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QUALITY OF LIFE IN ACNE PATIENTS IN KING KHALID UNIVERSITY HOSPITAL, RIYADH, SAUDI ARABIA

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Abstract:

Objectives: The objective of this study was to assess the quality of life in acne patients in dermatology clinics in king Khalid university hospital, To correlate between quality of life (QOL) and severity of acne and to correlate between quality of life in acne patients and sociodemographic status.

Methods: We conducted a questionnaire among 135 acne patients. The severity of acne was obtained by using Global Acne Grading System (GAGS), Cardiff Acne Disability Index (CADI) used to assess the effect of acne on the quality of life. Spearman's correlation test used to correlate between CADI and GAGS, Pearson Chi-Square test used to correlate between CADI and sociodemographic.

Results: 61.5% of the sample had mild acne, 29.6% had moderate and 8.8% had severe acne. 46.6% had low degree of impairment in QOL, 36.3% had medium degree and 17% had high degree of QOL impairment. The correlation between CADI and GAGS was not statistically significant, p=0.219.the correlation between CADI and the sociodemographic also was not statistically significant.

Conclusion: Acne can affect quality of life negatively in varying degrees. The most common age group affected with acne is the younger age group in KKUH dermatology clinics and most of them have mild to moderate severity of acne .

These findings will help dermatologist and primary care physicians to see how acne can affect QOL, which in it self will help them make considerate decisions about their patients' treatment plans.

Key words: *Acne Vulgaris; QOL; CADI; GAGS; Sociodemographic.*

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INTRODUCTION:

Acne vulgaris is a chronic inflammatory skin disease, it is a very common among adolescence with prevalence reaching up to 80% [1], and it's estimated to affect 9.4% of the global population, making it the eighth most prevalent disease worldwide [2] characterized by areas of blackheads, whiteheads, comedones, papules, pustules and possibly scarring. Acne symptoms usually diminished at the age of 25, but may continue to the adult years.

Acne is often misjudged as a simple puberty related disorder by common people and even medical community, while scientific evidence shown that acne affects patients more than a simple skin disease [3]. The greatest psychological impact on acne patient was on self-image as study done in the Assir region of Saudi Arabia in 130 patients to know their Beliefs, perceptions and psychological impact of Acne vulgaris [4.]

The World Health Organization (WHO) defines quality of life (QOL) as the individual's perception of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns [5]. QOL has become a catchphrase within the medical profession. It is a relatively new area of research presently a scientifically measurable tool that can be validated. There are a lot of instruments designed to assess the impact of acne on QOL such as Acne Disability Index (ADI), Acne-Specific Quality of Life (Acne-QOL) questionnaire and Acne Quality of Life (AQOL) scale, but we used Cardiff Acne Disability Index (CADI) because it has valid Arabic version.

Based on studies was done, acne is important and affecting a large number of young group which they represent the dominant of the population [6], and impact of acne on the quality of life in different aspects such as psychological, functional, body image, and self-esteem of the patients' life. In addition, the daily activities also affected in some patients and some of them avoid going to school or swimming and also had problems in their relation building because of acne[7], and also can lead to suicide and major depression as many studies showed 8 thus why we studied this effect on hospital population, especially there is no enough studies have been done in our region that assess the QOL in acne patients. And will help us to provide better health care and may lead to change the management plan due to the severe impact of acne, and the information we will get on the way to achieve these goals will also help us in understanding how mild to severe acne affect the quality of life in patients who are suffering from acne, besides how different treatments as topical or Isotretinoin had an impact on quality of life whether in positive or negative way. Which indicate how serious medications as Isotretinoin used for mild acne to improve the QOL for patients who are suffering from psychological impairment due to acne [9.]

The aim of this study was to assess QOL in acne patients by using a CADI, study if the severity is associated with QOL impairment or not and if there is a relationship between QOL in acne patients and socio-demographic status.

