

DEVELOPMENT OF HERBAL HAIR TOWEL WARP FOR ANTI HAIRFALL PROPERTY

Sudthiksha.M¹(B.Sc.), Mrs. S. Vijayalakshmi² M.Sc., MBA.,

1. UG student, Department of Costume Design and Fashion, Dr N.G.P Arts and Science College, Coimbatore.

2. Assistant Professor, Department of Costume Design and Fashion, Dr N.G.P Arts and Science college, Coimbatore.

Email:sudthikshamohan2853@gmail.com, vikacool87@gmail.com

ABSTRACT

The worst thing ever is trying to dry your wet hair with a conventional towel. The roughness and abrasiveness of a towel can harm hair. It is true that using normal towels can exacerbate split ends and form tiny craters along the hair shaft, weakening the hair and causing frizz. Major signs of damaged, dry hair in need of moisture include frizz. Moreover, typical towels simply absorb all the moisture, leaving hair frizzy and dry. It all depends on the fabric, which is often cotton or a cotton/wool combination. This material is well-liked since it is strong and absorbent, therefore It is also excellent for easily absorbing water from the skin. The disadvantage is that it might cause harm to your hair. Towels made of regular material feature wider loops and a looser weave. When used to dry your hair, this results in extra frizz and friction. Throw away that standard ordinary towel if you want your hair care game to be on point. The main objective of this work is to develop such an herbal hair towel formulation which can resolve the problem related to hair fall & other hair diseases. The hair towel was prepared individually and in a varying concentration of all.

Keywords: Herbal towel, cotton, Acacia concinna, Mentha piperitae essential oil.

1.INTRODUCTION

Hair towels are straightforward, inexpensive beauty items that can significantly improve the look and condition of your hair. Yet, given all the available alternatives, picking the best one can seem a little overwhelming. Let's examine the science behind the hair-boosting properties of hair towels so that you can choose the ideal towel for your hair needs. The heavy, cumbersome bath towels that many people wrap around their heads after a shower or bath are being swiftly replaced by hair towels, a relatively recent addition to the hair-care and beauty market. A quick dry hair towel is ideal for all hair types, including curly, fragile, and straight hair because it is made of ultra-absorbent materials. Use a hair towel to dry your hair. a quick-dry hair towel is ideal for all hair types, including straight, curly, and sensitive hair. In comparison to how long it would take with a conventional towel, a hair drying towel helps your hair complete drying considerably more quickly. This gives you a tonne of extra time in your schedule to take care of your hair, put on makeup, or just sleep in. Your hair may actually dry more quickly with a hair turban towel than with a standard cotton towel, depending on the material used.

OBJECTIVES

- To select the fabric and dye using acacia concinna essence.
- To extract the essence from the acacia concinna ,Mentha piperitae essential oil.
- To pre-treat the fabric using soda ash and soap powder.

- To apply dye on the cotton fabric using herbal towel.
- To test the developed herbal towel for its colour fastness and sundry ability.

2.METHODOLOGY

2.1 Flow chart

- ✚ Selection of fabric(cotton)
- ✚ Selection of herbs (Acacia concinna ,Mentha piperitae essential oil)
- ✚ Collection of fabric and desizing it
- ✚ Extraction of herbs(by boiling method)
- ✚ Inserting the essence into a fabric
- ✚ Testing (Fastness , sun dry)
- ✚ Result

2.2 Selection of fabric

Cotton



Figure.1(Cotton fabric)

Cotton fabrics are hygienic, strong, and resistant to wear, washing, and the effect of light, but they do not have required elasticity, that is, they stretch and become very wrinkled. Cotton fabrics are classified as domestic or industrial, depending on their purpose. Domestic fabrics account for approximately 80 percent of all cotton fabrics, including apparel (for undergarments , shirts, dresses, and suits), moisture-absorbing, and decorative fabric.

2.3 Selection of herbs

2.3.1 ACACIA CONCINNA and MENTHA PIPERITAE



Figure.02 (Acacia concinna and Mentha piperitae essential oil)

- Commonly termed as the 'hair-fruit', it promotes hair growth, reduces hair fall, controls dandruff and relieves skin ailments. From the ancient time, these soap pods being natural surfactant are being used for cleansing the scalp, strengthening the hair from roots, providing relief from scaling and also removing itching, dryness, greasiness and scaling of the scalp.
- Peppermint oil comes from the peppermint plant, which is a hybrid of spearmint and water mint. People have used peppermint oil for centuries to treat a range of illnesses, including digestive conditions, colds, and headaches. However, according to the National Centre for Complementary and Integrative Health (NCCIH)Trusted Source, scientists have only carried out a small amount of research into the effects of peppermint oil. Although research suggests that essential oils may have some health benefits, it is important to remember that the Food and Drug Administration (FDA) does not monitor or regulate the purity or quality of these. A person should talk with a healthcare professional before using

essential oils, and they should be sure to research the quality of a brand's products. A person should always do a patch test before trying a new essential oil.

2.4 Desizing

Desizing is a process of removing the size material from the fabric, which is applied in warp yarn before weaving. The sized material is removed to facilitate the penetration of dyes and chemicals in the subsequent wet processing operations.

- 1.The fabric was weighted on an electronic weighting balance
- 2.The cotton material is wetted in water for 15 minutes.
- 3.It was then transferred to a bath containing H_2SO_4 of 2 ½ liters and soap powder 5 tsp spoon.
- 4.The fabric is treated at medium temperature for half an hour.
- 5.After desizing process the fabric is squeezed and it is dried.

The cloth should be stored in a closed condition to prevent evaporation. If a material is exposed to air degradation of cloth will take place.

