

Insight and educational intervention concerning hepatitis among roadside barbers and their clients in Karachi, Pakistan

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Abstract

Introduction: This study aimed to determine perceptions of hepatitis and make available an educational intervention session regarding the infection among roadside barbers and their clients.

Methodology: A cross-sectional study using convenience random sampling technique was conducted on all barbers and one each of their clients during January to June, 2011, in Karachi, Pakistan. After informed consent was taken and confidentiality ensured, respondents answered an anonymous questionnaire of closed-ended questions regarding hepatitis. The interview was followed by an educational intervention session. Data was analyzed using SPSS version 17.

Results: About 51% and 32% of the barbers and clients respectively had knowledge regarding hepatitis. Razors were recognized as agents for transmitting the infection by 12% and 42% of the barbers and clients respectively. Most (96%) barbers disinfected the razor before use and 49% of the clients confirmed that the razor was sterilized before shaving, while 79% insisted on new blade. Though 50% and 30% of the barbers and clients respectively knew that hepatitis is a preventable disease, only 2% and 7% of the respective barbers and clients were vaccinated against Hepatitis B. Reasons for not being vaccinated were non-awareness and cost of the HBV vaccine. Only half of the barbers and clients considered themselves to be at risk for hepatitis.

Conclusions: In Karachi, barbers and clients have poor knowledge of hepatitis and the means of transmissions, as well as low vaccination rates against HBV infection. Hence barbers and their clients must be educated about hepatitis and its prevention.

Key words: barbers; clients; hepatitis; vaccine

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Introduction

Viral hepatitis affects approximately 500 million people worldwide and different viruses can cause various forms of viral hepatitis [1]. Globally, two billion people are infected with Hepatitis B virus (HBV) and an estimated 170 million persons are chronically infected with Hepatitis C virus (HCV) [2]. Both infections contribute to the global public health threats confronting most developing countries, where the health-care systems lack the safety measures to avert the risk of the infections and public awareness of the modes of their transmission is insufficient [3].

In Pakistan, a recent prevalence survey on Hepatitis B and C infections reported an overall prevalence of Hepatitis B surface antigen (HBsAg) and anti-Hepatitis C virus (HCV) as 2.5% and 5%, respectively, and a combined infection rate of 7.6% in the general population [4]. Hepatitis C is the most common viral hepatitis, followed by Hepatitis B. Both are more common in males and Hepatitis B emerged a decade earlier than Hepatitis C in Pakistan [5]. The

barbershop is a place where hair-cutting, shaving and hair reforming for men are practiced. Negligence during the use of sharp instruments may be a risk factor for blood-borne infections, causing serious health problems for both the barber and the clients [6]. Razor sharing and shaving in barber shops have been identified as key risk factors for the spread of HBV [7] and HCV [8,9]. Micro-trauma induced while shaving can contaminate the razor, and reuse of an infected razor for another client may result in the transmission of the viruses; furthermore, the likelihood of transmission increases with the frequency of reuse of razors and blades [9,10].

In Pakistan, barbering services include hair cutting, face and scalp massaging, shampooing/dyeing of hair, nail trimming, pedicure, and manicure. In addition, barbers also provide facilities for circumcision and incision/drainage of abscess, especially in rural areas and urban slums [11]. Apart from practicing their trade in regular barber salons, barbers in Karachi, are also commonly seen along

roadsides with a chair and a mirror and performing the routine chores of hair cutting and trimming as well as facial and armpit shaving on their clients. These barbers offer services at nominal rates and are popular among low socio-economic groups. The high association of HBV infection with lower socioeconomic conditions and the exposure to related risk factors categorizes Hepatitis B as a disease of poverty. This is the context for the conduct of this study.

Roadside barbers and their clients were surveyed to assess their perception, knowledge and attitude regarding hepatitis infection. Both groups were followed up with an educational intervention session.

Methodology

This cross-sectional study using convenience random sampling was conducted during the year 2011 in Karachi. All available subjects (103 barbers and 103 clients) from the study population/area during study period were included. After the purpose of the study was explained to the barbers and their clients, informed consent was taken, and confidentiality was ensured. While collecting data from the barber, one of the attending clients present at the time of the interview was also approached. An anonymous questionnaire of closed-ended questions was completed. To gain a better understanding of barbers' and their clients' knowledge, beliefs, and behavior regarding hepatitis, respondents were interviewed by

well-qualified, centrally trained interviewers, using a pre-tested instrument, administered by personal interview technique. After completion of baseline interviews with the barber and his client, a 10-minute educational session was conducted. Direct observation of the place and the practices of the barber during his work were also performed.

Ethical clearance was obtained from the institutional review board of the National Institute of Child Health, Karachi.

Data was analyzed using Statistical Package for Social Sciences (SPSS) version 17 (IBM, SPSS, and Chicago, USA). Mean and percentages were calculated for quantitative variables and the Chi squared test was applied for significance.

