

Assessing Knowledge and Practices of Infection Prevention and Hygiene among Hairdressers in Nadiad, Gujarat and Development of an Informational Booklet

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Abstract

Hairdressers are integral to community grooming services, but they face occupational health risks due to close contact with clients. Barbershops may act as source of infections such as Hepatitis B, Hepatitis C, HIV, and skin disorders, mainly due to inadequate hygiene practices and a lack of proper infection prevention. Repeated use of razors, towels, and tools without sterilisation further increases this risk. This study aimed to assess the knowledge and practices regarding infection prevention and hygiene among hairdressers in Nadiad city of Gujarat, and develop an informational booklet promoting safe practices. A cross-sectional descriptive study was conducted among 150 hairdressers aged 18-60 years with a minimum of three months of experience, selected using simple random sampling from roadside and shop-based establishments. Data were collected between January and April 2025 using a structured knowledge questionnaire and an observational checklist focusing on hand hygiene, tool sterilisation, and infection awareness. Descriptive (frequency, percentage, mean, SD) and inferential statistics (t-test, chi-square, correlation) were applied. Findings revealed that 59.3 percent of participants had inadequate knowledge, and 54.6 percent demonstrated poor hygiene practices. The mean knowledge score was 9.92 (SD = 4.18), and the mean practice score was 10.65 (SD = 4.83). A significant positive correlation ($p < 0.05$) was observed between knowledge and practice, indicating that improved awareness enhances hygiene compliance. The study concluded that infection prevention knowledge and practices among hairdressers were suboptimal. An informational booklet was developed to bridge this gap, aiming to reduce infection risks and promote standardised hygiene measures in barbershops.

Key words: Infection prevention, Hygiene, Hairdressers, Public health

Barbershops hold a significant place in Indian society, functioning not only as grooming centres but also as social and cultural hubs. Traditionally, barbers have played diverse roles beyond cutting hair and shaving; they have acted as confidants, messengers, and participants in community events such as weddings and rituals (Bizarre Culture, 2024). Many barbershops, particularly in rural and semi-urban areas, are modest establishments located along roadsides, in markets, or in public spaces (Salons Direct, 2018). These establishments are often family-run and have been passed down through generations. In urban areas, barbering has evolved, offering modern services like hair colouring, facials, and cosmetic grooming to meet changing trends and demands (Salons Direct, 2018).

However, this expansion has raised concerns about hygiene and infection control (Wazir et al, 2008). Barbershops involve close physical contact and the frequent use of sharp instruments, including razors, scissors, and clippers (Demisu Zenbaba et al, 2023). Inadequate sterilisation of tools, shared towels, and improper waste disposal can facilitate the spread of bacterial, fungal, and viral infections (Mandiracioglu A et al, 2009), including bloodborne diseases like Hepatitis B, Hepatitis C, and HIV (Cosmin 2023). Minor cuts or abrasions during grooming can increase the risk of infection (Incredible Indian barbers 2025). Many barbers, especially in informal sectors, lack training in hygienic practices (Bhatt A et al, 2022), often due to financial constraints or absence of regulatory guidelines (Roy S et al, 2021).

Need for the study

Barbering in India remains largely unregulated, with no mandatory training or standard operating

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procedures (SOPs) for infection prevention. This creates a public health risk, particularly in informal sectors where modern tools and techniques are introduced without adequate knowledge of hygiene (Quarm et al, 2021). The lack of structured training, absence of barber unions or associations, and minimal enforcement of safety standards further exacerbate the problem (Chand et al, 2022). Poor hygiene not only threatens client safety but also risks the livelihood and credibility of barbers (Mahmoud et al, 2021). Therefore, assessing their current knowledge and practices is essential to design targeted interventions, develop educational resources, and promote safer barbering practices to reduce disease transmission and protect community health (Al-Rabeei et al, 2021).

Objectives

The study was undertaken with following objectives.

1. To assess the knowledge and practice regarding infection preventive measures and hygiene among the hairdressers of Nadiad City.
2. To determine the correlation between knowledge and practice regarding infection preventive measures and hygiene.
3. To examine the association between knowledge and practice scores with selected demographic variables among hairdressers.

Hypothesis

H₁: There is no significant correlation between knowledge and practice regarding infection prevention and hygiene.

H₂: There is no significant association between knowledge and practice scores and selected demographic variables.

Assumptions

1. Hairdressers may have poor to average knowledge and practice regarding infection prevention measures and hygiene.
2. The informational booklet will effectively enhance the knowledge and understanding of hairdressers regarding infection-preventive measures and hygiene practices.

