

# Knowledge, Attitudes and Practice of Barbers regarding HIV/ HBV/ HCV Infections of Udaipur City, Rajasthan, India

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## ABSTRACT

**Objective:** Continuous spread of HIV, HBV and HCV depends on unsafe use of therapeutic injections, blood transfusions, unsafe sexual practices and beauty treatments (tattooing, piercing and barber shop shaving) with instruments which are not properly sterilized. Present study was conducted to assess the knowledge, attitudes and practice of barbers regarding HIV, HBV and HCV infections of udaipur city (rajasthan), india and also educate them to prevent spread of occupational infectious diseases in barber shop. **Materials and methods:** A pretested questionnaire survey was conducted among 150 subjects (those who attended annual meeting) aged 10 to 60 years of Udaipur city, Rajasthan in March 2013. Single trained interviewer described the purpose and process of the survey to the participants and gave standardized instructions for completing the questionnaire. The collected data was tabulated using Excel 2007. **Results:** In the present study, majority of the barbers (99.3%) were male. About 64.0% barbers were completed their primary school level education. Majority of the barbers (56.0%) replied that HIV was preventable. Out of 150 barbers, majority of the barbers (33.3%) were getting information from television and radio regarding HIV/HBV/HCV. About 62.7% barbers were reusing Razors and Blades. **Conclusion:** It was concluded that most of the study subjects had an education only up to primary school. Majority of them do not have any idea that HIV/HCV/HBV was preventable. Barbers should be trained in universal protection methods, regularly monitored and supervised by the municipality and local government authorities.

**KEYWORDS:** Barbers, HIV, AIDS, HBV, HCV, infection

## INTRODUCTION

The blood-borne viruses like HIV, HBV and HCV infect millions of people in the world.<sup>1</sup> According to the annual report, 2013 of National AIDS Control Organization (India) the 20.89 lakh people were suffering from HIV/AIDS in India. India is estimated to have the third highest number of estimated people living with HIV/AIDS, after South Africa and Nigeria. The clinical features of acute hepatitis B and C are not so different from each other. More than 50% of cases hepatitis B and 75% of hepatitis C cases are subclinical, and may go unnoticed.<sup>2,3</sup> Thus, infected people do not usually become aware that they have had acute hepatitis infection. More than 40 million HBV carriers are present in India. It is estimated that over 1 million new borne are under lifetime risk of developing chronic HBV infection. Every year over 100,000 Indians dies due to HBV related infection.<sup>4</sup> About 3.3% of the world's population are infected with Hepatitis C virus.<sup>5,6</sup>

HIV, HBV and HCV spread through unsafe use of thera-

peutic injections, blood transfusions, mother to child transmission, unsafe sexual practices and some beauty treatments like tattooing, piercing, pedicure, barber shop shaving with un-proper sterilized instruments.<sup>1</sup> The word 'Barber' originates from the Latin word. Barber meaning 'beard'. A Barber is a person who is cutting hair, giving shaves and trimming beard.<sup>7</sup> Barbershop is one of the places where there is frequent use of some blades often without proper sterilization. Sometimes there are chances of scratches on client's face and skull skin. In Ethiopia shared shaving equipment in barbershops are commonly practiced. Accidental scratch by sharp equipment in barbershops may create an opportunity for microorganisms to enter in the body which causes serious health problems to the clients.<sup>8</sup>

Prevention is the only viable method to control the spread of HIV as there is no definite cure for the infection.<sup>9</sup> The present study was conducted to assess the knowledge, attitudes and practice of barbers regarding HIV, HBV and

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HCV infections of Udaipur city (Rajasthan), India and also educate them to prevent spread of occupational infectious diseases in barber shop.

## MATERIALS AND METHODS

A pretested questionnaire survey was conducted among 150 subjects (those who attended annual meeting) aged 10 to 60 years working in Udaipur in month of March, 2013. Prior to the survey, ethical clearance was obtained from the relevant authority. To prevent selection bias the most senior person from each barber shop was included in the study. Written informed consent was obtained from the participating barbers after explained the details of the study. Single trained interviewer done the survey. The pilot study was carried out among 20% of participants. Kappa ( $k$ ), weighted kappa ( $kW$ ) were used to evaluate the test-retest reliability of the questionnaire ( $k = 0.8$ ,  $kW = 0.8$ ). Internal consistency was assessed by Cronbach's alpha ( $\alpha$ ) coefficients ( $\alpha = 0.7$ ). The questionnaire proforma comprised of four parts. First part comprised of details of gender, marital status, education level, age (years), work experience, workers for each saloon, customers per day, saloon size ( $m^2$ ) information. Second, third and fourth part comprised of knowledge, attitude and practice of HIV/HBV/HCV respectively. The questionnaire was presented in the local language (Hindi) for easy understanding and convenience of the study as most of the participants could not speak and understand English Language. It took about 6 to 8 min to complete the questionnaire. After completion of the study, one seminar was presented in second meeting by trained examiner regarding infectious disease, sterilization and role of barbers to prevent infectious diseases. The collected data was tabulated using Excel 2007.

