

Style and Quality of Life in Patients with Melasma

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Citation: Castilho Lopes CC, de Oliveira Pereira MS, Menezes de Lima BA, Scremin M, Nascimento RK, et al. (2023) Ergonomic Risk of Workers in Compounding Pharmacy. Ann Clin Med Cas Rep Rev: 113.

Received: 05 June, 2023; Accepted: 17 July, 2023; Published: 07 August, 2023

Abstract

Introduction: Melasma is a skin disease caused by melanogenesis dysfunction. It is clinically characterized by the presence of brownish macules, symmetrically distributed, predominantly on the face, which causes psychological disorders and interferes with quality of life.

Objective: to verify the influence of lifestyle on the severity of Melasma as well as the influence of Melasma on the quality of life of its patients.

Methods: This is a cross-sectional study, in which patients with Melasma who are followed up at a dermatology clinic in São Paulo were evaluated. The study included 75 patients, of both sexes, over 18 years of age. All underwent clinical evaluation and later the participants answered three questionnaires, in addition to the medical anamnesis. The first questionnaire is the MelasQol questionnaire, which assesses the quality of life of the individual affected by Melasma, the second questionnaire is the Individual Lifestyle Profile Scale, which assesses the individual lifestyle, and the third questionnaire is the EAS-40 Scale, that assesses psychological symptoms. For the analysis of the severity of Melasma, the MASI scale (Melasma Area Severity Index) was also used.

Results: The mean age was 37.5 years, only 33% of the participants were undergoing medical treatment, however 58% used cosmetics, and 77% were exposed to the sun at least once a week. 40% used sunscreen, 17% were smokers, 40% were alcoholics and 21% used contraceptives. There was an association between lifestyle and the MASI scale, $r=-0.62$ ($p<0.0001$), with the EAS-40, $r=0.59$ ($p<0.0001$), for the risk of Melasma severe for smokers versus non-smokers the odds ratio was 2.4 with 95% CI 1.3 to 4.4.

Conclusion: negative lifestyle can contribute to greater severity of Melasma, and smoking proved to be a risk factor for greater intensity of Melasma. The quality of life of affected patients is influenced by the presence of the pathology.

Keywords: Style; Quality of life; Melasma.

Introduction

Melasma is a word whose root comes from the Greek “melas”, which means black. It is a skin disease caused by melanogenesis dysfunction [1]. Areas with hyperfunctioning melanocytes are clinically characterized by the presence of brownish, symmetrically distributed macules, predominantly on the face, but which can also occur in other locations such as the neck, décolleté and arms [2-4].

Although it occurs in all population ethnic groups, epidemiological studies have shown a higher prevalence in more pigmented phenotypes such as Asians, Hispanics, Indians, Pakistanis and Latinos, people living in intertropical areas, where sun exposure is high [5,6].

Taking racial miscegenation into account, it is estimated that 35% of Brazilian women are affected by Melasma between the second and fourth decades of life [2,7]. Skin types are classified by Fitzpatrick according to the intensity of pigmentation, where I am the least pigmented and VI is the most pigmented. The skin types most affected by Melasma are types III and IV, according to this classification [8,9].

The risk factors for the development of Melasma among men are sun exposure and family history, while in women they are the use of contraceptives, pregnancy and sun exposure [10,11]. Contrary to what happens in pregnancy, the Melasma produced by the contraceptive does not involute with the suspension of the drug. Another risk factor for the onset of Melasma may be lifestyle [12,13s].

Because it is an exclusively cutaneous pathology, without systemic repercussions, the complaint of spots can often be neglected. However, predominantly facial involvement generates dissatisfaction and discomfort, which leads the patient to seek a dermatologist, since the presence of lesions leads to deprivation of social interaction, low self-esteem and lower productivity at work [14].

The "Individual Lifestyle Profile - PEVI, is a simple, self-administered instrument that was formulated to assess the lifestyle of individuals in five fundamental aspects: Nutrition, Physical Activity, Preventive Behavior, Relationships and Stress Management [15]. This questionnaire was validated in 2008, and is one of the most used instruments for this assessment [16].

Lifestyle has been extensively studied because it is related to the development of several chronic diseases such as diabetes, hypertension, heart disease, and some types of cancer. However, this chronic, non-transmissible disease, which is Melasma, there are few studies correlating it to lifestyle. It is possible that the individual's lifestyle may influence the severity of Melasma, as well as the presence of the pathology may interfere with the patient's quality of life. Given the above, this study proposes such an evaluation.

Therefore, the objective of this study was to verify the influence of lifestyle on the severity of Melasma, and the influence of the pathology on the quality of life of those affected, in addition to analyzing risk factors such as the use of contraceptives and exposure to the sun for the development of Melasma.

