

Impact on Quality of Life of Glycolic Acid (35%) and Salicylic Acid (30%) Peels in Patients of Melasma

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1. Introduction

Melasma is one of the most commonly acquired disorder of the skin that is characterized by an asymmetrical macular pigmentation mostly on sun exposed areas like the face [1], usually involving areas like forehead, temples, upper lips and chin [2]. It has a serious impact on the quality of life and is usually challenging to treat prevalence in pregnancy is found to be around 50- 70% [3]. Also known as the mask of pregnancy triggering factors like sun exposure, pregnancy, use of oral contraceptives and other steroids, consumption of certain food items, ovarian tumors, intestinal parasitoses, hepatopathies, hormone replacement therapy, use of cosmetics and photosensitizing drugs, procedures and inflammatory processes of the skin, and stressful events are known [4].

Chemical peels form the second line treatment in the ladder of treatment of melasma and are a widely known modality. They also provide additional affects like skin rejuvenation and glowing affect

2. Material and Method

The study will be conducted in the Department of Dermatology, Venerology & Leprology of Teerthankar Mahaveer Medical College, Moradabad (UP)

A sample of convenience will be studied, 60 consecutive melasma patients visiting the out patient's department of Dept. of DVL

Inclusion Criteria

- 1) Voluntary participation in the study
- 2) Patients aged 18 years and above of female gender will be included in the study

Exclusion Criteria

- 1) Patient declining informed consent for the study
- 2) Pregnant and lactating patient
- 3) Patients on immunosuppressive therapy
- 4) Open wounds
- 5) Uncooperative patients
- 6) Active bacterial infections
- 7) Active herpes simplex and herpes labialis
- 8) Viral warts or molluscum contagiosum on the area to be peeled
- 9) History of taking photosensitive drugs and oral contraceptives
- 10) Patients with unrealistic expectations
- 11) History of abnormal scarring, atrophic skin and isotretinoin use in last six months

3. Plan

- 1) The purpose of the study will be explained to the patients and their care givers and informed consent will be taken.
- 2) Patients will randomly divided into two groups of 30 each.
- 3) Group A will be subjected to priming with 4% hydroquinone cream [5] following which glycolic acid (35%) peel will be given to them.
- 4) Group B will be subjected to priming with 4% hydroquinone cream [5] following which salicylic acid (30%) peel will be given to them.
- 5) The lesions will be photographed before treatment and at 4 weeks and then at 8 weeks of treatment under standardised conditions and post peel affect on the quality of life will be assessed using the MELASQOL scale

Aims and objectives

- To know the comparative efficacy of glycolic acid peel (35%) and salicylic acid peel (30%) in cases of Melasma using MASI scale.
- To assess the pre and post peel effect on the quality of life of these patients using MELASQOL scale at a tertiary care center in Western Uttar Pradesh.

4. Results

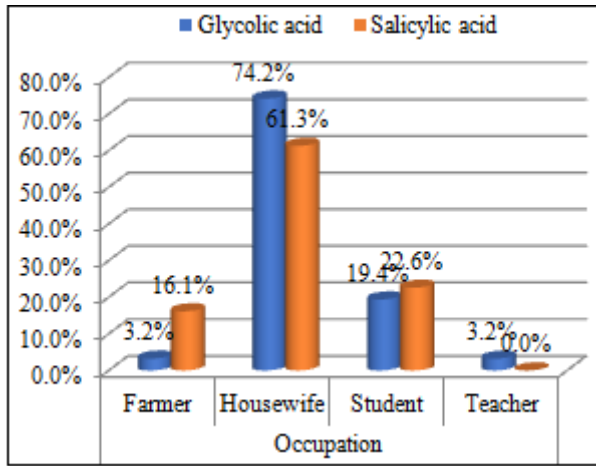
Table

Occupation	Groups		Total	Chi-square value	p-value
	Glycolic acid	Salicylic acid			
Farmer	1	5	6	7.458	0.114
	3.2%	16.1%	9.7%		
Housewife	23	19	42		
	74.2%	61.3%	67.7%		
Student	6	7	13		
	19.4%	22.6%	21.0%		
Teacher	1	0	1		
	3.2%	0.0%	1.6%		
Total	31	31	62		
	100.0%	100.0%	100.0%		

