The Relationship of Fast Food Towards The Event of Acne Vulgaris in Students

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Abstrak

Acne Vulgaris merupakan penyakit kulit yang disebabkan oleh peradangan pada folikel polisebaceous (kelenjar minyak kulit). Jerawat jika tidak ditangani bisa berujung pada depresi dan krisis kepercayaan diri bagi penderitanya. Acne vulgaris dapat terjadi pada segala usia karena beberapa faktor salah satunya adalah makanan. Tujuan penelitian ini yaitu menganalisis tingkat akne vulgaris, untuk mengetahui pola konsumsi makanan siap saji dan untuk mengetahui hubungan makanan cepat saji dengan kejadian jerawat (acne vulgaris) pada pelajar. Jenis penelitian ini adalah analitik dengan pendekatan cross sectional. Sampel penelitian sebanyak 52 orang dengan menggunakan metode consecutive sampling. Analisis data menggunakan analisis univariat, analisis bivariat dengan uji chi-square. Hasil penelitian yaitu angka kejadian acne vulgaris tertinggi berada pada kategori sedang yaitu 23 orang (44,2%), dan pola konsumsi makanan cepat saji berada pada kategori buruk yaitu 22 orang (42,3%) sehingga ada hubungan dengan nilai signifikansi 0,018 < 0,05 antara perilaku konsumsi fast food dengan timbulnya jerawat (acne vulgaris) pada pelajar. Disimpulkan angka kejadian jerawat (acne vulgaris) tertinggi pada kategori sedang dan pola konsumsi makanan cepat saji tertinggi pada kategori buruk serta terdapat hubungan yang positif dan signifikan antara perilaku konsumsi makanan cepat saji dengan kejadian jerawat (acne vulgaris) pada mahasiswa.

Kata kunci: Acne Vulgaris, Makanan Cepat Saji

Abstract

Acne vulgaris is a skin disease caused by inflammation of the polysebaceous follicles (skin oil glands). Acne, if left untreated, can lead to depression and a crisis of confidence for the sufferer. Acne vulgaris can occur at any age due to several factors, one of which is food. This study aimed to analyze the level of acne vulgaris, determine the consumption pattern of fast food, and the relationship between fast food and the incidence of acne (acne vulgaris) in students. This type of research is analytic with a cross-sectional approach. The research sample was 52 people using a consecutive sampling method. Data analysis used univariate analysis and bivariate analysis with a chi-square test. The results showed that the highest acne vulgaris was in the moderate category, namely 23 people (44.2%). Fast food consumption patterns were in a bad category, namely 22 people (42.3%), so there was a relationship with a significance value of 0.018 < 0 0.05 between fast food consumption behavior and the incidence of acne (acne vulgaris) in students. It was concluded that the highest incidence of acne (acne vulgaris) was in the moderate category, and the highest consumption pattern of fast food was in the bad category. There was a positive and significant relationship between fast food consumption behavior and the incidence of acne (acne vulgaris) in college students.

Keywords: Acne Vulgaris, Fast Food Towards

1. INTRODUCTION

Acne vulgaris is a skin problem in the form of infection and inflammation of polycebaceous follicles. Acne (acne vulgaris) is an inflammation of the facial skin due to the production of excess oil glands resulting in blockage of the hair follicle channels and pores which are characterized by blackheads, papules, pustules and nodules (Elkamshoushi et al., 2021; Elsadek et al., 2021). The occurrence of inflammation of acne (acne vulgaris) is quite heavy and deep so that a lump filled with pus or cyst is formed, if when it heals it will leave a scar in the form of scar tissue (Kuş et al., 2022; Zinati-Saeed et al., 2020). Acne (acne vulgaris) is the most common skin disorder, both among adolescents and adults, on average,

it is found at the age of 17-25 years depending on the growth factor (Anindita & Estri, 2013; Bilgic et al., 2016).