Methods

This is a cross-sectional study in which 75 patients diagnosed with Melasma were evaluated. The primary outcome of this study is the relationship between lifestyle and the severity of Melasma, and the interference in quality of life and the secondary, to describe the risk factors for the development of this pathology.

Included patients with Melasma of both sexes, from a dermatology service in the city of São Paulo, over 18 years of age, who agreed to participate in the study. For this purpose, the previously selected patients were instructed on how the research would take place, and all who agreed to participate signed the free and informed consent form.

The participants of this study underwent a careful medical evaluation with photographic records and a Wood's lamp, capable of revealing even Melasma that is not seen with the naked eye. Based on this evaluation, the diagnosis and classification were established according to the dark brown color, which indicates a deposit of Melanin in the stratum corneum, which is the most superficial layer, while the light brown color indicates deposits in deeper layers, and, finally, colorations ranging from bluish gray to blue, which indicate deposits in the dermis, where treatment becomes extremely difficult [17,18].

Subsequently, all participants answered three questionnaires, in addition to the medical anamnesis. The first is the MelasQol questionnaire that assesses the quality of life of individuals affected by Melasma. The second questionnaire is the Individual Lifestyle Profile Scale that assesses the participant's lifestyle, and the third is the EAS-40 scale that assesses psychopathological symptoms, open access, self-administered, which was adapted from Symptoms check list 90-R (SCL-90-R) for Brazilian outpatients. In addition to the questionnaires, the severity of Melasma was measured using the MASI scale (Melasma Area Severity Index).

Results

75 individuals participated in this study, all diagnosed with Melasma, the vast majority were female, with an average age of 37.5 years, only 33% of the participants were undergoing medically oriented treatment, however 58% used cosmetics, and 77% exposed to the sun at least once a week. 40% used sunscreen, 17% were smokers, 40% were alcoholics and 21% used contraceptives. Table 1. 61% had a history of previous

pregnancies, the mean number of previous pregnancies was 1.21 per woman.

Table 1 Characteristics of the studied sample

Variables	Measurements
Age years)	37.5±21.1
Men (%)	12
Women (%)	88
Does treatment (%)	33.3
Use of cosmetics (%)	58.6
Exp. Sun (%)	77.3
Up to two/week	46.6
Three and four/ week	34.6
More than four/week	18.2
Use of Protector (%)	40
Smoker (%)	17.3
alcoholics	40
use of contraceptives	21

Association between lifestyle and the MASI scale of patients with Melasma was evaluated, finding an inverse association $r=-0.62$ ($p<0.0001$) and it is clear that the worse the lifestyle, the more severe the disease. o Melasma, Figure 1.

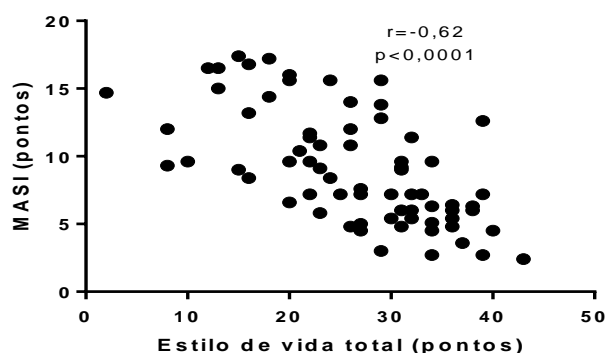


Figure 1 – Correlation between lifestyle and MASI scale

The association between the EAS-40 Score and the MASI scale of patients with Melasma was evaluated, and an inverse association was found $r=0.59$ ($p<0.0001$) and it is clear that the more severe the Melasma, the worse the condition. psychological of the patients shown in Figure 2.

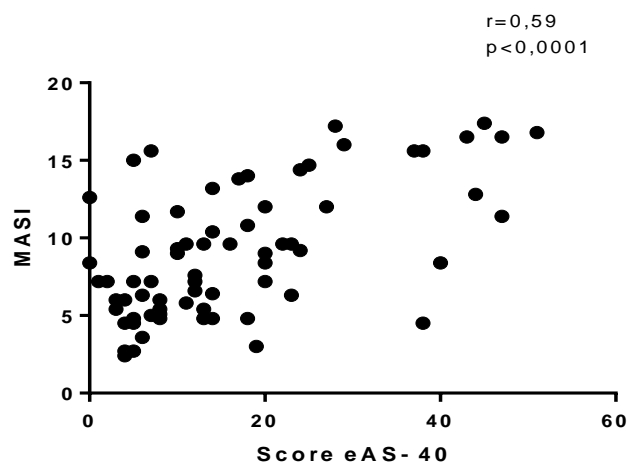


Figure 2 - Correlation between Score eAS - 40 and the MASI scale

The quality of life, the psychological aspects and the severity of Melasma were analyzed in people who use contraceptives or not, no statistically significant difference was found between the groups for psychological aspects and the severity of Melasma, however those who did not use contraceptives had a worse quality of life ($p=0.01$), as shown in Figure 3.

