

**A Clinico-Epidemiological Study of Melasma****Mohabatsinh Baria<sup>1</sup>, Nilam Damor<sup>2</sup>, Rahul Bhabhor<sup>3</sup>, Khushboo Kaka<sup>4</sup>**<sup>1</sup>Associate Professor, Department of Dermatology, Zydus Medical College & Hospital, Dahod, Gujarat, India<sup>2</sup>Assistant Professor, Department of Dermatology, Zydus Medical College & Hospital, Dahod, Gujarat, India<sup>3</sup>Senior Resident, Department of Dermatology, Zydus Medical College & Hospital, Dahod, Gujarat, India<sup>4</sup>Junior Resident, Department of Dermatology, Zydus Medical College & Hospital, Dahod, Gujarat, India

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Corresponding Author: Dr. Mohabat Baria

Conflict of interest: Nil

**Abstract:****Introduction:** Melasma is an acquired, increased pigmentation of the skin characterized by symmetrical and confluent grey-brown patches mostly on the areas of the face exposed to the sun, such as the cheeks, forehead and chin. An etio-pathogenesis of melasma remains unknown. It is difficult to treat and has a tendency to relapse.**Aims and Objective:** 1. To study the demographic profile of melasma. 2. To study the aggravating factors of melasma.**Material and Methods:** Clinically confirmed 70 cases of melasma were included in the study. The parameters included were age, sex, age of onset of melasma, history of sun exposure, family history, menstrual history. Other associated conditions such as hypothyroidism and appearance of melasma after pregnancy was also noted. The type of melasma (malar, centrofacial, and mandibular) was determined by clinical examination. Modified MASI score was calculated in each of the patients.**Results:** Out of 70 patients, 52 were female and 18 were male. 4<sup>th</sup> decade was the most common age group followed by 5<sup>th</sup> decade. Malar type was the commonest type followed by Centrofacial. History of sun exposure and Family history was seen in 15 and 18 patients respectively. 22 females had given history of occurrence of the melasma after pregnancy. Association of hypothyroidism was seen in 6 patients.**Keywords:** Melasma, clinico-epidemiological, Malar.

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**Introduction**

Melasma is a common hypermelanosis that typically occurs on sun-exposed area in the face. The pathogenesis is poorly understood, but genetic and hormonal influences in combination with UV radiation are important. [1]

Melasma is rarely reported before puberty and is far more common in woman especially those of reproductive age group. People with darken skin ( Type IV, V or VI) are more frequently affected. The lesions are brownish macules with irregular borders and symmetric distribution in the face, often coalescing in a reticular pattern. Sun exposure intensifies the lesions.

There are three major pattern of distribution of the lesions: Centrofacial (Forehead, nose, chin and upper lip), Malar (Nose and Cheeks), Mandibular (Ramus mandibulae). The anterior chest and dorsal forearm may also be affected. [1]

**Material and Methods**

Clinically confirmed 70 cases of melasma were included in the study. The parameters included were age, sex, occupation, history of sun exposure and family history. Menstrual history was recorded in all the female patients. Other associated conditions such as hypothyroidism and appearance of melasma after pregnancy was also noted. Wood'S lamp examination was not carried out and the type of melasma (malar, centrofacial, and mandibular) was determined by clinical examination. Modified MASI (Melasma area severity index) score was calculated in each of the patients.

**Results****Age**

In our study 4<sup>th</sup> decade was the most common age group followed by 5<sup>th</sup> decade.

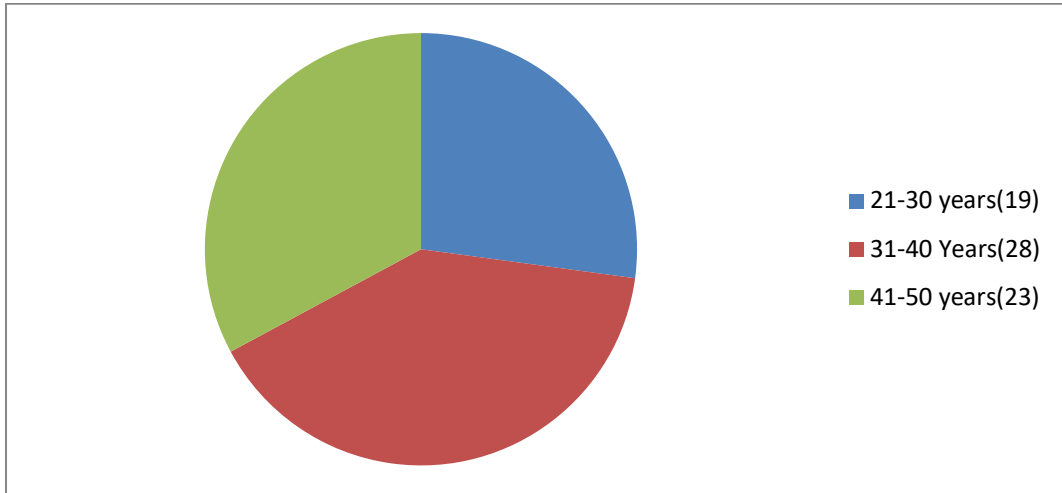


Figure 1:

**Sex:** Out of 70 patients, 58 were female and 12 were male. Female to male ratio was 4.83:1.

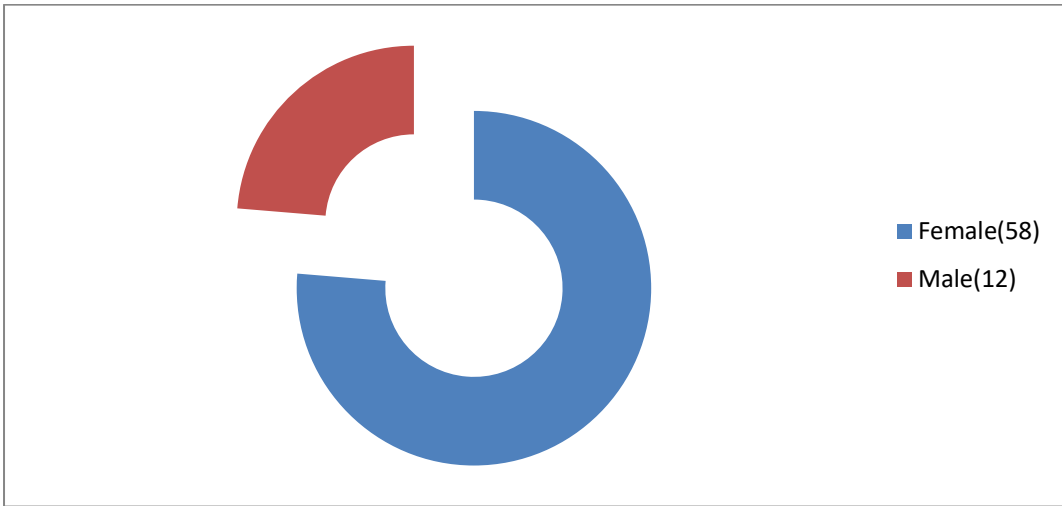


Figure 2:

**Type of Melasma:** Malar type was the commonest type followed by Centrofacial. No mandibular pattern was found in our study.

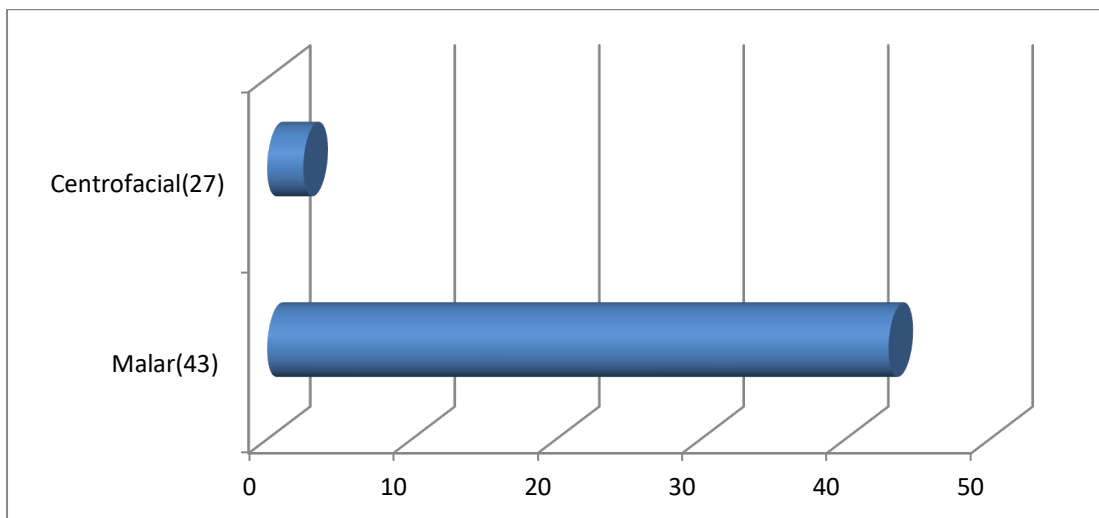
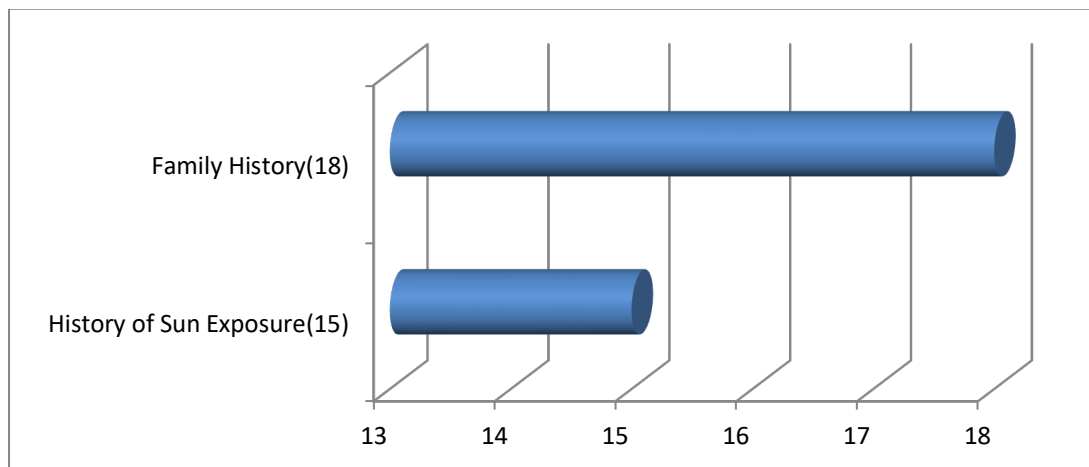