METHODS:

Quantitative observational cross sectional study was running between September 2015 and April 2016. A convenience sampling included 135 patients who suffering from acne and attending the dermatology clinic at King Khalid University Hospital (KKUH) in Riyadh city. Self-administered questionnaire and face-to-face interview were conducted by Using a short demographic questionnaire, which include questions on age, gender, occupation, marital status and education level. A valid questionnaire was used in the Arabic version to assess QOL, which is Cardiff Acne Disability Index (CADI). CADI is designed for using in patients with acne. Consists of five questions include feelings, social relations and self-confidence changes for the last few months. CADI score is calculated by summing the score of each question resulting in a possible maximum of 15 and minimum of 0. The higher the score, the more the quality of life is impaired10 in addition; the severity of acne was obtained by using Global Acne Grading System (GAGS). Which depends on six locations, five areas on the face and one area on the chest/upper back. Each area evaluates separately from 0-4, 0 means that there is no lesion and 4 is the highest grade of lesions. At the end, the global score is a summation of all local scores. If the score between 1-18 consider as mild acne, and if it's from 19-30 consider as moderate acne, if it's between 31-38 consider as severe acne, eventually if the score more than 39 consider as very severe acne.[11] The study included All the patients' males and females above 18 years' old who are suffering from acne vulguris also pregnant women were included, Otherwise patients who have mimic acne skin diseases as rosacea, folliculitis, patients less than 18 years old or who have mental retardation were excluded. The consent form was attached to the questionnaire and indicates the purpose of the study, study plan, the outcomes of the study and signed by the patients who agree to participate in the study.

Data was analyzed by using the statistical package for social science (SPSS) version 21. Spearman's correlation test was used to correlate between CADI and GAGS scores. Pearson Chi-Square test used to obtain the correlation between CADI and other variables.

The ethical committee at King Saud University approved the study protocol.

RESULTS:

A total of 135 acne patients included in the study, 9.6% of them were male and 90.4% were female. 69.6% of the participations' age set between 18 to 25 year old, 98.5% educated, 76.3% were not married and 74.8% of patients had a family history of acne.

The overall GAGS mean and standard deviation were (15.72,8.6). 61.5% of the participants had mild acne. 29.6% had moderate and about 8.8% had severe acne. The overall mean and standard deviation of CADI score was (5.45,3.30). CADI score showed the majority of the participants had low degree of impairment 46.6%. While 36.3% had medium degree, and 17% had a high degree of impairment table1.

CADI questions was analyzed separately demonstrated in graph1 and showed, 39.3% had a little emotional disturbance, 55.6% reported that acne did not interfere with their social relationships, 67.4% did not avoid public changing facilities or wearing swimming costumes because of their acne, 38.5% Occasionally concern about their skin appearance and 44.4% thought their acne is a minor problem.

The association between GAGS severity of acne and CADI score was not Statistically significant (p= 0.219). There is no correlation between CADI Score and GAGS scale.

34.8% of younger age had low CADI score and similar percent had high score. 49.6% of female sample had high CADI score and 40.7% of them had low score. Unmarried patients, 39.3% had high CADI score and 37% had low score. 52.6% of educated patients had high CADI score, while 45.9% had low score. The association between CADI score and sociodemographic was not significant Table2.

Table3 demonstrates the association between CADI score and using different types of acne treatment. 25.2% have used topical treatment, 17.8% of them had high CADI score and 7.4% had low score. 74.8% have not used topical treatment for acne, 35.6% of them had high CADI score and 39.3% of them had low CADI score. This was statistically significant (p=

0.020). While, there was no statistical significant between CADI score and the using of isotretinoin (p=0.351). 67.4% have not used isotretinoin treatment for acne, 34.1% of them had high CADI score and 33.3% had low score. 32.6% have used isotretinoin, 19.3% of them had high CADI score and 13.3% of them had low CADI score.

DISCUSSION:

Acne is a very common skin disease in adolescents and younger age group7 which they represent 69.6% of our sample size. This is similar to a studies showed more than half of their sample size in the young age.[6,12,13]

Most of our participations were females, which is not surprising because usually female concerned about their skin and appearance, leading them to seek the medical advice. This result is similar to a study in Birjand in which 60% of their patients were females14 and a study done in Erbil found two third of the sample size were females.6 In contrast, a study reported more males than females suffered from acne.[12,15]

Almost all of the patients were educated 98.5% and 76.3% were unmarried. Which mainly because most of the patients are below the age of marriage and 99% of male and 97% of female are educated in Saudi Arabia regarding to Unicef statistics16 this result supported by studies in India10,13 and reported the majority of the patients were educated and unmarried.

The Predominance of our patients had positive family history of acne and they represent 74.8% of the sample, this is similar to a study reported high percent of their patients had a family history of acne.7 In contrast, a study done by A. A. Al Robaee13 there were almost one half of the patients 46.3% had a family history of acne while 53.7% they don't have any family history of acne which is also similar to a study done by Jelena Peri et al.[17]

Majority of our patients don't use treatment of acne 62.2% however a study done in Serbia and Makkah 17,18 reported majority of their patients used treatment for acne.

