
Acne Vulgaris and Quality of Life

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Abstract

Acne vulgaris is a chronic inflammatory disease of pilosebaceous glands & is the leading cause of visits to dermatologists. It is common during adolescence, which is a time period of physical and emotional development. Acne involves the face affecting one's view of beauty and self worth, thus a person already susceptible develops significant psychosocial disability resulting in anxiety, anger to depression. Assessing QoL at baseline provides important information about patients perceptions at the start of the therapy and an added perspective to the assessment of new therapies. But the scarce use of QoL tools is a major hindrance to developing a strong relationship between patients of acne and their mental health services. Quality of life measurements in acne vulgaris can be basically divided into two types ie, either Dermatology Specific Measures or Disease Specific Measures. Thus, taking this into consideration, the purpose of this article is to explore "Acne vulgaris and Quality of Life". Hence, "subjective" impairment in the Quality of Life has to be addressed conjointly in addition to treating the acne according to its severity for a comprehensive management of the patient.

Keywords: Acne Vulgaris; Quality of Life; DLQI.

Introduction

Acne vulgaris is a chronic inflammatory disease of pilosebaceous glands. It is believed to be the most common disease of skin affecting more than 80% of adolescents [1] and is the leading cause of visits to dermatologists. The main etiopathogenesis of acne can be describes as inflammation, follicular hyperkeratinization, androgens, P acnes bacteria and increased sebum production.

Adolescence is a time period of physical and emotional development. Acne involves the face affecting one's view of beauty and self worth. A person already susceptible develops significant psychosocial disability resulting in anxiety, anger to depression. The levels of social, psychological and emotional impairments in acne is comparable with chronic diseases such as asthma, epilepsy, diabetes and arthritis. The most severe forms of acne vulgaris occur more frequently in males, but the disease tends to be more longer-lasting in females [2]. The understanding of the psychosocial impact of acne in Indian population is still poor as it is not considered an important aspect of treatment. Such an impact however can

be difficult to predict because of the presence of many underlying factors such as patients' age and gender, psychosocial developmental period, clinical severity of the disease, family and peer support systems, personality coping styles, and other underlying psychopathology. Thus, taking this into consideration, the purpose of this article was to explore "Acne vulgaris and Quality of Life"

WHO defines QoL as the "individual's perception of their position in the context of culture and systems in which they live and in relation to their goals, expectations, standards, and concerns". [3]. Firstly, assessing QoL at baseline provides important information about patients perceptions at the start of the therapy. So if the quality of life is measured in addition to the improvement clinically seen, it provides an added perspective to the assessment of new therapies which will then be considered as a patient oriented outcome.

It has to be kept in mind that treatment may substantially improve Quality of Life scores or sometimes the opposite may happen in the early stage of the treatment, especially when irritating therapies such as topical retinoids are employed.

Such situations may then require counseling against stopping the treatment during the initial flare up of lesions. The impact of acne on QoL also adversely influences adherence as effective therapy improves adherence [4].

Currently, not many clinicians use Quality of Life indices to formally assess a patient. Of course, most clinicians do take into account their perception of the Quality of Life of the patient when making certain decisions (e.g starting isotretinoin in acne) but unfortunately clinicians are not as good at these estimations of QoL as they think they are [5]. A simple but objectively validated Quality of Life may help in making more appropriate decisions, and also clearly documents justification for starting expensive drugs or drugs associated with risks.

In the present scenario, majority clinicians are inexperienced to properly use the Quality of Life indices even after they are scored. The minimal score that is of importance to the patients should be known and some idea of the absolute meaning of scores from a patient's point of view also should be understood.

Quality of life measurements can be basically divided into two types. It can be either

1. Dermatology Specific Measures or Disease Specific Measures
2. Dermatology specific measures

It has increasingly become clear that a lot of skin diseases ultimately affect the individuals in the same way regarding quality of life. Several such indices have been developed that can be used universally. Examples include Dermatology Life Quality Index (DLQI) , Dermatology Quality of Life Scales (DQoLS) , Skindex and Dermatology-specific Quality of Life instrument [6].

