Clinical Trends of Acne Vulgaris Patients in a Western India Tertiary Care Hospital: Descriptive Study

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Abstract:

Background and Rationale: This research aimed to give significant insights into the clinical patterns of patients in Western India who suffer from acne vulgaris. These insights can be helpful in the creation of effective treatment methods and preventative measures.

Research Question: The objective of this study is to provide a response to the research question by conducting an analysis of different patterns for acne vulgaris at a tertiary care hospital located in Western India.

Aim: In the context of a Western Indian tertiary care hospital, the purpose of this study is to provide specific information on the signs of acne vulgaris.

Hypothesis: The purpose of this research was to investigate whether or not the clinical patterns of people who suffer from acne vulgaris in Western India are different from those that have been described in other regions.

Materials & Methods: The study employed a cross-sectional methodology, collecting data from individuals with acne vulgaris at a particular time. One hundred teens, ages ten to eighteen, participated in the study; their average age was fourteen.

Results: Sixty-three percent were females and thirty seven percent were male patients; and seven point five percent were adolescents. Every single person was older than 10 years old, and the frequency of acne increased with each passing year, eventually reaching 96.0% of the general population. The most prevalent kinds of acne were comedonal acne, which impacted the face to a greater extent than any other part of the body (96.6% of cases), mild papular-pustular acne, which affected 31% of cases, and moderate papular-pustular acne, which affected 7% of cases. One-half of the adolescents said that they had a parent who suffered from acne, and almost one-fourth of them stated that they had previously attempted to cure the problem. Increasing age was related to a higher probability of exhibiting acne that was not classified as acne vulgaris (p<0.001).

Conclusion: Clinical patterns of acne vulgaris patients who were treated in a tertiary care hospital in Western India are the subject of this research, which gives important data on the subject. In order to establish the influence of lifestyle and environmental factors on acne vulgaris patients in various regions of India, more study is required to investigate the clinical patterns of acne vulgaris patients.

Keywords: Acne vulgaris; Puberty; Cosmetic products; Hormonal Changes; Adolescents; Dietary habits; Gender.

Introduction

The widespread skin disorder known as acne vulgaris can impact any age group. Symptoms include the development of skin lesions, cysts, and comedones. According to current estimations, global prevalence is 9.4 percent [1]. The rising prevalence of acne vulgaris among young people worldwide aligns with the current trend in India [2]. According to a plethora of studies, 40–50% of Indian youths have acne vulgaris [3]. Acne vulgaris is believed to affect up to 85% of those aged 12–24 [3]. This is a very high incidence of acne vulgaris. Many people outgrow acne by the time they are in their mid-20s; nevertheless, some continue to have

symptoms even into adulthood [2-4]. Acne that appears in adults is becoming more prevalent, particularly among females. The prevalence rates may be significantly greater in some communities or locations. For instance, research has demonstrated that acne vulgaris is more widespread in industrialized nations than in underdeveloped ones. This disparity may be attributed to variations in nutrition, lifestyle, and availability of medical treatment [5-8]. The high frequency of acne vulgaris can be attributed to several causes, including hormonal shifts throughout puberty and sex, genetic predisposition, dietary habits,

environmental influences, and lifestyle choices [5,6]. Acne symptoms can be made worse in some people by ecological variables such as pollution and humidity and by the use of specific cosmetic items [6,7].

Despite the fact that earlier research [4–8] has documented the prevalence of acne vulgaris and its clinical characteristics in a variety of populations, there is a lack of knowledge about the clinical tendency of acne vulgaris patients in Western India. Through the demonstration of the clinical patterns of acne vulgaris patients who were treated in a tertiary care hospital in Western India, the purpose of this research is to fill the information gap that has been identified. The purpose of this research is to give useful insights into the clinical trends of acne vulgaris patients in Western India, as well as data that may assist in the development of successful treatment programs and prevention measures. The objective of this study is to provide a response to the research question by conducting an analysis of the treatment patterns for acne vulgaris at a tertiary care hospital located in Western India. In light of this, the purpose of this research was to investigate the clinical characteristics of acne vulgaris patients who were treated in a tertiary care hospital in Western India. The purpose of this research was to investigate the idea that the clinical patterns of acne vulgaris patients in Western India are unique from those seen in other regions of the globe.

