
Association Between Face-Washing Frequency and Acne in High School Students

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Abstract

Acne vulgaris is one of the most common dermatological problems in adolescents and can significantly impact physical appearance, self-confidence, and daily social interactions. This study aimed to analyze the association between face-washing frequency and the occurrence of acne among high school students at SMA Darussalam Banyuwangi in August 2025. A cross-sectional approach was used involving 30 students selected through total sampling. Data were obtained using structured questionnaires and direct skin examinations. The independent variable was the frequency of face-washing, categorized as once, twice, or three times daily, while the dependent variable was acne severity. Data were analyzed descriptively and using the Chi-square test.

The results showed that most students washed their faces twice daily (60%), followed by once daily (26.7%) and three times daily (13.3%). Among those who washed their face once daily, moderate acne was found in 50% and severe acne in 25% of students. In the three-times-daily group, moderate acne occurred in 25% and severe acne in 25% of students. Overall, 56.7% had mild acne, 33.3% moderate, and 10% severe. A statistically significant association was identified between face-washing frequency and acne severity ($p = 0.000$).

In conclusion, optimal face-washing—specifically twice daily—is associated with milder acne, whereas insufficient or excessive washing tends to increase severity. These findings emphasize the importance of proper facial hygiene and support the need for school-based skin health education programs.

Keywords: *acne vulgaris, adolescents, face-washing frequency*

INTRODUCTION

Acne vulgaris is recognized as one of the most prevalent dermatological problems among adolescents, affecting not only their physical appearance but also potentially influencing their psychological well-being (Damayanti & Minerva, 2023). Facial skin hygiene, including regular cleansing routines and appropriate skin care, has been identified as a critical factor influencing both the development and severity of acne, highlighting the importance of personal hygiene habits in adolescent health management (Oktaviani & Shahab, 2023). Among high school students, the frequency and method of face-washing can vary considerably due to differences in daily routines, environmental factors such as humidity and pollution, and individual personal care habits, which may contribute differently to acne prevalence (Sundoro, Djannatun, & Maharsi, 2024). Consequently, examining the association between face-washing frequency and acne occurrence is highly relevant, as it provides insight into effective preventive strategies for maintaining healthy skin among adolescents and minimizing potential psychosocial impacts

Acne vulgaris affects a significant proportion of adolescents worldwide, with prevalence rates ranging from 40% to 85% depending on age and population, highlighting its importance as a public health concern (Damayanti & Minerva, 2023). In Indonesia, studies have reported that among high school students, approximately 60–70% experience some form of acne, with moderate to severe cases affecting 15–20% of adolescents, demonstrating the widespread nature of the problem (Oktaviani & Shahab, 2023). Research on facial hygiene and acne in

adolescents is important because acne does not only affect aesthetics but can also impact mental and social health, including self-esteem and social interactions (Sundoro, Djannatun, & Maharsi, 2024). For example, a study at SMA Negeri 3 Jakarta showed that poor facial hygiene was associated with higher severity of acne among students, indicating that hygiene practices directly influence skin health outcomes (Sundoro, Djannatun, & Maharsi, 2024).

Furthermore, analysis of acne vulgaris risk factors in Indonesian adolescents revealed that facial hygiene is a major trigger of acne, emphasizing the need for targeted preventive strategies in school settings (Tika & Yanik, 2022). By understanding this relationship, preventive interventions, such as education on proper face-washing techniques and frequency, can be designed more accurately to reduce acne prevalence and improve overall adolescent health (Tika & Yanik, 2022).

Although the hypothesis that face-washing frequency affects acne seems logical, there is still limited research specifically evaluating the frequency of face-washing (e.g., once, twice, three times a day) and how it correlates with acne incidence among high school students in Indonesia. Existing studies mostly examine “personal hygiene” in general without differentiating cleaning frequency (Sundoro, Djannatun, & Maharsi, 2024; Hartono & Setiawan, 2023). This research gap becomes an issue because without local data, recommendations for facial hygiene among Indonesian adolescents may be inaccurate or irrelevant.

