Original Article

Knowledge and Practices of Rural Barbers about Hepatitis B and C Transmission in Kurigram District

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Abstract:

Background: Blood-borne viruses such as hepatitis B and C have some common epidemiological characteristics, and have infected millions of people throughout the world. A significant proportion of those exposed to HBV and HCV become chronically infected and are at considerable risk of chronic active hepatitis, cirrhosis, liver failure and liver cancer. Shaving by barbers has been identified as the key risk factor for spread of HBV and HCV. Thus the barber has a potential role in expansion of infections. The aim of this study is to assess the knowledge and practices of barbers regarding transmission risk of HBV and HCV. **Methods:** A cross-sectional survey was conducted on 120 rural barbers who were selected by multistage sampling method in Kurigram district, in Bangladesh in 2020. Data on knowledge of barbers was collected and their practices were observed and recorded. **Results:** Observations showed that 100% used a new blade with new clients and 100% used antiseptic lotion after shave. However, knowledge about the diseases and modes of transmission were poor (0.8% to 5.8%) and only 5.8% knew that liver disease caused by hepatitis B and C. Only 2.5% knew transmission via shaving instruments. Only 2.5% barbers answered vaccination could protect against HBV. **Conclusions:** Knowledge about disease transmission was very poor. But their practices regarding the use of new blades and antiseptic lotion were very good. The majority had no idea that HBV were preventable. Strategies are needed for raising awareness and regulations of barbers' practices.

Indexing words: Hepatitis B virus (HBV), Hepatitis C virus (HCV), Barbers, Knowledge, Attitude and Practice

Introduction:

Blood-borne viruses such as hepatitis B and C have some common epidemiological characteristics, and have infected millions of people throughout the world[1]. Such diseases impose heavy burdens on national economies and individual families due to costs arising from acute and chronic morbidity and mortality. A significant proportion of those exposed to HBV and HCV become chronically infected and are at considerable risk of chronic active hepatitis, cirrhosis, liver failure and liver cancer. Globally, 2 billion people are infected with the hepatitis B virus (HBV), of which more than 350 million have chronic infections[2]. An estimated 170 million persons are chronically infected with hepatitis C virus (HCV) and 3 to 4 million persons are newly infected each year[3]. The prevalence of hepatitis B in Bangladesh from different studies shows 0.8 to 5.4%[4-6]. According to WHO records the prevalence of HCV ranges between 1%-2.5% in Bangladesh[7]. The rates of HBV and HCV infection in this country have been increasing, attributed to a lack of proper health facilities, low socioeconomic status and low public health

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awareness about the transmission of communicable diseases. Important factors contributing to HBV and HCV spread include unsafe use of therapeutic injections[8], blood transfusion[9], shaving from barbers, tattooing[10], mother to child transmission[11] and unsafe sexual practices[12,13]. Razor sharing and shave from the barbers has been identified as a key risk factor for HBV spread in Italy[14] and for HCV among psychiatric patients in Japan[15], Egypt[16] and Pakistan[17]. Barbers in third-world settings are usually unaware of the concept of transmission of infectious agents. So they are using razors and scissors repeatedly for different customers without intervening sterilization. During haircut, shave or pedicure, barbers may be accidentally exposed to their clients' blood, or transmit their own infection to the clients, or transmit the infection from one client to another.

Prevention is the best strategy against the epidemic of viral hepatitis. Moreover, international literature shows a lack of exhaustive data on behaviors and practices related to beauty activities and only few studies were available in developed countries[18] and developing countries. In some study showed, Barbers have low awareness about hepatitis and the risk of transmission of infectious agents by reuse of razors and scissors on multiple clients[19,20]. The prevalence of saloon or roadside barber shaving has been reported to be as high as 34 - 49% in Bangladesh[21]. It is important to know how barbers perceive the risks in relation to prevention of transmission between themselves and customers. In Bangladesh no such study has been carried out to find out the knowledge, attitude and practices of barbers about hepatitis B and C virus transmission. Therefore, this study has been designed to assess the knowledge, attitude and practices of barbers in Rangpur city, northern zone of Bangladesh. In essence, this study will pave the way to design and implement appropriate prevention and intervention strategies to harbor safe shaving practices among barber's community in Bangladesh perspective.

Methods:

During January – March, 2020 a cross sectional survey of barbers' shops was conducted at rural markets in Ulipur Upazila in Kurigram district. Multistage sampling method was adopted for the study. Among the 9 Upazilas, 1 Upazila was selected on the basis of convenience. Out of all rural markets where barbers' shops were located, 60 markets were selected on the basis of convenience. Then 2 barbers were selected from each village market on the basis of convenience. The selection criteria of subjects were (i) age more than 15 years and (ii) willing to participate in the study. Trained medical interviewers visited the selected barbers' shops and requested barbers to participate in the study after taking informed consent. Face-to-face interview was conducted with participating barbers about their knowledge. Information was written down in a pretested Bangla versions questionnaire. During the main interview, one of the interviewers was involved in data collection and another one observed the barber and assessed his practices regarding using instruments. The questionnaires included socio-demographic data of barbers; Barber`s knowledge section covered the different modes of transmission of hepatitis and knowledge of vaccination against HBV and HCV. The practices of barbers were observed on 2 occasions while they were attending clients and a checklist was used to record: hand-washing before servicing each client, sterilization of instruments with antiseptic, use and reuse of blades, and disposal of used blades and instruments. Statistical analysis was performed by using window based computer software devised with Statistical Packages for Social Sciences (SPSS-20) (SPSS Inc, Chicago, IL, USA). The summarized data was interpreted accordingly and was then presented in the form of tables.