Methodology

Study design and setting: A quantitative, cross-sectional survey design was employed to assess the knowledge and practices related to infection preventive measures and hygiene among hairdressers in Nadiad city (Gujarat). The study was conducted among 150 hairdressers selected from various barber shops across the city.

Eligibility criteria: Participants were hairdressers aged 18-60 years with a minimum of three months' work experience who voluntarily agreed to participate and provided written informed consent. Individuals who had undergone similar research study or basic hygiene and infection prevention training within six months before data collection, those who refused consent, or those with severe illness or chronic conditions that prevented participation, were excluded.

Sample size and sampling technique: The estimated population of hairdresser shops in Nadiad City was approximately 200. A total of 150 participants were selected using proportionate sampling from all four zones to ensure fair representation, applying finite population correction for accurate coverage.

Formula: $n = N / (1 + N (e^2))$

Where n is the required sample size, N is the total population (200), and e is the margin of error (set at 5% or 0.05). Substituting the values into the formula: $n = 200 / (1 + 200 \times 0.0025)$, $n = 200 / (1 + 0.5)$, $n = 200 / 1.5$, $n \approx 133.33$

The final sample size was set at 150, accounting for a 10 to 15 percent potential non-response rate, ensuring adequate representation, statistical validity, and reliable conclusions on hairdressers' infection prevention practices.

A stratified random sampling technique was used for this study to ensure equal representation of hairdressers from different areas of the city.

Data Collection Procedure

Before starting the study, the researchers obtained formal permission from the concerned authorities and took informed consent from each hairdresser who agreed to take part. All participants were clearly informed about the purpose of the study, their right to withdraw at any time, and the confidentiality of the information collected.

Data collection was carried out over a period of four months (January to April 2025) in Nadiad city. A total of 150 hairdressers were randomly selected from various parts of the city, including both roadside barbers and salon-based hairdressers.

Data were collected using a structured questionnaire and a 20-point observational checklist. The questionnaire covered demographics (age, gender, education, experience, and establishment type) and 20 multiple-choice knowledge questions on infection prevention and hygiene. Practices were directly observed during shop visits to minimize reporting bias. A master schedule ensured systematic data collection across four city zones. Tools were developed with expert input, reviewed by eight nursing professionals,

and achieved excellent content validity (CVI: Demographics 0.89, Knowledge 0.87, Practice 0.89). Data were analysed and categorised as Poor, Average, or Good based on median scores. Ethical principles were strictly maintained.

Informational Booklet

Based on the study findings, a simple and easy-to-understand informational booklet was developed to address the identified gaps in knowledge and practice among hairdressers. It aims to enhance their understanding and promote better infection prevention and hygiene practices in daily work. To ensure clarity and practical application, the booklet was prepared in the local language with clear illustrations, step-by-step guidelines, and practical tips for effective implementation.

Description of the Tool

The data collection tool was a structured instrument developed by the researchers to assess knowledge and practices regarding infection prevention and hygiene among hairdressers. It consisted of three sections:

Part I captured demographic details, including age, gender, education, work experience, and prior hygiene-related training. *Part II* comprised a 20-item multiple-choice knowledge questionnaire on personal hygiene, tool sterilisation, infection risks, and preventive measures, which was self-administered by participants; and, *Part III* included a 20-point observational checklist used by the researcher during on-site visits to directly assess hygiene and infection control practices, minimising reporting bias. The tool was validated by eight nursing experts, yielding a Content Validity Index (CVI) of 0.89, indicating strong content validity. For better comprehension and applicability, it was prepared in the Gujarati language.

Ethical consideration: Ethical clearance for the study was received from the Institutional Ethical Committee of Maganbhai Adenwala Mahagujarat University, Nadiad. Before data collection, formal permissions were obtained from the institution, shop owners, and individual participants. Informed consent was obtained after explaining the study’s objectives and procedures. Participant confidentiality was strictly maintained by using coded identifiers during data entry and analysis, ensuring confidentiality.

Results

Table 1 (also Fig 1) show that a considerable number of hairdressers (59.4%) lacked knowledge, whereas 25.3 percent possessed moderate knowledge. Only 15.3 percent indicated good knowledge, indicating a significant gap in awareness of infection control and hygiene practices.

In terms of practices, 54.6 percent of participants displayed poor practice, 22.7 percent had moderate practice, and just 22.7 percent had good hygiene. This demonstrates that more than half of the hairdressers did not follow prescribed safety and infection control procedures (Table 2).

