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Factors Underlying Perceptions of Quality of Life Among Acne Patients in R. N. Macedonia

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Abstract

Introduction: Acne vulgaris is a disorder of the pilosebaceous units. It is a chronic inflammatory dermatosis notable for open/closed comedones, papules, pustules, nodules. It is characterized by open comedones, closed comedones and pustular nodules. **Aim of study:** To examine factors underlying the quality of life of people with acne. **Materials and method:** A total of 576 respondents were included in the study. Acne specific Quality of Life questionnaire was used for this purpose. A prospective cross-sectional study was conducted, performed in private dermatological clinic as well as on-line. All analyses were conducted by using the SPSS.26 for Windows. **Results and Discussion:** 5.7 % were males and 94.3 percent were females. About 69.4% were aged between 15-25; 16.7 % between 26 to 30; 8.8% between 31 to 35 years old. Quality of life and emotional perception towards the social environment is demonstrated by the three components (self-perception of discomfort, functionality, and social factor). The reliability levels for the three components were .858 for self-perception of discomfort, .779 for functionality and .745 for the social factor. The factor analysis discovered three underlying factors: self-perception of discomfort, social factor and functionality in daily life. **Conclusion:** The findings confirm the general notion that people with acne have problems in quality of life and therefore special attention to psychological intervention should be given in the treatment of acne.

Keywords: Acne Patients, Perceptions, Quality of Life, Factors

1. Introduction

Acne vulgaris is the commonest cutaneous condition treated by physicians (Pochi, 1990). It is a chronic, self-limiting inflammatory disorder of the pilosebaceous units (Kaushik et al., 2017). Acne as a chronic inflammatory condition involves four elements: the sebaceous gland, the follicular canal epithelium, a bacterium called *Propionibacterium acnes* and innate cutaneous immunity (Pawin et al., 2004; Cunliffe et al., 2004). Although acne is a benign condition which causes mainly cosmetic disfigurement, it can greatly affect the quality

of life of the patients. Since its introduction in the medical literature in the 1960s, the term “quality of life” has become increasingly popular in recent decades (Post, 2014). The root of the QOL concept goes back to the 1947 when the World Health Organization (WHO) defined health as a “state of complete physical, mental and social well-being, and not merely the absence of disease and infirmity (World Health Organization, 1947). The term “well-being” although confusing and not thoroughly defined, incorporated issues like psychological and mental factors into the concept of health. The majority of methodologists in the health and the social sciences have followed this definition and adopted a policy of incorporating at least 3 dimensions in any scale to measure QOL, namely physical function, mental status, and ability to engage in normative social interactions (Spitzer, 1987). Many studies have shown the negative impact of acne on the quality of life of acne patients, taking into consideration different perspectives of the problem and measuring different factors (Chernyshov et al., 2018; Vilar et al., 2015; França and Keri, 2017; Durai and Nair, 2015; Eyüboğlu and Eyüboğlu, 2018). Although acne is a self – limiting condition for the period of time that it lasts, it is perceived as a stressful condition to an individually different extent and affecting many different aspects of the quality of life of the acne patient. This can be understood by the fact that the skin and especially the face are important self-presenting factors towards the outside world and therefore even small number of lesions can impair the quality of life and factors like feeling dissatisfied, embarrassed and experiencing low self-confidence can emerge. Acne patients can feel unattractive to a different extent and that can have psychological impact on the patient, which can result in becoming introvert, refusing to communicate with peers, poor focus on school or work. The social environment can enhance this behaviour with actions such as bullying, avoiding and rejecting the friendship with the acne patient. It has to be taken into consideration that acne mostly affects teenagers and adolescents at a vulnerable phase when self-confidence and social abilities have to be developed, but instead this skin disease can have negative functional and emotional effects on their personality (Ismail and Mohammed-Ali, 2013). Therefore, acne is not a trivial disease in comparison with other chronic conditions (Jones-Caballero et al., 2007) and special attention has to be given to the psychological aspects of this skin disease. The aim of our study is to identify the factors that are perceived by acne patients in R. N. Macedonia and have impact on the quality of their life.

