International Journal of Research in Dermatology
Agraa BA et al. Int J Res Dermatol. 2025 Mar;11(2):147-150
http://www.ijord.com

DOI: https://dx.doi.org/10.18203/issn.2455-4529.IntJResDermatol20250434

Original Research Article

Psychosocial impact of melasma among Sudanese females attending Khartoum dermatology and venereology teaching hospital 2020-2021

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Received: 25 January 2025
Revised: 14 February 2025
Accepted: 18 February 2025

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ABSTRACT

Background: 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. 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. This study aimed to assess Psychosocial impact of melasma among Sudanese females attending Khartoum Dermatology Teaching Hospital, 2020-2021.
Methods: This study was an observational cross sectional hospital based study conducted at Khartoum Dermatology and Venereology Teaching Hospital in 2020. The study included 135 melasma patients. In these patients the quality of life was assessed using the melasma quality of life measure (MELASQoL). Furthermore, the patients were evaluated using the melasma area and severity index (MSI). Data collected, were analyzed using SPSS version 25.0.
Results: More than half (59.6%) of melasma patients were in age group 20-30 years old and more than half (57.9%) of melasma patients were married. Majority (62.3%) of melasma patients had MASI score of less than 3. There was significant association between age and score, gender and score; hence p value was less than 0.05 (<0.05).
Conclusions: Improvement of early detection of impaired quality of life among melasma patients may provide. Effective management and prevention of this complication due to melasma.

Keywords: Melasma area and severity index, Quality of life, Sudan

INTRODUCTION

The term "melasma" is derived from the Greek word "melas" meaning black. It is a commonly acquired hypermelanosis characterized by irregular brown patches occurring primarily on the forehead, cheeks and chin in a mask-like distribution. Melasma most commonly affects women of reproductive age. Up to 10% of cases are seen in men. Fitzpatrick skin types IV to VI are commonly involved. The exact etiology of melasma and statistical data about its incidence is not fully known. However, various contributing factors include exposure to ultraviolet light, genetic predisposition, pregnancy, oral contraceptives, hormone replacement therapy, thyroid autoimmunity, cosmetics ingredients and phototoxic drugs.[1] 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. The role could be paid employment, schooling, housework or self-care. Several indices are available in the form of questionnaires to measure the extent of disability caused by skin diseases. In order to assess the impact of melasma on

QoL in our society, a ten items DLQI were used. It is a valid, simple and practical questionnaire designed to measure the disability caused by various skin conditions. 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.[2]

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.

Melasma area severity index

The melasma area and severity index (MASI), developed by Kimbrough-Green et al, in 1994, was probably the first scoring system to try to objectively score and measure the response of melasma to treatment in a clinical trial by considering both the area involved, as well as the darkness of the melasma. The system was based on a similar scoring system devised for psoriasis and considers the extent and degree of pigmentation affected. There are three components used in the MASI system and they are: area (A) of involvement, darkness (D) and homogeneity (H).[3]

For area (A) of involvement, the investigator has to estimate the areas affected, as compared to normal skin and assign a numeric value according to banding. A value of 0 implies no involvement, 1 when affected area is less than 10 %, 2 for 10-29% affected, 3 for 30-49 % affected, 4 for 50- 69 % affected, 5 for 70-89 % affected and 6 for 90 % or more affected.

The darkness (D) of the melasma is compared to the normal skin and graded on a scale of 0-4 as follows: 0 implies normal skin color, 1 with barely visible hyperpigmentation, 2 if there is mild hyperpigmentation, 3 for moderate hyperpigmentation and 4 for severe hyperpigmentation. As the scoring is subjective, training picture library representing the various scores is given to ensure consistency of scores.

Similar to darkness, homogeneity (H) of the hyperpigmentation is also graded on a scale of 0-4: 0 implies normal skin color without evidence of hyperpigmentation, 1 is given if there are specks of involvement, 2 if small patchy areas of involvement<1.5 cm diameter are noted, 3 is given if patches of involvement>2 cm diameter are noted and 4 for uniform skin involvement without any clear areas are noted.

The MASI calculation is then performed by scoring of these three components on the face, which is in turn divided into four main areas: the forehead (30%), left malar (30%), right malar (30 %) and the chin (10 %) The final MASI score is calculated by adding the sum of the severity ratings for darkness and homogeneity, multiplied by the value of the area of involvement, for each of the four facial areas.

