

Knowledge, Attitude and Practice about Hepatitis B, Hepatitis C and Human Immunodeficiency Virus among Barbers of Sylhet, Bangladesh

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Abstract

Introduction: This study was designed to see the knowledge, attitude and practice of barbers regarding transmission of hepatitis B, C and HIV viral infections. **Materials and Methods:** Barbers from Sylhet were interviewed with a predesigned questionnaire. Positive answers for blood transfusion, syringe sharing, use of contaminated shaving instruments and unsafe sex as way of transmission were taken as correct. Statistical analysis was done using SPSS 20 version. **Result:** Total 403 barbers, age from 14 years to 69 years (mean 27.11) were interviewed. In this group 232 (57.6%) had education illiterate to class five level. Among them 245 (60.3%) had income below 10 thousand per month. Blood transfusion could transmit HBV, HCV and HIV was known to 136 (33.7%), 129 (32.00%) and 247 (61.30%), contaminated syringe sharing could transmit HBV, HCV and HIV respectively was known to 131 (32.5%), 127 (31.50%) and 278 (69.0%) barbers, unsafe sex could transmit HBV, HCV and HIV was known to 166 (41.2%), 158 (39.2%) and 317 (78.70%) barbers respectively and Contaminated shaving instruments could transmit HBV, HCV and HIV was known to 101 (25.1%), 96 (23.8%) and 156 (38.7%) barbers respectively. In this series 84 (20.84%) barbers answered correctly. This answers differed significantly within different level of education. Their knowledge of sterilization of shaving instruments was poor. **Conclusion:** Knowledge of our barbers regarding transmission of HBV, HCV and HIV and sterilisation of shaving instruments are inadequate. Institutional education and structured professional training may improve their services and decrease transmission of blood borne viral diseases.

Keywords: Knowledge of barbers, Transmission of Hepatitis B, C and HIV.

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Introduction

Hepatitis B (HBV) is one of the most common infectious disease in the world causing significant morbidity and mortality¹. About one third of whole population of world are infected with HBV. of them about 5% become chronic carrier and one fourth of this carriers develop serious liver diseases as chronic hepatitis, cirrhosis and hepatocellular carcinoma (HCC). Yearly HBV related documented death in the world is about 780000². In our country prevalence of HBV is about 5.5% in general population³.

Another virus Hepatitis C (HCV) usually cause asymptomatic acute hepatitis and also cause end stage liver disease like chronic hepatitis, cirrhosis and HCC⁴. Estimated global prevalence of HCV is 2.5% with 118.9 million patients having RNA positive. In Asia the prevalence is 2.8% and it constitutes more than 60% of total patients in the world⁵. In Asia HCV RNA positive cases are about 71.9 million⁵. Prevalence of HCV in Bangladesh is about 0.88%⁶.

Human immunodeficiency virus (HIV) and its related disease Acquired immunodeficiency syndrome (AIDS) are another major global public health issue. In 2018 about 37.9 million people were infected with HIV of which 1.7 million were children⁷. In our country prevalence of HIV / AIDS is about 0.01% and it is lower than our neighbouring countries Nepal and India⁸.

All these three blood- borne viruses, HBV, HCV and HIV, spread through unsafe use of therapeutic injections, blood transfusion, mother to child transmission, unsafe sexual practice, razor sharing or barber shop shaving and beauty treatments including tattoing, ear-nose piercing, manicure and pedicure^{9,10}.

Razor sharing and shaves from barbers are important risk factor of blood borne virus transmission. In many countries of Asia and Africa, people use to have shaving at barber shop and roadside barber which is a route of virus transmission¹¹.

In Bangladesh, people, although statistics is not available, go to barber shops for shaving. And in villages people go to roadside barber on Hat day, but this tradition is gradually decreasing. In developed countries, barbers have to get institutional training before working as a professional. But till now in our country there is no system of such training. It mostly appears to be profession of a specific group of people in our country. Any one even without minimum educational background, one can work as barber being trained from seniors and sometimes from family members. So their knowledge regarding transmission of these viruses seems to be inadequate. With this background, this study was designed to see the knowledge, attitude and practice of barbers of Sylhet, Bangladesh regarding transmission of these viruses.