Table 3 shows that the mean knowledge score of hairdressers was 9.92 (SD = 4.18), and the mean practice score was 10.65 (SD = 4.83). The 95 percent confidence interval for knowledge ranged from 9.24 to 10.59, and for practice, it ranged from 9.86 to 11.42.

The calculated correlation coefficient ($r = -0.067$) indicates a weak negative correlation between knowledge and practice, which was found to be statistically non-significant ($p = 0.412$, $df = 148$) (Table 4). This suggests that there is no significant relationship between the knowledge and practice levels of the hairdressers in this

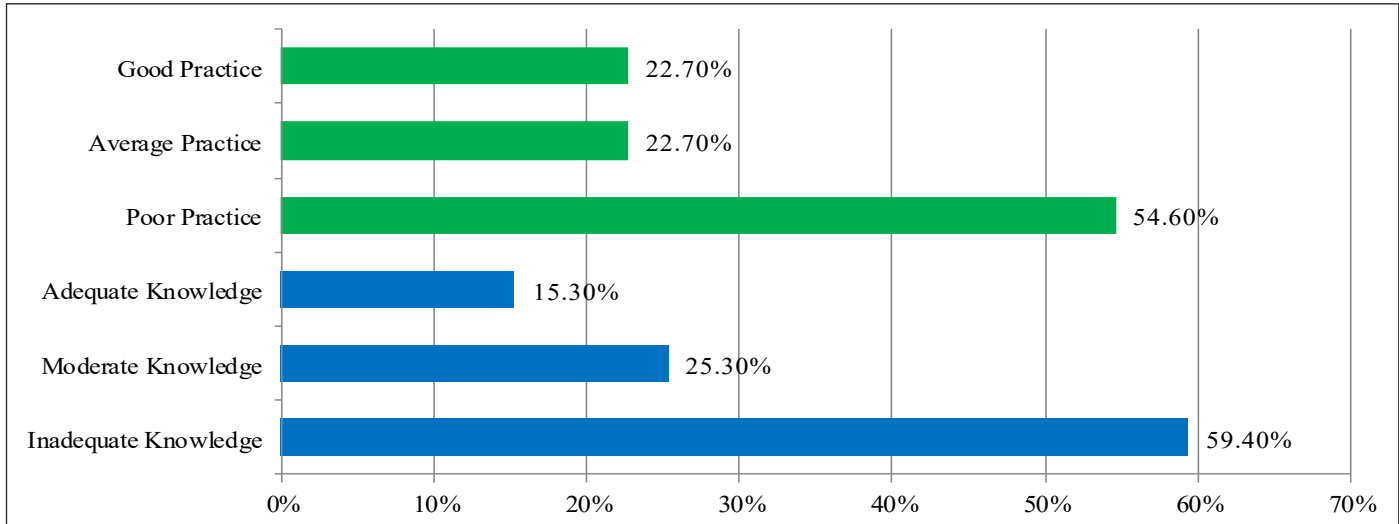


Fig 1: Level of knowledge and practice among hairdressers.

Table 1: Demographic characteristics of Hairdressers (n = 150)

Variable	Category	Frequency	Percentage
Age (years)	20–30	23	15.3
	31-40	41	27.3
	41-50	35	23.3
	51-60	40	26.7
	61-65	11	7.3
Gender	Male	150	100.0
	Female	0	0.0
Educational status	No formal education	15	10.0
	Primary	53	35.3
	Secondary/HSC	58	38.7
	Graduate & above	24	16.0
Ownership of shop	Self-owned	44	29.3
	Partnership	26	17.3
	Owned by others	80	53.3
Experience as a hairdresser	0–1 year	17	11.3
	1–5 years	30	20.0
	6–10 years	29	19.3
	11–15 years	13	8.7
	16–20 years	14	9.3
	Above 20 years	47	31.3
Monthly income (INR)	Below 10,000	47	31.3
	10,001–25,000	86	57.3
	25,001–40,000	9	6.0
	Above 40,000	8	5.3
Source of information	Newspaper/ Magazine	18	12.0
	Television & Internet	17	11.3
	Co-workers	102	68.0
Other	Other	13	8.7
Training in infection prevention	Yes	22	14.7
	No	128	85.3

Table 2: Level of knowledge and practice regarding infection preventive measures and hygiene (n = 150) Knowledge Level

Level	Frequency (F)	Percentage (%)
Inadequate (<50%)	89	59.4
Moderate (50–75%)	38	25.3
Adequate (>75%)	23	15.3

Practice Level

Level	Frequency (F)	Percentage (%)
Poor (<50%)	89	54.6
Average (50–75%)	38	22.7
Good (>75%)	23	22.7

Table 3: Mean and SD of knowledge and practice regarding Infection Preventive Measures and Hygiene among the Hairdressers.