74.8% don't use topical treatment for acne 35.6 % of them had high CADI scores, this result supported by a study reported topically treated patients had better quality of life than patients receiving oral treatment13, those results may because some of oral treatment lead to depression and they had delay outcomes to decrease the severity of acne.19 On the

other hand, a study report that 70% of their patients who use oral treatment don't have depression.[16]
In our study the majority had mild acne 61.5%. Similar studies reported the same results.[5,18]
Half of the patients in the younger age group had high CADI scores, the rest of them had low scores. In contrast a study found most of the adolescents had low CADI score.[17]

In our study, 49.6% of female had high CADI score. In opposition to a study done in Nigeria5 showed inverse result that most of female had low CADI score. 52.6% of educated patients had high CADI score. Which showed similarity to a study done in alqassaim.[13] In contrast a study found no influence of educational level on CADI score.6 These findings may explained that education encourage for reading more about the disease which in its self increase the awareness and thinking.

There was no affection of marital state on the CADI score. Similar result in a study done at Erbil city.6
There was no correlation between CADI score and GAGS in a study done by Kokandi A.1 and this shows similarity to our study. In contrast to a study done in Nigeria5 and a study done at Hong Kong they found weak correlation.19 Although there is a study done in Malaysia found A strong correlation between facial acne severity and CADI21 and the cause of the differences in these studies may related to cultural or social thoughts that lead to affection on QOL in varying degrees.

The overall mean of CADI was 5.45 which is higher than a study done in Serbia17 and in Nijeria[.5]
71.1% of the participants in a study done in Malaysia 21 reported that they felt aggressive, frustrated or embarrassed as a result of having acne and that showed similarity to our study, from that we indicate that acne is not a simple disease affect only the appearance of the skin but it has a psychological outcome affect the quality of life and it's not a simple disease as some of physician think.

Acne did not interfere with the social relationships in most of our patients and did not let them avoid public changing facilities or wearing swimming costumes and that elucidate a similar result from study done in Nigeria and Serbia[5,17] which may related to the age, marital state, cultural and religious causes in most of patients' life, also it is uncommon in our region to expose much area during swimming, however In Malaysia[21] in question two 58.7% of patients have a problem with their relationships or members from opposite sex because of acne.

The majority of QOL impairment in our study occurred in question 4 and 5 in which they state on feelings about the appearance and realization how the disease is severe and that supported by a study reveal the same results.5In Serbia study[17] demonstrate that 42.9% of their patients had occasionally concerned about their skin and its similar to our result that 68.9% also they think it's a problem.

CONCLUSION:
Acne can affect quality of life negatively in varying degrees. The most common age group affected with acne is the younger age group in KKUH dermatology clinics and most of them have mild to moderate severity of acne.

These findings will help dermatologist and primary care physicians to see how acne can affect QOL, which in it self will help them make considerate decisions about their patients' treatment plans.

RECOMMENDATIONS:
Further studies should be done at different setting and different community level. Assessing the affection of different acne treatment on QOL. More studies should be done to know the role of hormones in acne & their affection on QOL. More Arabic version questionnaires have to be validated which can reflect our population.

ACKNOWLEDGEMENT:

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Abbreviations
QOL: Quality of Life, GAGS: Global Acne Grading System, CADI: Cardiff Acne Disability Index, WHO World Health Organization, ADI: Acne Disability Index, SPSS: Statistical Package for Social Science

TABLES AND GRAPHS:

Table1 Association between CADI score and GAGS

Degree of impairment of quality of life (CADI score)	Acne severity (GAGS score) n (%)					
	Mild acne (1-18)	Moderate acne (19-30)	Severe acne (31-38)	Very severe acne (>39)	Total	[1]p=0.219
Low (0-4)	40 (29.6)	20 (14.8)	3 (2.2)	0 (0.0)	63 (46.6)	
Medium (5-9)	33 (24.4)	10 (7.4)	5 (3.7)	1 (0.7)	49 (36.3)	
High (10-15)	10 (7.4)	10 (7.4)	3 (2.2)	0 (0.0)	23 (17)	
Total	83 (61.5)	40 (29.6)	11 (8.1)	1 (0.7)	135 (100)	

