STM JOURNALS

Research & Reviews: A Journal of
Medicine

https://journals.stmjournals.com/rrjom/

ISSN: 2249-8648 (Online)
ISSN: 2348-7917 (Print)
Volume 14, Issue 3, 2024
September–December
DOI (Journal): 10.37591/RRJoM

Research RRJoM

A Community-Based Study to Assess: The Aggravating Factors and Treatment Choices in Youth with Acne

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Abstract

Background and Aim: *Acne vulgaris is a common dermatological condition affecting youth worldwide. While its pathogenesis is well-understood, individual experiences with aggravating factors and treatment choices vary. This study aimed to evaluate self-reported factors aggravating acne and determine treatment choices among youth with acne while assessing the correlation between self-perceived and clinically assessed acne severity.* ***Methodology:*** *A cross-sectional survey was conducted with 390 participants aged 18–24 suffering from acne. Data on demographics, aggravating factors, and treatment choices were collected through interviews. Acne severity was objectively assessed using the Global Acne Grading System (GAGS) and compared with participants' self-reported severity.* ***Results:*** *The mean age of participants was 20.9 ± 2.0 years (48.4% males, 52.6% females). Family history of acne was reported by 62.5% of participants, with a mean onset age of 16.8 ± 2.12 years. The most frequently reported aggravating factors were sunlight exposure, sweating, and dandruff, with 96% reporting exacerbation during summer. Only 32% had consulted a physician for treatment, with choices primarily influenced by friends/family (35.6%) and physician consults (24.6%). GAGS scores indicated 88.4% had mild acne and 11.6% moderate, contrasting with self-reported severity: 50.2% mild, 47.2% moderate, and 2.6% severe.* ***Conclusion:*** *This study reveals a significant discrepancy between objective acne severity and self-perception among youth. The low rate of physician consultation and the high influence of non-medical sources on treatment choices suggest a need for improved acne education and healthcare accessibility. Understanding common aggravating factors can inform targeted interventions and patient education strategies.*

Keywords: Acne vulgaris, aggravating factors, treatment-seeking behavior, global acne grading system (GAGS)

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Received date: September 16, 2024
Accepted date: September 16, 2024
Published date: November 11, 2024

Citation: Fathima Thabsheera, Ramdas Bhat, Ayisha Shiha, Shynia Neola Dsouza, Swathi Gopinath, Krishnananda Kamath. A Community-Based Study to Assess: The Aggravating Factors and Treatment Choices in Youth with Acne. Research & Reviews: A Journal of Medicine. 2024; 14(3): 1–8p.

INTRODUCTION

Acne vulgaris is a chronic dermatological condition affecting the pilosebaceous unit. It affects 9.4% of the global population and over 85% of adolescents [1–3]. Its pathogenesis involves excess sebum production, inflammation, follicular epidermal hyperproliferation, and *Propionibacterium* acnes activity [4].

Acne development is influenced by hormonal changes, diet, genetics, and environmental factors [4–6]. While primarily associated with adolescence, it can persist into adulthood, causing physical scarring and psychological impact [7–8].

Treatment options include antibacterials, retinoids, oral contraceptives, and photodynamic

therapy [9]. Effective management requires accurate diagnosis, severity assessment, and patient counseling [10].

Despite its prevalence and impact, many individuals don't view acne as a medical condition requiring professional attention, leading to underutilization of treatments and delayed consultation [11–12]. This misconception stems from a lack of awareness and societal normalization of the condition.

This study addresses critical gaps in understanding by identifying factors aggravating acne and evaluating treatment choices. Examining the prevalence of self-medication versus professional consultation and the influence of non-medical information sources is crucial for understanding current treatment patterns. The insights gained from this research can inform the development of more effective treatment strategies, enhance patient education initiatives, and ultimately improve the quality of life for those affected by acne. This study aspires to pave the way for more personalized and practical approaches to acne management by exploring the interplay between aggravating factors, treatment choices, and individual perceptions.

METHODOLOGY

Study site: Dakshina Kannada.

Study design: Cross-sectional study on aggravating factors and treatment choices in youth with acne.

Study period: 6 months.

Sample size: 390 (based on Corey KC et al. [11], p = 57%).

Inclusion Criteria

- Individuals with acne.
- Either gender, aged 18–24.
- Voluntary participants residing in Dakshina Kannada.

Exclusion Criteria

- Age under 18 or over 24.
- Unwilling participants.

Data Source

Questionnaires.

Study Tools

Data were collected using a self-designed form. A GAGS scoring system was employed to assess acne severity.

Ethical Clearance

Approved by the Institutional Ethics Committee, Srinivas Institute of Medical Science and Research Centre, Mukka.

Statistical Analysis

The Chi-Square Test was used to assess associations between categorical data. T-test compared two categories, and Karl Pearson's coefficient of correlation determined qualitative data correlations. Results were expressed with 95% confidence intervals and presented in tables and graphs.

