Quality of life in patients of melasma

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Abstract

Objectives To determine the impact of melasma on quality of life (QoL) using Dermatology Life Quality Index (DLQI) in our patients.

Patients and methods An observational study was carried out at the Department of Dermatology, King Edward Medical University/ Mayo Hospital, Lahore from December 12, 2009 to June 11, 2010. A total of 100 patients suffering from melasma, of any severity, with age 16 years or above, belonging to either sex, who themselves were able to understand and fill the DLQI questionnaire in English or Urdu version, were enrolled in the study. Using the DLQI questionnaire, consisting of 10 questions, patients were asked to score on a scale from 0-3 for each of 10 items. The data were analyzed after compiling the results. The higher the DLQI score, the poorer is the QoL.

Results Mean age of the patients was 29.90±7.18 years. There were 82 (82%) female and 18 (18%) male patients. The mean DLQI score of all patients was 17.08±5.22. The findings indicate several areas in which melasma had an impact on individual’s QoL, particularly in relation to symptoms and feelings and personal relationships. Women reported poorer QoL compared to men. Mean DLQI score was 16.00±4.93 in males and 17.32±5.28 in females. Patients with mild, moderate and severe disease had mean DLQI scores of 16.23±5.35, 19.32±3.99 and 22.0±2.0, respectively.

Conclusion Melasma causes a “very large effect” on patients’ quality of life. Impairment of QoL is greater in females and patients with severe disease.

Keywords
Melasma, quality of life, DLQI.

Introduction

The term “melasma” is derived from the Greek word “melas” meaning black.1 It is a commonly acquired hypermelanosis characterized by irregular brown patches occurring primarily on the forehead, cheeks and chin in a mask-like distribution.2 Melasma most commonly affects women of reproductive age.3 Up to 10% of cases are seen in men.4 Fitzpatrick skin types IV to VI are commonly involved.2,5 The exact etiology of melasma and statistical data about its incidence is not known.6 However, various contributing factors include exposure to ultraviolet light, genetic predisposition, pregnancy, oral contraceptives, hormone replacement therapy, thyroid autoimmunity, cosmetics ingredients and phototoxic drugs.

Quality of life (QoL) is defined as capacity to perform the daily activities appropriate to person’s age and his/her major role in the society.7 The role could be paid employment, schooling, house work or self-care. Several indices are available in the form of questionnaires to measure the extent of disability caused by skin diseases.7 In order to assess the impact of melasma on QoL in our society, a ten-item DLQI was used.8 It is a valid, simple and practical questionnaire designed to measure the disability caused by various skin conditions.9 Facial appearance plays an important role in
self-perception and interaction with others and severe facial blemishes like melasma leave a deleterious impact on patient’s quality of life.10

The present study was planned in order to determine the impact of melasma on quality of life. The measurement of QoL can help improve patient care and outcomes in many ways e.g. it can indicate a need for supportive or psychological intervention, widen the parameters of benefit, aid in decision-making and health care policy.

Patients and methods

It was a questionnaire-based study. The study protocol was approved by the Hospital Ethical Committee. The study was carried out at the Department of Dermatology, King Edward Medical University/ Mayo Hospital, Lahore during the period from December 12, 2009 to June 11, 2010. A full medical history and clinical assessment of the melasma patient, with informed consent, was taken. Demographic characteristics like age, gender, address and melasma area and severity (MASI) score (Table 1) for the assessment of melasma, were recorded. One hundred patients of either sex but of the age ≥16 years, with clinically diagnosed melasma (of all severities i.e. mild, moderate and severe), who could themselves complete the questionnaire in English or Urdu version, were enrolled.

Patients diagnosed of having systemic causes of pigmentation, on history and examination, e.g. systemic lupus erythematosus, Addison’s disease, hemochromatosis etc. were excluded from the study. Patients who had been taking drugs that cause pigmentation e.g. minocycline, chlorpromazine, amiodarone, antimalarials etc. were also omitted. Those patients were also excluded who were suffering from local (facial) dermatoses on clinical examination e.g. ashy dermatosis, lichen pigmentosus, lichen planus actinicus, fixed drug eruption, nevus spilus, nevus of Ota, post-inflammatory hyperpigmentation and photocontact dermatitis etc.

