

Melasma or acne: Which one affects life quality of adult patients the more?

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SUMMARY

Objectives/Aims: Melasma and acne affect life quality of patients significantly. The aim of this study is to compare Dermatology Life Quality Index (DLQI) scores of adult melasma and acne patients with those of healthy individuals and to investigate which one of these skin disorders affects life quality the more

Patients and Methods: Adult patients over the age of 25 years suffering from melasma and acne and healthy individuals who were matched for age and sex were included in this study retrospectively.

Results: Median DLQI score was 6 for melasma patients. This score was 4.5 for acne adultorum patients and was 1 for healthy individuals. However the difference between DLQI scores of melasma patients and those of acne adultorum patients was not statistically significant.

Conclusion: Any skin disorder involving the face like melasma and acne disturbs external appearance of patients and affect life quality of adult patients adversely.

Key words: Acne, adult, health quality, melasma, face

Introduction

Melasma is a common hyperpigmentation disorder affecting sun-exposed areas of the face especially the cheeks, nose, forehead and chin (1). Melasma usually starts with small brown macular lesions and progresses to symmetrical widespread patches without overlying desquamation (1). Melasma is seen more frequently in females than in males, in adults than in young persons and in darker skin types than in whites (2). Melasma disturbs life quality of patients significantly because it is usually located on the face and produces blotches that disturb appearance of individuals markedly (1,3).

Acne is an inflammatory disorder of pilosebaceous unit and very common in adolescents with 85% prevalence rate and can prolong to the adulthood (4,5). Acne impairs life quality of individuals significantly and affects psychosocial development and self-esteem adversely (4). Determination of impairment of life quality of an individual with acne is important and together with measurement of clinical severity of acne this determination is used to determine the choice of therapy and to evaluate the response to treatment (6). Acne adultorum is described as presence of acne lesions later than the age of 25 (7). It can be persistent acne that continues from adolescence to adulthood or late onset acne that started later than age of 25 years (7). Acne adultorum is more common and severe in females than in males and it is frequently associated with hormonal irregularities (7).

Dermatological disorders that are associated with deterioration in cosmetic appearance of patients have been reported to markedly affect life quality of patients (8). Dermatology Life Quality Index (DLQI) is a method for measurement of disease specific quality of life (9). DLQI is developed in the Wales region of UK in 1994 (10). Reliability and validity of DLQI as a dermatology specific quality of life index were shown in various dermatological disorders by a lot of published studies (10). Turkish version of DLQI has been used by plenty of researchers. DLQI is routinely used in our clinic for evaluation of patients. Cross reliability and validity of Turkish version of DLQI were demonstrated (9).

In this study the aim was to find out which one of brown spots and red pimples affects quality of life the more by comparing DLQI scores of adult patients with melasma and acne with those of healthy individuals.

Materials and Methods

Authors evaluated medical records of patients in this study and the study protocol was approved by the local ethics committee (KÜ-DOKAEK project no: 2016/171 and decision

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no: 2016/13.17). Adult melasma patients over 25 years of age along with acne adultorum patients and healthy individuals matched for age (± 5 years) and sex to melasma patients all of that examined at the dermatology outpatient clinic and filled out DLQI forms during their examination were included in this study retrospectively. Demographic and clinical characteristics of all patients including body mass index, habits, presence of comorbidities, skin phototype (in melasma patients), disease characteristics and duration were obtained from the medical records. Acne severity was graded according to FDA recommended physician global assessment as; mild acne: some non-inflammatory lesions with few papules and pustules, moderate acne: up to many non-inflammatory lesions with some inflammatory papules and pustules, severe acne: many non-inflammatory and inflammatory lesions with few nodules (11).

DLQI is a compact index of life quality evaluating the previous week and is based on self declaration of patients with dermatological disorders and it contains 10 questions. DLQI results can change between 0 (no impairment of quality of life) and 30 (maximum impairment of quality of life) (10). There are questions of DLQI about six different areas of life as; symptoms and feelings (1st and 2nd questions), daily activities (3rd and 4th questions), leisure (5th and 6th questions), work and school (7th question), personal relationships (8th and 9th questions) and treatment (10th question) (10). The total scores of DLQI are grouped indicating the degree of effect on patient's life as; 0-1: no effect, 2-5: small effect, 6-10: moderate effect, 11-20 very large effect and 21-30 extremely large effect (10).

The results of this study were analyzed with IBM SPSS 22.0. Independent student T test and one-way ANOVA tests were used to compare variables and groups. The threshold of significance for p value was set at <0.05 .