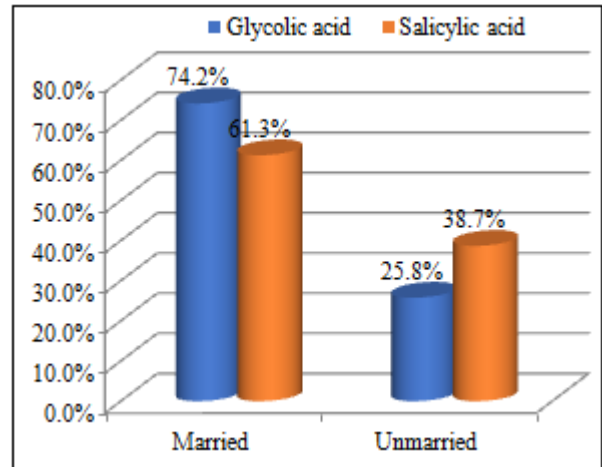
Chi-square test

Non-significant difference

The distribution of subjects according to Occupation was compared between Glycolic acid and Salicylic acid using the chi-square test. No remarkable difference was observed in distribution of subjects according to Occupation between GA peel and SA peel.



The distribution of subjects according to marital status was compared between Glycolic acid and Salicylic acid using the chi-square test. Significant distribution was not seen in distribution of subjects according to Occupation between GA peel and SA peel.



Table

Marital status	Groups		Total	Chi-square value	p-value
	Glycolic acid	Salicylic acid			
Married	23	19	42	1.181	0.277
	74.2%	61.3%	67.7%		
Unmarried	8	12	20	1.181	0.277
	25.8%	38.7%	32.3%		
Total	31	31	62		
	100.0%	100.0%	100.0%		

Chi-square test

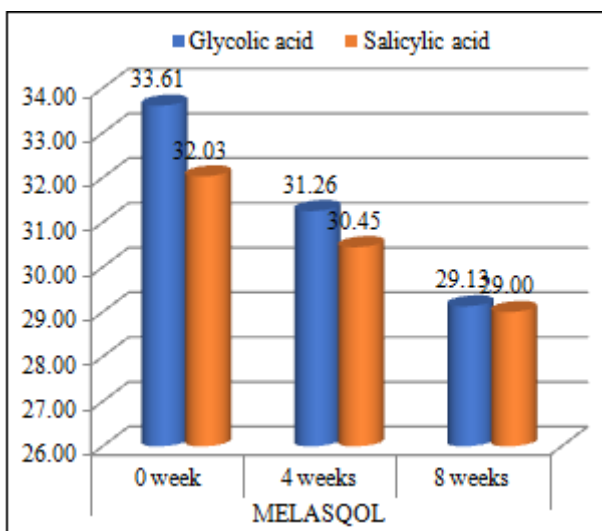
Non-significant difference

Table

MELASQOL	GA Peel		SA Peel		Mean Difference	t-test value	p-value
	Mean	Std. Deviation	Mean	Std. Deviation			
0 week	33.61	6.32	32.03	4.31	1.58	1.150	0.255
4 weeks	31.26	5.63	30.45	4.19	0.81	0.639	0.525
8 weeks	29.13	5.40	29.00	3.94	0.13	0.108	0.915

Unpaired t-test

The mean MELASQOL score at 0 week, 4 weeks and 8 weeks was compared between Glycolic acid and Salicylic acid using the unpaired t-test. There was no significant difference in mean MELASQOL score at 0 week, 4 weeks and 8 weeks between GA peel and SA peel.