Materials & Methods

The purpose of this descriptive research was to investigate the clinical characteristics of acne vulgaris patients who were treated in a tertiary care hospital in Western India. Individuals who had been diagnosed with acne vulgaris at a certain point in time were the subjects of the data collection. This is an example of research that is conducted using a cross-sectional approach. The participants in the study were individuals who had been diagnosed with acne vulgaris and were being treated at the dermatology department of a tertiary care hospital located in Western India.

The participants in the study were those who fulfilled the inclusion criteria, which were a diagnosis of acne vulgaris, hospitalization for treatment, and a willingness to take part in the research activity. Patients who intentionally revoked their agreement, women who were pregnant or nursing, and those who had any other skin diseases that may have an influence on the findings were not included in the study. Since the research was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki, the Institutional Review Board of the hospital gave its approval to the study. All participants, including their parents, were required

to grant informed consent at the time of registration if they were under the age of eighteen. Additionally, the participants' ability to maintain their identity and privacy was always safeguarded.

Statistical analysis: The gathered data underwent a descriptive statistical analysis, and the results are presented as frequencies and percentages. Statistical analysis was performed using the appropriate tests to determine the degree of association between the clinical trends of acne vulgaris and other characteristics, such as age, gender, and duration of experience with the condition.

Results

A tertiary care hospital operates with a selection of patients that is completely at random. There were 37 males and 63 females in the sample, and their ages ranged from 11 to 18. There was no statistically significant difference between the sexes, as shown by the statistical analysis (p = 0.956), which revealed that 95.2% of females and 94.8% of men were equally affected (confidence interval [91.8; 97.8]. There was no statistically significant variation in the prevalence of the condition between the ages of 10, 11, 12, and 13 (91.8%, 94.4%, 92.7%, and 96.6%, respectively; p=0.837; chi-square test of a prevalence trend). This was determined by comparing the prevalence of the disease at each age. But as individuals became older, the frequency of the occurrences rose. Due to the fact that every kid above the age of 14 has acne, it was impossible to determine the confidence interval for 95%. This was because every student was affected by acne. The prevalence of comedonal acne was significantly different, at 62 percent - 95% confidence range [57.6%; 66.8%]; mild acne was next, at 31 percent - 95% confidence interval [27.4%; 35.8%]; and moderate acne was at 7 percent.

The most often afflicted areas were the face (98.6% rate of occurrence) and the face and trunk (1.4% incidence rate). The participants' first bouts of acne developed between the ages of three and eighteen, with a mean age of 12.6 years (standard deviation = 2.7 years) and a median age of 12.0 years. Twelve and fourteen-year-olds were the most common age groups, with 51.5% of patients receiving an acne diagnosis. There were just five teens who reported using oral contraceptives, or 0.8 percent of the total.

A woman attained menarche at an average age of 11.8 years, with a mean of 9 years and a median age of 12. Of the one hundred students surveyed, twenty, or twenty percent, said they had previously had acne treatment. This might involve applying oral pills and cleaning your skin with or without using tablets, topical therapies, or oral pharmaceuticals. About 51% of the kids reported

that one or both of their parents had a genetic predisposition to acne, and many of the parents had graduated from a recognized college or university. Most respondents said that their parents experienced acne when they were teenagers. There was evidence of acne lesions in twenty-five percent of mothers and sixteen percent of fathers. Overall, 62% of participants reported seeing acne in other family members; 32% named their siblings, 35% noted their cousins and 15% indicated their uncles or aunts. Since it was discovered that all teenagers who were 14 years old and older had anxiety, the study of the traits associated with anxiety was limited to those teenagers who were between the ages of 10 and 14.