Acne in adolescents can have multidimensional effects. Psychologically, severe acne can lower self-confidence and negatively affect adolescent self-esteem. For instance, a significant relationship between acne vulgaris and low self-esteem was found among university students (Rahayu & Putri, 2022). Socially, adolescents with acne may feel embarrassed or reluctant to socialize, affecting social interactions and mental well-being. Physically, untreated acne can lead to scars, chronic inflammation, and skin damage.

Face-washing frequency can have a dual effect: if done too infrequently, dirt, sebum, and bacteria (such as *Propionibacterium acnes*) can accumulate, clog pores, and trigger acne (Sundoro, Djannatun, & Maharsi, 2024). On the other hand, washing the face too frequently can damage the skin barrier, causing irritation, dryness, and even rebound sebum production, which may worsen acne (Nurhayati & Santi, 2020). Additionally, other factors such as skin type (e.g., oily skin), cosmetic use, and care habits also contribute to the cause-and-effect interaction of acne (Tika & Yanik, 2022).

Based on this cause-and-effect framework, this study aims to examine the association between face-washing frequency and acne occurrence among students at SMA Darussalam Banyuwangi in August 2025. The results of this study are expected to inform optimal facial hygiene practices to prevent acne, such as recommendations for appropriate face-washing frequency (e.g., 2–3 times per day) based on local adolescent.

RESEARCH

This study employed a cross-sectional design to examine the association between face-washing frequency and acne occurrence among high school students at SMA Darussalam Banyuwangi in August 2025. The population consisted of 30 students selected using total sampling based on inclusion criteria. Data consisted of two main variables: the independent

variable (face-washing frequency) and the dependent variable (acne severity). Face-washing frequency was measured using a structured questionnaire, while acne severity was assessed through direct skin examination.

Table 1. Operational Definition of Variables

Variable	Definition	Indicator	Scale	Measurement Method
Face-washing frequency	Number of times a student washes the face within 24 hours	1×/day, 2×/day, 3×/day	Ordinal	Self-report questionnaire
Acne severity	Degree of acne based on lesion count	Mild, moderate, severe	Ordinal	GAGS scoring during skin examination

Acne was assessed using the Global Acne Grading System (GAGS), which evaluates six facial regions (forehead, cheeks, nose, chin, chest/back) using a weighting factor and lesion scores. Severity categories were defined as: mild (1–18), moderate (19–30), severe (31–38). This standardized tool ensures objective, reproducible classification.

Acne assessments were conducted by two trained assessors, each holding at least a bachelor’s degree in nursing with certified training in acne grading. Assessors underwent a 2-hour calibration session using GAGS examples to standardize scoring and reduce inter-rater bias. Only consistent assessors (≥ 0.85 inter-rater agreement) were allowed to perform examinations.

The structured questionnaire collected demographic data, skin-care habits, and face-washing frequency. Content validity was evaluated by three experts in dermatology and public health, obtaining a Content Validity Index (CVI) of 0.92, indicating excellent validity. Students completed the questionnaire under supervision to avoid misinterpretation.

Data were analyzed descriptively and using the Chi-square test with a significance level of 0.05.

RESULTS AND DISCUSSION

RESULTS

Table 1. Frequency of Face-Washing Among Students

Face-Washing Frequency	N	%
Once a day	8	26.07
Twice a day	18	60.00
Three times a day	4	13.03
Total	30	100.00

Table 1 shows the distribution of face-washing frequency among the 30 students. The majority of students (60%) reported washing their faces twice a day, indicating that this is the most common hygiene practice in this group. A smaller portion of students (26.07%) washed their faces once a day, while only a minority (13.03%) washed three times a day. These results suggest that although most students maintain a moderate face-washing routine, there is variation in daily hygiene habits, which may influence acne occurrence and severity among the adolescents.

Table 2. Acne Occurrence Among Students

Acne Severity	N	%
Mild	17	56.07
Moderate	10	33.03
Severe	3	10.00
Total	30	100.00

Table 2 presents the distribution of acne severity among the 30 students. The majority of students (56.07%) experienced mild acne, indicating that most adolescents had only minor skin lesions. A smaller proportion (33.03%) suffered from moderate acne, while only a few students (10.00%) experienced severe acne. These findings suggest that while acne is prevalent among high school students, most cases are mild and manageable. This distribution highlights the importance of promoting effective skin hygiene practices to prevent progression from mild to more severe acne conditions.