Parameter	Mean	SD	Range	95% CI	
				Lower	Upper
Knowledge	9.92	4.18	5-19	9.24	10.59
Practice	10.65	4.83	5-27	9.86	11.42

Table 3: Correlation between knowledge and practice (n=150)

Correlation	Mean	Std deviation	r- value	p-value
Knowledge	9.92	4.18	-0.067	0.412
Practice	10.6	4.83		

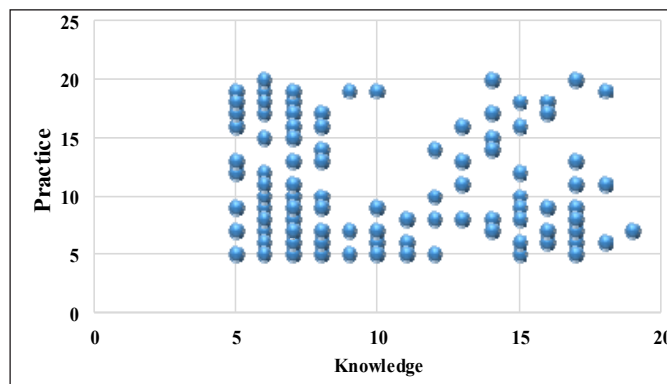


Fig 2: Correlation between knowledge and practice regarding infection preventive measures and hygiene.

study. None of the demographic characteristics showed a statistically significant association with either knowledge or practice scores ($p > 0.05$ for all), highlighting the need for targeted educational interventions across all hairdresser groups to improve infection prevention awareness and hygiene practices (Table 4). Fig 2 depicts the correlation between knowledge and practice regarding infection preventive measures and hygiene.

Discussion

The present findings of this study reveal critical insights into the knowledge and practice related to infection prevention and hygiene among hairdressers in Nadiad city. The predominance of inadequate knowledge and poor hygiene practices among participants suggests a significant public health concern, especially in the context of services that involve close contact with clients and the potential for disease transmission. Interestingly, while the participants had a moderate mean knowledge score (9.92 ± 4.18), it did not.

Recommendations

The study identified a lack of standard operating procedures (SOPs) and the absence of a barber association in Nadiad city, leading to poor hygiene practices among hairdressers. To address this, an informational booklet was provided to enhance their knowledge and promote safe practices. It is recommended that the government develop and distribute clear SOPs on infection control specific to hairdressers. Establishing a local barber association could further support training and regulation. Regular workshops and health

Table 4: Association between knowledge, practice score, with their selected demographic variable of hairdresser at the 0.05 level (n=150)

Demographic variables	χ^2 (Knowledge)	df	p-value	Sig.	χ^2 (Practice)	df	p-value	Sig.
Age (Years)	4.154	8	0.843	NS	7.666	8	0.467	NS
Gender	Nil	—	—	NS	—	—	—	NS
Education	4.825	6	0.566	NS	2.76	6	0.838	NS
Shop ownership	3.659	4	0.454	NS	4.263	4	0.372	NS
Experience (years)	13.813	10	0.182	NS	15.21	10	0.124	NS
Monthly income (₹)	11.603	6	0.071	NS	8.864	6	0.181	NS
Source of information	4.828	6	0.566	NS	4.344	6	0.63	NS
Training (Yes/No)	0.943	2	0.624	NS	1.307	2	0.52	NS

department visits should be conducted to reinforce hygiene practices and ensure long-term adherence, ultimately improving community health and safety standards.

Conclusion

The study revealed that the majority of hairdressers in Nadiad city had inadequate knowledge (59.3%) and poor practice (54.6%) regarding infection preventive measures and hygiene. The mean knowledge score was 9.92 (SD = 4.18) and the mean practice score was 10.64 (SD = 4.83), indicating low to moderate awareness and implementation levels. The correlation between knowledge and practice was positive ($r = 0.67$), but not statistically significant ($p = 0.412$). No significant association was found between knowledge or practice levels and demographic variables, such as age, education, experience, or prior training. These findings highlight a clear gap in knowledge and hygiene practices, emphasising the urgent need for structured training programmes to enhance infection control among hairdressers, regardless of their background or experience.

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