The Dermatology Life Quality Index (DLQI)

This is one of the most widely used indices, described in at least 36 skin diseases [7]. The DLQI consists of 10 questions with simple tickbox answers scored from 0 to 3. The mean answer time is two minutes and it aims to measure how much your skin problem has affected your life "over the last week" [8] DLQI is a validated questionnaire which grades QoL by assessing the following domains: (a) physical symptoms and feelings (questions 1 and 2), (b) daily activities (questions 3 and 4), (c) leisure (questions 5 and 6), (d) work/school (questions 7), (e) personal relationships (questions 8 and 9), and (f) treatment (question 10). Each question is scored

as "very much" (score 3), "a lot" (score 2), "a little" (score 1), and "not at all" (score 0). Final DLQI score is the sum of all scores (range 0–30). High scores indicate poor QoL. DLQI score interpretation is done as follows:

- 0–1 no effect on patient's life
- 2–5 small effect on patient's life
- 6–10 moderate effect on patient's life
- 11–20 very large effect on patient's life
- 21–30 extremely large effect on patient's life.

In a study conducted by *Neirita Hazarika et al*, it was observed that 91% patients had elevated DLQI scores, with mild effect (score 2–5) being the most common (33.3%). None of the patients had DLQI score >20 (extremely large effect). Statistically significant association was noted between DLQI scores and variables such as the age of the patient, duration and grade of acne, acne scar, and postacne hyperpigmentation [9]. In another study conducted by *Sai Yee Chuah et al* measuring the impact of post-acne scars on QoL, it was found that mean DLQI score was 5, and majority of their patients were affected by DLQI questions two, five and nine, i.e. they were self-conscious (36%), felt that their post-acne scars was affecting their social activities (24%) and interfered with them going out or shopping (18%) [10].

Skindex

A validated measure of skin disease quality of life, developed by Chren *et al*. [11], was administered. The 61 item self-administered instrument has eight scales, each of which addresses the cognitive effects, social effects, depression, fear, embarrassment, anger, physical discomfort, and physical limitation. It takes into account the subject's perception in the last four weeks. In a study published by *Guwneet K Pruthi* [12], Skindex was used for measuring the Quality of Life. They found that most of the subjects responses were extreme, that is, toward the negative side, in the items determining physical discomfort, and therefore, the total average score and the percentages were also higher. The intermingling effect of acne was also noted wherein, the physical discomfort of redness and pain of acne inculcated feelings of depression and anger and in turn restricted the participation of the participants in social gatherings.

Acne Specific measures

Acne-specific measures include acne disability index (ADI), Cardiff acne disability index (CADI),

assessment of the psychological and social effects of acne (APSEA), and acne quality of life (AQOL) [13]. Others are Acne QOLI: Acne Quality of Life Index and Acne QOL: Acne Specific Quality of Life Questionnaire CADI is a well validated, self reported questionnaire consisting of five questions with a Likert scale and four response categories (0-3). The five questions relate to feeling of aggression, frustration, interference with social life, avoidance of public changing facilities, and appearance of the skin all over the last month and are an indication of how bad the acne is now. The final score ranges from 0 to 15. High scores indicate a higher level of disability. CADI identifies the area of concern in patients with acne. In a study conducted by Nair *et al*, acne vulgaris was graded by using a combination of skin disease specific (Dermatological Life Quality Index (DLQI)) and acne specific (Cardiff Acne Disability Index (CADI)) questionnaires. It was observed that there was a large impact on QOL in 68.94% based on the CADI score. And as per the DLQI score there was a moderate to extremely large impact on the Quality of Life in 75.1% of patients. However, this study showed no significant difference in quality of life issues based on gender [14]. There was no correlation found between age group and skin type with any of the QOL scores. Overall according to this study, Indians appeared to accept acne more readily and its impact on QOL in our populations was of lower magnitude [15]. In another study conducted by Priya Cinna T Durai *et al*. [16], acne vulgaris was graded using a combination of skin disease specific (Dermatological Life Quality Index (DLQI)) and acne specific (Cardiff Acne Disability Index (CADI)) questionnaires [16]. In their study, age of patients were significantly associated with the CADI scoring and the age groups 18-21 and 26-30 years had more significant correlation with CADI score, which indicates that severity of acne worsens as age advances, affecting the QoL. This may be because of the increased exposure to social, occupational functioning, and the treatment seeking behavior being at higher rates than before. The negative impact being more as age advances was reported by various other studies [17,18]. Acne impact on the QoL based on the type of occupation was also significant in their study similar to studies done by Rapp *et al* [19]. Martin *et al*. [20] observed that the QoL in facial acne correlated with the patient reported severity (25%) and the QoL scores worsen with increasing severity. There was association between the acne severity of face and trunk than with face alone.