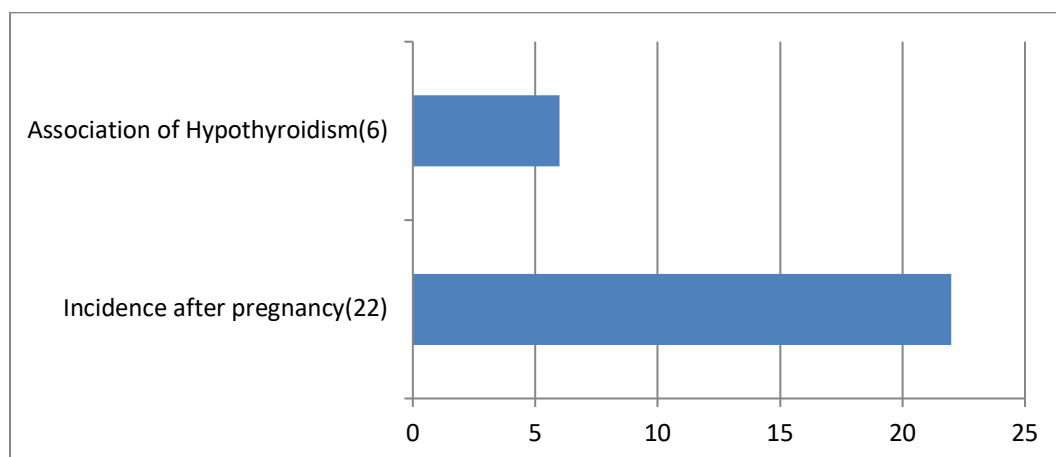
Figure 3:

**History of sun exposure and Family history:** History of sun exposure and family history was seen in 15 and 18 patients respectively.



**Figure 4:**

**Incidence after pregnancy and other associations:** 22 females had given history of occurrence of the melasma after pregnancy and association of hypothyroidism was seen in 6 patients.



**Figure 5:**

**Modified MASI Score:** Average Modified MASI Score was 5.4 in our study.

**Discussion**

Melasma is an acquired hyperpigmentary disorder of the skin. The mean age in our study was 37 years which was comparable to a study by Satish D A et al [2] which was 40.8 years.

The mean age in Jagannathan et al [3] and Singapore study [4] was 40.53 years and 42.3 years respectively. Female to male ratio in our study was 4.83:1 which was comparable to 4.2:1 by Satish D A et al. [2] Females are more prone to develop melasma as shown in Achar et al [5] and KrupaShankar et al [6] with a female to male ratio of 4:1. Kumar et al [7] had a higher female to male ratio of 6.4:1.

Malar subtype of melasma was the most common and seen in 61.42% of patients in our study followed by centrofacial subtype which was seen in 38.57% of patients. Satish D A et al [2] also showed malar subtype as the most common subtype followed by centrofacial. Family history and sun exposure were the significant in our study. Family history was seen in 25.71% of patients.

The incidence of family history was higher in females. Although positive family history was more in women when compared to men, our study shows that a higher percentage of family history in males in comparison to other studies. Achar et al. [5] showed 33.33% with a family history of melasma. History of sun-exposure was seen in 21.42% of patients in our study.

Significant sun exposure was seen in 39.05% of the patients by Satish D A et al. [2] KrupaShankar et

al6 showed significant sun exposure in 70% and 100% in the study of patients in Pune. [8] The Singapore study [4] gave history of sun exposure in 26.8% patients. 31.42% females had given history of appearance of the melasma after pregnancy. Kumar et al [9] noted pregnancy as a precipitating and aggravating factor in 33.33% of patients. Association of hypothyroidism in our study was seen in 8.57% of patients. Hypothyroidism in association with melasma was seen 12.18% by Satish D A et al. [2] The prevalence of hypothyroidism in a cross-sectional, multicenter epidemiology study conducted at eight centers in India was 10.95% of the overall study population. [10]

### Conclusion

A clinico-epidemiological study is more important in identifying the demographic, clinical and other precipitating factors responsible for melasma. The study is also important in prevention of the disease as there are high chances of recurrence in Melasma.

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