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PHYTOCHEMICAL ACTIVITY FROM HERBAL FACE PACK AND THEIR APPLICATIONS ON ANTIBACTERIAL ACTIVITIES

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Abstract: The aim of this process is to formulate and evaluate the herbal face pack for reducing acne by using natural herbal product. The natural ingredient such as chickpeas, turmeric, neam, orange peel are purchased and dried the herbal product, the powdered sample were mixed in the solvents such as chloroform, hexane and methanol. Based on this solvents the phytochemical activity test were done to differentiate the results of herbal face pack. The antibacterial activity of the herbal product was carried out using agar well diffusion method. The activity was shown the zone of inhibition. The results showed that neam product effective in chloroform, orange peel effective in methanol, chickpeas effective in hexane. It follows that antibacterial activity of herbal face pack is shows the effective against the acne.

Keyword: Natural herbal product, *S.aureus, Pseudamonas sp.*, phytochemical test

INTRODUCTION:

Since the ancient era, people are aware of the use of plants for the essential needs of a healthy and beautiful skin. Skin problems are normally due to impurities in blood. Thus may cause skin disease by improper food. The beauty of skin basically depends on individual health, diet, climatic condition and maintains. It causes wrinkles, sunburns, and freckle. Turmeric, the herbal paste which is applied on face to treat acne, pimple scars, marks and pigments are known as "mukha lepa" in Ayurveda. The process of smearing this herbal mic on face is known as "mukha lepa". Thus beauty therapy is popular as facial. The smooth powder which is used for facial application is face pack.

The aim of this work is to formulate and evaluate an herbal face pack for glowing skin by using natural herbal ingredients. Result of this study scientifically verified that herbal face pack having enough potential to

give efficient glowing effect on the skin. Nee is best known for the anti-aging properties. Due to its antioxidant properties, neem protects the skin in form harmful UV rays, pollution and other environmental factors. The vitamin and fatty acid in neem improves and maintains the elasticity of the wrinkles and fine lines. This makes our skin look rejuvenated and youthful. It has an anti-anti-inflammatory, antiseptic activity and highly beneficial for oily and acne prone skin. It is commonly used in antibacterial agents. Herbal cosmetic also known as natural cosmetics.

With the beginning of the civilization mankind had the magnetic dip towards impressing others with their looks. At the time, there we're no fancy fairness complained in the Ayurveda. Herbal cosmetic like herbal face wash, herbal conditioner, herbal soaps, herbal shampoo, and many more are highly acclaimed by the masses, instead enrich the body with nutrients and other useful minerals. Herbal cosmetic are comprised of Flores like ashwagandha, sandal, saffron, and many other is augmented with healthy nutrient sand all of the other necessary components. The antibacterial properties of neem help a great deal in keeping a check on breakouts like acne, pimples, and black/whiteheads. It also helps in clearing excess oil and frit from deep within the skin pores. The best way to use neem it go make a natural skin toner with it. Orange-peel, it is covering of citrus fruit which contains different nutritional source such as vitamin C, C2, potassium and magnesium. It prevents the skin from radical damage, skin hydration and oxidative stress. Also it have instant glow property, prevent acne, blemishes, wrinkles and aging. Orange peel is known for promotion clear, glowing and youthful skin. Orange peel powder is rich in vitamin C that helps various types especially oily skin types to form the collagen and elasticity of the skin, since orange peel have antibacterial properties, and it fights upon acne forming bacteria to give flawless skin. Orange peel powder mixed rose water and applied on affected spot for foot result. Natural oils in orange helps to moisture skin providing softer healthier looking skin for longer. Orange-peel also cures the oily skin, the changes are big that you suffer from clogged pores and develop a lot of blackheads.

