**THE EFFECT OF PERSONAL HYGIENE ON THE SEVERITY OF ACNE VULGARIS IN STUDENT**

**FK UNWAHAS**

**1Ariska Oktaviani, 2Sri Mastuti, 3Fatinah Shahab**

Email: [ariskaoktaviani85@gmail.com](mailto:ariskaoktaviani85@gmail.com)

1 Fakulty of Medicine, Wahid Hasyim University, Semarang, Indonesia

|  |  |  |  |
| --- | --- | --- | --- |
| ARTICLE INFO |  | ABSTRACT |  |
| Article history  Received  Revised  Accepted |  | Acne vulgaris is an inflammatory condition in the pilosebaceous unit which generally occurs in men and women, adolescents and young adults. Acne vulgaris is caused by propionibacterium acnes, which is an anaerobic bacteria that is gram positive, in addition to bacteria, there are other factors that cause acne such as hormones, oily, and dirty skin from dust and air pollution. The incidence of acne vulgaris can be influenced by the level of poor personal hygiene. This study aims to determine the relationship between personal hygiene and severity of acne vulgaris among students of Faculty Medicine, Wahid Hasyim University, Semarang. The study was conducted on 45 students in Faculty Medicine, Wahid Hasyim University, Semarang using a cross-sectional method with a simple random sampling technique. The instruments used in this study were questionnaires. The results of this study on the chi-square statistical test obtained P-Value value of 0.015 (P-Value> 0.05) so it can be concluded that there is a significant relationship between personal hygiene and the severity of acne vulgaris among students of the Faculty of Medicine, Wahid Hasyim University, Semarang. |  |
| **Keywords**  *Personal hygiene*  Inflammatory  Acne vulgaris |  |

**INTRODUCTION**

Acne vulgaris is a condition of inflammation of the pilosebaceous unit that generally occurs in men and women, adolescents and young adults. The clinical picture in acne vulgaris is polymorphic in the form of comedones, papules, pustules, nodules, and cysts. 2 Acne vulgaris comedones are the main lesions in the form of papules, comedones usually contain black keratin so they are called blackheads or open comedones, and komedo A closed area is called a whitehead. 4 The classification of acne vulgaris according to Plewig and Kligman is grouped into comedonal acne, papulopustul acne and conglobata acne. 4 Areas that often occur with acne vulgaris are around the face, neck, shoulders, chest, back and upper arms, in areas that have sebaceous glands. The bacteria that causes acne vulgaris is Propionibacterium acnes (P. acnes) which is a gram-positive anaerobic bacterium. Based on Plewig and Kligman (2005), acne vulgaris is classified into 3 groups, namely; comedonal acne, papulopustul acne, and acne conglobata. 4 According to the Global Burden of Disease Study (2014), acne vulgaris is the most common skin disease so that the percentage of acne vulgaris sufferers in the world reaches 85% of young adults aged 12-25 years. 5

Acne vulgaris is caused by many factors (multifactorial) originating from within (endogenous) such as genetic and hormonal factors and from outside (exogenous) such as food/diet, cosmetic factors, infection/trauma factors, skin conditions and occupational factors. The occurrence of acne vulgaris is based on four basic pathogenesis such as pilosebaceous follicle hyperproliferation, excess sebum production, inflammation, and the presence of Propionibacterium acnes.6,7

The degree of severity of acne vulgaris can be assessed using the Global Acne Grading System Score (GAGS) which assesses based on 6 areas of acne vulgaris, namely; forehead, right cheek, left cheek, nose, chin, and chest, and upper back which will be categorized into none (0), mild (1-18), moderate (19-30), severe (31-38), and very heavy (> 39). 11

Personal hygiene is personal hygiene and an effort made by individuals to maintain personal hygiene in order to avoid disease. Cleanliness is a behavior that is taught in life to prevent the occurrence of a disease in order to maintain health. 1 Personal hygiene can affect or trigger the occurrence of skin diseases such as the emergence of P. acnes so that treatment of acne vulgaris sufferers is carried out by reducing excess sebum without damaging the skin barrier such as lipids and reducing activity or P. acne bacteria as a normal flora colony.8

The benefits of personal hygiene can prevent disease, increase self-confidence, and create beauty. Personal hygiene can also be used to determine individual health by maintaining good health and preventing the development of diseases such as skin diseases. 1 Personal hygiene classification is divided into 2 categories, namely good and bad. In the good category, if the value is between 0-5 and not good if the value is between 6-10 on the personal hygiene questionnaire which includes skin cleanliness, hand and nail hygiene, clothing cleanliness and towel cleanliness.

