Exploration of Cosmetic Haircare Practices among Indigenous Women of Nandurbar District

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ABSTRACT

Haircare is a fundamental aspect of personal grooming and hygiene, deeply rooted in cultural and traditional practices. This study explores indigenous haircare knowledge among tribal women in Nandurbar District, Maharashtra, India. Through ethnobotanical field surveys and structured interviews with 58 informants (48 women and 10 men), 25 plant species belonging to 19 families were recorded. The most frequently used plant parts were fruits (48%) and leaves (40%), while infusion (60%) and paste (60%) were the predominant preparation methods. Recent research underscores the biochemical significance of traditional haircare botanicals in maintaining scalp microbiota and stimulating hair growth (Singh & Kaur, 2021; Sharma et al., 2023). The findings highlight the ecological and cultural value of indigenous cosmetic knowledge for sustainable personal care innovation (Ahmad & Alqahtani, 2022; Rahman & Alqahtani, 2023).

Keywords: Ethnobotany, Haircare, Indigenous knowledge, Tribal women, Nandurbar, Maharashtra

INTRODUCTION

Haircare represents an essential element of both hygiene and aesthetics, particularly among women. It reflects cultural identity and social values (Madnani & Khan, 2013). Tribal women of Nandurbar rely on locally available plants for scalp health, dandruff prevention, and hair nourishment. Such traditional practices parallel global ethnobotanical trends where natural alternatives are preferred to synthetic cosmetics (Basmatekar et al., 2011; Shaheen et al., 2014). Recent studies have drawn attention to the rising interest in green cosmeceuticals—herbalbased cosmetic formulations valued for sustainability and minimal toxicity (Ahmad & Alqahtani, 2022; Rahman & Alqahtani, 2023). Documenting this local knowledge is vital for biodiversity conservation and future natural product development (Kumar et al., 2020; Wang et al., 2023).

Study Area

Nandurbar District is situated in northern Maharashtra between 21°00′–21°32′ N latitude and 73°34′–74°31′ E longitude, covering approximately 5,034 km². It lies within the Satpuda ranges and experiences an average annual rainfall of 75 cm. The district's forests, spanning over 2,194 km², harbor teak (Tectona grandis), palash (Butea monosperma), and neem (Azadirachta indica), indicating high floristic diversity (Patil, 2003). Tribal communities such as the Bhils, Pawaras, and Tadavis form the dominant population, relying on forest-based livelihoods. However, increasing land-use pressure and deforestation threaten these ethnobotanical resources (Li & Zhao, 2021).

METHODOLOGY

Ethnobotanical surveys were conducted between September 2022 and February 2023 in tribal villages across Nandurbar District. Data were collected using semi-structured interviews, focus group discussions, and participatory observations (Jain & Rao, 1977). Fifty-eight respondents (82.75% women, 17.25% men) aged 20–80 years provided information on plant species, parts used, preparation methods, and specific applications.

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Species identification followed standard herbarium techniques (Patil, 2003). The methodology adhered to international ethnobotanical research guidelines ensuring ethical consent and data validation (Albuquerque et al., 2020; Martin, 2021).

Table 1: Systematic Enumeration of Ethnocosmetic Plants

Sr. No.	Botanical Name	Common Name	Family	Ethnocosmetic Use	Mode of Administration
1	Aloe barbadensis	Korfad	Asphodelaceae	Dandruff, hair growth, conditioner	Aloe pulp or mixed with coconut oil
2	Melia azedarach	Bakam	Meliaceae	Lice, dandruff, hair fall	Boiled leaves/flowers applied as paste
3	Butea monosperma	Palash	Fabaceae	Improves scalp, removes lice	Boiled leaves used as rinse
4	Nyctanthes arbor-tristis	Parijatak	Oleaceae	Dandruff, hair strength, greying	Decoction of seeds/leaves
5	Ocimum gratissimum	Ran Tulsi	Lamiaceae	Hair fall, long hair	Leaf decoction used for washing
6	Helianthus annuus	Suryful	Asteraceae	Hair growth, prevents hair fall	Sunflower oil applied to scalp
7	Syzygium cumini	Jambhul	Myrtaceae	Oily scalp, hair fall	Fruit pulp with aloe applied to scalp
8	Eucalyptus maculata	Nilgiri	Myrtaceae	Hair shine, thickness	Nilgiri oil massage
9	Acorus calamus	Vekhand	Acoraceae	Hair removal	Paste of rhizome powder applied
10	Asparagus racemosus	Shatavari	Liliaceae	Soothes scalp, hair growth	Powder paste applied with Amla
11	Murraya koenigii	Kadi Patta	Rutaceae	Greying, hair growth	Boiled in coconut oil
12	Phyllanthus emblica	Amla	Phyllanthaceae	Hair growth, thickness	Fruit juice/powder applied with neem
13	Citrus limon	Limbu	Rutaceae	Dandruff, shiny hair	Lemon juice or peel powder used
14	Oryza sativa	Tandul	Poaceae	Hair fall	Fermented rice water rinse
15	Cicer arietinum	Chana	Fabaceae	Facial hair removal, scalp mask	Chickpea flour mix applied
16	Allium cepa	Kanda	Liliaceae	Dandruff, greying	Onion juice applied directly
17	Musa paradisiaca	Keli	Musaceae	Smooth, silky hair	Banana-honeycurd mask
18	Ficus benghalensis	Vad	Moraceae	Greying, long hair	Aerial roots boiled in coconut oil
19	Brassica juncea	Mohari	Brassicaceae	Dandruff, eczema, hair growth	Mustard oil massage