Materials and Methods

Barber shops of within city and adjacent areas outside city were selected randomly and workers were then interviewed by trained interviewers at their shops. Their demographical information and answers to different questions were recorded in predesigned data sheets. Barbers, not willing to take part in the study, were excluded. Positive answers as blood transfusion, contaminated syringe sharing, contaminated shaving instruments and unsafe sex as mode of transmission of these viruses were taken as correct answers. Answers mentioning at least one of these as mode transmission were considered as partially correct. And answers other than these were taken as wrong.

Statistical analysis

Data was analysed using statistical Package for Social Science(SPSS) version 20 (Inc., Chicago, IL USA). Mean and standard deviation and percentages were calculated for continuous data. Comparisons of variables to see difference were done by Chi-square test for categorical data. And P value < 0.05 was taken as significant.

Results

Total 403 barbers were interviewed. All of them were male. Age of them varied from 14 years to 69 years (mean 27.11 and SD 9.34). Among them 343 (85.1%) and 60 (14.9%) were working in city and adjacent areas outside city respectively (table I).

Table I: Demographic profile of barbers.

	Number	Percentage
Total	403	100
Working in city	343	85.1
Working outside of city	60	14.9
married	203	50.4
unmarried	200	49.6
Age up to 20 years	102	25.3
Age 21-30 years	206	51.1
Age 31-40 years	58	14.4
Age 41 and above	37	9.2

	Number	Percentage
Education - Illiterate	49	12.2
Class one to class Five	183	45.4
Class six to class eight	121	30.0
Class nine to SSC	40	9.9
Class 11 and above	10	2.5
Income up to 5000 taka/month	54	13.4
5001 to 10,000 taka/month	189	46.9
10001 to 15000 taka/month	111	27.5
Above 15,000 taka/month	49	12.2

In this series 49 (12.2%) were illiterate and 183 (45.4%) had educational background from class one to class five level. Only 10 (2.5%) had education background above secondary level. Income of them varied from 2,000 to 50,000 taka per month (mean 11174.94 and SD 6050.14). All barbers working outside city (60; 14.9%) had income within 2000 to 5000 taka range and 189 (46.9%) had income within 6 – 10 thousand taka per month range. Age of 206 (51.10%) were within 21 to 30 years and 102 (25.3%) were below 21 years. In this series, 101 (25.1%), 96 (23.8%) and 156 (38.7%) knew that saloon instrument could transmit HBV, HCV and HIV respectively (table II). Blood transfusion could transmit HBV, HCV and HIV was known to 136 (33.7%), 129 (32.00%) and 247 (61.30%) of our respondents respectively (table II).

Table II: Knowledge of viruses.

Transmission Sources	Hepatitis B			Hepatitis C			HIV		
	Yes (%)	No (%)	No idea(%)	Yes (%)	No (%)	No idea (%)	Yes (%)	No (%)	No idea(%)
Water	66 (16.4)	35 (8.7)	302 (74.9)	60 (14.9)	37 (9.2)	306 (75.9)	82 (20.3)	127 (31.5)	194 (48.1)
Food	43 (10.7)	51 (12.7)	309 (76.7)	40 (9.9)	50 (12.4)	313 (77.7)	59 (14.6)	147 (36.5)	197 (48.9)
Tattoo	41 (10.2)	13 (3.2)	349 (86.6)	40 (9.9)	11 (2.7)	352 (87.3)	63 (15.6)	53 (13.2)	287 (71.2)
Ear/nose prick	51 (12.7)	13 (3.2)	339 (84.1)	45 (11.2)	14 (3.5)	344 (85.4)	84 (20.8)	61 (15.1)	258 (64.0)
Saloon instrument	101 (21.1)	14 (3.5)	288 (71.5)	96 (23.8)	15 (3.7)	292 (72.5)	156 (38.7)	50 (12.4)	197 (48.9)
Surgical instrument	67 (16.6)	16 (4.0)	320 (79.4)	64 (15.9)	16 (4.0)	323 (80.1)	126 (31.3)	44 (10.9)	233 (57.8)
Dental procedure	47 (11.7)	15 (3.7)	341 (84.6)	40 (9.9)	16 (4.0)	347 (86.1)	87 (21.6)	47 (11.7)	269 (66.7)
blood transfusion	136 (33.7)	2 (0.5)	265 (65.8)	129 (32.0)	2 (0.5)	272 (67.5)	247 (61.3)	21 (5.2)	135 (33.5)
Syringe sharing	131 (32.5)	5 (1.2)	257 (66.3)	127 (31.5)	4 (1.0)	272 (67.5)	278 (69.0)	4 (1.0)	121 (30.0)
Drug addiction	113 (28.0)	3 (0.7)	287 (71.2)	103 (25.6)	3 (0.7)	297 (73.7)	257 (63.8)	1 (0.2)	145 (36.0)
Unsafe sex	166 (41.2)	8 (2.0)	229 (56.8)	158 (39.2)	8 (2.0)	237 (58.8)	317 (78.7)	1 (0.2)	85 (21.1)
Outcome									