Results:

A total of 120 questionnaires were completed from barbers' interviews. Table-I shows distribution of participating barbers according to socioeconomic and demographic characteristics. Most respondents 41(34.2%) were aged 21 – 30 years. Maximum 73(60.8%) were Hindu and rests 47(39.2%) were Muslim. Around three-forth (77.5%) were married. Maximum 36(30%) were primary educated followed by 35(29.1%) were up to 8th class and another 35(29.1%) were illiterate. Maximum 40 (33.3%) barber's monthly income range was 6001-8000 Takas.

Table I: Socioeconomic and demographic characteristics of barbers participating in the study

Characteristic	Frequency	Percentage
Age		
• 15-20	26	21.7
• 21-30	41	34.2
• 31-40	29	24.1
• 41-50	19	15.8
• 51-60	3	2.5
• > 60	2	1.7
Religion		
• Muslim	47	39.2
• Hindu	73	60.8
Marital status		
• Married	93	77.5
• Unmarried	27	22.5
Education		
• Illiterate	35	29.1
• Primary	36	30
• Upto 8th class	35	29.1
• SSC	11	9.2
• HSC	3	2.5
Monthly income (Tk.)		
• 2000-4000	17	14.2
• 4001-6000	35	29.1
• 6001-8000	40	33.3
• 8001-10000	21	17.5
• >10000	7	5.8

Table II shows barbers' knowledge about hepatitis B and C virus diseases and their mode of transmission. Liver disease caused by hepatitis B & C was known by only 7(5.8%). Responses to the knowledge questions about modes of transmission were low ranging from only 1(0.8%) correct for tattooing transmission to 7 (5.8%) by blood transfusion. Only 3(2.5%) who knew that hepatitis can be transmitted through barber's shaving instruments. Only 4(3.3%) of respondents knew both hepatitis B and C have the same mode of transmission and 3(2.5%) knew that vaccine can protect the individual against hepatitis B.

Table II: Barbers' knowledge about hepatitis B and C virus diseases and their mode oftransmission.

Knowledge item	Yes	Percentage	No	Percentage
Liver disease caused by Hepatitis B & C. Do you know about this?	7	5.8	113	94.2
Mode of transmission				
Blood transfusion	7	5.8	113	94.2
Barbers' shaving instruments	3	2.5	117	97.5
Intravenous drug use	3	2.5	117	97.5
Reuse of needles	2	1.7	118	98.3
Sexual contact	7	5.8	113	94.2
Dental procedures	5	4.2	115	95.8
Scissors/surgical instruments	2	1.7	118	98.3
Tattooing	1	0.8	119	99.2
Ear/body piercing	1	0.8	119	99.2
Hepatitis B and C have the same mode of transmission	4	3.3	115	96.7
Protection				
A vaccine can protect the individual against hepatitis B infection	3	2.5	117	97.5

Table III shows barbers' shaving practices from observations of interactions with clients. Only 3(2.5%) barbers wash hands before each client. Almost all 119 (99.2%) reused towel. Only 4 (3.3%) barbers washes razor with tap water before use on new client and 3(2.5%) washes razor with antiseptic solution after use. All barbers (100%) used new blade on new client.

All (100.0%) barbers used disinfectants after shaving on client and 87(72.5%) disposed of used blades in the garbage.

Table III: Barbers' shaving practices from observations of interactions with clients

Practice item	Yes	%	No	%
Washes hands before each client	3	2.5	117	97.5
Reuse of towel	119	99.2	1	0.8
Washes razor with water before use on new client	4	3.3	116	96.6
Washes razor with antiseptic solution after use	3	2.5	117	97.5
Uses new blade on new client	120	100	0	0
Disposes of used blades in the garbage	87	72.5	33	27.5
Use disinfectants after shaving on client	120	100	0	0

Discussion:

Barbershop is a place where the general public is prone to different infectious diseases including Hepatitis B, C, HIV/AIDS and skin infections. The disease spread can be due to contaminated instruments or towels. This current study was conducted at the rural areas in Kurigram district to know the knowledge and practices of the barbers about the transmission of HBV & HCV

Out of 120 barbers majority 41(34.2%) were in age group (21–30) years followed by 29(24.1%) age group (31-40) years and 26(21.7) age group (15–20) years. Almost similar results were seen in the study of Waheed et al, where most of the barbers were in age group 15-35 years[22]. In this study, 36 (30%) had completed primary education, 35(29.1%) up to 8th class and 35(29.1%) were illiterate. Almost similar results were observed in the study of Waheed et al[22] and Jokhio et al[23].

