



## The Influence of Social Media on Self-Medication and Treatment of Acne Vulgaris

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### ABSTRACT

**Background:** With the advancement of technology, access to information about acne vulgaris has become easier. Social media has become a key platform for influencers and doctors to educate the public about acne, which often leads acne sufferers to use social media as a reference for understanding the condition and treatment options. As a result, many individuals choose to practice self-medication based on information obtained from social media. **Purpose:** This study aims to examine the impact of social media on self-medication and the treatment of acne vulgaris. **Methods:** This is an analytical cross-sectional study conducted among high school students. The sample was selected using consecutive sampling. Data was collected through a questionnaire that assessed social media usage, self-medication practices, and treatment outcomes. **Result:** Among the 92 respondents who participated in this study, the following results were found: 18 respondents had a high level of social media usage, 54 respondents had a moderate level, and 20 respondents had a low level. In addition, 64 respondents expressed interest in self-medication, while 28 respondents were not interested in self-medication. The results of the acne treatment of 64 people interested in self-medication showed that eight people had significant improvement in self-medication results, 52 people had slight improvement, and four people had no improvement. The bivariate analysis shows that social media influences self-medication but does not affect treatment outcomes. **Conclusion:** Social media influences self-medication but does not affect the treatment outcomes of acne vulgaris.

**Keywords:** acne vulgaris, adolescents, self-medication, social media.

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### BACKGROUND

Acne vulgaris is a chronic skin disease caused by inflammation and/or blockage of the pilosebaceous unit.<sup>1</sup> Acne vulgaris generally appears in adolescence due to an increase in adrenal hormone production during puberty, which causes the development of sebaceous glands, resulting in increased sebum production and eventually blockage of the pilosebaceous unit.<sup>2,3</sup>

Self-medication is an individual's attempt to self-medicate without consultation and/or a prescription from a doctor. Self-medication has advantages in cost and time efficiency. Self-medication practitioners can be directly involved in drug selection and are safe if used following the rules of use.<sup>4</sup>

The success of self-medication is influenced by the level of knowledge of the disease to be treated.<sup>5</sup> The development of information technology makes it easier for people to improve their health-related knowledge.

According to the Ministry of Communication and Information Technology (Kemenkominfo) and Katadata Insight Centre (KIC), social media will be the main source of information for Indonesians from 2020 to 2022.

Social media is a platform for influencers and medical professionals to disseminate educational content about acne. It is also a resource for individuals with acne to gain insights into the condition and explore treatment options.

Previous studies revealed that among the 45% of acne sufferers utilizing social media for self-medication, only 7% of self-medicators reported significant improvement. However, the research sample was limited to individuals seeking dermatological care, thus limiting the generalizability of the findings to those who did not pursue such treatment, which is the primary focus of this study.<sup>6</sup>

This study was to determine the effect of social media on self-medication and treatment of acne vulgaris.

## METHODS

This study used a cross-sectional analytical research methodology. It was conducted on 92 Senior High School Yos Sudarso Karawang students, selected based on consecutive sampling techniques with certain inclusion and exclusion criteria. Inclusion criteria included adolescents who suffered from acne vulgaris, and exclusion criteria comprised adolescents who suffered from acne vulgaris but were undergoing treatment from a dermatologist.

The research data was collected through interviews with respondents using a questionnaire. There were three types of validated questionnaires. Each questionnaire assessed the level of social media use, interest in self-medication, and the results of acne vulgaris self-medication based on the respondent's point of view. The measuring instrument that the researcher used to assess social media use was the Social Media Addiction Scale-Student Form (SMA-SF) questionnaire, which has five outcome categories: no, low, moderate, high, and very high. Researchers assess the level of social media use to determine the respondent's exposure to social media information. The amount of information exposure is expected to be directly proportional to the respondent's interest in self-medication and the outcome of the acne self-treatment. The interest in the self-medication questionnaire contains several questions that assess the amount of information exposure, especially information related to acne, that respondents get through social media and from whom they often get acne information on social media. The questionnaire results were categorized into

2: interest in self-medication and no interest in self-medication. Respondents with interest in self-medication will then be sorted, and the treatment results will be assessed through a questionnaire that includes four categories of results: worsened, no improvement, slight improvement, and very much improvement. We evaluated the treatment questionnaire results from the respondents' perspectives.

The completed questionnaires were entered into Microsoft Excel and analyzed using SPSS. Bivariate analysis was performed using the Chi-Square test to assess the influence of social media on self-medication and the influence of social media on acne vulgaris treatment. The criteria for assessing the presence of influence is  $p < 0.05$ .

The Research Ethics Committee of the University of North Sumatra has approved this research, with letter no. 859/KEPK/USU/2024.

## RESULT

The demographic of the study included a total of 92 respondents. The majority of respondents consisted of women.

**Table 1.** Description of respondent characteristics

Sex	Frequency (n)	Percentage(%)
Male	43	46.7
Female	49	53.3
Total	92	100

Table 2 shows that the majority of respondents in this study exhibited a social engineering internality of 54 students (58.7%), with an average of 20 (21.7%) and a high of 18 (19.6%). Table 1 indicates that 64 respondents (69.6%) expressed an interest in acne self-dedication, while 28 respondents (30.4%) did not.

**Table 2.** Description of respondent characteristics based on the intensity of social media use, interest in self-medication

No	Characteristics of respondents	Frequency (n=92)	Percentage %
1	Intensity		
	Low	20	21.7
	Moderate	54	58.7
	High	18	19.6
	Total	92	100.0
2	Self-medication		
	Interest	64	69.6
	No interest	28	30.4
	Total	92	100.0

**Table 3.** Description of respondent characteristics based on treatment outcome

Treatment outcome	Frequency (n)	Percentage (%)
Worsened	0	0.0
No improvement	4	6.3
Slight improvement	52	81.3
Significant improvement	8	12.5
Total	64	100.0

Table 3 presents data from a study involving 64 individuals interested in self-medication. The findings indicate that 52 respondents (81.3%) reported a slight improvement, four respondents (6.3%) observed no improvement, and eight respondents (12.5%) experienced a significant improvement.

