

THE EFFECTS OF MELASMA ON THE QUALITY OF LIFE IN PATIENTS VISITING DERMATOLOGY UNIT, HAYATABAD MEDICAL COMPLEX, PESHAWAR

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ABSTRACT

Objectives: The objective of this study is to determine the effect of melasma on QoL of patients using dermatology life quality index (DLQI) questionnaire.

Materials and Methods: The descriptive cross sectional study was carried out at Department of Dermatology, Hayatabad Medical Complex, Peshawar from March 15, 2018 to September 20, 2018. A total of 80 patients having melasma of any severity with age of 18 years and above belonging to either gender but literate enough to fill the DLQI in Urdu or English were included in study. DLQI questionnaire was used to determine effects of melasma on quality of life of patients. DLQI questionnaire has 10 questions and patients were asked to score from 0-3 for all questions.

Results: Total 80 patients of melasma were included in the study. There were 60(75%) female and 20(25%) male patients. Mean age of patients was 28 ± 3.42 years. Mean duration of melasma at presentation was 3.5 ± 1.22 years. The mean DLQI score of our study population was 18.48 ± 4.01 . Mean DLQI score for females was 18.32 ± 5.38 and 17.00 ± 4.84 for males. MASI score was used to assess severity of melasma and in patients with mild, moderate and severe disease mean DLQI scores were 16.43 ± 3.42 , 18.52 ± 5.21 and 21.42 ± 3.56 respectively.

Conclusion: The higher the DLQI score the poorer is quality of life. Female gender and high MASI score showed poor quality of life.

Keywords: Melasma Area severity index, DLQI, quality of life, melasma.

INTRODUCTION

The term "melasma" is derived from Greek word "melas" which means Black¹. Melasma is characterized by symmetrical hyperpigmented patches on the area exposed to sun especially face, cheeks, forehead, upper lip, nose and chin^{1,2}. Its prevalence is higher in women than in men and particularly seen in women of reproductive age group^{2,4}. Though several factors including sun exposure, hormonal influences, genetic background, thyroid disease, anaemia and anticonvulsant therapy are involved. The pathological mechanism is not known yet^{2,5}. The disease is difficult to treat, particularly in constitutionally darker skin types⁶. Never the less, any alteration in the homogeneity of skin colour is regarded as unaesthetic and hence melasma has a huge impact on the emotional and psychological health of patients^{2,7}.

To assess quality of life (QoL) is an important part

in both research and clinical settings. Quality of life is sense of wellbeing by individual⁸. It is stated as potential to do day to day chores effectively relevant to individual's age and job^{7,8}. To estimate the effect of melasma on QoL in our community, a ten item questionnaire was used known as DLQI. It is an easy, valid and an empirical questionnaire for measuring damage caused by different skin conditions⁸. Facial appearance have a vital role in communication and interacting with people and facial pigmentation like melasma leave an injurious impact on the quality of life of patients^{7,9}.

The purpose of present study is to determine impact of melasma on quality of life. The measurement of QoL can help to improve patient care and yield helpful results in many ways e.g. it can indicate a need for arranging a psychological support for patients to improve their sense of wellbeing.

MATERIALS AND METHODS

It was a descriptive cross sectional study carried out at dermatology unit, Hayatabad Medical complex, Peshawar, Khyber Pakhtunkhwa from March 15, 2018 to September 20, 2018. Approval was taken from hospital ethical committee regarding study protocol. After explaining purpose of the study written informed consent was taken from patients. Demographic characteristics were noted and a full medical history with clinical assessment of melasma was taken. Total of 80 patients of either gender having age of 18 years and above with

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melasma of any severity were enrolled. Majority of patients were able to read and write DLQI questionnaire in Urdu or English themselves. Those who were not able to understand the questionnaire or were not educated were helped by staff from Dermatology unit.

The enrolled patients were asked to fill DLQI questionnaire. It consisted of 10 questions covering six aspects of quality of life. The patients were told to grade the effect of melasma on their quality of life on scale ranging from 0 to 3 for each of 10 questions.