These ways to stay healthy include keeping your skin clean, washing your hands, changing your clothes frequently, and changing your bed covers. Healthy skin is skin that has no symptoms or disease and is functioning normally. Clinically healthy skin is skin that is smooth, firm, bright, functioning properly, and moist with skin that is not pale, looks bright, feels firm, moist, and looks clean when touched. 7 The factors that affect personal hygiene are ; The level of one's knowledge, culture, and habits.9

**METHOD**

This study used an observational analytic method with a cross sectional design approach. This research was conducted at the Faculty of Medicine, Wahid Hasyim University, Semarang. This research was conducted from January to February 2022. The sampling technique in this study was simple random sampling. The sample in the research conducted was determined using the slovin formula, which obtained a total sample of 45 respondents.10

The research conducted aims to find out the relationship between two variables, namely personal hygiene and the degree of severity of acne vulgaris. Personal hygiene is measured using a questionnaire that has been tested by Christine Vita Gloria Purba (2013), to determine the level of personal hygiene which consists of cleanliness of the skin, hands and nails, clothing, and cleanliness of towels. According to (Doshi A, et al. 1997) the variable severity of acne vulgaris can be measured by the Global Acne Grading System Score (GAGS) questionnaire which assesses based on 6 areas of acne vulgaris, namely; forehead, right cheek, left cheek, nose, chin, and chest, and upper back which will be categorized into none (0), mild (1-18), moderate (19-30), severe (31-38), and very severe (>39). The data obtained is then presented in the form of a frequency distribution table and univariate and bivariate analysis.11

This research was conducted after passing an ethical review by the health research ethics committee of the Faculty of Medicine, Diponegoro University with letter number 20/EC/KEPK/FK-UNDIP/I/2022. Data collection in the form of a questionnaire was carried out after obtaining approval from the Faculty and Faculty of Medicine students at Wahid Hasyim University. The data obtained is guaranteed confidentiality.

**RESULT AND RESEARCH**

The number of respondents studied who met the inclusion criteria was 45 people. The following is the result of the distribution of research respondents including age and gender based on the research questionnaire that has been conducted. The characteristics of the respondents in this study can be seen in table 1.

|  |  |  |
| --- | --- | --- |
| Table 1. Distribution of Respondent Characteristics | | |
| **Age** | **Frequency (n)** | **Percentage (%)** |
| 17 | 1 | 2,2 |
| 18 | 26 | 57,8 |
| 19 | 12 | 26,7 |
| 20 | 4 | 8.9 |
| 21 | 1 | 2,2 |
| 22 | 1 | 2,2 |
| **Total** | **45** | **100** |
|  |  |  |
| **Gender** | **Frequency (n)** | **Percentage (%)** |
| Men | 29 | 64,4 |
| Women | 16 | 35,6 |
| **Total** | **45** | **100** |

Based on table 1 it can be seen that of the 45 respondents to FK UNWAHAS students aged 17 there was 1 respondent (2.2%), 18 years there were 26 respondents (57.8%), 19 years there were 12 respondents (26.7%), 20 years there are 4 respondents (8.9%), 21 years there is 1 respondent (2.2%), and 22 years there is 1 respondent (2.2%). Distribution based on gender of the 45 respondents, there were 29 people (64.4%) women and 16 men (35.6%).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Tabel 2. Perilaku *Personal Hygiene* pada Mahasiswa Fk Unwahas | | | | |
| ***Personal Hygiene*** | **Hygiene** | | | |
| **Skin** | **Hands and Nails** | **Clothes** | **Towel** |
| Good | 45 | 43 | 38 | 28 |
| Bad | 0 | 2 | 7 | 17 |
| **Total** | 45 | 45 | 45 | 45 |

|  |  |  |
| --- | --- | --- |
| ***Personal Hygiene*** | **Frequency (n)** | **Percentage (%)** |
| Baik | 43 | 95,6 |
| Tidak baik | 2 | 4,4 |
| **Total** | **45** | **100** |