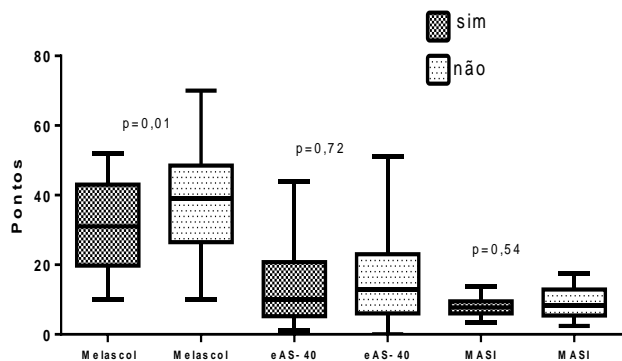


Figure 3 – Analysis of quality of life, psychological factors and severity of Melasma for those who use contraceptives or not. The risk of severe Melasma for smokers versus non-smokers was evaluated, the odd ratio was 2.4 with 95% CI 1.3 to 4.4, shown in Figure 4.

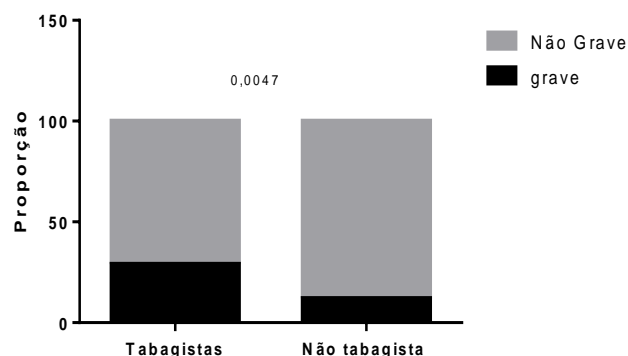


Figure 4 – Risk assessment for severe Melasma in smokers and non-smokers

Discussion

The main objective of this study was to evaluate the relationships between style and quality of life and the severity of Melasma. Among the main results we can discuss: a strong association was found between lifestyle and the severity of Melasma, and smoking proved to be a variable directly related to its severity. A strong association was also found between the severity of Melasma and the quality of life of those affected, interfering with their psychological aspects.

In this study, data collection was performed on patients diagnosed with Melasma. We used the MAIS scale [19] to measure the severity of Melasma, that is, the intensity of the pigmentation of the spots, the EAS 40 scale to assess the psychological conditions of patients [20,21], the PEVI questionnaire with the aim of measuring the lifestyle of respondents [22] and the MelasQol questionnaire that specifically assesses quality of life in Melasma patients [23,24]. All these questionnaires were previously validated in Portuguese for these purposes, making the methodology used in

this study safe. All possibilities of bias and confounding factors were avoided so that the presented results have greater credibility.

Melasma is a common hypermelanosis that affects women more frequently and has a negative impact on quality of life [25,26]. It has a chronic character and a poorly established etiopathogenesis, where several factors such as genetics, hormones, cosmetics, and photoexposure were considered contributors to the disease [13]. Because it is chronic and recurrent, and mainly affects the face, being easily visible, Melasma bothers the patient [27]. In this context, it can have a negative impact on quality of life, affecting their psychological and emotional well-being, interfering with their productivity and social life.

The term “quality of life” involves physical, mental, psychological and emotional well-being, in addition to social relationships, health, education, purchasing power and other circumstances determined by each society [28]. In the field of health, it also includes the patient's subjective assessment, but which is linked to the impact of health and the possibility of living fully. Lifestyle, according to the WHO, is the set of habits and customs that are influenced, modified, encouraged or inhibited by the socialization process [29,30].

Studies have shown a positive impact on quality of life with changes in lifestyle-related habits, including: weight control, abstinence from smoking, increased intake of fruits and vegetables [31,32]. Ascorbic acid is a cofactor for two essential enzymes in collagen biosynthesis, lysyl and prolyl hydroxylase, stabilizing the triple helix collagen and the subsequent secretion in the extracellular space as procollagen, which is later converted into tropocollagen and finally into collagen fibers, (PINNEL et al, 1987). The enzymes involved in lysyl and prolyl hydroxylase are ferric, vitamin C protects against iron oxidation, preventing their inactivation (PHILIPS, 1994).