Total cure	62 (15.4)	66 (16.4)	275 (68.2)	61 (15.1)	60 (14.9)	282 (70.0)	118 (29.3)	162 (40.2)	123 (30.5)
CLD and death	43 (10.7)	3 (0.7)	357 (88.6)	35 (8.7)	4 (1.0)	364 (90.0)	78 (19.4)	30 (7.4)	295 (73.2)
Cancer and death	36 (8.9)	27 (6.7)	340 (84.4)	31 (7.7)	26 (6.5)	346 (85.9)	167 (41.4)	24 (6.0)	212 (52.6)
AIDs							262 (65.0)	6 (1.5)	135 (33.5)

In this study 131 (32.5%), 127 (31.50%) and 278 (69.0%) barbers believed that contaminated syringe sharing could transmit HBV, HCV and HIV respectively. In this study 166 (41.2%), 158(39.2%) and 317 (78.70%) barbers respectively believed that unsafe sex could transmit HBV, HCV and HIV. It is also seen that knowledge regarding transmission of HIV was better. In this series 84 (20.84%) and 99 (24.57%) barbers' answers regarding transmission of this three viruses were correct and partially correct respectively.

Only 43 (10.7%) and 35 (8.7%) of barbers respectively knew that HBV and HCV infection might lead to cirrhosis and HCC and death (table II). On the other hand 78(19.4%) barbers of this series know that HIV infection leads to death.

Their main source of knowledge were radio and television (322; 79.90%) and news paper (166; 41.2%) (table III).

Table III: Source of knowledge for barbers.

Sources	Yes (%)	No (%)
Radio and television	322 (79.9)	81 (20.1)
Newspaper	166 (41.2)	237 (58.8)
Hospital	60 (14.9)	343 (85.1)
NGO workers	14 (3.5)	389 (96.5)
Health Workers	46 (11.4)	357 (88.6)
Books	34 (8.4)	369 (91.6)
Own Idea	223 (55.3)	180 (44.7)

But role of hospital, health workers, Nongovernment Organisations (NGO) workers, and books for dissemination of knowledge to them regarding transmission of viruses was minimum. In this group, 318 (78.9%) thought that testing and treatment measure should be taken against these viruses.

Again 49 (12.2%) who were vaccinated for HBV thought vaccination could prevent these viral diseases. In this series, 84 (20.8%), 42 (10.4%), 47 (11.7%), 18 (4.5%) and 07 (1.7%) respectively had history of surgery, blood transfusion, ear or nose prick, tattooing and drug addiction (table IV).

Table IV: Personal history and practice.

	Yes	Percentage	No	Percentage
Vaccinated for HBV	49	12.2	354	87.8
Drug addiction	7	1.7	396	98.3
H/o blood transfusion	42	10.4	361	89.6
Need surgery	84	20.8	319	79.2
Has tattoo	18	4.5	385	95.5
Has ear – nose prick	47	11.7	356	88.3
Practice at saloon				
Hand washing before new client	376	93.3	27	6.7
Sterilize instruments	230	57.1	173	42.9
Washes with tap water without sterilisation	157	39.0	246	61.04
Just wipe instrument with paper	16	3.9		
Use separate blade for every client	401	99.5	2	0.5
Use antiseptics	398	98.8	5	1.2
Dispose blades to garbage bin	371	92.1	32*	7.9

*they dispose blades improperly

In these group, 376 (93.3%) respondents told that they washed hands before serving every new clients, 230 (57.1%) sterilise instruments with chemicals, and 157 (39.0%) washed instrument with tap water before working with new customer. They uses savlon (mixture of cetrimide and chlorhexidine) for sterilisation. In this series 401 (99.5%) uses separate blades for every customers and 398 (98.8%) provide antiseptic cream (usually savlon) for skin injuries. Most of respondents disposes blades in garbage.