METHODS

Study type

A cross-sectional descriptive study.

Study place

The study was conducted in Khartoum Dermatology and Venereology Teaching Hospital.

Study duration

The study period was from July 2020 to June 2021.

Study population

Females diagnosed with melasma attending Khartoum Dermatology and Venereology Teaching Hospital during the study period.

Inclusion criteria

Patients were considered eligible for inclusion if they were 18 years of age or older.

Exclusion criteria

Male's patients or female patients with other dermatological diseases or those who refused to participate. Patients with psychiatric history or a history of psychiatric drug use were also excluded from the study.

Informed consent was obtained from all participants and the study protocol was approved by the ethical committee of Khartoum Dermatology and Venereology Teaching Hospital.

The study included 135 melasma patients. In these patients the quality of life was assessed using the melasma quality of life measure (MELASQoL).

Statistical analysis

Furthermore, the patients were evaluated using the Melasma Area and Severity index (MSI). Data collected, were analyzed using SPSS version 25.0.

RESULTS

One hundred thirty-five melasma patients were included in this study. Ninety-one of them (59.6%) were in the age group 20-30 years, 27 (27.7%) were younger than 20 years, 17 (12.7%) were older than 30 years (Figure 1).

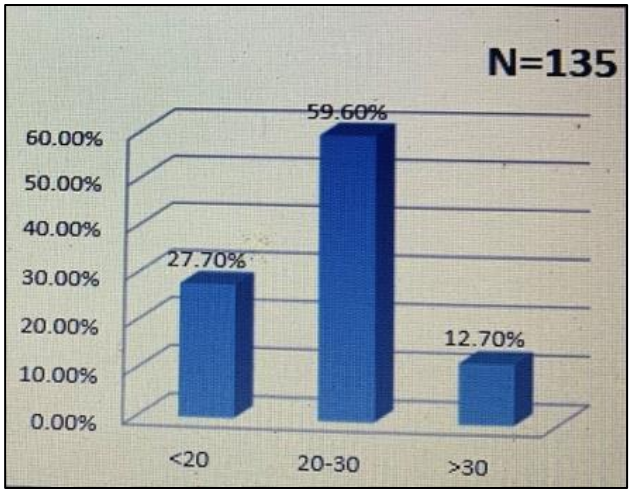

Figure 1: Age group.

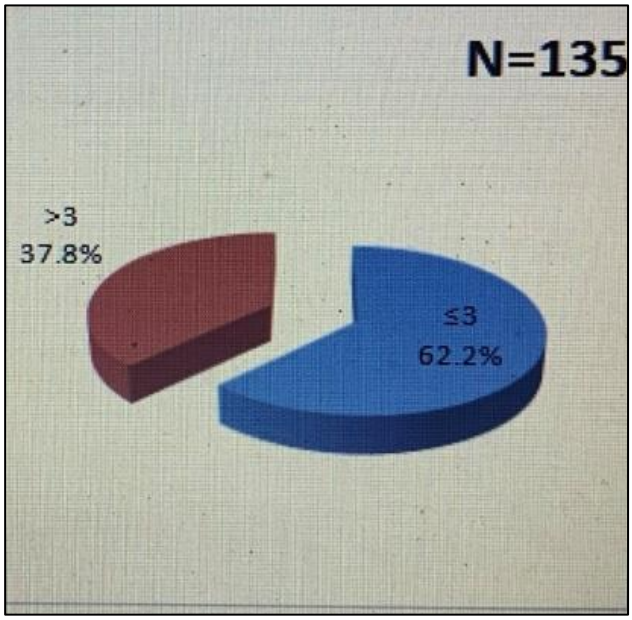

Figure 2: Higher disease severity.

Patients' severity of melasma was assessed using the MSAI and it was found that 84 (62.2%) of patients had, a melasma area surface index (MASI) score≤3 and 51 (37.8%) had>3 (Figure 2), a higher disease severity (MSAI) was observed correlated significantly with disease duration.

Higher disease severity (MSAI) was found to be significantly correlated with impairment of quality of life. Eighty-four (62.2%) of the patients found to have a total quality of life score of ≤10 and 51 (37.8%) reported a total score of more than 10 (Figure 2).

