp. On the other hand, rarely shampooing, especially when accompanied by excessive use of hair oil, can increase growth *Malassezia Sp*. and aggravate the symptoms of seborrheic dermatitis. Cultural variations that influence hair care habits have also been shown to have an impact on scalp hygiene, with groups that lack scalp hygiene showing higher susceptibility to scalp disorders *(Punyani et al*., 2021) This research is also consistent with Anriyani *et al.* (2023) who found that unhygienic hair care practices, such as infrequent shampooing, alternating use of hair tools, and a lack of attention to hygiene, contribute greatly to an increased risk of seborrheic dermatitis in adolescent girls. The study confirms that good scalp care behaviors including shampooing at least twice a week, using personal tools, and maintaining the cleanliness of the head covering are important steps in preventing the onset of seborrheic dermatitis (Anriyani *et al*., 2023).

IV. CONCLUSION

There was no association between the level of knowledge and the incidence of seborrheic dermatitis. Although 80% of respondents had good knowledge, the results of the analysis showed p-value = 1,000, PR = 0.977, and CI crossing 1, so knowledge is not a factor that affects the risk of seborrheic dermatitis. Respondents with high and low knowledge had similar possible risks. There is a significant relationship between scalp care attitudes and the incidence of seborrheic dermatitis. In respondents with a positive attitude, 74.3% were not at risk, while all respondents with a negative attitude (100%) were in the risk category. The analysis showed a p-value = 0.000 and a PR = 0.257, which confirms that a positive attitude is protective. There is a significant relationship between scalp care behavior and the incidence of seborrheic dermatitis. As many as 92.6% of respondents with good behavior were in the non-risk category, while 98.1% of respondents with moderate/lacking behavior were in the risk category. The results of the analysis showed p-value = 0.000 and PR = 0.075, so good care behavior is a strong protective factor. Overall, this study proves that scalp care attitudes and behaviors have a meaningful relationship with the incidence of seborrheic dermatitis, while knowledge is not related. The risk of seborrheic dermatitis is more influenced by how respondents behave and behave towards scalp care, rather than by the level of knowledge they have.

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