The analysis presented in Table 4 indicates that among 92 high school respondents, 54 students with moderate social media usage showed that 42 (77.8%) expressed interest in acne self-medication, while 12 (22.2%) did not. Among 18 students with high social

media usage, 13 (72.2%) were interested in self-medication, and 5 (27.8%) were not. In contrast, of the 20 students with low social media usage, 9 (45%) expressed interest in self-medication, while 11 (55%) did not.

Statistical analysis conducted using SPSS and the chi-square test revealed a p-value of 0.024 ( $p < 0.05$ ). This result suggests that social media has a significant influence on self-medication.

According to Table 4, the analysis of research involving 64 respondents interested in self-medication indicates that among the nine students with low social media usage, none (0.0%) showed no improvement, 8 (88.9%) exhibited slight improvement, and 1 (11.1%) demonstrated significant improvement. In the group of 42 students with moderate social media usage, 12 (22.2%) showed no improvement, 38 (70.4%) exhibited a slight improvement, and 4 (7.4%) demonstrated significant improvement. Between the 13 students with high social media usage, none (0%) showed no improvement, 10 (76.9%) exhibited slight improvement, and 4 (22.2%) revealed significant improvement.

**Table 4.** Bivariate analysis of social media on self-medication and treatment of acne vulgaris

	Social media						Total		P value
	Low		Moderate		High				
	N	%	N	%	N	%	N	%	
Self-medication									
Interest	9	45.0%	42	77.8%	13	72.2%	64	69.6	0.024
No interest	11	55.0%	12	22.2%	5	27.8%	28	30.4	
Total	20	100.0	54	100.0	18	100.0	92	100.0	
Self-treatment Outcome									
Worsened	0	0.0	0	0.0	0	0.0	0	0.0	0.453
No improvement	0	0.0	4	9.5	0	0.0	4	6.3	
Slight improvement	8	88.9	34	81.0	10	76.9	52	81.3	
Significant improvement	1	11.1	4	9.5	3	23.1	8	12.5	
Total	9	100.0	42	100.0	13	100.0	64	100.0	

The statistical tests performed using SPSS, which utilized the chi-square test, yielded a p-value of 0.453 ( $p > 0.05$ ). These findings indicate that social media does not significantly influence the self-treatment outcomes for acne vulgaris.

## DISCUSSION

This study shows that social media is influencing interest in self-medication for acne. Another study that examined the impact of information and digital resources on self-medication decision-making showed a positive correlation between the variables of information and digital resources and self-medication decision-making.<sup>7</sup> In this study, respondents with the greatest interest in self-medication were moderate-

intensity social media users. In contrast, respondents with high-intensity social media usage had the least interest. The results of this data differ from those of other research. Other studies have shown a relationship between information media exposure and self-medication.<sup>8</sup> High-exposure respondents were 4.759 times more likely to self-medicate, suggesting that higher exposure to information increases self-medication. Exposure in the study is defined as the intensity or how often people get information about what they want to know about, such as social media. In the research 'The Impact of Social Media on Self-Medication and Treatment of Acne Vulgaris, respondents with high-intensity social media usage received a higher number of exposures to acne content

than respondents with a moderate intensity of social media usage. Still, the data showed that the interest in self-medication of medium-intensity respondents was more than that of high-intensity respondents.

Other studies show that the level of knowledge and healthcare-seeking behavior have a positive correlation, meaning that the higher the level of knowledge, the higher the healthcare-seeking behavior. Exposure to information significantly influences knowledge levels; increased exposure leads to higher knowledge.<sup>9</sup> The level of knowledge is the most influential factor in health service-seeking behavior.<sup>10</sup> One factor, namely perception, leads to the tendency to self-medicate. The level of individual knowledge influences perceptions regarding the utilization of health services.<sup>11</sup> A lower level of knowledge tends to foster an attitude of easy trust in information, leading individuals to choose self-medication.<sup>12</sup> Respondents with a high intensity of social media use tend to have higher acne knowledge. Social media influences people's dermatology-seeking behavior.<sup>13</sup> The study shows that exposure to dermatological content on social media encourages people to seek dermatological consultations.<sup>14</sup>

The data in Table 4 shows that social media does not affect treatment outcomes. Other studies have suggested that social media influences the treatment of acne. Still, the data shows that only 7% of social media users reported significantly improving their acne. In comparison, another 68% of respondents who used social media for acne treatment advice eventually chose to consult a specialist.<sup>6</sup> This happened because of the inaccurate acne content posted on social media.<sup>6</sup> Licensed doctors create only 5% of the dermatology content on Instagram.<sup>15</sup> Viewers who searched for video-based feedback on acne were exposed to inaccurate information. For example, some of the acne treatment methods featured on YouTube include very strict diets or the addition of high doses of supplements, which currently have no scientific basis. In addition, there has been an increase in the sale of dermatological drugs (e.g., isotretinoin) without a prescription. Many social media users do not know that each individual's skin care problems vary and that the treatments and routines suggested on social media may not be suitable for them.<sup>15</sup>

This study's limitation is that it uses social media variables only to analyze interest in self-medication and acne treatment outcomes. Thus, this variable does not represent other factors that could influence interest in self-medication and treatment outcomes for acne, especially in adolescents, such as financial factors or parental consent.

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