The results of the analysis regarding personal hygiene behavior, it was found that out of 45 respondents to skin cleanliness, 45 respondents (100.0%) were in the good category. Hand and nail hygiene as many as 43 respondents (95.6%) in the good category and 2 respondents (4.4%) in the bad category. Cleanliness of clothes as many as 38 respondents (84.4%) in the good category, and 7 respondents (15.6%) in the bad category. The cleanliness of the towels was 28 respondents (62.2%) in the good category and 17 respondents (37.8%) in the bad category. Personal hygiene is divided into good and bad categories with the answer choices being yes = 1, no = 0. From the results of the research analysis the category was good (total score 0-4) so that in the study 45 (100%) samples were obtained with good personal hygiene, and the category was not good (total score 6-10) so that the study obtained 2 (4.4%) sample. Qualified (good category) If the value category is between 0-5 and does not meet the requirements (not good) with a value category between 6-10.

|  |  |  |
| --- | --- | --- |
| Tabel 3. Derajat Keparahan Akne Vulgaris pada Mahasiswa FK Unwahas | | |
| **Degree of Severity** | **Frequency (n)** | **Percentage (%)** |
| Mild | 35 | 77,8 |
| Moderate | 9 | 20 |
| Severe | 1 | 2,2 |
| **Total** | **45** | **100** |

The results of the analysis of the incidence of acne vulgaris, it was found that out of 45 respondents there were 35 respondents (77.8%) who experienced a mild degree of severity of acne vulgaris, whereas at a moderate degree of severity of acne vulgaris 9 respondents (20%), and at a severe degree of severity of acne vulgaris 1 respondents (2.2%).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table 5. Relationship between Personal Hygiene and the Degree of Severity of Acne Vulgaris in Fk Unwahas Students | | | | |
| ***Personal Hygiene*** | **Degree of Severity of Acne Vulgaris** | | | **Total** |
| **Mild** | **Moderate** | **Severe** |
| Good | 35 | 7 | 1 | 43 |
| Bad | 0 | 2 | 0 | 2 |
| **Total** | 35 | 9 | 1 | **45** |

Based on table 5, it can be seen that of the 45 respondents, respondents with good personal hygiene experienced mild acne vulgaris there were 35 respondents (77.8%) and personal hygiene was not good 0 (0%). Respondents with good personal hygiene experienced moderate degree of acne vulgaris, there were 7 respondents (15.6%) and personal hygiene was not good, there were 2 respondents (4.4%). Respondents with good personal hygiene who experienced severe acne vulgaris were 1 respondent (2.2%) and personal hygiene was not good 0 (0.0%).

|  |  |  |  |
| --- | --- | --- | --- |
| Table 6. Chi-Square Test Results | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 8.372a | 2 | 0.015 |
| Likelihood Ratio | 6.829 | 2 | 0.033 |
| Linear-by-Linear Association | 5.099 | 1 | 0.024 |
| N of Valid Cases | 45 |  |  |

Based on table 5, the chi-square test obtained a sig value of 0.015 (P-Value ≤ 0.05). It can be concluded that there is a significant relationship between personal hygiene and the degree of severity of acne vulgaris in students of the Faculty of Medicine, Wahid Hasyim University, Semarang.

**DISCUSSION**

Based on the results of hypothesis testing, it was found that there was a significant relationship between personal hygiene and the degree of severity of acne vulgaris in students of the Faculty of Medicine, Wahid Hasyim University, Semarang.