The human body naturally protects itself by using antioxidants to neutralize the harmful effects of free radicals. Vitamin C is the most abundant antioxidant in the body, especially in the skin, and can also be used topically for this purpose (PINNEL, 2003). On the other hand, cigarette smoke contains nicotine, a substance that causes vasoconstriction, generating cellular hypoxia, with consequent damage to elastic fibers and a decrease in collagen synthesis Jensen et al (1991), which may be the mechanism that leads cigarettes to contribute to the severity of Melasma.

Tobacco also causes the release of superoxide ions, free radicals, which cause tissue damage, and which would normally be inactivated by retinol, beta-carotene and tocopherol, but in smokers, the serum and skin levels of these substances are also reduced (BRIDGES et al 1990). This consideration on the effect of tobacco is observed in this study because it is associated with severe cases, with greater intensity of Melasma pigmentation.

In this study, a strong association was found between the scores on the lifestyle questionnaire and the EAS 40 scale, which assesses the psychological aspects of patients with Melasma. It was seen that individuals who maintain unhealthy habits in all domains analyzed such as: inadequate nutrition, little or no physical activity, social commitment with lack of proper handling in interpersonal relationships, and inadequacy of

measures that relieve everyday stress, raised the score of the EAS 40 questionnaire, which represents a worsening of psychological symptoms. According to studies Berger et al (1983), it was demonstrated that elderly people who practiced physical exercises had more positive personalities than non-practitioners, and those who always did physical activities were more confident and emotionally more secure, in addition to more positive attitudes towards work. Regarding social relationships, Pereira et al (2008) observed that those who practiced physical activity frequently tended to cultivate friends and feel satisfied with their relationships.

We also found in this study a strong association between lifestyle and the severity of Melasma. When comparing the PEVI questionnaire scores with the MASI scale (Melasma severity), we observed a worse presentation of the appearance of spots in individuals with a negative lifestyle.

The associations between quality of life (MelasQol) and the EAS 40 scores (psychological aspects), the domains of the PEVI questionnaire (lifestyle) and the MASI scale (melasma severity) were analyzed, whose results corroborate the hypothesis of the work, where a lifestyle with negative habits is associated with a greater intensity of psychological symptoms and has a negative effect on the quality of life of those evaluated and also correlates with a worse presentation of the disease in question. It is possible that, given what was presented in this study, people who have a good lifestyle also have relative protection in relation to the severity of the disease. People who carry out group activities and feel that they belong to the environment, hardly ever feel alone, and reinforce the importance of social relationships as a human need (PIERON, 2004).

Melasma generates socio-emotional discomfort. In the present study, the general mean of the MelasQol score was 36.8, indicating a negative impact on these patients. The quality of life domains most affected by Melasma were those related to the emotional well-being of those affected, such as: skin appearance, frustration and depression due to the skin condition Cestari et al. (2006), highlighting that Melasma's facial lesions generate dissatisfaction, low self-esteem, deprivation of social interaction and lower productivity at work. Taylor et al. (2008), reports that patients use cosmetics to camouflage the stains, leisure and social activities are hampered by believing that the stains draw more attention than their own dialogue. With the results found, we can state, as well as Scherdin et al. (2008), that Melasma is a dermatosis that generates a negative impact on the quality of life of these patients. Other similar studies, with the application of the MelasQol questionnaire in Brazil, such as Cestari et al. (2007), and Freitag (2007), also verified the affected areas of quality of life related to emotional well-being.

As limitations of this study, we can mention: data collection regarding sun exposure did not measure the time of exposure and the number of hours exposed. The critical hours of sun exposure between 10 am and 4 pm for the development of spots and cumulative photodamage (PURIM et al, 2010). Some data were collected in a dichotomous way, not measuring the amount and time of use, which may have hindered the causal association not only in relation to sun exposure, but also to the use of contraceptives, which are factors implicated in its etiology, according to the literature, (MIOT et al 2009).

The clinical applicability of the study is related to observation, in the case of Melasma, where it was demonstrated that both quality of life and lifestyle are compromised, which would justify treatment with the intention of resuming previously impaired psychic and social functions. In view of this, we must follow the guidance that a healthy lifestyle can be a protective factor against the worsening of Melasma.

Conclusion

A negative lifestyle can contribute to a greater severity of Melasma, and smoking proved to be a risk factor for a more intense presentation of the pathology. The quality of life of affected patients is influenced by the presence of the pathology. Therefore, a new type of approach can be proposed for the treatment of Melasma. An awareness of patients in relation to a more positive attitude in relation to their individual lifestyle, through actions aimed at health education, an understanding that is not only aimed at dermatologists, but at all professionals involved in the care of patients who present complaints regarding the presence of spots on the skin, demystifying them because they are not just an aesthetic disorder.

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