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* Corresponding author.

gayathrikv88@gmail.com

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1 Introduction

There are varieties of skin changes that are associated especially with pregnancy. Physiological dermatologic manifestations during pregnancy include hyperpigmentation¹.

The term facial hyperpigmentation or “Melasma/Faciei” is derived from the Greek word “Melas’, meaning “Black” and “Chloasma” as “The Mask of Pregnancy” or “Butterfly Mask”².

Discoloration can appear at any time during pregnancy but is most common during the second and third trimester of the gestational period and it occurs in (45-75%) of pregnancies.

Turmeric Mask in Reducing Chloasma Faciei among Women

Gayathri K V^{1*}, Divya G A²

1 Associate Professor, Department of OBG Nursing, Sri Devaraj Urs College of Nursing, Tamaka, Kolar, Karnataka, India.

2 Sri Devaraj Urs College of Nursing, Tamaka, Kolar, Karnataka, India.

Abstract

Background: chloasma faciei is a patchy macular hyper pigmentation of the face that usually affects women of reproductive age, most often after childbirth. Melanoma cells produce more melanin in response to a number of aggravating factors. A study was conducted with an aim to discover the effectiveness of home-made turmeric mask for chloasma faciei. **Methodology:** A pretest post-test, control group, design study was conducted on 100 women (50 experimental and 50 control group) who fulfil the inclusion criteria at selected villages. The Data was gathered from women who had chloasma faciei using standardized MASI scale and digital photography using one to one technique. Followed by application of homemade facial turmeric mask for experimental group, which was prepared instantly and administered for duration of 10min, every alternate day the treatment was given for two-months. After 60 days, using MASI scale and digital photography the score was calculated in both experimental and control group. Data was calculated and analyzed. **Results:** major findings revealed that, in experimental group, the post intervention; Area of involvement was 0.0023 lesser than pre intervention score 0.0052. Darkness was 0.0015 which was lesser than pre intervention score 0.0037, in homogeneity the pre intervention score 0.0083 was greater than post intervention score 0.0014. In control group, there was no change in the pre and post intervention scores. **Conclusion:** homemade turmeric mask was effective in reducing chloasma faciei.

Keywords: Chloasma faciei, Turmeric mask, Homemade, MASI Score, Turmeric, Natural ingredients, Milk, Curd

Chloasma usually affects the chronically photo-exposed cutaneous areas, especially the face and neck. On the face, the forehead, cheeks, temporal, upper lip, chin or nose are commonly involved. This disorder has been considered as a benign condition, which usually has only aesthetic implication. It may have a negative effect on a patient's quality of life and their sense of self-worth³.

Melasma formation may be influenced by a number of factors, including Family history, Sun exposure, Hormones, intrauterine devices, implants and hormone replacement therapy, thyroid disorders can be associated with melasma, Medications and scented products trigger melasma⁴.

Irrespective of various treatments available like Hydroquinone (HQ) creams, Tretinoin, Chemical pills, Combination creams or creams with Hydroquinone, a phenolic compound Azelaic acid, non-phenolic bleaching agents, or kojic acid, Laser Therapy there are side effects seen like skin rashes, exogenous ochronosis, post inflammatory hyperpigmentation. From our ancient period we have Ayurveda products like turmeric which has de-pigmentation, lightening skin properties. Milk which contains lactic acid, which is effective for lightening skin, soothes sunburns and diminishes unwanted pigmentation. Curd which helps as a moisturizer and gram flour helps to remove tan. By mixing these products and applying them as a face pack may help to reduce Chloasma among women who can use it very economically, feasible and less time-consuming.

based on various reviews and researcher self-trail made on self-using home available products like turmeric, milk, honey, gram flour, curd and milk cream, Turmeric mask was prepared and applied on women to see the impact in large group in reducing chloasma faciei.

1.1 Statement of the Problem

“A study to evaluate the effectiveness of home-made turmeric mask in reducing chloasma faciei among women at selected villages, Kolar”.

1.2 Objectives

- To measure the chloasma faciei among women in both experimental and control group by using MASI score and digital photography.
- To evaluate the effectiveness of turmeric mask in reducing chloasma faciei among women in experimental group as compared to control group using MASI score and digital photography.

2 Materials and Methods

An experimental study, with pre-test post-test, control group, design was used to conduct the study. The study was conducted at villages coming under Devarayasamudra PHC, Kolar. The Probability simple random sampling method (lottery method) was adopted to select the samples of 100 women and by random allotment women were divided in to 50 experimental and 50 control group who fulfil the selection criteria. Data was gathered from women who had chloasma faciei in both experimental and control group using standardized MASI (Melasma Area Severity Index) scale. MASI scale measures the intensity/type of pigmentation which is the primary factor used to rank melasma on this scale, which

ranges from 0 (none) to 3 (severe melasma). The intensity and homogeneity of pigmentation are scored from 0 to 4, and "area of involvement" is assessed from 0 to 6. The score ranges from 0 to 48, where 48 is the most severe chloasma and digital photography.