All the patients were instructed to fill a DLQI questionnaire (Table 2) that included 10 questions covering six different domains of QoL e.g. symptoms and feelings (Q1, 2), daily activities (Q3, 4), leisure activities (Q5, 6), work and schooling (Q 7), personal relationships (Q8, 9) and treatment of disease (Q10). The patients were asked to score, on a scale from 0 to 3, for each of 10 questions, how they felt their lives have been affected by the disease over the preceding week. The response for each question could be 0=not at all, 1=a little, 2=a lot and 3=very much. The total score ranged from 0 to

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Melasma Area Severity Index (MASI) grading scale.</th>
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<tbody>
<tr>
<td>Score</td>
<td>Darkness (D)</td>
</tr>
<tr>
<td>0</td>
<td>Absent</td>
</tr>
<tr>
<td>1</td>
<td>Slight</td>
</tr>
<tr>
<td>2</td>
<td>Mild</td>
</tr>
<tr>
<td>3</td>
<td>Marked</td>
</tr>
<tr>
<td>4</td>
<td>Maximum</td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
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MASI score = 0.3 (DF + HF) AF + 0.3 (DMR + HMR) AMR + 0.3 (DML + HML) AML + 0.1 (DC + HC) AC
D=darkness, H=homogeneity, A=area, F=forehead, MR=right malar, ML=left malar, C=chin. Values 0.3, 0.3, 0.3 and 0.1 are respective percentage of total facial area.
Table 2 Dermatology Life Quality Index

<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
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<tbody>
<tr>
<td>1. Over the last week, how itchy, sore, painful or stinging has your skin been?</td>
<td></td>
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<tr>
<td>2. Over the last week, how embarrassed or self conscious have you been because of your skin?</td>
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<tr>
<td>3. Over the last week, how much has your skin interfered with you going shopping or looking after your home or garden?</td>
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<tr>
<td>4. Over the last week, how much has your skin influenced the clothes you wear?</td>
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<td>5. Over the last week, how much has your skin affected any social or leisure activities?</td>
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<tr>
<td>6. Over the last week, how much has your skin made it difficult for you to do any sport?</td>
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<tr>
<td>7. Over the last week, has your skin prevented you from working or studying? If &quot;No&quot;, over the last week how much has your skin been a problem at work or studying?</td>
<td></td>
</tr>
<tr>
<td>8. Over the last week, how much has your skin created problems with your partner or any of your close friends or relatives?</td>
<td></td>
</tr>
<tr>
<td>9. Over the last week, how much has your skin caused any sexual difficulties?</td>
<td></td>
</tr>
<tr>
<td>10. Over the last week, how much of a problem has the treatment for your skin been, for example by making your home messy, or by taking up time?</td>
<td></td>
</tr>
</tbody>
</table>

Each question was scored: very much=3, a lot=2, a little=1, and not at all=0

30. The higher the score, the poorer was the quality of life.

The data were entered into SPSS version 11 for analysis. Study variables included age, gender and DLQI scores. Descriptive statistics were used. For quantitative variables like age and DLQI scores, mean and standard deviation were calculated. For qualitative variables like gender, frequency and percentage were calculated. Data were stratified for severity of melasma (MASI score=0-16, 17-32, 33-48) to address effect modifier. The statistical analysis was done and a p value of <0.05 was considered significant.

Results

A total of 100 patients, diagnosed clinically as melasma, were studied. There were 82 (82%) female and 18 (18%) male patients. Mean age of patients was 29.90±7.18 years. Sixty nine (69%) cases were married and thirty one (31%) unmarried. According to severity of melasma, there were 75 patients with mild disease having a MASI score from 0-16.9, 22 patients with moderate disease and a MASI score from 17-32.9 and 3 patients had severe disease with a MASI score from 33-48. Patients with a disease duration of less than 6 months were 3, those between 6 months to 2 years 29, 3-5 years 23, 6-10 years 25 and >10 years were 20.

Mean DLQI score of total sample size was 17.08±5.22. Regarding the mean DLQI scores of patients with respect to severity of melasma using MASI score, patients with mild disease had a mean DLQI score of 16.23±5.35, while values for moderate and severe disease were 19.32±3.99 and 22.0±2.0, respectively. This showed that the mean DLQI score increased with an increase in severity of melasma with a statistically significant p value (0.011) indicating that QoL is more impaired in case of severe disease (Table 3). Comparison of the mean DLQI scores with respect to gender revealed that females had a higher score i.e. 17.32±5.28 than males having a score of 16.00±4.93 (p=0.335).
The mean DLQI score was higher in patients suffering from melasma for >10 years (18.95±5.07) while lesser durations had lower values for DLQI such as 6-10 years (17.0±4.80).

