International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Beliefs and Practices about Hair Care and Treatments: A Knowledge, Attitude, and Practice (KAP) Study among Dermatology Outpatients

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ABSTRACT

Background: Hair care is an important part of personal grooming. But most people do not know much about hair science. Their ideas about hair care usually come from family tradition, advertisements, and social media, not from medical facts. Wrong beliefs about hair care can lead to wrong practices, waste of money, and late visit to a dermatologist.

Objective: To study the knowledge, attitude, and practice about hair care among patients coming to the dermatology outpatient department, and to find common myths and gaps that can help in patient education.

Materials and Methods: This was a cross-sectional study done among dermatology outpatients, using a structured and pretested questionnaire given through Google Forms. The questionnaire had questions on socio-demographic details and 14 questions on knowledge, attitude, and practice. Data was analysed using descriptive statistics. Chi-square test and Kruskal-Wallis test were used to check the association between demographic variables and KAP domains. A p value <0.05 was taken as statistically significant.

Results: Out of 300 participants (mean age 25.5 ± 5.5 years; 58.7% female), only 22.7% had good overall knowledge of hair care, while 38.0% had poor knowledge. More than half (55.3%) believed, or were not sure, that all natural/herbal hair products are scientifically proven to be safe and effective. Many participants believed things that are not scientifically proven, such as oiling improving hair growth and strength (57.3% agreed) and frequent trimming making hair grow faster (32.0% agreed). Social media was the top source of hair care information (61.7%), more than dermatologists (49.3%). For practice, most participants oiled their hair once a week (36.7%) or 2–3 times a week (30.7%), and 66.3% shampooed 2–3 times a week. Gender was significantly linked with knowledge level (p=0.001), belief in oiling (p=0.009), conditioner use (p<0.001), and use of heat styling tools (p<0.001), with women doing more grooming practices than men.

Conclusion: There are still many gaps and myths about hair care among dermatology outpatients, and social media has become a bigger source of information than dermatologists. This shows the need for structured patient education on evidence-based hair care during dermatology consultations.

Keywords: Hair care; knowledge attitude and practice; hair myths; dermatology outpatients; cross-sectional study;

INTRODUCTION:

Hair is important for looks, social life, and mental well-being, and hair problems are one of the common reasons patients come for dermatology consultation.[1] What people know about hair care usually comes from family belief, advertisements, and now more from social media, rather than from actual hair science.[2] Studies in different groups, including medical students and general patients coming to dermatology clinics, show that hair care habits differ by sex, ethnicity, and hair type, and that wrong ideas about how often to shampoo, about oiling, and about hair damage are common even in groups that are otherwise well educated about health.[3,4]

Shampoos and conditioners of today target some of the factors responsible for helping the hair look healthy through their various ingredients. Hair care and styling have gained a lot of importance in recent years, especially among teenagers. It has been seen that modern day styling methods and the use of different hair care products have resulted in hair loss and also cause hair damage.[2,3] The process of chipping of the hair cuticle, which results from abrasion of hair due to grooming devices or chemicals, is a major factor in hair damage.

Shampoos are liquid cleansers based on the synthetic detergents blended to achieve the desired amount of cleansing. They are designed to get rid the hair of dirt, sebum, desquamated cells, cosmetic products, environmental dirt, as well as to improve the overall aesthetics of hair.[5] The basic ingredients of shampoo are detergents, thickeners, pH adjusters, sequestering agents, preservatives, additives, foaming agents, conditioners, and special additives like sunscreen.[6]

Common myths still affect how people buy and use hair products. Examples are the belief that frequent shampooing damages hair, that oiling makes hair grow faster, or that costly products always work better. These beliefs are either not proven or only partly true.[4,5] Too much or wrong use of chemical treatments, heat styling, and tight hairstyles is also a known and preventable cause of hair and scalp damage.[5,7] At the same time, social media has become a major source of grooming information. It gives both correct information and wrong information about hair care products and treatments.[2]

It is useful to study the knowledge, attitude, and practice (KAP) of patients coming to dermatology outpatient departments, for several reasons: it helps find the exact gaps in knowledge, it points out harmful or costly myths that can be corrected by counselling, and it can guide dermatologists in planning patient education to improve treatment compliance and reduce hair damage that could be prevented. KAP studies on hair care have been done among medical and engineering students and in general population surveys, but there is still not much data from dermatology outpatients, who are the group most likely to actually use this information in a clinical setting.