METHODOLOGY AND OPERATION

1. The patient data collection form was designed for the study.
2. Ethical clearance was obtained before starting.
3. Data on acne-aggravating factors and treatment choices were collected through questionnaires.
4. Questionnaires were distributed to participants.
5. Data was analyzed using suitable statistical methods.

RESULT

Table 1. Demographic data.

Demographic Details	**Frequency (percentage)**
Gender distribution (n = 390)	
Male	189 (48.4%)
Female	201 (52.6%)
Employment status (n = 390)	
Student	328 (84.1%)
Employed	46 (11.8%)
Unemployed	16 (4.1%)
Medical history (n = 390)	
With medical history	36 (9.2%)
No medical history	354 (90.8%)
Family history of acne (n = 390)	
With family history	240 (62.5%)
No family history	150 (38.5%)

The study included 390 participants, as shown in Table 1, with a gender distribution of 189 (48.4%) males and 201 (52.6%) females. Regarding employment status, the majority were students (328, 84.1%), followed by employed individuals (46, 11.8%), and a small proportion of unemployed participants (16, 4.1%). Regarding medical history, only 36 (9.2%) participants reported having a medical history, while the majority (354, 90.8%) did not. Notably, a significant number of participants (240, 62.5%) reported a family history of acne, compared to 150 (38.5%) who did not have a family history of the condition.

Table 2. Acne characteristics, treatment preferences, and associated factors (n = 390).

Details	**Frequency (percentage)**
Body areas affected by acne	
Only face	306 (78.4%)
Face and back	56 (14.3%)
Face and chest	13 (3.3%)
Face, back, and chest	15 (3.8%)
Skin type	
Oily skin	221 (56.7%)
Normal skin	39 (10%)
Dry skin	35 (9%)
Combination skin	95 (24.3%)
Number of face washes per day	
>2 times	299 (76.7%)
≤2 times	91 (23.3%)
Product used for washing face	
Facewash	233 (59.7%)
Soap	118 (30.3%)
Both	23 (5.9%)
Others	16 (4.1%)
Response to "is acne curable?"	
Yes	278 (71.2%)
No	32 (8.2%)
Unsure	80 (20.5%)
Aggravating factors of acne	
Exposure to sunlight	142 (36.4%)

Details	Frequency (percentage)
Sweating	87 (22.3%)
Dandruff	68 (17.43%)
Certain food	67 (17.17%)
Menstrual cycle	67 (17.17%)
Polluted air	66 (16.9%)
Stress	40 (10.25%)
Cosmetic products	35 (8.97%)
Number of aggravating factors	
≥3 factors	200 (51.2%)
<3 factors	190 (49.8%)
Physician consultation for acne	
Yes	125 (32%)
No	265 (68%)
Treatment choices	
Medicated products	116 (43.6%)
Cosmetic products	61 (23%)
Herbal remedies	96 (36%)
Ayurvedic products	15 (5.6%)
Homeopathic products	2 (0.7%)
Sources for deciding treatment	
Friends/family	139 (35.6%)
Physician consults	96 (24.6%)
Social media	49 (12.6%)
Television	6 (1.5%)
Antibiotic use in treatment	
Yes	28 (7.1%)
No	300 (76.9%)
Don’t know	62 (16%)
Duration of treatment	
<6 months	185 (69.5%)
6–12 months	59 (22.9%)
>12 months	22 (7.6%)
Side effects from treatment	
Yes	20 (7.5%)
No	246 (92.5%)
Adherence to treatment	
Fully adherent	173 (65%)
Missed a few days	29 (11%)
Missed many days	41 (15.4%)
Stopped before completion	23 (8.6%)
Factors affecting non-adherence	
Forgetfulness	14.3%
Financial burden	31.4%
Lack of time	45.7%
Non-availability	8.6%
Dietary restrictions	
Following	38 (56.7%)
Not following	29 (43.3%)
Acne severity by GAGS	
Mild	345 (88.4%)
Moderate	45 (11.6%)
Self-reported acne severity	
Mild	196 (50.2%)
Moderate	184 (47.2%)
Severe	10 (25.6%)
Pain associated with acne	
No pain	231 (59.2%)
Pain	159 (40.8%)
Effect of acne on daily life	
No effect	185 (47.4%)

Details	Frequency (percentage)
Rarely affected	101 (26%)
Sometimes affected	90 (23%)
Often affected	14 (3.6%)

The study provides a comprehensive overview of acne prevalence, management, and its impact on 390 participants, offering valuable insights into various aspects of this common skin condition, as shown in Table 2. Most participants (78.4%) reported acne exclusively on their face, with a significant proportion (56.7%) having oily skin. Personal hygiene habits were notable, with 76.7% of participants washing their face more than twice daily, predominantly using facewash (59.7%).