Results

Twenty adult melasma patients over 25 years of age were matched for age and sex to 20 acne adultorum patients and 20 healthy individuals were included in this study retrospectively. Each study group contained two males and 18 females. Median age of melasma patients was 37 (min-max: 27-43) years, that of acne adultorum patients was 32 (min-max: 26-44) years and that of healthy individuals was 30 (min-max:

26-47) years ($p>0.05$). Median disease duration was 3.5 (min-max: 1-8) years in melasma patients. Disease started following pregnancy in 6 out of 20 (30%) patients and after waxing in 3 out of 20 (15%) patients. Fitzpatrick skin phototypes of melasma patients were evaluated and type 2 was present in 8 out of 20 (40 %) patients, type 3 in 9 out of 20 (45%) patients and type 4 in 3 out of 20 (15 %) patients. With regard to acne adultorum patients, 12 out of 20 (60 %) patients were diagnosed to have late onset acne and 8 out of 20 (40 %) patients were diagnosed to have persistent acne. Only 4 out of 18 (22.22 %) female patients reported menstrual irregularities or hirsutismus. With regard to acne adultorum patients 6 out of 20 (30 %) had mild acne, 10 out of 20 (50 %) had moderate acne and 4 out of 20 (20 %) had severe acne with nodules.

When considering DLQI total scores of different diagnoses, DLQI median score of melasma patients was 6 (min-max: 0-22) (moderate effect on patient's life), DLQI median score of acne adultorum patients was 4.5 (min-max: 0-16) (small effect on patient's life) (Table 1). DLQI total scores were not statistically different among two different patient groups ($P>0.05$) (Table 2). DLQI median score of healthy individuals was 1 (min-max: 0-7) (no effect at all on patient's life) (Table 1). DLQI total scores of melasma and acne patients were significantly higher than those of healthy individuals and p values are given in Table 2. Age, presence of systemic disorders, presence of smoking habit and body mass index did not have any effect on DLQI scores of patients with melasma and acne. Disease duration or Fitzpatrick skin phototype did not have significant effect on DLQI scores in patients with melasma. Persistence of acne from adolescence or start in the adulthood or severity of acne did not have significant effect on DLQI scores in patients with acne (data not shown).

Patients with acne and melasma had higher scores in symptoms and feelings subsection and personal relationships subsection in comparison with the scores obtained from healthy individuals when sectional analysis of DLQI scores was performed. Patients with melasma were affected more in leisure subsection than healthy individuals, but patients with acne were not (Tables 1 and 2). However, there was no difference among patients with acne and melasma and healthy individuals in DLQI subsections of daily activities, work and school and treatment (data not shown).

Table 1: DLQI and subsection scores of patients with melasma, acne adultorum and healthy individuals

	DLQI total	Symptoms and feelings	Leisure	Personal relationships
Melasma	6.65 \pm 5.49 6 (0-22)	2.35 \pm 1.35 2 (0-6)	1.05 \pm 1.43 0 (0-4)	1.10 \pm 1.21 1 (0-3)
Acne Adultorum	5.10 \pm 3.89 4.5 (0-16)	2.00 \pm 1.38 2 (0-5)	0.75 \pm 0.91 0.5 (0-3)	1.00 \pm 1.17 1 (0-4)
Healthy	1.65 \pm 1.66 1 (0-7)	0.90 \pm 0.72 1 (0-2)	0.20 \pm 0.69 0 (0-3)	0.10 \pm 0.31 0 (0-1)

[mean \pm standard deviation and median (min-max)]

Table 2: P values for comparison of scores of patients with melasma, acne adultorum and healthy individuals (accepted significant if < 0.05)

	DLQI total	Symptoms and feelings	Leisure	Personal relationships
Melasma vs. Acne	0.444	0.622	0.645	0.945
Melasma vs. Healthy	0.001	0.001	0.036	0.006
Acne vs. Healthy	0.023	0.013	0.236	0.015

Discussion

Melasma and acne are two common dermatological disorders that affect life quality of patients as lesions of both disorders are located on the face and disturb cosmetic appearance of individuals. In this study we have demonstrated that both melasma and acne impair life quality of adult patients. Balkrishnan et al. (8) demonstrated in their study that any disorder located on the face like melasma, lentigo, acne and rosacea had impaired quality of life in 73 female patients. Imperfections of the face that disturb appearance do not affect physical well being but cause individuals to be affected in social and psychological dimensions (8). Imperfections of the face can cause people to isolate themselves and suffer loneliness (8). Female patients using foundations were found to have more impairment of life quality (8). The authors noted that severity or kind of disorder was not important in affecting quality of life (8). The authors of this paper found that patients with melasma and acne had more impairment of life quality than healthy individuals. The authors also found that DLQI mean score of melasma patients was slightly higher than that of acne patients but there was no statistically significant difference between total mean DLQI scores of melasma and acne.