OBJECTIVE:

To determine the knowledge, attitude, and practice about hair care among dermatology outpatients.

MATERIALS AND METHODS:

A cross-sectional, questionnaire-based study was conducted among patients attending the Dermatology Outpatient Department over a period of 2 months, after obtaining approval from the Institutional Ethics Committee.

Inclusion criteria comprised consenting patients attending the Dermatology OPD. Exclusion criteria included unwilling participants, those with active scalp infections, open wounds, acute dermatological conditions affecting history reliability, and incomplete responses.

The sample size was calculated using the formula $n = Z^2pq/d^2$, assuming a prevalence of hair care practices of 26% (Nayak BS et al.[3]), with Z=1.96, p=0.26, q=0.74, and d=0.05. The minimum required sample size was approximately 296; a total of 300 participants were included.

Data were collected using a structured, pretested questionnaire administered via Google Forms after informed consent. The questionnaire included 5 socio-demographic variables (age, gender, occupation, hair type, primary concern) and 14 items assessing knowledge, attitude, and practice (KAP) related to hair care. Multiple responses were permitted for selected items.

Items were categorized into Knowledge, Attitude, and Practice domains based. Knowledge was assessed using three objective items (score range: 0–3) and categorized as poor (0–1), moderate (2), or good (3). A separate myth-endorsement score (0–3) was derived from agreement with common misconceptions regarding hair care. Participation was voluntary, informed consent was secured, and confidentiality of responses was maintained.

Data were analyzed using spss. Categorical variables were expressed as frequencies and percentages, and age as mean ± standard deviation. Associations were assessed using the Chi-square test, and the Kruskal–Wallis test was used to compare myth scores across knowledge groups. A p-value <0.05 was considered statistically significant.

RESULTS:

Socio-demographic profile:

A total of 300 dermatology outpatients took part in the study. The mean age was 25.5 ± 5.5 years (range 18–52 years); 203 (67.7%) were aged 25 years or less, 81 (27.0%) were aged 26–35 years, and 15 (5.0%) were older than 35 years. Among the participants, 176 (58.7%) were female, 122 (40.7%) were male, and 2 (0.7%) did not want to disclose their gender. Students were the largest occupational group (55.7%), followed by other occupations (18.0%), engineers/IT professionals (8.3%), healthcare professionals (7.3%), homemakers (7.0%), and teachers (3.7%). Wavy hair was the most common hair type reported (46.3%), followed by straight (39.3%) and curly hair (14.3%). Hair fall was the single most common hair concern, reported alone or along with other concerns by most participants, followed by dandruff, frizz, dryness, and premature greying (Table 1).

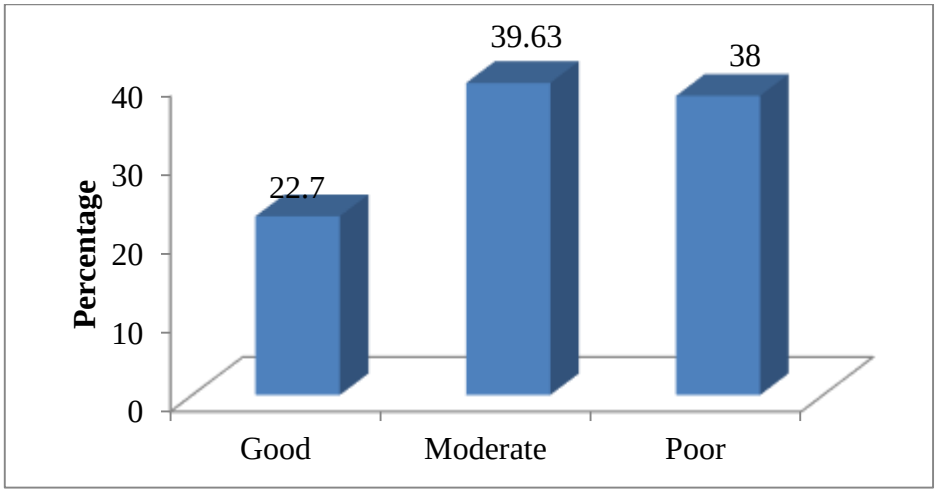
Table 1: Socio-demographic characteristics of participants (N=300)

Variable	Category	n (%)
Age (years)	≤25	203 (67.7)
	26–35	82 (27.0)
	>35	15 (5.0)