Formal permission was obtained from the Institutional Ethics Committee and concerned approval was taken from Ayurveda doctor. The investigator had explained the purpose, duration, procedure, ethical aspects, withdrawal process, side effects; ingredients used in the study to the participants and obtained written informed consent from the participants in both experimental and control group. MASI score and digital photography was taken before intervention. In experimental group, intervention of homemade facial turmeric mask was prepared using Kasturi turmeric powder half spoon (3gm), milk one spoon (15ml), besan powder half spoon(3gm), curd one spoon(6gm), milk skin/lactoderm half spoon(3gm), honey three drops, mixed well and applied to women. While applying, 5 minutes facial massage was given. Left to drying for 5 minutes, further face was washed with warm water. No intervention was given to control group. Every alternate day the treatment was performed for one-month duration. After 60 days, using same MASI scale and digital photography data was collected in both experimental and control group. Confidentiality and anonymity was maintained during the process of data collection. Later, the data was coded and preceded for statistical analysis by using descriptive and inferential statistics.

3 Findings of the study

3.1 Socio Demographic Variable

With regard to sociodemographic variable, in the experimental group, the majority 26 (52%) of chloasmic women were in the age group of 31-40. A maximum 49(98%) were Hindus. Major 17 (34%) had oily skin type. Maximum 31 (62%) had malar pattern of chloasma. a Maximum 46 (92%) had the duration of chloasma for years. There was no history of chloasma among 37 (74%) women before. Pregnancy was the major 32(64%) aggravating factors. A Maximum 35(70%) were allergic to Vitamin E.

In control group, majority 20 (40%) of women with chloasma faciei were in the age group of 31-40. Maximum 50(100%) were hindus. Major 23 (46%) had dry skin type. Maximum 31 (62%) had malar pattern of chloasma. Maximum 49 (98%) had the duration of chloasma for years. There was no history of chloasma 42 (84%). Pregnancy 42(84%) was the major aggravating factors. Maximum 30(60%) were allergic to Vitamin E [Table. 1](#).

Table 1: Distribution of the samples between the Experimental and Control groups based on the frequency and proportion of the sociodemographic characteristics of chloasma women (N=100)

Sl. no	Socio demographic data	Experimental group (n-50)		Control group (n-50)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Age:				
	1.1) 20-30	8	16%	19	38%
	1.2) 31-40	26	52%	20	40%
	1.3) 41-50	16	32%	11	22%
2	Religion:				
	2.1) Hindu	49	98%	50	100%
	2.2) Christian	1	2%	0	0%
	2.3) Muslim	0	0%	0	0%
	2.4) Any other	0	0%	0	0%
3	Skin Type:				
	3.1) Normal	10	20%	2	4%
	3.2) Dry	11	22%	23	46%
	3.3) Oily	17	34%	21	42%
	3.4) Combination	12	24%	4	8%
4	Pattern of melasma:				
	4.1) Centro facial pattern	2	4%	10	20%
	4.2) Malar pattern	31	62%	31	62%
	4.3) Mandibular pattern	0	0%	0	0%
	4.4) All of the above	17	34%	9	18%
5	Duration of melasma:				
	5.1) Days	0	0%	0	0%
	5.2) Weeks	0	0%	0	0%
	5.3) Months	4	8%	1	2%
	5.4) Years	46	92%	49	98%
6	History of melasma:				
	6.1) Yes	13	26%	8	16%
	6.2) No	37	74%	42	84%
7	Aggravating Factors:				
	7.1) Pregnancy	32	64%	42	84%
	7.2) Hormonal therapy	2	4%	0	0%
	7.3) Sun exposure	16	32%	8	16%
	7.4) Cosmetic use	0	0%	0	0%

Sl. no	Socio demographic data	Experimental group (n-50)		Control group (n-50)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
8	Allergic:				
	8.1) Turmeric	2	4%	13	26%
	8.2) Honey	1	2%	3	6%
	8.3) Vitamin E	35	70%	30	60%
	8.4) Any other specify	12	24%	4	8%

Table 2: Comparison of the pre-intervention chloasma faciei in the experimental group and control group in terms of area of participation, darkness, and homogeneity (N=100)

MASI SCALE	Area of involvement	Darkness	Homogeneity
Experimental group (n=50)	0.0023	0.0037	0.0083
Control group (n=50)	0.0067	0.0032	0.0114

Table 3: Comparing the post-intervention homogeneity, darkness, and area of participation of the chloasma faciei between the experimental group and the control group (N=100)

MASI SCALE	Area of involvement	Darkness	Homogeneity
Experimental group (n=50)	0.00580	0.0115	0.0123
Control group (n=50)	0.0067	0.0072	0.0114

Comparison of the pre-intervention chloasma faciei in the experimental group and control group in terms of area of involvement, darkness, and homogeneity