Facial skin problems that are often complained of by students majoring in makeup and beauty are acne prone skin because it can give an itchy and comfortable effect such as leaving scars (black spots and pockmarks) so that it can interfere with activities and affect self-confidence of female students (Chuah & Goh, 2015; Hanafiah & Astuti, 2022). Acne vulgaris is not a dangerous disease, but it has a big impact on adolescents, both physically and psychologically, it can cause anxiety, depression, and reduce the sufferer's self-confidence. Physical appearance, especially a clean face without acne, is an important asset in relationships and careers (Masturina, 2018; Purworahayu & Rusmawati, 2018)

In Indonesia, the records of the Indonesian cosmetic dermatology study group showed that there were 60% of acne vulgaris sufferers in 2006 and 80% in 2007 (Sibero et al., 2019). West Sumatra, Padang examined the profile of acne vulgaris at the Dermatology and Venereology Polyclinic, RSUP. DR. M. Djamil Padang 2013-2015. The prevalence of acne vulgaris was 2.86% with a female to male ratio of 1.5:1. The most age group was found at the age of 15-24 years (Sibero et al., 2019). Acne (acne vulgaris) is classified based on its severity, it can be divided into non-inflammatory acne, namely blackhead acne (whiteheads and blackheads), and inflamed acne (inflammation acne), namely papules, postules, nodules, and cysts (Gurok et al., 2019; Prima Minerva & Astuti, 2019). Acne often occurs at a young age and is caused by multiple factors including climate, hygiene, use of cosmetics, psychological or fatigue, age, race, food, gender and genetics (P. Minerva & Hefni, 2022; Prima Minerva et al., 2019). The causes of acne are genetic, hormonal, food and cosmetic factors tissue (Kuş et al., 2022; Zinati-Saeed et al., 2020). Of all the factors that cause acne, food is one that can increase sebum levels on the skin, causing acne, especially in foods that are high in fat, carbohydrates, and sugar (Asbullah et al., 2021).

Food is one of the risk factors considered to play a role in the onset of acne problems. One of them is a high-fat diet, including saturated fatty acids, which triggers an increase in acne severity (Khan & Chang, 2022; Prima Minerva et al., 2019). Fast food is food or drink that has been processed and is ready to be served directly at the place of business or outside the place of business based on order and is food that is in great demand by young people (Jin et al., 2022; Zhou et al., 2022). This symptom is inseparable from the influence of the lifestyle of urban communities which is supported by the increasing number of restaurants or fast-food restaurants (junk food) that offer a variety of menus of processed food products that are considered very prestige or prestigious, such as Kentucky Fried Chicken, California Fried Chicken, McDonald's, Pizza Hut and the like (Devi & Aksari, 2020; Nurbaya & Caninsti, 2015).

Based on the research, it is known that foods that have high levels of fat and sugar can trigger acne (Pradana, 2019). This is because high fat and sugar will stimulate the hormone insulin, which is a hormone that functions in processing glucose in our bodies. This increase in insulin hormone levels in the blood can trigger an increase in the number of oil gland cells and sweat glands on the face. This is what will eventually trigger acne. In addition, high levels of fat and sugar can trigger acne, because it increases the production of oil that is thicker, causing blockages in the pores of the face which in turn can trigger the inflammatory process (Pradana, 2019).

Research found that a person's diet and eating patterns affect their likelihood of having acne (Asbullah et al., 2021; Khan & Chang, 2022). Based on the results of research on the effect of fast food on the incidence of acne vulgaris in FK UISU students, it can be concluded that from 79 respondents experiencing acne vulgaris the most, namely the mild category 37 people (46.8%) and the pattern of consumption of fast food in the bad category 31 people (39.2%). It is known that food can affect the occurrence of acne vulgaris with p-

value = 0.000 (p<0.05) but there are other variables in the incidence of acne vulgaris. Based on interviews and observations made by researchers, 40 people (36%) of 110 active students studying at the Makeup and Beauty Study Program class of 2019 experienced acne problems as many as 22 people (55%) due to a lot of fast food consumption. Acne can reduce the self-confidence of these students, this is because they are students majoring in makeup and beauty, besides that they have learned how to take care of skin. From the results of interviews with female students, many of them spend time outside the home so they often consume food outside rather than home cooking. In the campus environment, most people sell fast food such as snacks, cold drinks, fried foods. In addition to the taste which can be said to be delicious, the designs of the fast food selling places are more modern, making the female students feel comfortable and interested in consuming it, besides that some students are boarding students so they choose to eat fast food.