Maximum DLQI score in 30 and minimum is zero. A high DLQI score shows poor QoL and indicates that melasma is adversely affecting patients' life.

The severity of melasma was graded by using melasma area severity index (MASI) for each patient. It is a scoring system that takes into account the homogeneity (H), area of involvement (A), darkness (D) of melasma on left and right cheeks, forehead and chin. The score ranges from 0 – 48. After grading disease severity on MASI score, DLQI scoring was done in relation to grade of severity.

Patients taking medications leading to pigmentation like contraceptive pills, anti convulsant therapy, tetracyclines and other photo toxic drugs were excluded from study. Pregnant and lactating ladies and those with systemic causes of pigmentation on history and examination e.g. chronic liver and kidney disease, Addison's disease and SLE were also not included in the study.

All the data was analysed by using SPSS version II. Mean and standard deviation was computed for quantitative variables like age, duration of disease, MASI and DLQI scores whereas frequency and percentage were calculated for qualitative variables such as gender.

RESULTS

Total 80 patients with clinically diagnosed melasma were enrolled. Table I shows age wise distribution of patients. Mean age at presentation was 28.90 ± 3.42 years. Comparison of mean DLQI score for different age groups showed that it was highest in age group 31 to 40 years with mean DLQI of 18.23 ± 3.99 .

Table II shows general distribution of melasma. Among 80 patients 60 were female and 20 were male. The male to female ratio was 1:3. Comparison of mean DLQI score in relation to gender showed that females showed high score of 18.31 ± 2.42 as compare to males showing mean DLQI score of 16.53 ± 5.45 .

Table III shows distribution of patients in relation to duration of melasma. Highest number of patients (n=36) presented with 2 to 3 years duration of melasma followed by 4-5 years duration presented by 25 patients. Comparison of mean DLQI score for duration of melasma showed that it was highest in patients suffering for more than 5 years with mean DLQI score of 18.86 ± 4.43

Table 1: Age distribution of melasma (n=80)

Age	Frequency	Percentage
< 20 years	8	10%
21- 30 years	38	47.5%
31- 40 years	29	36.25%
41- 50 years	5	6.25%
total	80	100%

Mean age was 28.90 years

Standard deviation ± 3.42 years

Table 2: Gender Distribution (n=80)

Gender	Frequency	Percentage
Male	20	25%
Female	60	75%
Total	80	100%

Table 3: Duration of Melasma (n=80)

Duration of Melasma	frequency	Percentage
< 1 year	7	8.75%
2- 3 years	36	45%
4- 5 years	25	31%
>5 years	12	15%
total	80	100%

Table 4: MASI score to assess severity of melasma (n=80)

MASI Score	Frequency	Percentage
Mild 0-16.9	28	35%
Moderate 17-39.9	38	47.5%
Severe 34- 48	14	17.5%
Total	80	100%

Table 5: DLQI score in relation to MASI (n=80)

MASI Score	DLQI Score
0-16 (Mild)	16.43 ± 3.42
17-38.9 (Moderate)	18.52 ± 5.21
34-48 (Severe)	20.42 ± 3.56

while it was lowest in melasma of short duration of less than 6 months showing mean DLQI of 15.23 ± 3.12 .

Table IV shows division of patients in relation to severity of melasma. MASI score was used to assess severity of melasma. Out 80 patients, 25(35%) showed mild melasma, 38(47.5%) had moderate and 14(17.5%) had severe melasma.

Table v shows relation of DLQI score with MASI score. Highest DLQI score was calculated for severe disease with high MASI whereas for mild melasma DLQI score was presented by 16.43 ± 3.42 . It means the high the MASI score is the more adversely will melasma affect the quality of life patient.

The mean DLQI score for our study population was 18.42 ± 4.01 .

DISCUSSION

Melasma is very common acquired hyperpigmentation of face especially in people with Fitzpatrick skin type IV and V^{2,10}. It is quite challenging to treat melasma in darker skin types^{6,8,10}. It causes devastating effects on various domains of patient's quality of life¹¹. In the past it was very difficult to estimate the effects of various skin diseases like melasma, acne and psoriasis on patient's QoL^{8,11}.