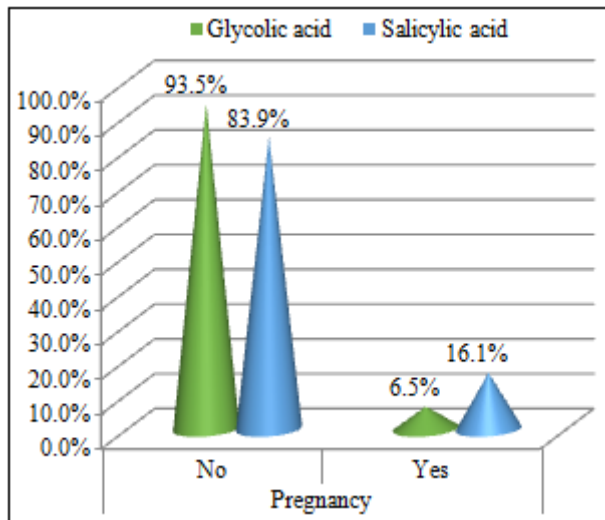
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H/o Recent Pregnancy	Groups		Total	Chi-square value	p-value
	Glycolic acid	Salicylic acid			
No	29	26	55	1.449	0.229
	93.5%	83.9%	88.7%		
Yes	2	5	7	1.449	0.229
	6.5%	16.1%	11.3%		
Total	31	31	62		
	100.0%	100.0%	100.0%		

Chi-square test

Non-significant difference

The distribution of subjects according to H/o Recent Pregnancy was compared between Glycolic acid and Salicylic acid using the chi-square test. Significant difference was not observed in distribution of participants according to Pregnancy between Glycolic acid and Salicylic acid.



5. Discussion

In melasma there develops darkness over the cutis which can be epidermal or dermal. According to area of involvement there are various features. Centofacial, malar and mandibular are the clinical types of melasma. Severe blemishes like melasma affects the quality of life and also affects self-perception in the society.^[6] it leads to social deprivation, low esteem and depression. Females of reproductive age group are mostly affected.^[7]

Chemical peel when applied to the skin leads to uprooting of epidermis in a controlled manner without affecting the dermal layer, causing desquamation and shifting of upper lesions, causes restoration of epidermis and dermis.^[8] one of the famous treating option for melasma is chemical peeling. It causes a controlled chemical burn in the skin and removes the unwanted melanin, this is the mechanism of action.^[9]

In the study by *Desale et al.*^[7] males constituted 16% of study group whereas there were just 10% in *Katasambas et al.*^[11] study. In the study by *Desale et al.*^[7] 5:1 was women to men ratio and *ArunAchae et al* showed 4:1 ratio.^[9] Male involvement was 19% in *ArunAchar et al*^[10].

In this disease there is female predominance. Role of hormones might be there.^[12] melasma can be triggered by oestrogen. It is found to occur more during pregnancy and in those who take OCP's^[13,14]

The mean age of the study population was 29.44 ± 7.08 years which was in accordance with the study by *Saeed et al.*, the mean age of patients was 28.88 ± 6.02 years and the maximum number of patients (36%) were in age group 26-30 years, *Godse et al.*^[15] and *Puri et al.*^[16] having mean age of 30.02 and 29.72 years, respectively

There was not much difference in the MELASQOL score of both glycolic acid and salicylic acid peels, though both the peels were capable of bringing down the score from week 0 to 8th week. This signifies that both the peels are effecting in reducing melasma and therefore improving the quality of life and self confidence of the patients in the two groups

It is important to have a disease-specific, dermatologically

relevant HRQOL questionnaire for melasma which focusses on its effect on the psyche. Most researchers have found that melasma has a greater impact on the psychological health of the patient as compared to physical health. However our study showed that physical health was most likely to be perceived as affected by melasma. This could be due to less educated patient population in our study who are likely to be misinformed about the disease. In the authors experience, many patients associate melasma with iron deficiency and as a sign of some underlying undiagnosed physical ill health^[17].

This may also point towards an increased need to educate our patients about the etiopathogenesis of melasma.

MELASQOL is shown to have discriminatory power and high consistency, social life, recreation and leisure, and emotional well being are the most affected domains of quality of life. MELASQOL was constructed in English and cross cultural adaptors were then made in Spanish, Brazilian, Portuguese, Turkish and recently in Hindi^[18,19,20].

6. Conclusion

Hence MELASQOL is a reliable tool that can be used to measure the quality of life of melasma patients and treating them accordingly

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