Foods like this can trigger active androgen hormones and produce sebum, causing acne. Acne is stated to be associated with high sugar and fat levels caused by fast food (Pradana, 2019). Consumption of foods with high levels of fat and sugar (such as candy, soda and soft drinks, ice cream, chocolate, biscuits, cereals, refined sugar, bread, pasta, and fried foods) can cause changes in composition and sebum production. can trigger inflammation and acne on the skin. This can happen because foods with high sugar and fat content can trigger fluctuations or fluctuations in hormones. One of them is the hormone insulin, which can encourage the appearance of sebum, one of the causes of acne (Winarno & Ahnan, 2014). Based on this background, a research was conducted with the title, "The Relationship of Fast Food to Acne (Acne Vulgaris) in female students in the city of Padang. The purpose of the study was to analyze the level of acne vulgaris, to determine the pattern of consumption of fast food and to determine the relationship between fast food and the incidence of acne in Padang State students.

2. METHODS

This research is an analytical study with a cross sectional approach, where the researcher measures the variables simultaneously and the results obtained describe the conditions that occurred when the research was carried out. This research will be carried out in the Department of Beauty and Design, Padang State University. The population in this study was a student of Make-up and Beauty Class of 2019 State University of Padang who had acne problems. The sample of this study was a Cosmetology and Beauty Class 2019 student who experienced acne (acne vulgaris) and met the research criteria with 52 students who had acne and met the research criteria with the Consecutive Sampling Technique. The types of data used in this study are primary data and secondary data, the data sources in this study were all active students of Makeup and Beauty Class of 2019 State University of Padang. Data analysis techniques with univariate analysis and bivariate analysis to determine the relationship between the independent variable and the dependent variable. To find out whether there is a relationship between fast food and the incidence of acne (acne vulgaris) using the Chi-Square test.

3. RESULTS AND DISCUSSION

Result

The description of the data from this study is an overview of the relationship between fast food and the incidence of acne (acne vulgaris) in students of Make-up and Beauty Class of 2019 State University of Padang. Acne vulgaris is known by analyzing and diagnosing respondents through history taking or interviews and physical examinations. From 52

respondents, a descriptive analysis of the level of acne (acne vulgaris) can be presented as shown in Table 1.

Table 1. Overview of Acne Vulgaris in Make-up and Beauty Students Class of 2019 Universitas Negeri Padang

Acne Vulgaris	Frequency (*f*)	Persentage (%)
Light	17	32.7
Medium	23	44.2
Weight	12	23.1
Total	**52**	**100,0**

Based on table 1, it can be explained that out of 52 respondents, the most incidence of acne vulgaris is respondents with moderate acne vulgaris, namely 23 people (44.2%), mild acne vulgaris is 17 people (32.7%) and severe acne vulgaris is 12 people (23.1%) for the 2019 State University of Padang Makeup and Beauty student.

Table 2. Overview of Acne (Acne Vulgaris) Based on Genetics in Cosmetology and Beauty Students Class of 2019 Universitas Negeri Padang

Faktor	Acne Vulgaris							
	Light		Medium		Weigth		Total	
	f	*%*	F	*%*	F	*%*	*f*	*%*
Genetic	13	38,2	15	44,1	6	17,6	34	100
Non Genetic	4	22,2	8	44,4	6	33,3	18	100
Amount	17	32,7	23	44,2	12	23,1	52	100

Based on table 2, it can be explained that from 52 respondents, the incidence of acne vulgaris based on genetic factors was 34 people (65.4%) with mild acne (acne vulgaris) as many as 13 people, (acne vulgaris) moderate as many as 15 people, and (acne vulgaris)) weight as many as 6 people, for the 2019 State University of Padang Makeup and Beauty student. Of the 52 respondents who suffered from Acne Vulgaris, it is known that 48 people have a history of hormonal acne (acne vulgaris).