A mask prepared by orange peel powder and yogurt can bring you amazing results. It will not only unclog our skin pores by pulling dirt and excess oil out, but will also finish our existing blackheads. Orange peel powder can keep our skin pores open by climinatinh all sorts of impurities from it. Therefore orange peel powder in our daily skin care regime can be extremely helpful in keeping all the signs of lagging. Chickpeas, thus can be attributed to the manganese in garbanzo beans. Which offers energy to the cells and is known as to fight free radicals that can be cause wrinkles. And the vitamin work as fuel for the cells. Chickpeas are rich in magnesium which helps reduce the fine lines and wrinkles on the skin. It helps in balancing out the fatty acid in the body with increases the elasticity of the skin, get rid of wrinkles and smoothness out the fine lines. It also prevents premature wrinkles. Various factors affect sebum production and it can become a pain as it leads to various skin problems. Chickpeas are loaded with antioxidant and anti-inflammatory properties plus have the glycaemic index and act as pH balancer, and all these factors help in balancing sebum production of the skin. The magnesium and zinc in the little beans help in getting rid of spots. Uneven skin tone, fine lines and acne spots which results in a blemish free and radiant skin. The anti-inflammatory properties and antioxidant protect the skin from free radicals that may harm the skin. Recent studies have concluded through packs and masks. Chickpeas have the perfect balance of magnesium, molybdenum, and vitamin B that helps

in exfoliating and detoxifying the skin along with repairing the damage done by the skin. As all of that is taken care of, it results in a reduction of dark spots permanent.

MATERIALS AND METHODS:

Sample collection: Selected samples of turmeric, neem, orange peel, chickpeas are collected from local market.

Culture collection: The clinical pathogen were collected from bioline laboratory.

Extract preparation: 16gm of herbal powder was disclosed in 50ml of solvent in conical flask, kept in room temperature for 3 days. Filtered using whattman filter paper and kept for exportation and add dimethyl sulfoxide for resuspend.

Broth preparation: The clinical pathogen culture in nutrient broth for overnight.

Antibacterial activity: The test performed by agar well diffusion method. The broth were swabbed on MHA plate and punctured using well cutter. Streptomycin mixed with DMSO to give a positive control and done for incubation.

Qualitative analysis of herbal extract for phytochemical test: The sample was mixed in solvents and used for extraction.

- Test for tannin: 1ml of extract were added in 1ml of ferric chloride. The formation of green grey/ dark blue indicates presence.
- Test of saponin: 1ml of extract mixed in 1ml of distilled water and shaken. The formation of foam indicates presence.
- Test of phenol: 1ml of extract mixed in lead acetate. White precipitation shows the presence.
- Test of alkaloids: 1ml of extract mixed with 1ml of Hcl, and add few drops of hagerts reagent. A yellow precipitate indicates the presence.
- Test of flavonoids: Herbal extract added in NaOH solution, yellow colour formed. Add diluted Hcl and indicates the presence colour colorless.

RESULTS AND DISCUSSION

Antibacterial effect of four herbal extract against clinical pathogens:

From the results obtained, the extract of samples were effective against some solvents. Turmeric were effective in Methanol. Neem were effective in Chloroform. Orange peel were effective in Methanol. Chickpeas were effective in Hexane. Most samples were effective against *Staphylococcus aureus* and *Pseudomonas sp.*,

The Streptomycin which serves as a control shows intermediate inhibitory activity against three of the clinical pathogens and sensitive inhibitory activity against two of the clinical pathogens. The results shows that solvent which are effective in samples, which are used for the skin tone for brightening and cure of acne.

TABLES-1 TURMERIC EXTRACT

S. No	ORGANISM	ZONE OF INHIBITION (mm)			
		METHANOL EXTRACT	CHLOROFORM EXTRACT	HEXANE EXTRACT	CONTROL (Streptomycin)
1.	*Escherichia coli*	-	5	5	9
2.	*Pseudomonas*	3	-	-	10
3.	*Staphylococcus aureus*	2	-	-	11

TABLES: 2 NEEM EXTRACT

S. No	ORGANISM	ZONE OF INHIBITION (mm)			
		METHANOL EXTRACT	CHLOROFORM EXTRACT	HEXANE EXTRACT	CONTROL (Streptomycin)
1.	*Escherichia coli*	3	-	3	7
2.	*Pseudomonas*	-	4	-	10
3.	*Staphylococcus aureus*	-	6	-	16

TABLES: 3 ORANGE PEEL

S. No	ORGANISM	ZONE OF INHIBITION (mm)			
		METHANOL EXTRACT	CHLOROFORM EXTRACT	HEXANE EXTRACT	CONTROL (Streptomycin)
1.	*Escherichia coli*	-	5	-	8
2.	*Pseudomonas*	6	-	4	9
3.	*Staphylococcus aureus*	5	2	-	11

TABLES: 4 CHICKPEAS

S. No	ORGANISM	ZONE OF INHIBITION (mm)			
		METHANOL EXTRACT	CHLOROFORM EXTRACT	HEXANE EXTRACT	CONTROL (Streptomycin)
1.	*Escherichia coli*	-	-	4	6
2.	*Pseudomonas*	7	4	4	10
3.	*Staphylococcus aureus*	-	4	1	12

Phytochemical analysis of four samples extract:

Majorly, all the phytochemicals like Tannin, Saponin, Phenols, Alkaloids, and Flavonoids were present all in the four samples (Turmeric, Neem, Orange peel, Chickpeas). Neem and orange peel were majorly present of results.