2.5 Extraction of essence



Figure-06(extracting process)

- 1.Collect the herb and Combine in a large kettle.
- 2.Add enough water to cover the herb.
- 3.Simmer on range until the herb looks faded and dye has transformed to the water(about 1 hour). Filter it .
- 4.The liquid is your dye.

2.6 Dyeing process

- 1.Add the pre wetted fibre to the dye bath
- 2.Slowly raise temperature to a simmer, 88 degrees C or 190 degrees F.
- 3.Simmer for 1 hour.
- 4.Remove from the dye bath. Rinse fibre in lukewarm water. Make sure the water runs clear of dye
- 5.Hang it to dry away from sunlight.
6. you must be very careful of felting. Never allow the temperature to go higher than simmering point and when you turn off the heat make sure that you allow the dye bath to cool down naturally to room temperature before removing the fabric.
- 7.Also, make sure that the dyeing pot is big enough so that the fabric can move freely and the dye can be evenly absorbed.

2.7 Adding the *MENTHA PIPERITAE ESSENCIAL OIL*



Figure-08(spraying method)

1. Bring 1 cup (240 millilitres) of water to a simmer in a saucepan. Try to use filtered or distilled water if you can. Ordinary tap water contains too many chemicals and minerals, which may cause build-up in your hair overtime. Heating the water will make the salt easier to dissolve.
2. Add 4 to 5 drops of peppermint essential oil in the boiling water. let it to be cool. Pour the mixture into a spray bottle.
3. Close the bottle tightly and shake before use. This will help further blend the ingredients.
4. Spray the mixture evenly in the fabric and let it to dry.
5. After dried iron the entire fabric.

3. RESULT AND DISCUSSION

3.1 COLOUR FASTNESS TO WATER

Scope: This testing is used to determine the colour fastness of fabric to water.

Sample collection: Random sampling

Sample size: 40 cm full width fabric

Atmospheric condition: 70° to 90° F

Conditioning timing: Minimum 1 hour

Apparatus used: Per spirometer, Air oven, Aluminium container, grey scale for assessment.

Testing Procedure:

Cut the specimen to the size of 40mm X 100 mm

Cut the standard covering fabric to the sample size.

Sandwich the specimen between the standard covering fabric and stitch all the four sides.

Take distilled water in 1:50 ratio and fully wet the sandwiched specimen for 30 min.

Now place the wetted sample between two plastic plates and place all plastic plates one above the other.

Now transfer the plates on bottom metal plate of the per spirometer.

Place the top metal plate and adjust the load with the help of thumb screws.

Then keep the loaded instrument in the air oven for 4 hours at a temperature of 38+- 1° C

After 4 hours remove the sample specimen from the instrument and remove the stitching

Compare the test specimen with the original sample for change in colour compare with scale also.

S. NO	Cloth colour	Specimen size	Immersi on time	Temperature	Crocking test	Soap	Wash water	Light	Chlorine
1.	White	40mmX100 mm	1hr.	Room temperature	Good	Excellent	Excellent	Excellent	Good
2.	Pale yellow	40mmX100 mm	1hr.	Room temperature	Good	Good	Good	Good	Moderate
3.	Yellowish white	40mmX100 mm	1hr.	Room temperature	Good	Good	Good	Good	Good
4.	Yellowish	40mmX100 mm	1hr.	Room temperature	Moderate	Moderate	Good	Good	Moderate

Compare the standard covering cloth with the fresh sample

RESULT

Colour fastness tests might be more important depending on the design and intended use textile products. Standards tests for colour fastness to water wash, chlorinated water, soap and other unique conditions. Results were findings the 15 ml treated extract shows no colour is fad. 75 ml treated extract shows slightly fad the colour. 95 ml and 105 ml treated cloths are not fading while doing above tests.



Figure 09- before and after sample(15ml)



Figure 10- before and after sample(75ml)



Figure 11- before and after sample(95ml)



Figure 12- before and after sample(105ml)

3.2 SUNDRY TEST:



Figur-13(sundry test 15ml)



Figure-14(sundry test 75ml)



Figure-15(sundry test 95ml)



Figure-16(sundry test 105ml)

4.SUMMARY AND CONCLUSION

- ❖ This herbal hair towels had many advantages.
- ❖ Helps for hair growth.
- ❖ Remove dandruff .
- ❖ Hair become thick and shiny.
- ❖ Reduce hair fall.
- ❖ Good for scalp.
- ❖ Reduce stress level.

WASHCARE INSTRUCTION

- Hand wash/Gentle wash separately with cold water.
- Hang dry in shade.
- Wash gently at room temperature (30 degrees).
- Natural colour may bleed.

ANNEXTURE



Figure-17(view of herbal hair towel left ,right ,back)

- ❖ <https://snihaircare.co.uk/blogs/blog/why-you-should-never-dry-your-hair-with-a-regular-towel#:~:text=The%20coarse%20texture%20and%20dryness,hair%20in%20need%20of%20moisture.>
- ❖ <https://www.turbietwist.com/blogs/hair-towels-101/the-truth-everyone-needs-to-know-about-cotton-hair-towels>
- ❖ <https://chiangmaicotton.com/toiletries/lucius-hand-spun-cotton-hair-towels-natural.html>
- ❖ <https://bebodywise.com/blog/shikakai-benefits-for-hair/>
- ❖ <https://www.netmeds.com/health-library/post/shikakai-traditional-uses-of-this-potent-ayurvedic-herb>
- ❖ <https://www.healthline.com/health/benefits-of-peppermint-oil>
- ❖ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4289931/>