Table 3. Overview of Acne (Acne Vulgaris) Based on Hormonal in Cosmetology and Beauty Students Class of 2019 Universitas Negeri Padang

Faktor	Acne Vulgaris							
	Light		Medium		Weigth		Total	
	f	*%*	F	*%*	F	*%*	*f*	*%*
Hormonal	16	33,3	21	43,8	11	22,9	48	100
Non Hormonal	1	25,0	2	50,0	1	25,0	4	100
Amount	17	32,7	23	44,2	12	23,1	52	100

Based on table 3, it can be explained that from 52 respondents, the incidence of acne vulgaris based on hormonal factors was 48 people (92.3%), mild acne (acne vulgaris) was 16 people, moderate acne vulgaris was 21 people, and (acne vulgaris) was mild. weight as many as 11 people, the students of Make-up and Beauty Class of 2019 Padang State University. Fast food is fast food that has high levels of fat and sugar that can stimulate the hormone insulin. Fast food is food or drink that has been processed and ready to be served directly. Analysis of the behavior of respondents consuming fast food can be obtained from the results

of distributing questionnaires with an assessment using a Likert scale. Of the 52 respondents, a descriptive analysis of the research results can be presented as shown in Table 4.

Table 4. Overview of Fast Food Consumption Behavior on Make-up and Beauty Students Class of 2019 State University of Padang

Fast food	Frequency (*f*)	Persentage (%)
Good	8	15.4
Medium	19	36.5
Bad	25	48.1
Total	**52**	**100,0**

Based on table 4 it can be explained that from 52 respondents, a lot of fast food consumed, namely the bad category as many as 25 people (48.15%), while 19 people (36.5%) and good as many as 8 people (15.4%) Student of Make-up and Beauty Class of 2019 State University of Padang. The large number of respondents who consume fast food in the bad category is due to the fact that most of the students are boarding students, so what they eat is modest, and generally what is available on campus. In addition, very few respondents can process healthy and nutritious food.

Acne vulgaris is caused by several factors, one of which is food (Rao, 2016). Fast food is food that has high fat and sugar content that can trigger acne (acne vulgaris). This is because these foods stimulate the hormone insulin which functions to process glucose in the body. The higher the insulin hormone level, the higher the number of oil and sweat glands on the face that cause blockages in the facial pores. Thus triggering acne. This analysis is evidenced by the chi-square test using the SPSS program that has been carried out, it is found that there is a relationship between fast food consumption behavior and the variable incidence of acne (acne vulgaris) in the 2019 State University of Padang Makeup and Beauty Cosmetology student as can be seen in the Table 5.

Table 5. Analysis of the relationship between fast food (junk food) and the incidence of acne (Acne Vulgaris) in Cosmetology and Beauty Students Class of 2019 Universitas Negeri Padang

Fast food	Acne Vulgaris								*p-value*
	Light		Medium		Weigth		Total		
	f	*%*	*F*	*%*	*f*	*%*	*F*	*%*	
Good	7	41,2	3	13	1	8,3	11	21,2	
Medium	5	29,4	12	52,2	2	16,7	19	36,5	0,018
Bad	5	29,4	8	34,8	9	75	22	42,3	
Amount	17	100	23	100	12	100	52	100	

Based on table 5, from 52 respondents, there were mild acne categories with consumption of fast food in good categories as many as 7 people, mild acne with moderate category fast food consumption, 5 people with mild acne with consumption of bad fast food categories, 5 people, moderate acne category with consumption of fast food good category as many as 3 people, moderate category acne with consumption of fast food moderate category as many as 12 people, moderate category acne with consumption of bad category fast food as many as 8 people, severe category acne with consumption of fast food good category as many as 1 person, severe acne category with consumption of fast food moderate category as many as 2 people, severe category acne with consumption of bad category fast food as many as 9 people in the 2019 State University of Padang Makeup and Beauty Cosmetology student.

This study was conducted with a chi square test analysis, so that it can be seen that the significance value or Sig Pearson Chi-Square is 0.018 because the significance value is 0.018 <0.05, it means that there is a significant relationship between the behavior of consuming fast food (junk food) and the incidence of acne (acne vulgaris) at the 2019 State University of Padang Make-up and Beauty student.

