



### “Anaysis of the Adverse effects of synthetic dyes (hair colour) In comparison with Ayurvedic alternaties –Discriptive study.”

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**Abstract:-** Recently the use of synthetic dyes in hair colour has been increased very rapidly, Not only to cover their white and grey hairs but also to give hair a different fashionable look. For this different colours are also used by people but these hair dyes results in lot of adverse effects . To analyse these effects in comparison with *ayurvedic* alternatives this study will be carried out & Conclusion done accordingly.

**Key word** – hair colour, synthetic dye, *ayurvedic* alternative

**Introduction-** Now a days use of hair colour with synthetic dye

has been increased rapidly. Dyeing hair is necessity for some people to look young by covering their grey hair while for others it is a thing of fashion and fun. But these synthetic dyes results in adverse effect of health of hair and because of this, So to find out other alternative is need of hour.

#### Aim-

- To study the adverse effect of synthetic hair dye in comparison with ayurvedic alternatives.

#### Objective:

1. To study about the types of hair dye
2. To study their various adverse effects
3. To study *ayurvedic* alternatives
4. To study safety of these alternatives

#### Material & Method:

Books available have been studied. *Ayurvedic* text are referred and internet surfing done.

#### ➤ Discussion

#### Types of hair dyes

#### Permanent hair dye :

These type of hair dye penetrate through hair shaft , reaching the Cortex. They have to touched up at least once in three month.

Most of the permanent dyes use ammonia to penetrate the hair shaft and increase pH levels.

### **Semi – permanent hair dyes:**

They only coat the hair shaft cuticle and partially penetrate the cortex .

### **Temporary hair dye:**

They don't penetrate the hair cortex and need to be Touched up every few weeks .

### **Bleach:**

It is used to lighten hair that is dark hair colour to light hair colour.

### **Ammonia free hair dyes:**

They are also called demi-permanent hair dyes. They don't contain ammonia but contain hydrogen Peroxide , para dyes and resorcinol. They are softer on the hair.

There are many adverse-effect of hair dyes is seen as<sup>1</sup>

**1. Hair damage:-** permanent hair colour often contains ammonia and per-oxide. The ammonia breaks through hair shaft and peroxide neutralize the natural pigment in hair, stripping away colour. This process of relaxing the hair cuticles to reach the cortex of hair and bleach out its natural pigment is hair damage.

**2. Allergic reactions:-** It is because of *paraphenylenediamine* (PPD) of permanent hair colour. People with skin problem like eczema, psoriasis and contact dermatitis are particularly prone to reactions due to PPD present in dye. In certain individuals the use of hair colouring can result in allergic

reaction, skin irritation, symptoms of these reactions can include redness, itching burning sensation which sometimes not be appear at the time of application & processing of the dye , but can also arise after hours or even a day later.

**3. Conjunctivitis:** If precaution has not been taken while applying hair dye, it comes in contact with eye which leads to conjunctivitis<sup>2</sup>

**4 Bronchial asthma:** Inhalation of the chemicals in hair dyes can lead to coughing, wheezing, lung inflammation and bronchial asthma symptoms.

### AYURVEDIC ALTERNATIVES

1) **Henna (Mehandi)** (*Lawsonia inermis*)  
Henna widely used for natural hair colouring. Making a paste of henna with water in night & apply it in morning on hair. After about one hours it should be washed. Also it is antibacterial , antifungal, analgesic<sup>3</sup>

2) **Neeli- Dyer's indigo** (*Indigofera tinctoria*)<sup>4</sup>  
Leaves are used for colouring of hairs Powder of leaves is available. It is also mixed with henna & to be applied on hair to get colouring result. Also it has antibacterial effect. It is considered as *keshya* that means good for growth of hair according to *Dhanvantari Nighantu*.<sup>5</sup>

3) **Carrot & beet juice** for giving hair red tint- sock clean hair in carrot & beet juice and it is leaved for half an hour & washed.