2. Method

The Method section describes in detail how the study was conducted, including conceptual and operational details. A prospective cross-sectional study was conducted. It entailed a combination of interviews in private dermatological clinic as well as on-line. The research was conducted in duration of three months from January until March 2020. A total of 576 were questionnaires were collected (convenient sample of people with acne). Keeping abreast with previously conducted studies in healthcare settings, a sample size of minimum 500 respondents was envisioned.

For the purpose of this research a special questionnaire was designed, which consisted of close-ended questions that incorporated previously designed questionnaires (Gupta et al., 1998; Al-Shidani et al., 2015). Besides using the original sections of the instrument, several additional sections were deployed in order to enable gathering data which will reflect the situation with acne in R. N. Macedonia. These new sections contributed to understanding the in-depth views of the patients on quality of life with acnes. The questionnaire consisted of: a set of demographic questions (gender, age and profession) 6 questions concerning self-evaluation of severity of acne, 7 questions about self-perception of quality of life of acne patients, and 6 questions about self-evaluation of social factors using Likert scale with scores from 1-5. After the completion of field work and check for quality of the completed questionnaires, they were coded and processed.

Descriptive statistics were used to describe the demographic characteristics of the sample. All analyses were conducted by using the SPSS.26 for Windows. The survey was conducted on the basis of confidentiality, anonymity and voluntary participation. Written consent was not required to preserve the anonymity of the participants. Nevertheless, none of the reports prepared on the basis of data obtained from the study contain information to identify any of the participants.

3. Results

Out of all respondents, 5.7 percent were males and 94.3 percent were females. About 69.4 percent were aged between 15-25; 16.7 percent aged between 26 to 30; 8.8 percent aged between 31 to 35. The sample comprised a comprehensive mixture of generational cohorts and can be assumed as a representative sample of the population. The complete demographic profile of the participants is given in Table 1.

Participants responded to overall severity of acne which affects certain parts of their body. They provided self-perception about acne such as extent to which part of the body was affected with acne. The results from the question where they have the biggest number of acne on the body: face, back, chest and shoulder on a scale from 1-5; 5-10; 10-20; 20 and more are given in Table 3. The location of acne is presented in Table 2. In the same context, the participants responded to the question related to severity of acne symptoms affecting their face: redness or inflammation of the face, acne pustules, oily skin from the acne, scars from the acne where the result prevailed on redness or inflammation of the face (Table 4).

Table 1: Demographic profile of participants

Options	N	%
Age	561	
15-25	399	69.4%
26-30	96	16.7%
31-35	50	8.7%
other	5	0.8%
Gender	575	
Male	33	5.7%
Female	542	94.3%
Occupation	571	
Pupil	73	12.7%
Student	240	41.7%
Employed	202	35.1%
Unemployed	56	9.7%

Table 2: Location of acne

Location of Acne	Face	Back	Chest	Shoulders
N	556	210	93	148

Table 3: Number of acne on the body

No	Frequency	Percent
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1-5	92	16.0
5-10	208	36.2
10-15	89	15.5
10-20	66	11.5
20+	116	20.2
Total	571	99.3

Table 4: Severity of Acne

Measures	Redness or Skin Inflammation	Acne Pustules	Oily Skin	Acne Scars
Mean	2.01	2.09	1.78	1.82
Std. Deviation	.656	.671	.703	.733

Participants responded to one section of the questionnaire rated as a Likert scale on quality of life of patients with acne on a scale from 1 to 4: extremely a lot, very much, little, not at all. The question items were developed based on the literature review. All items are provided in the Factor analysis at Table 5. Principal Component analysis (PCA) was used to analyse the Likert Scale of 2 sections (12 items) of the research tool: quality of life and emotional perception towards the social environment. The Kaiser Meyer Olkin (KMO) sampling adequacy measure was .882 and Bartlett's measure was significant ($p < 0.001$). The factor loads showed in the Table 5, explained 63 percent of total variance after using Oblimin rotation and produced three main factors. Assessment loaded items on each component showed a high degree of individual item reliability, as all items have loadings of greater than 0.50 on each component. From the Table 4 is can be seen that the three main components of the PCA including, self-perception of discomfort, functionality and social factor. The reliability measure for each component was tested with Cronbach's Alpha (α). All component measures were greater than .745 as it is indicated in the Table 5, which shows strong internal reliability among components. The reliability levels for the three components were .858 for self-perception of discomfort, .779 for functionality and .745 for the social factor.