Perceptions and knowledge about acne varied among the participants. While 71.2% believed acne was curable, only 32% had sought professional medical advice by consulting a physician. This disparity highlights a potential gap in healthcare-seeking behavior for acne management. The study identified several common aggravating factors, with exposure to sunlight (36.4%) and sweating (22.3%) being the most frequently reported. Notably, 51.2% of participants reported three or more aggravating factors, indicating the complex nature of acne triggers.

Treatment approaches were diverse, reflecting a mix of conventional and alternative methods. Medicated products were the most common choice (43.6%), followed closely by herbal remedies (36%). Interestingly, friends and family (35.6%) were the primary sources of information for deciding on treatment, outweighing physician consultations (24.6%). This finding underscores the significant influence of social networks on healthcare decisions related to acne.

The study also shed light on treatment patterns and adherence. Only a tiny percentage (7.1%) reported using antibiotics, and the majority (69.5%) underwent treatment for less than six months. Side effects were relatively rare, reported by only 7.5% of participants. Encouragingly, 65% of participants claimed full adherence to their treatment regimens, although factors like lack of time (45.7%) and financial burden (31.4%) were identified as barriers to adherence for some [12–15].

Regarding severity, the Global Acne Grading System (GAGS) classified 88.4% of cases as mild, though self-reported severity showed more variation, with 47.2% considering their acne moderate. This discrepancy between clinical assessment and self-perception is noteworthy. The impact of acne on daily life was significant, with 52.6% reporting some effect and 40.8% experiencing pain associated with their acne [16].

These comprehensive findings highlight the multifaceted nature of acne as a health issue, encompassing physical symptoms and psychological and social dimensions. The study underscores the need for improved education about acne management, greater emphasis on professional medical consultation, and consideration of the broader impact of acne on individuals' daily lives. It also points to the potential for targeted interventions to address common misconceptions, improve treatment adherence, and enhance overall outcomes in acne management [17–18].

DISCUSSION

The study revealed that acne is more prevalent among females, likely due to hormonal changes during puberty [19]. A robust genetic component was evident, with most participants reporting a family history of acne [20–22]. The average age of onset was 12.8 years, correlating with the typical onset of puberty in India [23]. Family history was associated with earlier onset [24–25]. Oily skin was identified as a common risk factor for acne development [26–27].

Knowledge gaps about acne were apparent among participants, with many needing to be aware of its curability [28]. Typical aggravating factors included sunlight exposure, sweating, and dandruff, which worsens in summer [29]. Most participants did not consult physicians for their acne, primarily seeking treatment only for severe cases [30]. Medicated products were the preferred treatment choice,

although many opted for alternative remedies. Interestingly, friends and family were the primary sources of treatment information, highlighting a potential area for improved medical education and outreach.

The GAGS classified most cases as mild, but self-reported severity often differed, suggesting a discrepancy between clinical assessment and personal perception [31]. This underscores the subjective nature of acne's impact on individuals. The study also found a significant association between treatment duration and acne severity, indicating that more extended treatment periods may lead to better outcomes. These findings emphasize the need for comprehensive, long-term management strategies and better patient education in acne treatment [32].

MERITS

This study provides valuable insights into acne prevalence, management practices, and knowledge gaps among young adults, contributing to a better understanding of the condition's impact on this demographic. The comprehensive approach, covering various aspects from family history to treatment preferences, offers a holistic view of acne management in the community.

LIMITATIONS

The study's reliance on self-reported data may introduce some bias, potentially affecting the accuracy of specific findings. The sample size, while adequate, may limit the generalizability of results to broader populations. Additionally, the study's cross-sectional nature prevents the establishment of causal relationships between factors.

FUTURE DIRECTIONS

Longitudinal studies could benefit research by tracking acne severity and management changes. Incorporating objective clinical assessments alongside self-reports could provide more accurate severity measurements. Based on this study's findings, it could be valuable to investigate the effectiveness of targeted educational interventions. Exploring the impact of different treatment modalities on clinical outcomes and quality of life would further enhance our understanding of acne management.

CONCLUSION

Our study revealed significant knowledge gaps regarding acne management among young adults, with many unaware of its durability and a large proportion not seeking professional medical advice. Family history increases acne's risk and severity, highlighting the importance of early preventive measures. Sun exposure emerged as the primary aggravating factor, addressable through appropriate pharmaceutical products. Notably, many participants did not use medicated treatments, potentially missing opportunities for improved outcomes. While those with moderate to severe acne were more likely to seek medical opinions, there was an overall lack of awareness about treatment options. These findings underscore the need for targeted awareness strategies to educate the population about proper acne management. By improving our understanding of aggravating factors and treatment options, we can develop more effective regimens that address acne's clinical and psychological aspects, ultimately reducing its burden on young adults and improving their overall health and well-being.

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