TABLE-5 METHANOL EXTRACT

S. No	PHYTOCHEMICALS	TURMERIC EXTRACT	NEEM EXTRACT	ORANE PEEL EXTRACT	CHICKPEAS EXTRACT
1	Tannin	+	+	+	-
2	Saponin	-	-	-	-
3	Phenol	-	+	-	-
4	Alkaloids	-	-	+	+
5	Flavonoids	+	-	-	+

TABLE-6 CHLOROFORM EXTRACT

S. No	PHYTOCHEMICALS	TURMERIC EXTRACT	NEEM EXTRACT	ORANE PEEL EXTRACT	CHICKPEAS EXTRACT
1	Tannin	+	+	+	-
2	Saponin	-	+	+	+
3	Phenol	+	+	+	-
4	Alkaloids	+	-	-	+
5	Flavonoids	+	+	+	+

TABLE-7 HEXANE EXTRACT

S. No	PHYTOCHEMICALS	TURMERIC EXTRACT	NEEM EXTRACT	ORANE PEEL EXTRACT	CHICKPEAS EXTRACT
1	Tannin	-	+	+	-
2	Saponin	+	+	+	+
3	Phenol	+	+	+	-
4	Alkaloids	+	-	+	+
5	Flavonoids	-	+	+	+

DISCUSSION:

From the above observation it has been notified that since the formulation is made of naturally occurring dried herbal ingredients. Among those sample, in anti-bacterial activity the most resulted extract is methanol which shows the effectiveness of sample which are used as herbal face pack, for skin which cures the acne & gives brightening.

Phytochemical result shows the compounds present test of used in samples. Most of sample shows compounds in tannin, saponin & alkaloids. In the above scenario, people need cure for various skin problems without side effects. Herbal ingredients opened the way to formulate cosmetics without any harmful effect.

Herbal face pack or mask are used to stimulate blood circulation rejuvenates those muscles & help to maintain the elasticity of the skin & remove dirt from skin pores. It is suggested that the prepared formulation was physiochemical and microbiologically stable, & possessed characteristics of standard cosmetics formulation for skincare.

The result shows that solvent which are effective in samples, which are used for the skin tone for brightening and cure of acne. The study of nature, colour, odour, taste, texture, ash values, moisture content and P_H of dried powders of combined from under investigation provided the important feature of organoleptic and phytochemical evaluation.

The advantage of herbal cosmetics is their non-toxic nature, reduce the allergic reactions and time tested usefulness of many ingredients.

SUMMARY AND CONCLUSION:

The herbal sample were collected from super market in Coimbatore. The sample were dried and powdered. The clinical pathogen were collected from Bioline laboratory in Coimbatore. The powdered sample were mixed with different solvents. The sample were filtered with Whattman Filter Paper. Antibacterial activity were done by Agar well diffusion method. The sample were loaded in the well. After 24 hours of incubation the zone of inhibition was measured and recorded. Streptomycin were added as the positive control to check and compare the zone of inhibition of effectiveness of the sample were mixed solvents such as Methanol, Chloroform and Hexane.

Antibacterial activity of herbal sample of Turmeric were effective in methanol extract, neem were effective in chloroform, orange peel were effective in methanol, and chickpeas were effective in hexane. Most samples were effective against *Staphylococcus aureus* and *Pseudomonas sp.,*

Phytochemical analysis were done to check the presence of compounds present in the collected herbal sample. Tannin and Saponin shows more result on the herbal sample. The sample were tested by various methods to check he effectiveness based on the concentration. Herbal face pack or mask are used to stimulate the blood circulation, rejuvenate those muscles and help to maintain the elasticity of the skin and remove dirt from the skin pores. It is a very good attempt to establish the herbal face pack containing different powders of skin.

Thus is the present work, we found good properties for the face packs of turmeric, neem, orange peel, chickpeas further optimization studies are required on this study are required on this study to find the useful benefits of face packs on human.

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