In our study we used a comprehensive questionnaire of DQLI score to estimate impact of melasma on QoL. In this study our findings regarding the age incidence of melasma were in concordance with national studies^{2,8,10}. In the study of Ali et al¹⁰ they showed that majority of patients were in third and fourth decade. This similarity among our study and other national studies is due to the fact that majority of our population in above mentioned age group get married and are more concerned about their appearance and get consultation. The second reason for this similarity for age incidence is that most of the female patients after getting married are exposed to the hormonal influences of pregnancy and contraceptive pills. Various international studies show a much older age group as their mean age at presentation because of cultural, racial and social differences.

In our study population 75% patients were female as compared to 25% males. These findings correlates with different national^{2,8,10} and international studies^{7,11,12,13}. The common finding regarding gender distribution of melasma is that females are more concerned about their facial appearance and seek advice earlier about their melasma. Furthermore females are exposed to hormonal factors like pregnancy and contraceptive medicines. They also get anemic due to repeated pregnancies leading to melasma. Regarding duration of disease mean duration of melasma at presentation was 3.5 ± 1.2 years. The study of Ali et al¹⁰ showed that mean duration of melasma at presentation was 2.8 years. This difference may due to lack of experts as well as social constrains like parda and avoiding male dermatologists in Khyber Pakhtunkhwa.

Mean DLQI score was highest in disease of longer duration in our study population. This was in contrast with study of Morgonkar et al conducted in Rajasthan India¹⁴. This difference is due to the fact that in our province women avoid consulting dermatologists for melasma and using different steroid containing creams.

These creams leads to temporary improvement and caused rebound pigmentation with skin atrophy and telangiectasias . So in our study population disease of longer duration was associated with poor QoL.

Regarding mean DLQI score for our study population it was 18.42 ± 4.01 . This score is much high as compared to study of Farag et al¹¹ and Morgankar et al¹⁴ with mean DLQI of 5.8 ± 3.88 and 9.92 ± 7.01 respectively. These differences can be explained that as in province of KPK fair complexion is considered as symbol of beauty and melasma of mild severity can lead to great psychological impact on QoL. Also people of Pukhtun culture are very sensitive regarding their appearance and prone to low self-esteem when criticized for their complexion. On the other hand Indians have slightly darker complexion so mild to moderate melasma don't bother them. These racial and cultural differences were the reason for gross difference in mean DLQI score.

In our study mean DLQI was high for female gender i.e. 18.31 ± 2.42 as compared to male gender i.e. 16.53 ± 5.43 . It is similar to many national^{8,10} and study of Morgaonkaret *et al*¹⁴ from India. This similarity is due to fact that Asian women has Fitzpatrick skin type IV and V causing resistant melasma of longer duration as well leading to trend of interfamily marriage is very popular in Pakistan and India combining genetic back ground with environmental factors leading to severe melasma and poor QoL in females.

In our study the age group found with high mean DLQI was 31-40 years. This was in contrast with the study of Ali et al¹⁰ showed no difference in mean DLQI regarding age. The study of Bal Krishan et al¹³ and other international studies^{11,15} showed that the QoL of Patients of older age groups i.e. >45 years are least affected by melasma. Similar results were found in our study.

The figures derived from our study showed that severe melasma with high MASI is directly related to poor QoL. This is in confirmation with different national studies^{8,10} and international studies^{11,13,15}. The study of Arellano et al¹⁶ also calculated that the highest the MASI score the poorer will be QoL shown by high DLQI. The study of Morgaonkar et al¹⁴ is in contrast with our study. They showed that in addition to MASI score certain other factors like marital status and level of education are important in assessing QoL.

CONCLUSION

Melasma has profound effect on quality of life of patients. Female gender and severe disease leads to more impairment of QOL. Patient's counselling regarding etiology, proper treatment and prognosis is highly advised to decrease their agony and improve psychological and social harmony.

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