Variable	Category	n (%)
	Mean ± SD	25.5 ± 5.5
Gender	Female	176 (58.7)
	Male	122 (40.7)
	Prefer not to say	2 (0.7)
Occupation	Student	167 (55.7)
	Other occupation	54 (18.0)
	Engineer/IT professional	25 (8.3)
	Healthcare professional	22 (7.3)
	Homemaker	21 (7.0)
	Teacher	11 (3.7)
Hair type	Wavy	139 (46.3)
	Straight	118 (39.3)
	Curly	43 (14.3)

Knowledge:

Overall, only 68 participants (22.7%) had good knowledge (score 3/3), 118 (39.3%) had moderate knowledge (score 2/3), and 114 (38.0%) had poor knowledge (score 0–1/3) about hair care.



Graph 1: Overall knowledge level regarding hair care among participants

When asked if all natural/herbal hair products are scientifically proven to be safe and effective, only 123 participants (41.0%) gave the correct answer "No," while 133 (44.3%) were not sure and 44 (14.7%) wrongly said "Yes." For factors that can damage hair, participants correctly picked a mean of 2.65 out of 4 listed factors (too much heat styling, chemical treatments, poor nutrition, tight hairstyles); 45.3% picked all four correctly, while 12.0% said "Don't know." Most participants (91.0%) correctly knew that poor

nutrition and diet can cause hair problems. Social media was the top source of hair care information (61.7%), followed by dermatologists (49.3%), internet/Google (45.0%), family/friends (37.3%), and pharmacists or salon professionals (15.7%) (Table 2).

Table 2: Knowledge of participants regarding hair care

Variable	Category	n (%)
Herbal/natural products scientifically proven safe & effective	No (correct)	123 (41.0)
	Not sure	133 (44.3)
	Yes (incorrect)	44 (14.7)
Hair-damaging factors recognised	Identified all four factors	136 (45.3)
	Responded "Don't know"	36 (12.0)
Poor nutrition/diet contributes to hair problems	Yes (correct)	273 (91.0)
	Not sure	20 (6.7)
	No (incorrect)	7 (2.3)
Source of information	Social media	185 (61.7)
	Dermatologist	148 (49.3)
	Internet/Google	135 (45.0)
	Family/friends	112 (37.3)
	Pharmacist/salon professional	47 (15.7)
	Other	23 (7.7)
Overall knowledge level	Good	68 (22.7)
	Moderate	118 (39.3)
	Poor	114 (38.0)

Attitude:

Most participants agreed that oiling improves hair growth and strength (57.3% agreed, 35.3% neutral, 7.3% disagreed). This is a common belief, but it is not scientifically proven. Opinion on whether frequent trimming makes hair grow faster was more divided (32.0% agreed, 46.3% neutral, 21.7% disagreed). Close to half of participants agreed that social media affects their hair care choices (44.3% agreed, 36.0% neutral, 19.7% disagreed), and about the same number believed that supplements are necessary for healthy hair (52.0% agreed). On the other hand, fewer participants believed that expensive hair products work better than affordable ones (19.7% agreed, 45.3% neutral, 35.0% disagreed) (Table 3). The myth-

endorsement score (range 0–3, based on agreement with the oiling, trimming, and expensive-product beliefs) had a mean of 1.09 ± 0.92.

Table 3: Attitude of participants toward common hair care beliefs

Attitude statement	Response	n (%)
Oiling improves hair growth and strength	Agree	172 (57.3)
	Neutral	106 (35.3)
	Disagree	22 (7.3)
Frequent trimming helps hair grow faster	Agree	96 (32.0)
	Neutral	139 (46.3)
	Disagree	65 (21.7)
Social media influences hair care choices	Agree	133 (44.3)
	Neutral	108 (36.0)
	Disagree	59 (19.7)
Supplements are necessary for healthy hair	Agree	156 (52.0)
	Neutral	110 (36.7)
	Disagree	34 (11.3)
Expensive products work better than affordable ones	Agree	59 (19.7)
	Neutral	136 (45.3)
	Disagree	105 (35.0)

Practice:

For hair oiling frequency, 36.7% oiled their hair once a week, 30.7% oiled it 2–3 times a week, 23.0% oiled rarely, 7.7% never oiled, and 2.0% oiled daily. Among the 277 participants who oiled their hair at all, 43.0% left the oil in overnight, 38.3% left it for a few hours before washing, 10.5% for less than an hour, and 7.6% had no fixed duration. Coconut oil was by far the most commonly used hair oil (79.7%), followed by castor oil (18.3%), almond oil (15.0%), and onion oil (4.7%) (Table 4).