ADI [21] (Acne Disability Index) explores psychological, physical, recreational, employment, selfawareness, social reactions, skin care, and financial dimensions in a form of 48 questions.

APSEA [22] (Assessment of the Psychological and Social effects of Acne) Nine items are scored on a linear visual analog scale from 0 to 10 and six items by response selection with score allocation of 0, 3,6, and 9. The maximum achievable score of 144 represents the greatest disability. The response to clinical change observed in patients is an efficient alternative to an indepth psychological assessment, especially in patients with signs of preexisting psychopathological comorbidities such as depression.

AQOL [23] (Acne Quality of Life) The individual scores were based on a 0-3 scale, the higher scales (maximum is 27) reflecting greater morbidity. It is an accurate psychological measure for patients without serious psychopathology. The components of the questionnaire were less, hence it can be completed more rapidly.

AcneQOLI [24] (Acne Quality of Life Index) Covers social, psychological, and emotional functioning . It has very good internal consistency and excellent test retest reliability and validity. Depression related feelings were well addressed.

AcneQOL [25] (Acne Specific Quality of Life Questionnaire) It has four subscales namely: Self-perception, role-emotional, role-social, and acne symptoms. Instrument scoring is accomplished by summing the responses within the subscales to yield four overall domain scores. It can be condensed into 19 questions. Although responsive to clinical change it only addresses facial acne.

In various studies that have been conducted for the same, differing results have been found based on the scale for measuring the quality of life that they have used.

Utility measures

The methods of measurement of QoL described above consist of specific questions about the actual experiences of patients. An alternative approach is to try to understand the "value" that patients place on their disease or on being healthy. This "utility" approach can use hypothetical questions relating to time trade off or financial trade off. It is effective and simple for the patient to understand, and often has a better compliance as an objective method. This is because the patients can put a value or a price on their illness to explain how much it affects then

instead of trying to sort through their perspective on their quality of life. For e.g patient is asked "If there was a simple permanent cure for your skin condition, how much would you be prepared to pay for the cure?" with possible amounts [26].

Thus various studies have used different indices for measuring the Quality of Life in Acne patients. A common consensus can definitely be drawn that there is a need to assess the QoL of acne patients before starting treatment in all cases. The QoL may generally vary based on the age of the patient, gender, occupation, duration and grade of acne, acne scars if present and post acne pigmentation.

The negative psychosocial impact of acne on QoL which is often ignored, correlates only partially with the traditional "objective" measures of its severity assessed by the dermatologist. But the reversal of the psychosocial impact occurring "proportionally" to the improvement in the severity of acne further justifies the simultaneous resolution of impaired QoL and acne severity for the best therapeutic outcomes [27].

The Cardiff Acne Disability Index is the most commonly used specific QoL instrument for acne [28] and DLQI is most commonly used in skin specific indices. CADI has self explanatory" questions designed specifically for use in teenagers and young adults, can usually be completed within minutes and has been transculturally adapted into many languages including Hindi.

Conclusion

Chronic nature of acne affects everyone universally but is significantly more in adolescents, particularly with facial acne, older women, therapy resistant/atypical acne, in patients with psychiatric disorders, and in body dysmorphic disorder irrespective of acne severity.

Hence, "subjective" impairment in the Quality of Life has to be addressed conjointly in addition to treating the acne according to its severity for a comprehensive management of the patient. Incorporating this into routine clinics may decrease the time spent in the patient encounters. But the scarce use of QoL tools is a major hindrance to developing a strong relationship between patients of acne and their mental health services.

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