## RESULTS

In the present study, 150 barbers from Udaipur city were included in which majority of the barbers (99.3%) were male. About 64.0% barbers were completed their primary school level education. The majority of the study subjects 62.0% were belong to the age group of 21-30 years. (Table -1, 2)

About 74.7% barbers replied that they had knowledge about HIV/AIDS, but only 18.0% barbers knew that virus was the causative organism for HIV/AIDS. Majority of the barbers (56.0%) replied that HIV was preventable. 62.7% barbers replied that HIV could be prevented by use of Disinfectants for Hand Washing. About 52.7% barbers replied that only visibly stained instruments were infectious. (Table – 3, 4)

In our study, 42.0% barbers replied that they had knowledge about HCV/HBV. Out of 150 barbers, 31.3% replied that HBV/HBV was preventable. About 57.3% barbers didn't have any knowledge regarding vaccination for HBV. About 62.0% barbers replied that sterilization was necessary to prevent HCV/HBV. (Table – 5, 6)

Demography	Number	%
Gender		
Male	149	99.3
Female	1	0.7
Marital status		
Single	36	24.0
Married	114	76.0
Divorced	0	0
No response	0	0
Education level		
Illiterate	9	6.0
Primary school	96	64.0
Secondary school	37	24.7
Hair dressing school	7	4.7
No response	1	0.7
Age (years)		
21-30	93	62.0
31-40	36	24.0
41-50	17	11.3
≥51	3	2.0
No response	1	0.7

Table 1: Demographic profile of the study subjects

	Number	%
Work experience		
≤10	52	34.7
11-20	76	50.7
21-30	19	12.7
31-40	3	2.0
No response	0	0
Workers for each saloon		
1	24	16.0
2	59	39.3
3	40	26.7
≥4	27	18.0
No response	0	0
Customers per day		
≤6	8	5.3
7-9	60	40.0
10-12	18	12.0
≥13	56	37.3
No response	8	5.3
Saloon size ( $m^2$ )		
≤30	84	56.0
31-40	59	39.3
41-50	6	4.0
≥51	1	0.7
No response	0	0

Table 2: Work information of the study subjects

Out of 150 barbers, the majority of the barbers (33.3%) were getting information from television and radio regarding HIV/HBV/HCV. About 78.7% barbers were required training programmes for equipment disinfection. Only 4.0% barbers had past history of blood transfusion (Table – 7)

Out of 150 barbers, 70.7% barbers washed their hands before each customer. About 62.7% barbers were reusing Razors and Blades. Only 30.7% barbers had adequate provision for sterilization. About 81.3% barbers used savlon as a disinfectant. (Table – 8, 9)

	Number	%
What is the cause of HIV/AIDS?		
God's punishment	25	16.7
Witchcraft	16	10.7
Bacteria	74	49.3
Viruses	27	18.0
Don't know	8	5.3
Are barbers at risk of HIV infection from their clients?		
Yes	109	72.7
No	38	25.3
Don't know	3	2.0
Is HIV preventable?		
Yes	84	56.0
No	58	38.7
Don't know	8	5.3
Can HIV be prevented by use of Disinfectants for Hand Washing?		
Yes	94	62.7
No	50	33.3
Don't know	6	4.0
Only visibly stained instruments are infectious		
Yes	79	52.7
No	68	45.3
Don't know	3	2.0

Table 3: Barbers's knowledge regarding HIV/AIDS

	Number	%
What are the routes of transmission of HIV/AIDS?		
Sexual intercourse		
Yes	131	87.3
No	11	7.3
Don't know	8	5.3
Mother to child		
Yes	87	58.0
No	52	34.7
Don't know	11	7.3
Cuts and pricks from contaminated barber materials		
Yes	92	61.3
No	50	33.3
Don't know	8	5.3
Blood transfusion		
Yes	104	69.3
No	46	30.7
Don't know	0	0.0
Blood contact		
Yes	72	48.0
No	70	46.7
Don't know	8	5.3
Sharing of sharp objects with infected persons		
Yes	71	47.3
No	70	46.7
Don't know	9	6.0