Answers of barbers were regarding transmission of all three viruses significantly differed with educational background. Answers of barbers regarding transmission of HIV virus also significantly differed with age, income and marital status (table V).

Table V: Relation of variables.

	Variables	Correct Answer 84 (%)	Partially Correct 99 (%)	Wrong 220 (%)	P value	
HBV	Age group	Up to 20 y (102)	17 (16.66)	21 (20.59)	64 (62.74)	0.695
		21-30 y (206)	46 (22.33)	52 (24.24)	108(52.43)	
		31-40 y (58)	13 (22.41)	16 (27.58)	29 (50.00)	
	Income	Above 40 y (37)	8 (21.62)	10 (27.03)	19 (51.35)	0.12
		Up to 5000 (54)	9 (16.66)	21 (38.89)	24 (44.44)	
		5001-10000(189)	35 (18.52)	42 (22.22)	112(59.26)	
	Education	10001-15000 (111)	28 (25.22)	23 (20.72)	60 (54.05)	0.012
		>15000 (49)	12 (24.49)	13 (26.53)	24 (48.98)	
		Class 0 to five(232)	37 (15.95)	68 (29.31)	127(54.74)	
	Marital status	Class 6-8 (121)	29 (23.97)	21 (17.35)	71 (58.68)	0.71
Class 9-10 (40)		14 (35.00)	7 (17.50)	19 (47.50)		
≥Class 11 (10)		4 (40.00)	3 (30.00)	3 (30.00)		
HCV	Age group	married 203	43 (21.18)	53 (26.11)	107(52.71)	0.695
		single 200	41 (20.50)	46 (23.00)	113 (56.50)	
		Up to 20 y (102)	17 (16.67)	21 (20.59)	64 (62.74)	
	Income	21-30 y (206)	43 (20.87)	47 (22.81)	116(56.31)	0.184
		31-40 y (58)	12 (20.69)	15 (25.86)	31 (53.44)	
		Above 40 y (37)	7 (18.92)	10 (27.03)	20 (54.05)	
	Education	Up to 5000 (54)	9 (16.66)	20 (37.04)	25 (46.29)	0.011
		5001-10000(189)	34 (17.99)	41 (21.69)	114(60.31)	
		10001-15000 (111)	27 (24.32)	21 (18.92)	63 (56.76)	
	Marital status	>15000 (49)	9 (18.37)	11 (22.45)	29 (59.18)	0.955
Class 0 to five(232)		36 (15.52)	37 (15.95)	129(55.60)		
Class 6-8 (121)		27 (22.31)	17 (14.05)	77 (63.63)		
HIV	Age group	Class 9-10 (40)	12 (30.0)	7 (17.50)	21 (52.5)	0.000
		≥Class 11 (10)	4 (40.00)	2(20.0)	4(40.00)	
		Married 203	39 (19.21)	48 (23.64)	116(57.14)	
	Income	Single 200	40 (20.0)	45 (22.50)	115(57.50)	0.002
		Up to 20 y (102)	23 (22.55)	46 (45.10)	33 (32.35)	
		21-30 y (206)	81 (39.32)	102 (49.51)	23 (11.16)	
	Education	31-40 y (58)	24 (41.38)	23 (39.65)	11 (18.96)	0.003
		Above 40 y (37)	12 (32.43)	13 (35.13)	12 (32.43)	
		Up to 5000 (54)	11 (20.37)	23 (42.59)	20 (37.04)	
	Marital status	5001-10000(189)	60 (31.74)	92 (48.68)	37 (19.57)	0.013
10001-15000 (111)		44 (39.64)	52 (46.84)	15 (13.51)		
>15000 (49)		25 (51.02)	17 (34.69)	7 (14.28)		
Education	Class 0 to five(232)	71 (30.60)	105 (45.26)	56 (24.14)	0.003	
	class 6-8 (121)	40 (33.06)	59 (48.76)	22 (18.18)		
	Class 9-10 (40)	23 (57.5)	16 (40.0)	1 (2.50)		
Marital status	≥Class 11 (10)	6 (60.0)	4 (40.0)	0	0.013	
	married 203	70 (34.48)	104 (51.23)	29 (14.28)		
	single 200	70 (35.0)	80 (40.00)	50 (25.00)		