In experimental group, pre intervention value, on the area of involvement, which was 0.0023, darkness was 0.0037 and homogeneity was 0.0083 [Table. 2.](#)

In control group, pre intervention value showed that the area of involvement was 0.0067, darkness was 0.0032 and homogeneity was 0.0114 [Table. 2.](#)

Comparing the post-intervention homogeneity, darkness, and area of involvement of the chloasma faciei in the experimental group and the control group

In experimental group, post-intervention values were, the area of involvement was 0.00580, darkness was 0.0115 and homogeneity was 0.0123. In the control group without intervention the posttest value in the area of involvement was 0.0067, darkness was 0.0072 and homogeneity was 0.0114 [Table. 3.](#)

The mean, standard deviation, and mean percentage of the MASI score before and after the intervention were distributed between the experimental and control groups

In experimental group, the mean value for pre-test was 11.7 and post-test was 8.3, the standard deviation for pre test was 5.5 and post test was 3.9, the mean % for pre test was 12.4% and post test was 8.5%.

In control group, the mean value for pre-test was 12.4 and post-test was 12.4, the standard deviation for pre test was 8.3 and post test was 8.3, the mean % for pre test was 12.9% and post test was 12.9%.

Mean difference, standard error, paired ‘t’ test value of pre and post intervention use of turmeric mask used for the treatment of chloasma faciei in experimental group

The mean difference was 3.49, standard error was 0.31 and paired ‘t’ test value in experimental group was (t_{cal}) was 0.99 and (t_{tab}) was 1.68.

Mean difference, standard deviation, standard error, paired ‘t’ test of turmeric mask of MASI Score for control group

The mean difference was 0, standard error was 1.2 and paired ‘t’ test value in control group was (t_{cal}) was 0 and (t_{tab}) was 1.68

Standard error and unpaired ‘t’ value to find out the effectiveness of homemade facial mask for chloasma faciei between experimental and control group

The effectiveness of homemade facial mask between experimental and control group showed that, the SE was 1.29, the calculated unpaired ‘t’ (t_{98}) was 3.10 at 0.05 level of significance. This showed that the homemade mask was effective in reducing chloasma faciei among women.

4 Discussion

In this study, Findings related to the effectiveness of homemade facial mask showed that, the SE was 1.29, the calculated unpaired 't'₍₉₈₎ was 3.10 at 0.05 level of significance. This showed that the homemade mask was effective in reducing chloasma faciei among women.

Similar findings were seen in the study conducted by Jasmine C H⁷, which showed that Natural Ingredients were effective in the Management of Hyperpigmentation and reducing hyperpigmentation.

Another similar finding in the study conducted by Haidi A⁸ showed that, the current available melasma treatment options often produce undesired side effects and suboptimum results. First-line topical treatments usually involve hydroquinone or topical steroids. Apart from the irritant reactions, this treatment mode is not suitable for all skin types. Skin care specialists are in search of an effective long-term natural ingredients which can be used to address hypermelanosis problems.

4.1 Summary

This study revealed that Natural ingredients can reduce Chloasma Faciei if it is not due to any pathological causes. Finding out the root cause of chloasma faciei is the major task. Treating the cause and using homemade turmeric mask is most useful method to reduce and cure chloasma faciei.

4.2 Nursing Implications

- **Nursing practice**
 - As a trusted member of the health care system nurses can play a pivotal role in providing psychological support to overcome problems with inferiority complexions among women with chloasma faciei.
 - Training for women in order to develop self-care skills by using home ingredients to reduce and manage chloasma faciei and hyper pigmentations.

4.3 Nursing Education

- Nurses should help the women to rule out the cause of chloasma faciei and get treated it and simultaneously follow homemade turmeric mask preparation and application.

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- The findings of the study will help the women to gain confidence to reduce chloasma faciei, which maximum mothers ignore to care it or rule out the cause of it.
- Educate about the importance of our ancient ingredients which are easily available at home in treating skin problems among women.
- More preference can be given to treat chloasma faciei by using home-made turmeric mask with slight modifications in lifestyle.

4.4 Nursing Researches:

- There must be awareness to promote usage of natural ingredients and its importance, which is available at home to treat minor skin problems like physiological hyper pigmentation.
- More emphasis can be given to women in rural and urban areas to adapt our Indian tradition of skin care routine.

4.5 Limitation

- The study is limited to women suffering from chloasma faciei without any pathological, medical-surgical disorders and skin disorders.
- The study is limited to 100 samples.
- Intervention was given only for 60 days.

5 Conclusion

Years ago, the effective skin care regimen was used from our ancestors, which are naturally available at homes, like Turmeric, Honey, milk, curd, milk cream, besan flour. However, modern society is dependent on chemical products due to various reasons, which are more dangerous, or having harmful side effects. Even in terms of cost, it is unaffordable. Instead of running behind expensive and lavish remedy. We can adopt and recommend our ancient tradition of Skin care routine which are easily available with no side effects to our future generations, to have healthy life and also be away from skin problems which perhaps increases in secureness.

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