- 4) **Black tea** :-to make some strong black tea and allow it to cool down & then it has to be poured it into a bowl. Hair should be soaked in the black tea for 15 minutes. Repeat the process at an interval of 15 min after that it is washed. It is used to blacken hair colour. But it faced fast. So it has to do daily basic for at least-twice a for two weeks and as hair gets darker,it can be gradually reduce it to once a week. <sup>2</sup>
- 5) **Mustard oil (sarso Tail )**:- gently Appling Mustard oil & leaving it for overnight, to be washed in morning It should be repeated 3 times a week. But According to ayurvedic *guna*, it is of *ushna virya* i.e. It gives warmness. So it is not advisable to use it in summer without ayurvedic consultation.
- 6) **Shikakai** (Acacia concinna ):- clean hair should be soaked in decoction of shikakai & washed after half hour. It is an excellent natural shampoo conditioner. It improves moisture retaining capacity of hair follicles, while makes it prevent premature greying as well as prevents natural hair colour from fading very quickly.<sup>6</sup>
- 7) **Triphala** (*Harvtaki, vibhitak & Aamalki* ):- *Triphala* powder is added with water to make paste & applied on scalp. It should be washed after it dries. It prevents premature greying of hairs. It is used as one of the best hair mask . It can also be used as treatment for the damaged hair caused by the adverse effect of synthetic hair dyes.
- 8) **Bhringraj**( *Eclipta alba*)–it is used for colouring hair as well growth of hair <sup>7</sup>

## Conclusion:

- Hair dying is an estimated \$7 billion industry worldwide. Altering the natural colour of hairs is popular in both men and women.
- To cover their grey hairs or to make fashion with different hair colour .Hair turns grey when the production of melanin stops.
- Out of synthetic dyes types, Temporary dyes only penetrate the outermost layer of hair shaft & can easily be removed with one shampooing. Semi permanent & permanent dyes reach deeper in to hair shaft. Semi permanent hair dye are removed in 4-10 shampooing while permanent dye reach deeper into the hair shaft. The permanent hair dye contains pneumonia , hydrogen peroxide, PPD (*para phenylene diamine*) etc. Many ingredients can cause harmful skin effects. Out of which PPD, contact with the skin can cause irritation including redness , sores , itching & burning occasionally allergic reactions occur involve swelling of face.

In Accidental ingestion of dyes by children , irritation of mouth throat and stomach would be expected. Symptoms are more severe with permanent hair dye.

1. Conjunctivitis
  2. Increased cancer risk
  3. Hair damage
  4. Bronchial asthma due to allergy
- While the *ayurvedic* alternatives discussed here are safe even they act as hair tonic & can also be used to improve hair health they are
    1. *Mehandi (Henna)*
    2. *Neeli (Indigo)*

3. *Black tea*
4. *Carrot & beet juice*
5. *Shikakai*(*Acacia concinna* )
6. *Triphala* (*Haritaki, vibhitak, Aamalki*)
7. *Bhringraj* (*Eclipta alba*)

- These all are very much beneficial for all over health of hair & these dyes given colours to hair.
- Although applying all these to scalp of hair is time consuming process
- That why people go for instant synthetic hair dyes. But seeing the adverse effects of synthetic hair dyes , it is not all advisable to use them. And ayurvedic alternatives although are time consuming should be always preferred.
- *Mehandi* (*Heena*) leaves dryness in hair after the whole process. But it can easily be corrected by applying oil.
- Mustard oil i.e. *sarso ka tail* is one of the good option but as it is *ushna gunatmak* i.e. given warmness, it is not advisable to use it in summer without *ayurvedic* medical advice
- So *ayurvedic* alternatives are safe, although time consuming , they are very much beneficial for hair.

#### References:

1. Isha Agrawal ( skin & hair care consultant ), Hair dying effects and side effects, [www.skinandhairacademy.in](http://www.skinandhairacademy.in)
2. Dr. Vindhya L Veerula (MDFAAD); [www.stylecraze.com](http://www.stylecraze.com)
3. Vd Vishnu gogate , Dravyagunvidyan , Vaidymitra prakashan, Edition-12 January 2017 page no 516
4. Vd Vishnu gogate , Dravyagunvidyan , Vaidymitra prakashan, Edition-12 January 2017 page no 482
5. Dr Jharkhand Ojha, Dr Umapati Mishra ; Dhanwantari Nighantu Chowkhambha Surbharati Prakashan Varanasi- Sanskaram 2016 pg no 75
6. Prof. Krunshchand Chuneekar ,Bhavprakash nighantu,Choukhambha bharati academy Varanasi, Edition2018 page no 297 -298
7. Vd Vishnu gogate, Dravyagunvidyan, Vaidymitra prakashan, Edition-12 January 2017 page no 553

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