Since no teens were smoking, the connection has not been looked into. The logistic regression models were not used to thoroughly examine the data since no statistically significant correlation was found between the variables under investigation and the presence of acne. Lesions were categorized as comedonal or non-comedonal acne based on their appearance due to the small number of instances that match non-comedonal acne. Age, previous treatment, acne type, and comedonal acne prevalence are all statistically significantly correlated (p <0.001 for all three factors). It was discovered that the likelihood of developing non-comedonal acne increases with age using the chi-square test of trend (p for trend <0.001).

Discussion

It is primarily due to the clinical characteristics and processes that were applied, which include clinical tests and interviews carried out with the help of a dermatologist. This is because the incidence of acne among adolescents differs from one study to the next.

Patients' perceptions of acne and the diagnosis doctors provide do not always correlate, which might be connected to the fact that conflicting outcomes can be attributed to comparisons [9]. As an additional point of interest, we concur with the perspectives of a few authors who have said that the mere existence of comedones, regardless of whether they are open or closed, is sufficient to establish the diagnosis of acne [10]. Many people believe that for the diagnosis to be appropriately regarded, there must be more than twenty lesions, including those that are inflammatory [11]. This is something that many people believe. It was determined that the presence of a single comedone was sufficient for the diagnosis of acne [11], according to research findings.

There was a 68.5% prevalence of acne in males, whereas the prevalence of acne in females was found to be 59.6%. A further investigation revealed that the prevalence rate was just 27.9% among males and 20.8% among girls [10]. This was the conclusion reached by the researchers. It has been observed that the prevalence rate among adolescents falls somewhere in the region of 70 to 87 percent on average, and no essential variations are seen between countries [10]. According to the reports [8,9], acne was a problem that affected each preteen and adolescent. There was a range of 90 percent to 100 percent in the prevalence of acne across the three examiners, with 96 percent being the average prevalence. The prevalence of this condition is far more extensive than what has been recorded in the scientific literature in the past [10]. An agreement was reached among the examiners about the severity of acne, which included the observation that the comedonal variety was the most prevalent type of acne.

Research looking at the relationship between gender and age found that acne affected 62% of girls at 12, 84% at 16, and the maximum frequency between the ages of 15 and 17. Acne was most common among boys and men between 17 and 19, according to several studies [10,12]. When boys were 12 years old, 40% had acne; by the time they were 16 years old, 95% had acne. Our study showed that 95.9% of male teenagers get acne. However, there was an age-related rise in the prevalence of acne among female teenagers, which was constant at 96.1%. Among the tested teenagers, 21 (or 21% of the total) had received acne treatment in the past. When asked about their experiences with acne, 67.3% of the students surveyed in a New Zealand study said they had it [13]. They reported significantly more difficulty getting medical treatment than students who did not mention having acne (46.0% versus 13.3%, OR 5.29) [13]. The results showed this to be true when looking at the pupils who brought up acne and those who didn't [13].

Most acne that occurs in younger people is non-inflammatory, which separates acne that develops later in life from acne that arises in younger persons. Acne that appears later in life is characterized by not being inflammatory. Increases are associated with advancing age. The skin becomes more prone to colonization by Propionibacterium acnes and other bacterial species due to the accumulation of sebum, which makes the skin more prone to acne. Papules, pustules, and nodules are examples of inflammatory lesions that can be caused by these bacteria, which can cause an immune response and contribute to the development of these lesions. Comedones and follicular plugs are present in the young. However, the amount of sebum generated is inadequate to maintain the proliferation of bacteria [14].