In this study, only 7(5.8%) knew that liver diseases were caused by hepatitis B and C virus, almost similar to the result is found in a study of Janjua & Nizamy[19], which greatly differs with the studies by 38.5% in Chaudhry et al[24], 42.0% in Patel et al[25] and 80% in Shalaby et al[26]. This discrepancy is attributed to lack of awareness and poor knowledge. In this study, knowledge of thebarbers about different mode of transmission of HBV and HCV were very poor (only 0.8%–5.8%). Almost all of study participants had no conception that these diseases were transmitted by barbers shaving instruments, blood transfusion, sexual contact, ear/body piercing, reuse of needles, scissors/surgical instruments, dental procedures, or tattooing. Almost similar results were found in studies carried out in Morocco, Ethiopia and Pakistan[27,28]. But better results were found in study of Patel et al[25] and Shalaby et al[26]. Only 7 (5.8%) barbers said these viruses transmitted during blood transfusion but Patel et al[25], and Jokhio et al[22] found 25.3% and 29.0%, respectively in their study. In this study 3(2.5%) barbers said these viruses transmitted via barbers shaving instruments but different results in the study of Jokhio et al[22], and Shalaby et al[26]. Only 7(5.8%) barbers answered by sexual contact which differed from study of Shalaby et al[26] who found 65.9%. Only 3(2.5%) barbers said these viruses transmitted by intravenous drug use but Jokhio et al[22] and Shalaby et al[26], showed 22.0% and 88.0% in their respective study. Poor knowledge of study participants about mode of transmission may be due to the fact that they belong to relatively less developed geographical area. The awareness campaigns on national electronic & print media are very poor about transmission of HBV and HCV until recently.

Regarding protective knowledge, only 3(2.5%) knew that vaccine can protect the individual against hepatitis B infection. Almost similar result was found in the study of Jokhio et al[22] and Janjua and Nizamy[19] in Pakistan but higher values were seen in the study of Shalaby et al[26] and Patel et al[25] in Egypt and India. This difference might be due to the different study area and education level.

Only 3(2.5%) barbers washed their hand before each client. Like in other studies in Pakistan[29] and in Yemen[30], hand-washing was an uncommon practice and majority of the barbers did not report it as part of their routine. Hand-washing not only helps maintain self-hygiene but also reduces the risk of infection transmission to clients. Lack of hand washing is due to lack of awareness and also to save time to serve more clients. Sterilization of instruments was non-

existent and only a small proportion 3(2.5%) of the barbers used antiseptics for cleaning the instruments (e.g razor) which was similar to study of Janjua and Nizamy[19], but good practice was found in study of Shalaby et al[26] and Jokhio et al[22]. This was due to lack of awareness and knowledge. Regarding blade reuse practices, studies conducted in late Nineties in Pakistan[19] as well as in India[31], revealed that a large number of barbers were reusing the same blade on multiple clients. But studies conducted during last 15 year[23,32] as well as in this study, this practice of blade sharing was almost nonexistent. In spite of the fact that most of the barbers did not know that HBV and HCV infection can be transmitted through blade sharing, this improved practices may be due to improved life style and overall increased awareness about hygiene, health behavior and client's compelling attitude to use new blade.In this study all barbers (100%) used disinfectants after shaving. But poor practices were seen 39.2% and 76.4% in the study of Jokhio et al[22] and Shalaby et al[26] respectively. Barber used after shave antiseptic lotion for disinfection. This practice of using antiseptic lotion is probably intended to allure the client with the fragrance of antiseptic lotion. In this study 72.5% barbers disposed of used blades in the garbage but Jokhio et al[22] found 34.9%. However, this desirable practice could be due to public demand or it could be due to their alertness during data collection.

Limitations:

The limitations of this present study are:

- The sample size of this study was small and it was a sample of convenience which may result in selection bias.
- We have not covered some important factors such as circumcision, incision and drainage practices of barbers and appropriate interventions.

Recommendations:

Based on the findings of the present study and analysis following recommendations can be put forward–

- These factors are very important for planning a successful campaign to prevent the transmission of these diseases.
- A large-scale well-planned study is needed to assess the effects of the many variables that affect HBV and HCV transmission.
- Policy makers need to give immediate attention to this mode of transmission of blood borne pathogens.
- Messages about hepatitis spread by razor transmission need to be incorporated in media campaigns and interventions for health education and regulation of barbers' practices need to be planned.
- An in-depth analysis of behaviours and determinants of practices can have a more profound effect on designing specific interventions for barbers.

Conclusion:

In this study, barbers had very little knowledge of the liver disease and routes of spread of hepatitis B and C. But their practices regarding the use of new blades, antiseptic use after shave and the disposal of sharps were very good. This good practice might be due to public demand for use of new blades every time.

Conflict of interest: None

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