Discussion

Acne vulgaris is a skin disease in the form of inflammation of the polysebaceous follicles which is characterized by the presence of blackheads, pauls, pustules, and nodules that occur due to the production of excessive oil glands so that there is blockage of the hair follicle channels and pores (Guevara-Vásquez et al., 2022; Kim et al., 2022). Acne is categorized into 3 levels, namely mild, moderate, and severe categories (Elsadek et al., 2021; Prima Minerva et al., 2019). In addition, there are many factors that can trigger acne vulgaris, one of which is high-fat foods, calories, carbohydrates, increased physical activity, incorrect use of cosmetics, use of illegal drugs and drinks, stress, facial skin washing (cleanliness), facial skin conditions, climate/temperature/environment (Hasan et al., 2015). Based on the research, the results obtained from 52 respondents, the highest incidence of acne vulgaris was moderate, namely 23 people (44.2%) in the 2019 State University of Padang Makeup and Beauty Cosmetology student. In a study on the influence of food due to the emergence of acne vulgaris (acne) in UISU Medical Faculty students in 2020, the results of the highest degree of adolescent acne vulgaris were in the mild category, namely (46.8%) (Syahputra et al., 2021).

Acne vulgaris can appear at any age, but also the influence of genetic and hormonal history (Bilgic et al., 2016; Prima Minerva et al., 2019). Based on the research, the results obtained from 52 respondents that the consumption of fast food for students majoring in Cosmetology and Beauty Class of 2019 was the most 25 people (48.1%) in the bad category, as many as 19 people (36.5%) in the medium category and as many as 8 people (15, 4%) good category. This shows that fast food is preferred and consumed by female students. This research is in line with previous research showed that the highest consumption of fast food was in the bad category as many as 31 people (39.2%) (Syahputra et al., 2021). A teenager and also a student usually have their own choices about the food they like. Many teenagers tend to have irregular eating habits, do not eat at home and snack together with their peers which in many ways are less profitable. Most of the Make-up and Beauty students are boarding house students, and often have outdoor activities so they choose to eat makeshift food that is already available around campus and where they live. Consumption of fast food with the reason that female students are lazy to wait for the cooking process for too long, fast food is considered faster. Fast food contains high amounts of fat, low fiber, high salt, sugar, addictive substances and high calories but low in nutrients, vitamins and minerals. While other nutrients such as protein, vitamins and minerals are still very lacking, the presence of junk food in the food industry in Indonesia can affect the diet of urban youth.

Fast food can affect the body's metabolism so that it activates the pilosebaceous glands to produce sebum and if there is a blockage in the follicles it can be the beginning of acne, but each individual's body metabolism is different so the reactions that occur in the pilosebaceous glands are not the same in each individual (Asbullah et al., 2021; Pradana, 2019). Someone who often consumes fast food is at risk of developing acne because fast food is high in fat and carbohydrates. and minimal mineral and vitamin content (Pradana, 2019; Syahputra et al., 2021). Excessive consumption of of fast food will increase free radicals causes the skin to produce excess oil and break out easily. Physiologically, the sebaceous glands will help lubricate the skin and get rid of dead skin cells, but if excessive it will clog the pores. Consumption of antioxidants such as vitamins C and A is needed by the body to

reduce free radicals and to maintain healthy skin (Bilgic et al., 2016; Prima Minerva & Hefni, 2022).

4. CONCLUSION

Based on the results of data processing and discussion, there are results of research conducted on the relationship between fast food and acne (acne vulgaris) in female students in the city of Padang. First, the highest incidence of acne vulgaris is in the moderate category, namely 23 people (44.2%), mild acne vulgaris is 17 people (32.7%) and severe acne vulgaris is 12 people (23.1%) in Cosmetology and Beauty students Class of 2019 Padang State University. Second, the pattern of consumption of fast food is the most in the bad category, namely 22 people (42.3), the medium category 19 people (36.5%) and the good category as many as 8 people (15.4%) in the 2019 University Makeup and Beauty Student. Padang Country. Third, there is a significant relationship between fast food and the incidence of acne (acne vulgaris) in Cosmetology and Beauty Students Class of 2019 State University of Padang.

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