For shampooing frequency, most participants (66.3%) shampooed 2–3 times a week, 22.0% once a week, 6.7% daily, and 5.0% only when needed. Conditioner use was reported as “sometimes” by 36.7%, “always” by 35.0%, and “never” by 28.3% of participants. For hair treatments, 72 participants (24.0%) said they had undergone at least one professional hair treatment, most commonly hair spa (55.6% of those

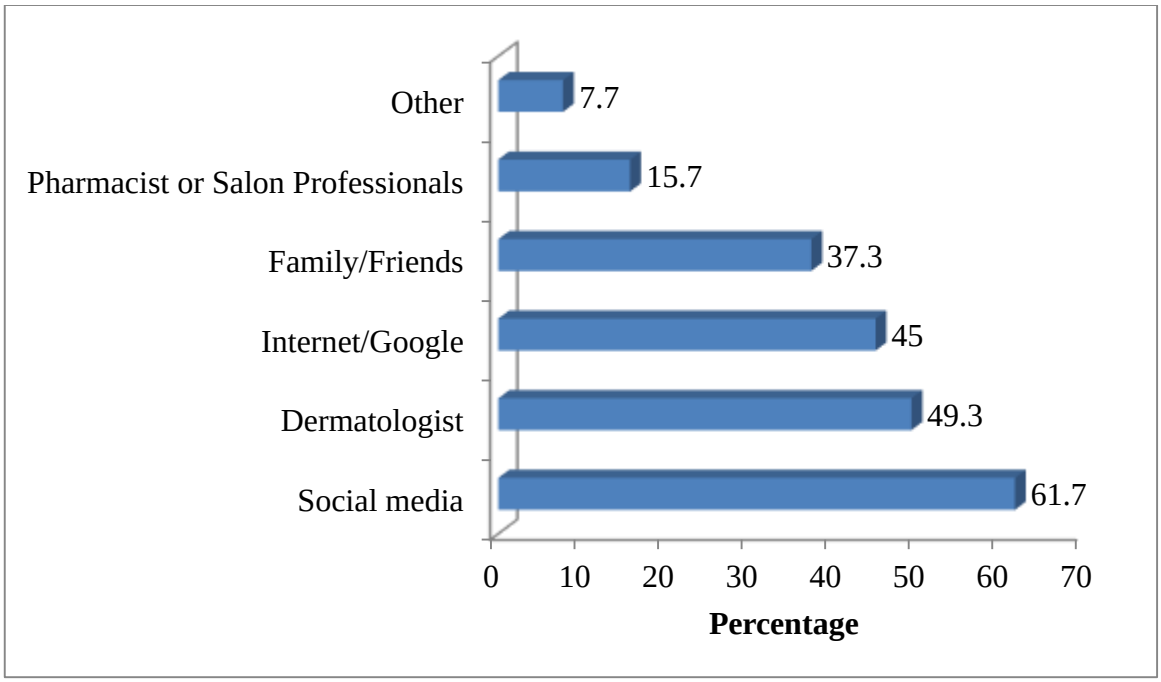
treated), followed by keratin treatment (26.4%), other treatments (19.4%), and platelet-rich plasma (PRP) therapy (12.5%). For supplement use, 82 participants (27.3%) said they take a supplement for hair concerns, most commonly multivitamins (56.1% of supplement users), followed by omega-3 fatty acids (35.4%), biotin (29.3%), and collagen (14.6%).

Heat styling tools were never used by 51.3% of participants, used occasionally by 37.0%, a few times a week by 9.7%, and daily by 1.0%. Towel drying was the most common way of drying hair (56.0%), followed by air drying (32.3%) and blow drying (11.7%). Only 9.3% of participants said they smoke or drink alcohol regularly (Table 4).