This is supported by a previous research study conducted by Fattah N (2018), in patients at the Makassar health center that there is a relationship between personal hygiene and the incidence of skin diseases. An individual is said to have good personal hygiene if he maintains personal hygiene including skin cleanliness (frequency of bathing, use of soap, rubbing the skin when bathing), hand and nail hygiene (washing hands with soap after activities, cutting nails to keep them short), cleanliness of clothes (changing clothes 2 times a day, washing clothes using special soap for clothes, using personal clothes), cleanliness of towels (using their own towels, drying towels in the sun, washing towels a maximum of 1 time a week). Good personal hygiene will minimize the portal of entry for microorganisms that are everywhere and can prevent a person from getting a disease.1

Someone who maintains and pays attention to personal and environmental hygiene is an effort to prevent himself from getting an infection from a disease such as skin disease. Although in this study respondents who had good personal hygiene still suffered from acne vulgaris, it could be caused by many factors, such as hormonal factors before menstruation for female respondents, stress, consumption of certain foods and exposure to air pollution while driving or using skincare or cosmetics.7

**C0NCLUSION**

Based on the results of the research that has been done, it can be concluded as follows:

1. In this study, there was a significant relationship between personal hygiene and the degree of severity of acne vulgaris in students of the Faculty of Medicine, Wahid Hasyim University, Semarang.
2. Of the 45 research samples conducted at the Faculty of Medicine, Wahid Hasyim University, Semarang, respondents with good personal hygiene experienced mild acne vulgaris, there were 35 respondents (77.8%) and personal hygiene was not good, 0 respondents (0%).
3. Respondents with good personal hygiene experienced moderate degree of acne vulgaris, there were 7 respondents (15.6%) and personal hygiene was not good, there were 2 respondents (4.4%).
4. Respondents with good personal hygiene who experienced severe acne vulgaris were 1 respondent (2.2%) and personal hygiene was not good 0 (0.0%).

**ADVICE**

1. For students, they should always maintain and improve personal hygiene by bathing regularly 2 times a day, changing clothes 2 times a day, washing hands after activities, using personal towels and drying in the sun after use, and always maintaining the cleanliness of the bed by changing bed sheets regularly and periodically.
2. For future researchers, it is advisable to use a larger sample and population by using other variables that have not been done by other researchers.

**RESEARCH LIMITATIONS**

1. This research was conducted during the covid pandemic so there were some respondents who were reluctant to take off their masks.
2. The research was conducted when the respondents finished their lecture activities so that there were limitations when coordinating respondents because some respondents went home.
3. Limited time due to the next lecture schedule.

**REFERENCE**

1. Fattah, N. (2018). Hubungan Personal Hygiene dan Sanitasi Lingkungan dengan Kejadian Penyakit Kulit Pada Pasien di Puskesmas Tabaringan Makassar. Umi Medical Journal.
2. Teresa, A. (2020). Akne Vulgaris Dewasa; Etiologi, dan pathogenesis Terkini. Fakultas Kedokteran Universitas Palangka Raya. Volume 8, 953-955.
3. Christine, C. (2016). Perawatan Dermatologis Akne vulgaris.
4. Plewig. Kligman. (1975). Acne Morphogenesis and Treatment. Apringer Verlag Heidelberg, New York.
5. Sjarif, M. S. (2018). Akne dan Diet. Balai Penerbit Fakultas Kedokteran Universitas Indonesia. Jakarta.
6. Rizqun, N.A. (2015). Akne vulgaris pada Remaja. Fakultas Kedokteran Universitas Lampung. Volume 4, 10-15.
7. Narayenah, M. (2017). Karakteristik profil jerawat berdasarkan indeks glikemik makanan pada mahasiswa semester III Fakultas kedokteran Universitas Udayana 2014. Intisari Sains Medis. Volume 8, 139-140.
8. Ardhiyana, P.I., Ketut, K.W. (2018). Pengaruh Personal Hygiene Terhadap Timbulnya Akne Vulgaris Pada Mahasiswa Program Studi Pendidikan Dokter Angkatan 2014 di Fakultas Kedokteran Universitas Udayana. Intisari Sains Medis. Volume 9, Nomor 2.
9. Prayogi, S. (2016). Pengaruh Personal Hygiene Dalam Pencegahan Penyakit Scabies. Fakultas Kedokteran Lampung. Volume 5, 141-142.
10. Slovin, E. (1960). Slovins’s Formula for Sampling Technique.
11. Doshi, A. Zaheer, A. Stiller MJ. (1997). A comparison of current acne grading systems and proposal of a novel system. Int J Dermatol.