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20	Hibiscus rosa-sinensis	Jaswand	Malvaceae	Hair growth, dandruff	Leaf and flower paste applied
21	Acacia concinna	Shikekai	Mimosaceae	Hair fall, dandruff	Powder paste with Amla and Reetha
22	Sapindus emarginatus	Ritha	Sapindaceae	Lice, dandruff, shine	Boiled fruits used as shampoo
23	Terminalia bellirica	Behda	Combretaceae	Hair growth, dryness	Powder mixed with coconut oil
24	Terminalia chebula	Hirda	Combretaceae	Oil control, greying	Powder paste applied to scalp
25	Eclipta prostrata	Bhringraj	Asteraceae	Hair fall, greying	Leaf extract boiled in coconut oil

Note. Table 1 presents selected ethnobotanical plant species used for haircare, showing their traditional functions and preparation methods.

RESULTS

A total of 25 species across 19 families were identified. Trees were the dominant growth form (48%), followed by herbs (28%), shrubs (20%), and creepers (4%). Fruits and leaves were the most frequently utilized parts (48% and 40%, respectively). Preparation primarily involved infusions and pastes. These results correspond with similar ethnobotanical studies in Rajasthan and Kashmir (Shaheen et al., 2014; Pareek, 2017). Recent phytochemical research confirms the presence of bioactive compounds in these species responsible for antifungal and hair-conditioning effects (Patra et al., 2022; Meena & Gupta, 2020).

Table 2: Characteristics of Respondents

Category	Number	Percentage (%)
Female	48	82.75
Male	10	17.25
Age 20–35	20	34.48
Age 36–50	15	25.86
Age 51–65	20	34.48
Age 66–80	3	5.17

Note. Table 2 shows demographic data of respondents indicating the predominance of female participants.

Table 3: Growth Form of Documented Plant Species

Plant Type	No. of Species	Frequency (%)
Tree	12	48
Shrub	5	20
Herb	7	28
Creeper	1	4

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Note. Table 3 presents the structural distribution of plant species recorded in the survey.

Table 4: Preparation Methods and Frequency of Use

Preparation Method	No. of Plants	Frequency (%)
Infusion	15	60
Paste	15	60
Raw	10	40
Crushing	7	28
Fermentation	1	4
Decoction	8	32

Note. Table 4 summarizes traditional preparation techniques showing preference for infusion and paste methods.

DISCUSSION

The findings affirm that indigenous haircare practices of Nandurbar's tribal women are grounded in ecological awareness and resource sustainability. Species such as Aloe barbadensis and Hibiscus rosa-sinensis provide natural alternatives to synthetic haircare due to their bioactive constituents (Basmatekar et al., 2011; Bonduc & Shapiro, 2001). Global trends support the resurgence of natural cosmetics, merging traditional wisdom with modern biotechnology (Ahmad & Alqahtani, 2022; Patra et al., 2022). Preserving ethnobotanical heritage ensures both cultural continuity and opportunities for sustainable economic development (Dhyani & Singh, 2024; Wang et al., 2023).

CONCLUSION

This study documents 25 plant species used for haircare among indigenous women of Nandurbar, highlighting deep-rooted cultural reliance on local biodiversity. These practices align with India's broader ethnocosmetic heritage and contribute valuable insights for herbal-based product innovation. Sustainable management and validation of traditional knowledge will ensure equitable benefit-sharing and biodiversity conservation (Rahman & Alqahtani, 2023; Sharma et al., 2023).

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