Table 3. Cross-Tabulation of Face-Washing Frequency and Acne Occurrence

Face-Washing Frequency	Acne Occurrence			Total	P-value
	Mild	Moderate	Severe		
Once a day	2	5	1	8	0.000
Twice a day	13	5	0	18	
Three times a day	2	0	2	4	
Total	17	10	3	30	

Table 3 shows the cross-tabulation between face-washing frequency and acne occurrence among 30 students. The results indicate a significant association ($p = 0.000$) between how often students wash their faces and the severity of acne. Students who washed their faces twice a day predominantly experienced mild acne (13 out of 18), while those who washed once a day showed higher rates of moderate acne (5 out of 8) and some severe cases (1 out of 8). Interestingly, students who washed three times a day had mostly mild acne (2 out of 4), but two students still experienced severe acne, suggesting that excessive face-washing does not always prevent severe acne and may relate to individual skin conditions.

Overall, these findings suggest that washing the face twice daily is associated with the lowest severity of acne, while inadequate or overly frequent face-washing may contribute to higher or variable acne severity among adolescents. This supports the hypothesis that optimal hygiene practices play a key role in acne prevention.

DISCUSSION

The results of this study indicate that face-washing frequency among high school students varied, with the majority (60%) washing their faces twice a day, followed by once a day (26.07%) and three times a day (13.03%) (Table 1). This pattern is consistent with previous research in Indonesia, which reported a meaningful relationship between face-washing frequency and acne occurrence in high school students, suggesting that both insufficient and excessive face-washing can increase the risk of acne (Sole, Suling, & Kairupan, 2020). The variation in washing frequency may contribute to differences in acne prevalence and severity, as facial hygiene plays a crucial role in controlling sebum, dirt, and bacterial accumulation on the skin surface.

Regarding acne occurrence, more than half of the students (56.07%) experienced mild acne, 33.03% had moderate acne, and only 10% suffered from severe acne (Table 2). These findings align with previous studies highlighting that acne among adolescents is influenced by multiple factors, including genetics, diet, stress, and overall skin care behavior (Asrianti, Setyaningrum, Setiawati, & Widia, 2024). While face-washing frequency is an important factor, acne severity cannot be explained by hygiene practices alone, as environmental and lifestyle factors also play a significant role.

The cross-tabulation between face-washing frequency and acne occurrence showed a significant association ($p = 0.000$) (Table 3). Students who washed their faces twice daily were more likely to have mild acne, whereas those washing once daily showed higher proportions of moderate and severe acne. Interestingly, students washing three times daily did not always experience lower severity, indicating that over-cleansing may not provide additional benefits and could even contribute to skin barrier disruption (Salsabila, Safrudin, & Rajab, 2025). These findings reinforce the notion that an optimal face-washing routine commonly twice a day is most effective in preventing severe acne while avoiding negative effects of excessive cleaning.

Overall, these results suggest that moderate face-washing (twice daily) is associated with the lowest acne severity. Both insufficient and excessive face-washing may increase the risk of moderate to severe acne. Integrating these findings with broader health-promotion strategies targeting diet, stress management, and adequate rest could enhance school-based programs aimed at improving personal hygiene and reducing acne prevalence among adolescents.

CONCLUSION

Based on the results of this study, it can be concluded that there is a significant association between face-washing frequency and acne occurrence among high school students. Students who wash their faces twice daily generally experience milder acne compared to those who wash less frequently or excessively. Both insufficient and overly frequent face-washing can increase the risk of moderate to severe acne, suggesting that maintaining an optimal and moderate hygiene routine is essential for preventing acne. These findings also indicate that while face-washing frequency is a key factor, acne severity is influenced by multiple elements, including lifestyle, diet, stress, and individual skin characteristics. Implementing school-based health education programs that promote proper facial hygiene, alongside broader health-promotion strategies, may help reduce acne prevalence and improve overall skin health in adolescents.

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