CADI, Cardiff acne disability index: GAGS, global acne grading scale
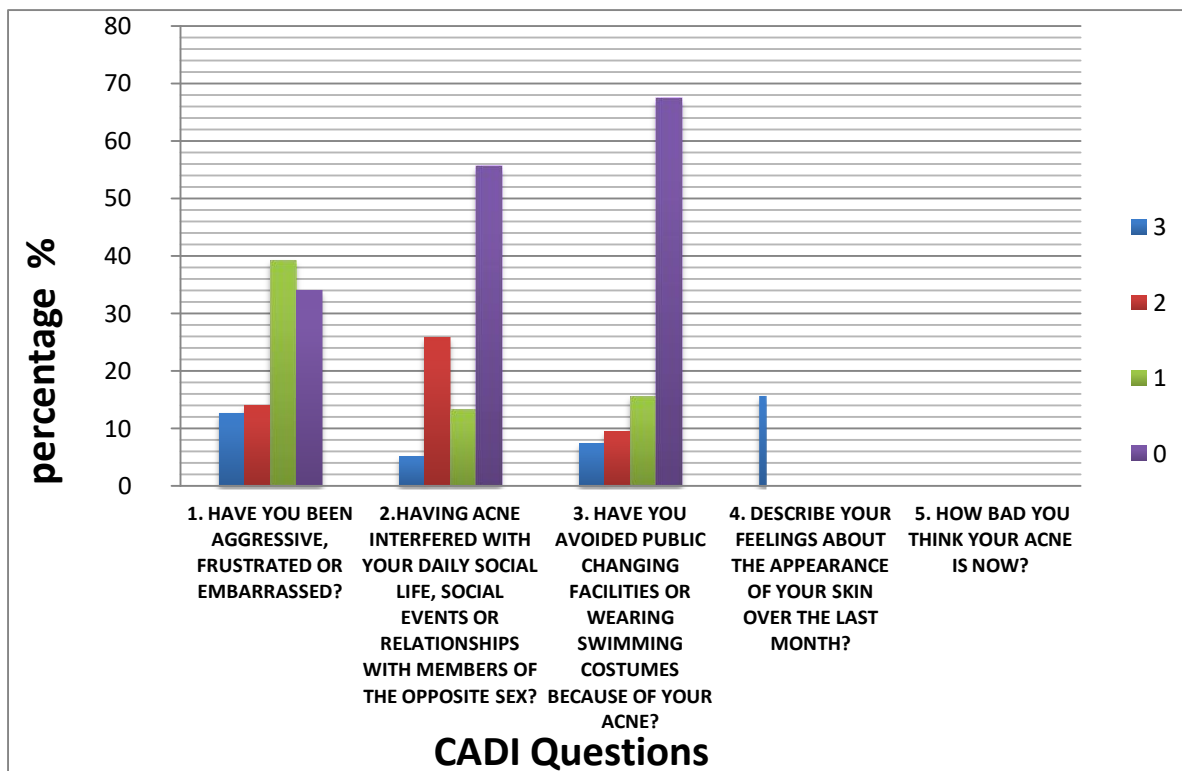[1]Spearman's correlation

Graph 1

Table2 Association between CADI score and sociodemographic

Degree of impairment of quality of life (CADI score)	Age[1] n(%)		Sex[2] n(%)		Marital status[3] n(%)		Educational level[4] n(%)		
	18-25	**26 ->39**	**Male**	**Female**	**Married**	**Unmarried**	**Educated**	**Uneducated**	[1]p=0.240 [2]p=0.258 [3]p=0.433 [4]p=0.924
Low (0-4)	47 (34.8)	16 (11.9)	8 (5.9)	55 (40.7)	13 (9.6)	50 (37.0)	1 (0.7)	62 (45.9)	
High (5-15)	47 (34.8)	25 (18.5)	5 (3.7)	67 (49.6)	19 (14.1)	53 (39.3)	1 (0.7)	71 (52.6)	
Total	94 (69.6)	41 (30.4)	13 (9.6)	122 (90.4)	32 (23.7)	103 (76.3)	2 (1.5)	133 (98.5)	

CADI, Cardiff acne disability index
Pearson Chi-Square

Table3 Association between CADI score and using of topical treatment and Isotretinoin for acne

Degree of impairment of quality of life (CADI score)	Topical treatment[1] n(%)		Isotretinoin[2] n(%)		
	Yes	**No**	**Yes**	**No**	[1]p=0.020 [2]p=0.351
Low (0-4)	10 (7.4)	53 (39.3)	18 (13.3)	45 (33.3)	
High (5-15)	24 (17.8)	48 (35.6)	26 (19.3)	46 (34.1)	
Total	34 (25.2)	101 (74.8)	44 (32.6)	91 (67.4)	

CADI, Cardiff acne disability index
Pearson Chi-Square