During this study, we discovered that children under 12 years old had a higher frequency of comedonal acne. However, adolescents older than

13 years old had a more significant tendency to develop acne that was not comedonal. This was the case for both male and female adolescents, respectively. When compared to males, girls often experience the first signs of acne at the age of 11. In contrast, boys typically experience it at 12 [15]. At the moment, this is the agreement that has been made between the parties on the matter.

The results of a research [16] indicated that the average age at which acne symptoms appeared in females was 14.3 years, with a standard deviation of 4.1 years. According to the findings of the study, the standard deviation was 4.1 years. Recent studies have shown that acne may appear in youngsters as early as eight or nine years old. This is the age at which acne first appears. According to epidemiological research, puberty may start sooner than previously thought [14]. This conclusion is consistent with such findings.

A positive link exists between age and the incidence of inflammatory acne. In contrast, a negative correlation exists between age and the development of comedonal acne. Additionally, there is a correlation between the two types of acne. According to the study's findings, the frequency of acne that was not caused by comedones was found to be much more significant in adolescents aged 14 and older.

There is a potential that this cross-sectional investigation will somehow be under the impact of prejudice. The probability of developing inflammatory acne began to increase significantly at 13. By time adolescents reached 14, acne was present in every one of them. This trend continued until the age of 14. The severity of acne often worsens with age, and this is something that most individuals experience as they get older.

When evaluated, it is possible that older children have a greater prevalence of acne than younger children. Specifically, this is since severe forms of acne tend to persist for longer periods of time. During the clinical examination, about one in every four patients did not acknowledge having acne in their trunks. This was done to assess the prevalence of acne in the trunk, which was determined via the medical examination. It was revealed that almost seventy-five percent of the persons who took part in the research expressed an interest in obtaining treatment for trunk lesions [17]. The degree of acne vulgaris that was seen on the trunk was typically mild to severe in most instances.

On the other hand, the trunks of three percent of the adolescents who took part in our study were discovered to be covered with acne. Ninety-eight percent of all instances were found to be affecting the face, making it the most often impacted site. There was a familial history of acne in the fathers of 17% of teenagers who had acne, and 9% of those who did not have acne had a positive acne family history, according to the findings of epidemiological research that was carried out in French schools [10,11]. The study was conducted in France [11]. Compared to the fourteen percent of mothers who did not have acne, twenty-five percent of mothers were impacted by acne [11]. This is a much more significant percentage [11]. A comparison was made between adolescents who suffered from acne and those who did not have the condition, and the results demonstrated that both brothers and cousins were affected by acne simultaneously. It is not uncommon for there to be a link between the presence of severe acne or a diminished response to oral medications like cyclins and a genetic vulnerability to acne in the parents [10].

This is something that happens often. It was shown that there was no statistically significant association between the incidence of acne in adolescents and their dads or mothers, despite the fact that practically all patients with acne reported having a parent who had a history of acne when they were teens. Despite the fact that virtually all patients with acne reported having a parent who had a history of acne, this was the situation. The likelihood of having inflammatory acne was not statistically significant; however, there was a modest increase in the likelihood of acquiring the disease in adolescents who had siblings who were afflicted by the disorder. According to the findings of previous research, there is a significant likelihood that hereditary factors are the cause of this conclusion [16,17].

This is consistent with the findings of further investigations. A similar trend was also identified regarding parents with lower education levels, which implies that this may indicate a diminished understanding of the disease or more substantial impediments to early treatment.

In addition, this pattern was detected with respect to parents with lower education levels. Compared to the rate published in the literature, around 20%, the prevalence of moderate to severe inflammatory acne in adolescents was 9% in this study. This represents a significant drop from the reported rate [17].

Conclusion

In a tertiary care hospital in Western India, this research aimed to assess the clinical patterns of acne vulgaris patients undergoing therapy at that facility. Face and trunk were affected more commonly than other sites. Acne vulgaris Grade 1 and grade 2 were more frequently seen. It is critical to do more research to determine how environmental and lifestyle variables impact the acne vulgaris patient's clinical pattern throughout India.

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