According to our results, presence of melasma and acne cause patients to have more symptoms, be more affected emotionally and be more strained in personal relationships than healthy individuals. Additionally patients with melasma avoid leisure activities more than patients with acne or healthy individuals. In the literature, females with acne were found to be more affected in DLQI sections of symptoms and feelings, daily activities and leisure (12).

In our study, DLQI mean score of patients with melasma was 6.65 and DLQI mean score of patients with acne was 5.10. In the literature, mean DLQI score of patients with melasma changes between 7.3-7.5 (1,2). DLQI mean scores of patients with acne changes in between 6.24-8.24 (12). Our results are slightly lower than these scores. A study performed in our country evaluating patients with acne who were studying at university revealed DLQI scores in between 5.17-6.11 and this was similar to our results (13). Another study performed in our country including young people with acne found a mean DLQI total score of 4.43 and disclosed that severity of acne did not affect quality of life (14). We also observed that severity of acne did not affect DLQI scores.

Major limitations of our study are the retrospective character and the limited number of cases in each group (only 20 patients). However inclusion of people who were matched for age and sex in three different study groups is the strength of our study. More reliable results can be obtained by using a larger sample size in a prospective study designed to evaluate effects of dermatological disorders involving the face with disturbance of external appearance on life quality of adult patients.

Color or shape of the imperfections on the face, skin color of the individual and living with the problem for a short or long period of time did not affect life quality of individuals. Although not statistically significant we observed that brown blotches of melasma impaired quality of life more than red pimples of acne. However the most important thing affecting quality of life is having a lesion that disturbs appearance of the face in both females and males. In conclusion any skin disorder located on the face like melasma and acne disturbing external appearance affects life quality of adult patients adversely.

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References

1. Leeyaphan C, Wanitphakdeedecha R, Manuskiatti W, Kulthanan K. Measuring melasma patients' quality of life using willingness to pay and time trade-off methods in Thai population. *BMC Dermatol.* 2011;11:16.
2. Pichardo R, Vallejos Q, Feldman SR, et al. The prevalence of melasma and its association with quality of life in adult male migrant Latino workers. *Int J Dermatol.* 2009;48(1):22-26.
3. Doğramacı AÇ. Melasma ve Yaşam Kalitesi / Melasma and Quality of Life. *Türkiye Klinikleri J Cosm Dermatol-Special Topics.* 2011;4(2):23-26.
4. Kraft J, Freiman A. Management of acne. *CMAJ.* 2011;183(7):E430-435.
5. Güngör E. Akne / Acne. *Türk J Dermatol.* 2012;6(4):138-149.
6. Öztürkcan S. Akne Vulgaris Yaşam Kalitesi ve Psikolojik Etkileri / The Quality of Life and Psychological Effects of Acne Vulgaris. *Türkiye Klinikleri J Dermatol-Special Topics.* 2009;2(3):64-72.
7. Kamangar F, Shinkai K. Acne in the adult female patient: a practical approach. *Int J Dermatol.* 2012;51(10):1162-1174.
8. Balkrishnan R, McMichael AJ, Hu JY, et al. Correlates of health-related quality of life in women with severe facial blemishes. *Int J Dermatol.* 2006;45(2):111-115.
9. Öztürkcan S, Ermertcan AT, Eser E, Şahin MT. Cross validation of the Turkish version of dermatology life quality index. *Int J Dermatol.* 2006;45(11):1300-1307.
10. Finlay AY, Khan GK. Dermatology life quality index (DLQI) – a simple practical measure for routine clinical use. *Clin Exp Dermatol.* 1994;19(3):210-216.
11. Guidance for industry Acne vulgaris: developing drugs for treatment. U.S. Department of Health and Human Services Food and Drug Administration (FDA's) Center for Drug Evaluation and Research (CDER), September 2005, DOI: J:\GUIDANC\6499dftcln3.doc
12. Matsuoka Y, Yoneda K, Sadahira C, Katsuura J, Morieue T, Kubota Y. Effects of skin care and makeup under instructions from dermatologists on the quality of life of female patients with acne vulgaris. *J Dermatol.* 2006;33(11):745-752.
13. Kaymak Y, Taner E, Taner Y. Comparison of depression, anxiety and life quality in acne vulgaris patients who were treated with either isotretinoin or topical agents. *Int J Dermatol.* 2009;48(1):41-46.
14. İlgen E, Derya A. There is no correlation between acne severity and AQOLS/DLQI scores. *J Dermatol.* 2005;32(9):705-710.