Table 5: Factor analysis

Factors	1	2	3
Cronbach's Alpha (α)	.858	.779	.745
Feeling dissatisfied	.826		
Feeling embarrassed	.805		
Self-Confidence/Self-esteem	.791		
Feeling Unattractive	.768		
People Pick On Me		.858	
People bullying on me		.855	
People stare at me	-	.704	
People avoid me		.530	
Feeling rejected			.815
Low Performance at school			.779
Difficulties with the social environment			.712
People are friendly	-		.533

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 8 iterations.

4. Discussion

There are various discomfort outcomes when it comes to quality of life related to acne. The aim of the study was to discover which difficulties patients with acne face in their daily life. The study examined factors that are perceived by acne patients in R. N. Macedonia and have certain impact on the quality of their life on 12 items (Table 5). This was conducted with a principal component analysis that was used to determine the main factors which influence the quality of life among patients with acne. Those loaded factors suggested presence of three main dimensions in regard to the effects of acne on the quality of life – personal appearance or self-perception and the social environment towards the person with acne. The dimensions consisted of 4 items each with total accounting of loaded factors of 63 percent of total variance. This path estimate of the suggested model provides insights into relationships among various constructs. Also, the reliability and validity of the factor scale were assessed in various ways, and the scale was found to have good reliability and validity across different patients with acne and quality of life.

Therefore, different items were empirically tested among people with acne in order to get the underlying factors. The analysis revealed three factors related to discomfort in everyday life of patients with acne. The factor analysis discovered three underlying factors: Self-perception of discomfort, social factor and functionality in daily life. High loading on the three subscales provides proofs about existence of different difficulties that persons with acne face in their life.

The first factor included dissatisfaction with personal appearance as the highest, embarrassment, feeling of unattractiveness to others. This factor clearly shows the psychological issues that persons with acne face. This is related to self-image and presentation to others and therefore it could be harmful in the long term as stated in the literature (Kotekoglu et al., 2020).

The second factor is about the impact of the environmental or social factors and their perceived influence on acne patients. The items that belong to this factor are: picking on people with acne, bullying, staring and perception of avoidance. (Magin et al., 2008). This is clearly an indicator that personal appearance could lead to experiencing negative consequences from the environment.

The third factor includes feeling of abandonment, low performance at work, difficulties with adapting to the environment and possible friendly approach by others. (Hazarika and Archana, 2018). This is the most dangerous factor because it affects the mental health and therefore it deserves special attention in the treatment of acne.

Due to the fact that the appearance is of personal importance and reinforces different behaviours in social settings, and due to the fact that medical treatment of acne is a long-term process, the focus should be on therapy which would enable the patient to overcome this difficulty. The finding clearly shows a path for working with people with acne and the focus should be on enabling these people to function in the environment.

This study determines the factors underlying the perception of quality of life among acne patients in R. N. Macedonia. The main conclusions found are: dissatisfaction with personal look, embarrassment, feeling of unattractiveness and all these show the psychological issues that people with acne face. That relates to self-perception which is harmful in a way that obstructs everyday life of the patients with acne and are connected to low self-esteem which leads to isolation, promotes sadness, potentiates introvert character and various forms of depression too.

The environment also reacts to acne patients with bullying, staring and avoidance which potentiate the insecure and fragile character of an acne patient. The third factor connects with social interactions including sense of abandonment, poor performance at school, at work and difficulties in interaction with friends and partners. The findings confirm the general notion that people with acne have problems in quality of life and therefore special attention to psychological intervention should be devoted to the treatment of acne, apart from medical treatment.

Further testing of the three subscales needs to be conducted in order to check for prediction of other psychopathological measures. Also, there is a need for testing among different age groups and occupations to determine different outcomes related to presence of acne.

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