Table 4: Practice of participants regarding hair care

Variable	Category	n (%)
Hair oiling frequency	Daily	6 (2.0)
	2–3 times a week	92 (30.7)
	Once a week	110 (36.7)
	Rarely	69 (23.0)
	Never	23 (7.7)
Oil left-in duration (among oil users, n=277)	Overnight	119 (43.0)
	A few hours before washing	106 (38.3)
	Less than 1 hour	29 (10.5)
	No specific duration	21 (7.6)
Type of hair oil used*	Coconut oil	239 (79.7)
	Castor oil	55 (18.3)
	Almond oil	45 (15.0)
	Onion oil	14 (4.7)
	Other	37 (12.3)
Shampooing frequency	Daily	20 (6.7)
	2–3 times a week	199 (66.3)
	Once a week	66 (22.0)
	Only when necessary	15 (5.0)
Conditioner use	Always	105 (35.0)
	Sometimes	110 (36.7)
	Never	85 (28.3)

Variable	Category	n (%)
Ever undergone a professional hair treatment	Yes	72 (24.0)
	No	228 (76.0)
Type of treatment	Hair spa	40 (55.6)
	Keratin treatment	19 (26.4)
	Platelet-rich plasma (PRP)	9 (12.5)
	Other	14 (19.4)
Taking supplements for hair concerns	Yes	82 (27.3)
	No	218 (72.7)
Type of supplement	Multivitamins	46 (56.1)
	Omega-3 fatty acids	29 (35.4)
	Biotin	24 (29.3)
	Collagen	12 (14.6)
Smoking/alcohol use	No	272 (90.7)
	Alcohol only	12 (4.0)
	Smoking only	8 (2.7)
	Both	8 (2.7)
Heat styling tool use	Never	154 (51.3)
	Occasionally	111 (37.0)
	A few times a week	29 (9.7)
	Daily	3 (1.0)
Hair-drying method	Towel dry	168 (56.0)
	Air dry	97 (32.3)
	Blow dry	35 (11.7)



Graph 2: Sources of information on hair care among participants

Associations between Socio-demographic Variables and KAP Domains:

Gender was significantly linked with overall knowledge level. More female participants had good knowledge compared to male participants (p=0.0009). Female participants were also significantly more likely to agree that oiling improves hair growth and strength (p=0.009), to use conditioner regularly (p<0.001), and to use heat styling tools more often (p<0.001) compared to male participants. Gender was not significantly linked with belief in social media influence (p=0.251) or with having undergone any professional hair treatment (p=0.069), though the second one came close to significance, more so in female participants.

Age group was not significantly linked with knowledge level (p=0.876) or with hair oiling frequency (p=0.725). Occupation was not significantly linked with knowledge level (p=0.962) or with shampooing frequency (p=0.268). Myth-endorsement scores were significantly different across knowledge-level groups (p=0.013): participants with moderate knowledge agreed with more myths on average (mean 1.28 ± 0.94) than those with poor knowledge (mean 0.96 ± 0.94) or good knowledge (mean 0.99 ± 0.78). This suggests that having some knowledge does not always mean fewer wrong beliefs.

DISCUSSION:

This cross-sectional study looked at the knowledge, attitude, and practice about hair care among 300 dermatology outpatients. It found many gaps in scientific knowledge and continued belief in common hair care myths, even though the hygiene-related practices were mostly reasonable.

Only about one in five participants had good overall knowledge, and more than half either believed, or were not sure, that natural/herbal hair products are scientifically proven to be safe and effective. This is similar to what Kusagur et al.[4] found among Indian dermatology outpatients a good number of their patients also believed that egg, hibiscus, and other traditional substances make hair stronger, and only 4% knew about things like conditioner with sunscreen. This shows a common pattern in the Indian population of relying on tradition and word-of-mouth rather than proven dermatological facts.[4]

More than half of our participants believed that oiling improves hair growth and strength. This fits with the common practice of hair oiling in the Indian subcontinent. Oils like coconut oil are known to protect hair from damage during combing and reduce protein loss from the hair shaft, but there is no strong evidence that oiling makes hair grow faster, and patients often do not know this difference.[4] In the same way, nearly a third of participants believed that frequent trimming makes hair grow faster. This is an old myth, since hair actually grows from the follicle and cutting the ends does not change growth speed. Lunge et al., in a study comparing final-year medical students and engineering students, also found that these wrong beliefs continue even among health-science students. This shows that medical education alone does not correct such deep-rooted hair care myths unless there is focused counselling.[8]