Table 4: Barber's knowledge regarding routs of transmission of HIV/AIDS

	Number	%
Do you have any knowledge about HBV/HCV?		
Yes	63	42.0
No	46	30.7
Don't know	41	27.3
Do you know different types of Hepatitis?		
Yes	15	16.7
No	72	48.0
Don't know	53	35.3
Is HBV/HCV Preventable?		
Yes	47	31.3
No	18	12.0
Don't know	85	56.7
Vaccination Is a Preventive measure for HBV?		
Yes	48	32.0
No	16	10.7
Don't know	86	57.3
Is sterilization necessary to Prevent these infections?		
Yes	63	42.0
No	12	8.0
Don't know	75	50.0

Table 5: Barber's Knowledge regarding HBV/HCV

	Number	%
What are the Modes of Transmission of HBV/HCV?		
Food		
Yes	29	19.3
No	31	20.7
Don't know	90	60.0
Sexual contact		
Yes	39	26.0
No	20	13.3
Don't know	91	60.7
Reuse of needles		
Yes	40	26.7
No	18	12.0
Don't know	92	61.3
Blood transfusion		
Yes	38	25.3
No	19	12.7
Don't know	93	62.0
Surgical instruments		
Yes	30	20.0
No	26	17.3
Don't know	94	62.7
Barber shaving instruments		
Yes	24	16.0
No	32	21.3
Don't know	94	62.7

Table 6: Barber's knowledge regarding modes of transmission of HBV/HCV

	Number	%
From where did you get information regarding HIV/HBV/HCV?		
Television and Radio	50	33.3
Friends and Relatives	31	20.7
Newspapers	39	26.0
Doctors and Health workers	26	17.3
others	4	2.7
Is Periodic Screening essential for Blood Borne Diseases?		
Yes	123	82
No	24	16
Don't know	3	2
Would you like to get further investigated or treated, if found positive for HIV/HBV/HCV?		
Yes	119	79.3
No	31	20.7
Don't know	0	0
Should training programmes be organized for equipment disinfection for barbers?		
Yes	118	78.7
No	31	20.7
Don't know	1	0.7
Have you ever had Blood Transfusion?		
Yes	6	4.0
No	144	96.0
Don't know	0	0

Table 7: Barbers attitude regarding HIV/HBV/HCV

	Number	%
Do you wash your hands before each customer?		
Yes	106	70.7
No	44	29.3
Don't know	0	0
Do you reuse Razors and Blades?		
Yes	56	37.3
No	94	62.7
Don't know	0	0
Do you encounter with accidental cuts or bleeding during procedures?		
Yes	114	76.0
No	36	24.0
Don't know	0	0
Do you have adequate provision for sterilization?		
Yes	46	30.7
No	101	67.3
Don't know	3	2.0

. Do you practice sterilization for every instrument in between customers?		
Yes	46	30.7
No	104	69.3
Don't know	0	0
Do you change your Disinfectant Frequently?		
Yes	86	57.3
No	63	42.0
Don't know	1	0.7

Table 8: Practice of barbers regarding HIV/HBV/HCV

Number	%
Tick the Disinfectant, you use:-	
Savlon	
Yes 122	81.3
No 28	18.7
Alum	
Yes 103	68.7
No 47	31.3
Spirit	
Yes 59	39.3
No 91	60.7
Talcum powder	
Yes 80	53.3
No 70	46.7
Povidone iodine	
Yes 101	67.3
No 49	32.7
Dettol	
Yes 8	5.3
No 142	94.7
Others	
Yes 23	15.3
No 127	84.7

Table 9: Barber's practice regarding use of different disinfectant

## DISCUSSION

In our study, the attempt was made to assess the knowledge, attitude and practice regarding HIV/HBV/HCV among barbers of Udaipur city. Out of 150 subjects, 61.33% study subjects knew that AIDS/HIV could be spread through cuts and pricks from contaminated barber's materials. While study done in Uganda stated that all subjects knew the same.<sup>10</sup> Regarding knowledge of HBV/HCV, 32.0% of the study subjects knew that vaccination was a preventive measure for HBV while 72.4% of the study subjects stated that vaccination was a preventive measure for HBV in the Italian study.<sup>11</sup> This difference might be due to the different study area, education level, and working experience. In the present study, the barber's relatively low level of knowledge of sharing sharp objects with infected person (47.3%) and transfusion of infected blood (66.7%) as possible means of transmission of AIDS infected compared with their knowledge of sexual intercourse (87.3%) indicate a big gap in knowledge in the group, and indicate a greater emphasis of the latter in our public health education campaigns. In contrast to the relatively higher level of knowledge of mode of transmission of HIV/AIDS infection through sexual intercourse (87.3%) and (69.3%) through the blood transfusion in this study, the study done by Ibrahim showed that only 85.4% and 66.4% respectively, of the study subjects, were knowledgeable about the sexual intercourse and blood transfusion route of HIV spread. Most of the barbers (82.0%) lacked knowledge that a virus was a causative organism of AIDS infection can be

attributed to the low literacy level and perhaps the fact that most enlightenment and public health education campaigns on AIDS might not have been emphasizing on this aspect.<sup>12</sup>