However, Significant statistical association was reported between age and quality of life score; older patients tend to have more psychological impairment (p value=0.031) (Table 1).

Table 1: Age and quality life score cross tabulation among melasma patients.

Score	Age group in years (%)			Total (%)
	<20	20-30	>30	
≤10	18 (66.7)	61 (67)	5 (29.4)	84 (62.2)
>10	9 (33.3)	30 (33)	12 (70.6)	51 (37.8)
Total	27 (100)	91 (100)	17 (100)	135 (100)

DISCUSSION

Melasma is one of the most common and psychologically upsetting ailments and pigmentary disorders seriously affect health-related quality of life. Particularly common among women, melasma is usually brought on by hormonal fluctuations, UV light and hereditary predisposition. This study sought to evaluate the psychological effects of melasma among Sudanese women visiting Khartoum Dermatology Teaching Hospital in 2021.

With a mean age of 29±5 years, almost half of the participants in this study (59.6%) fell between the ages of 20 and 30 years. These results complement those of Ali et al, who studied a population with a mean age of 29.90±7.18 years.[4] Comparatively, Karmilla et al, discovered that their study group's mean age was 39.3±4.7 years.[5] Another study by Fatma et al, looking at the psychological effects of melasma in Tunisian women revealed a mean participant age of 34.6 years.[6] Mean ages between 36 and 40 years have been recorded in further research.[7–9]

Concerning marital status, this study revealed that over half (57.9%) of the melasma sufferers were married. In a study by Fatma et al, where most participants were also married, comparable outcomes were noted.[6] In this study, melasma had a significant psychological effect; 62.3% of the patients claimed psychological disability. This is in line with the results of Fatma et al, according to which 76.7% of Tunisian participants had psychological discomfort overall—60% of whom experienced anxiety and 16.7% reported depression.[6] Similarly, individuals diagnosed with moderate-to-severe melasma reported a notable detrimental influence on their quality of life and self-esteem, Akinseye, et al, who investigated the effect of melasma on self-esteem, noted.[7]

This study indicated that elderly patients are more influenced by a correlation between age and psychological discomfort (p<0.05). Older patients tended to have more severe psychological symptoms from melasma, Akinseye et al, also noted.[7] Mirroring results of F. Fatma et al, who found that single women had higher MELASQoL scores (36.8% vs. 28.4%), marital status was also significantly correlated with psychological scores.[6]

Melasma has been linked, beyond emotional discomfort, to lowered self-esteem, shame and social disengagement.

Certain studies even propose that extreme psychological discomfort in melasma sufferers might cause suicidal thoughts.[8] According to a systematic study and meta-analysis, melasma-related ongoing psychological stress frequently causes depression.[9] Moreover, studies have revealed that among melasma sufferers, psychiatric comorbidities including sadness and anxiety-are relatively common, up to 76% of cases.[10]

The processes behind the psychological discomfort related to melasma are yet unclear. The disorder affects very prominent parts of the skin, which causes terrible body image and social stigmatization.[11] Because of their hyperpigmentation, women especially report a significant change in their social contacts and self-confidence.[12] Research on melasma has also underlined the part chronic inflammation plays in causing oxidative stress and psychological load.[13] Moreover, melasma-related stress might raise cortisol levels, aggravating pigmentation by activating melanogenesis pathways.[14]

Given the significant psychological load of melasma, good management techniques should not only concentrate on medical therapy but also include psychological assistance to enhance patient's general well-being. In those with chronic skin conditions, mindfulness-based therapies and cognitive-behavioral therapy (CBT) have shown efficacy in reducing anxiety and sadness.[15] Targeted treatments to reduce the emotional suffering related to this chronic illness and enhance patients' quality of life should be investigated in the next studies.

CONCLUSION

Melasma causes a sever effect on patients' quality of life (QoL). It was found that impairment of quality of life is greater in older females, with severe disease and marital status.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Ahmed LMH, Agraa BA, Almuutairi N, Mohamed Z. Psychosocial impact of melasma among Sudanese females attending Khartoum dermatology and venereology teaching hospital 2020-2021. Int J Res Dermatol 2025;11:147-50.