When we compare these three studies directly, we see both similarities and differences. Our study and Kusagur et al.[4] both looked at dermatology outpatients in India, so these two are the most directly comparable. But Kusagur et al.[4] found that 65% of their 100 patients washed their hair only once a week, and only 20% used a conditioner. Our study, with a much bigger group of dermatology outpatients, found more frequent shampooing (66.3% shampooed 2–3 times a week) and much higher conditioner use (71.7% used one at least sometimes, adding "always" and "sometimes" answers together). This difference may simply be because of the roughly ten years between the two studies, during which hair products became easier to get and social media grooming content increased, rather than because the patients themselves were very different. Nayak BS et al.[3] and Lunge et al.[8], on the other hand, studied students Malaysian medical students from three ethnic groups, and Indian final-year MBBS students compared with engineering students and not dermatology patients. Neither of these two studies used a numeric knowledge or myth-endorsement score like ours, so we cannot compare the exact numbers with our study.[3,8] Even so, one pattern is the same across all three studies and ours: female participants always showed more active hair care behaviour, such as using conditioner, styling, and hair colour more often, in our study and in Nayak BS et al.[3], and in our study, agreeing more with unproven beliefs like oiling helping hair growth. Also, hair care myths about oiling and hair growth were common not just in Indian dermatology outpatients (our study and Kusagur MS et al.[4]) but also in health-science students with formal medical training (Lunge SB et al.[8]). This tells us that these wrong beliefs are common in both clinical and educational settings in the Indian subcontinent, and are not limited to one less-educated group.[3,4,8]

Social media was the single most common source of hair care information in our study (61.7%), more than dermatologists (49.3%). This is a clear change from older literature, where dermatologists and word-of-mouth from family were the main sources. None of the three comparator studies measured information-seeking behaviour in this way, so this is a new finding from our study. Since social media content on hair care is largely unregulated and often meant to sell products, this is a matter of concern. This finding, along with the significant link we found between gender and beliefs like oiling efficacy, matches the idea that women are more involved in hairstyling and hair product use, and so may be exposed to more hair care messages on social media both correct and incorrect ones.

For practice, most of our participants shampooed 2–3 times a week and used coconut oil as their main hair oil. This matches earlier Indian KAP studies on hair cleansing, which also found shampoo as the main cleanser and oiling as a common added practice, while also noting that myths about cleansing frequency and product choice are still common.[4] Female participants in our study used conditioner and heat styling tools significantly more often than male participants. A similar pattern was seen among Malaysian medical students, where hairstyling and hair dyeing were much more common in female students, and were linked with a feeling that their hair condition had become worse.[3]

We found that myth-endorsement did not simply go down as knowledge went up participants with moderate knowledge agreed with more myths, on average, than those with either poor or good knowledge. This suggests that the link between knowing facts and changing wrong beliefs is not straightforward. One reason could be that some participants get only partial, mixed information about hair care, for example from social media, which may add to certain myths instead of correcting them. Participants with consistently good knowledge, who may have got their information from more reliable sources like a dermatologist, showed comparatively less agreement with myths.

Our findings have some practical uses. First, since social media is now the top source of information, dermatologists should actively talk about common online hair care claims during consultation, instead of assuming that patients already have correct basic knowledge. Second, the specific myths found here (oiling and hair growth, trimming and growth speed, safety of herbal products) are clear and fixable targets for patient education material. These myths are common enough across the outpatient and student groups studied by Kusagur et al., Nayak et al., and Lunge et al. that the same myth-correction material is likely to work well in all these settings.[4,3,8] Third, since knowledge gaps were not limited to any one age group or occupation, a general education approach, rather than one aimed at a narrow group, may work better for this population.

This study has some limitations. The knowledge, attitude, and practice data were self-reported, so they may have recall bias and social desirability bias. The cross-sectional design does not let us say which came first, the knowledge or the myth-endorsement, so we cannot say that one clearly causes the other. The study was done at a single centre, so the findings may not fully apply to other populations and regions. A dermatologist did not separately examine the hair and scalp of participants to confirm their self-reported hair concerns. Lastly, the knowledge score was based on only three items with a clear correct answer, so it should be seen as an indicative measure and not a complete measure of hair care knowledge.

CONCLUSION:

This study shows that important gaps in hair care knowledge, and common myths — especially about oiling, trimming, and safety of herbal products — continue among dermatology outpatients, even though their hygiene practices are mostly reasonable. Social media has become the leading source of hair care information, ahead of dermatologists. This is both an opportunity and a risk for public health messaging. Dermatologists should think about adding brief, focused myth-correction and evidence-based hair care counselling into routine outpatient consultations. Future studies could check how well such structured education helps in improving hair care knowledge, attitude, and practice.

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