Discussion

This study was done to see the knowledge of barbers regarding transmission of HBV, HCV and HIV and their practice in shops in Sylhet, Bangladesh. In this series, all respondents were male. In our country usually males are involved in barbering. Mostly this profession runs in family from generation to generation. And Beauty parlour workers are usually female. Our report was consistent with report from Sudan, where workers at barber shop are usually male¹². In this study more than half of respondents had either none or minimum institutional education. Educational level of them is better than that of Pakistan^{13,14}, but worse than that of Sudan¹² and India¹⁵, Ghana¹⁶. Age of more than 50% of barbers were within 21 to 30 years which is consistent with report from Pakistan¹³. Mean age of our respondents was similar to that of barbers in Sudan¹². Income of our respondents were similar to income of barbers in Pakistan¹³. It is to mention that income of barbers working outside the city in our series were low. About one third of our respondents had proper knowledge about transmission of HBV and HCV. And only one fourth of our respondents believed that contaminated shaving instruments can transmit HBV and HCV. But more than 90% barbers in Italy¹⁷ are aware about the route of transmission of HBV and HCV. Only about 10% of series know that HBV and HCV can cause chronic hepatitis, cirrhosis and HCC. Knowledge of respondents was better than that of barbers of Ghana¹⁶ while poorer than that of barbers of Pakistan¹⁴. Vaccination rate in our series was slightly higher than that in Pakistan¹⁴.

It is to mention that prevalence of HBV is also higher among barbers in China¹⁸ and Morocco¹⁹. But in our country such report is not available. In Iran about 1.1% of barbers were seropositive for HCV²⁰. One study from Turkey showed presence of HBV DNA in 6.6% of used razor blades by semi nested PCR method²¹. It favours the transmission of blood borne viruses due to micro injury of skin during shaving.

Regarding HIV more than two third of respondents were aware of transmission through blood transfusion, syringe sharing and unsafe sex. But about 38% of respondents were aware of transmission through contaminated shaving instruments which is just better than the report from Ethiopia²², but far lower than report from Italy¹⁷. Education and socio-cultural difference can influence this differences. One fifth of our respondents were aware of death related to HIV and AIDS which is far lower than awareness among barbers in Italy¹⁷ and Ethiopia²². Regarding prevention, most of our respondents opine for testing and treatment. While one third were in favour of vaccination.

In our study almost all respondents use separate blades for each and every new customers. This practice is far better than that report from Italy¹⁷. Again 93% of our respondents washes hands before working with new client. But slightly more than half our barbers sterilises instruments with chemicals before using on new customer. And 43% wash their instrument with tap water, and very small group uses to wipe instrument with paper only in between two new customers. They have no good idea regarding duration

required for chemical sterilisation and other important methods of sterilisation as autoclaving or use of ultraviolet rays. Micro trauma during shaving may contaminate shaving instruments including razor blades. Inadequate sterilisation of instruments thus lead viral transmission from one customer to another. Regarding this practice, our respondents were far behind the practice in Italy¹⁷ and Ethiopia²². Education and social and cultural difference could explain this difference.

Our respondents usually do not wear gloves which are similar to the practice in India¹⁵, Ethiopia²² and Pakistan²³. Most of our respondents use to dispose used blades in garbage which increase health risk to the garbage handlers and cleaners and similar practice is reported from Sudan¹², and Ghana¹⁶.

From this study it is evident that level of education influence the knowledge about transmission of blood borne viral infection from one person to another. One study from Pakistan reported that educational intervention improved the awareness among both community people and professionals regarding transmission of HIV/AIDS²⁴. So programmed dissemination of knowledge to our barbers about transmission of blood borne viral diseases, its precaution, health hazards related to profession for them and their customers, need and methods of proper sterilisation of instruments, use of gloves, proper disposal of sharp instrument can improve their knowledge, change their practice and attitude.

Conclusion

Knowledge of our barbers regarding transmission of HBV, HCV and HIV is incomplete and inadequate. Good number of them do not sterilize instruments at all or sterilize improperly which is dangerous. So in addition to institutional education, structured training for barbers regarding their professional skill and health related affairs may improve their services along with decrease of transmission of viral diseases and related health hazards for them and also the community.

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