3-5 years (17.91±3.95), 6 months to 2 years (15.31±6.15) and < 6 months (16.0±6.0). The comparison of mean DLQI scores between different age groups was done and no significant difference was seen (p>0.05). Unmarried patients had a higher mean DLQI score (17.68±3.62) as compared to the married ones (16.81±5.80). Mean DLQI scores for each of the 10 questions revealed that the highest score was determined for question No. 2 (2.80±0.49) which is related to feelings of patients followed by question No. 8 (2.62±0.79) related to personal relationships (Figure 1).

**Discussion**

Melasma is a very common skin disease that manifests as symmetrical macules and patches of hyperpigmentation primarily on the face.11,12 This chronic and recurrent condition causes a deleterious impact on various domains of patients’ quality of life. In our study, mean age of the patients was 29.90±7.18 years. Various studies revealed the mean age between 36 to 40 years.11,13,14 This contrast is due to racial, cultural and social variations in different parts of the world. In our setup, 20-30 years is the peak age for getting married and this might compel people to report and seek advice earlier about their disease. It was noticed in our study that the QoL was less affected by melasma in patients of age group 46-55 years, in accordance with the results of Farag et al.13 and Balkrishnan et al.14 where patients of this age also showed less QoL impairment as compared to other age groups.

Our data showed a female preponderance (82%). It correlates well with the 79.5% females seen in a study from New Delhi, India.15 This could be attributed to the fact that melasma is more
common among women because female hormonal activity is considered one of the most important causative factors. In the present study, the female patients showed a greater impairment of QoL than the male patients, similar findings were noted in the study by Arellano et al.\textsuperscript{16} These results indicate that about the melasma, women are more worried, distressed and concerned than men.

The recorded mean DLQI score of 17.08±5.22 is higher than the score found in the study by Farag et al.\textsuperscript{11} which is 5.8±3.88. The difference may be explained by the fact that the patients included in the study of Farag et al were Egyptian females who tend to cover their faces with veils and most of them stay at home (housewives). Therefore, they are less exposed to social embarrassment resulting in less effect on their quality of life as compared to our patients. The present study revealed that patients suffering from more severe disease had a higher mean DLQI score, and hence, more impaired QoL. This is supported by the study of Arellano et al.\textsuperscript{16} which showed a direct correlation between DLQI score and severity of melasma. A moderate correlation was also observed in studies performed by Farag et al.\textsuperscript{11} and Balkrishnan et al.\textsuperscript{14}

In the present study, the patients with melasma for a longer duration of time had a poorer QoL. The finding is consistent with a previous study carried out by Dominguez et al.\textsuperscript{17} which demonstrated that QoL is more impaired in cases with long-standing disease. Our study also revealed that singles had a more impaired QoL as compared to the married which is in contrast to the study conducted by Dominguez et al.\textsuperscript{17} where no difference was seen in QoL according to marital status. This dissimilarity is due to the cultural differences, as in our society, a person may find it difficult to get married because of melasma.

The most adversely affected domain of QoL in our study was the feelings of patients related to embarrassment and self-consciousness demonstrated by the highest mean DLQI score for question No. 2 (\textbf{Figure 1}). The next highly affected domain was personal relationships of patients forcing them to avoid social interactions with close friends, relatives or partner. In addition, the disease also influenced the choice of clothes that was more pronounced in females. Comparable to our study, emotional well-being was reported to be one of the most adversely affected life domains due to melasma, by Balkrishnan et al.\textsuperscript{14}

In view of the present study, it is suggested that for a disfiguring facial dermatosis like melasma that poses a significant negative impact on patient’s QoL, there is a need for patient counseling or development of educational programs and appropriate psychological intervention to achieve a comprehensive and efficient management.

\textbf{Conclusion}

Melasma causes a “very large effect” on patients’ quality of life (QoL). It was found that impairment of quality of life is greater in females and with severe disease. During daily life, symptoms and feelings followed by personal relationships are found to be more severely affected in our cases.

\textbf{References}