The study done in Rawalpindi and Bangalore showed that 75% and 52.9% of the barbers respectively, watched television for getting information. While in our study only 33.3% of the study subjects watched television for getting information regarding HIV/HBV/HCV. In the Pakistan, the national media's awareness campaign have a strong impact on the knowledge about AIDS. However, there have been no such campaigns until recently in India. Improvement in the knowledge about a problem is the first step to reduce risk. We believe that national campaigns for HBV/HCV can successfully increase the awareness regarding HCV/HBV among the general population as well as target population (barbers).<sup>13,14</sup>

The principle of 'Universal precautions' considers all blood and body fluids to be potentially infectious and all invasive instruments to be potentially contaminated.<sup>15</sup> In the present study, 37.3% of the barbers interviewed reusing blades on multiple clients. Such practices of barbers are enhancing the risk of transmission of pathogens from one person to another person.<sup>16,17</sup> Similar practices of blade reuse have also been reported from other survey done among barbers in India.<sup>18</sup> Micro trauma caused during a shave can contaminate the razor, and reuse of such a razor is responsible for transmission of the viruses. The probability of disease transmission is increased with increase in the frequency of reuse. The dynamics of pathogen transmission in such cases can be considered similar to that of therapeutic injections. However, the frequency of the exposure is low during therapeutic injections while during daily shaving the frequency of exposure is very high.<sup>13</sup> Encouragement of use of new blade for every customer is good practice. In the present study, it was observed that 62.7% of the subjects were using a new blade while in some other studies all the study subjects were using new blade.<sup>14,19</sup> All the barbershops enrolled in the bangalore study disposed of used blades unsafely either in the municipal dustbin or outside the city increasing the risk for sweepers and garbage handlers. In developed countries, the activities of barbers are regulated through a comprehensive training, licensing and monitoring programmes,<sup>20</sup> Indian Government has not given any noticeable attention to barbers and their activities.

In the present study, 76.0% of the study subjects encountered with minor cuts during barbering procedure. These type of common accident were also reported in some previous studies.<sup>18</sup> It may be due to improper instrument handling since most of the barbers were not formally trained in the practices of haircutting, and they took very short time in training.<sup>10</sup>

It is the barber's responsibility to keep instruments free of infective agents. Health and personal care workers are known to adhere strictly to decontamination guidelines for invasive instruments and the principle of 'universal

precautions<sup>20</sup> but regarding barbers such practices were less practiced. Even after poor knowledge, practices and awareness, most of the barbers are paying more attention in decoration, air conditioning, sound system, but they are not paying attention to reduce the risk associated with their profession in the prevention of diseases.<sup>18</sup> Heat is the preferred method for sterilization as it is the most effective method to destruct HIV and other pathogens. High-level disinfection by boiling is feasible during some circumstances, as this requires only a source of heat, a container and water. During practical and field studies, high-level disinfection with chemicals is reliable.<sup>21,22</sup> In the present study, only 26.0% of the study subjects were using alcohol as a disinfectant. Awodele identified that barbers were using of shampoo, “Air fresheners” and “after-save” as disinfectant for barbers’ instruments as a potential breach in the universal protection methods as they were not known to be disinfectants and do not inactivate HIV. This implied that the seemingly high disinfection rates among barbers just amounted to a false sense of security to clients and the general public. This finding was similar findings was observed in some other studies.<sup>18,23,24</sup>

## CONCLUSION

It was concluded that most of the study subjects had an education only up to primary school, and their knowledge about disease transmission was not so good. The majority of them do not have any idea that HIV/HCV/HBV was preventable. Some barbers reused Razor and blades in their practices. Awareness about these health hazards among barbers would play a vital part in prevention and control of HBV/HCV and HIV infections. It is also indicated to give training of barbers regarding the methods of prevention of transmitted diseases. There is immediate need to improve the media campaign for AIDS and to start a similar campaign for hepatitis. Barbers should be trained in universal protection methods, regularly monitored and supervised by the municipality and local government authorities on the correct hair-cutting procedures and instrument decontamination.

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