Results

The study was conducted on 103 male barbers and an equal number of clients. The mean age of barbers was 27.58 ± 11.7 years (range: 8-60) and that of clients was 36.34 ± 15.5 years (range: 10-83). About 77 (75%) barbers and 71 (69%) clients were illiterate, unable to read and write their names. Frequency of clients was more than 10 per day, as reported by 55 (54%) barbers who said that 73 (71%) clients visited them on a weekly basis. The purpose of the visits was both shaving and hair cutting, and 27 (26%) clients also requested the barber for minor surgeries including circumcision. Demographic characteristics are presented in Table 1.

Table 1. Demographic characteristics of barbers and clients in Karachi

Variables	Barbers		Clients	
	No	%	No	%
Respondents	103		103	
Sex	Male		Male	
Age (years) Mean \pm SE (Range)	27.58 ± 11.7 (8-60)		36.34 ± 15.5 (10-83)	
Academic Qualification	No	%	No	%
Illiterate	77	74.76	71	68.92
Primary	21	20.40	15	14.60
Secondary	03	2.90	06	5.82
Matric	02	1.94	06	5.82
Inter	-	-	03	2.90
Graduate	-	-	01	0.97
BE (Mechanical)	-	-	01	0.97

Knowledge regarding hepatitis as a disease was known by 53 (51%) barbers and 33 (32%) clients, while 9 (9%) barbers and 19 (18%) clients had awareness that hepatitis is a disease of the liver. That jaundice is a sign was acknowledged by 56 (54%) barbers and 23 (21%) clients, while razors as agents for transmitting Hepatitis B and C was recognized by 13 (12%) barbers and 43 (42%) clients. All (96%) the barbers reported that the razor was disinfected before use and for this purpose Dettol was used as a disinfectant by 70%, followed by alum (5%) and water (25%). Eighty-eight (85 %) barbers disinfected the razor after every use, while 8% (8) did once a day and 7% (7) occasionally. Most (91%) of the barbers used blades for shaving purposes. Regarding sterilization, 58% of the clients knew that tainted instruments can be harmful for their health. About 49% (50) of the clients made sure that the razor was sterilized before use and 79% (81) insisted on a new blade. That hepatitis is a preventable disease was recognized by 51 (50%) barbers and 31 (30%) clients, but only 2 (2%) barbers and 7 (7%) clients were vaccinated against HBV. The reasons cited by them for not being vaccinated were non-awareness of the vaccine and the cost of the vaccine. About 55 (53%) barbers and 45 (44%) clients considered themselves to be at risk for hepatitis (Table 2).

Direct observation of the workplace revealed that it was soiled in most instances. Although barbers admitted that they use antiseptic (Dettol) for cleaning purposes, in reality, it was not available on all occasions. Using alum as antiseptic for skin cuts was practiced by a high percentage of barbers, but regrettably many used the same piece of alum for all customers on razor cuts. Observation of the barbers as they shaved their customers revealed that 77 barbers (75%) changed the blade for each client, while disinfection of used instruments was practiced by

50%. Twenty percent of the barbers washed their hands with stored water as there was no facility for running water. All barbers also reused the same apron and towel for all their customers during barbering services. Verification of the status of used instruments before shaving and requests for new blades were made by 50% of the clients.

Discussion

Many traditional and low-paid barbers in developing countries earn their livelihood by providing shaving and hairdressing services in the marketplace and on the street side [11,12]. In Karachi, Pakistan, roadside barbers were found performing routine services at nominal fees and hence were frequented by members of the underprivileged section of society. Most of the barbers and their clients were poor, illiterate and consequently had limited knowledge of infections that could be transmitted during the work from the barbers to the customers and vice versa.

Despite the advent of disposable safety razors, people still utilize the barber's services for beard and armpit shaving [9]. The present study observed that a sizeable number of clients visit the barber on a weekly basis for shaving and hair cutting. An earlier study reported that the risk of contracting Hepatitis C increases over five times among adult men who are shaved by a barber and over three times among men who have armpit shaving performed by a barber [9]. This widespread practice of shaving among men at a barbershop or roadside barber is an underestimated and a largely unaddressed route of transmission of HBV and HCV infection [12].

Previous studies have reported that handling of reused razors and blades can be a potential risk for the transmission of HBV and HCV viruses among barbers [7,11]. Another study considered barbers as a source

Table 2. Knowledge about hepatitis in barbers and clients in Karachi

Issues	Barbers (n = 103)		Clients (n = 103)		p-value
	No	%	No	%	
1. Knowledge about hepatitis.	53	51.5	33	32	0.01*
2. Hepatitis is a disease of liver.	09	8.74	19	18.4	-
3. Symptoms of hepatitis.	56	54.4	23	21.3	0.001*
4. Routes of transmission.	13	12.6	43	41.7	0.001*
5. Hepatitis, a preventable disease.	51	49.5	31	30.0	0.004*
6. Vaccination against hepatitis.	02	1.9	07	6.8	-
7. Do you perceive yourself to be at risk for hepatitis?	55	53.4	46	43.7	-

Statistically significant*

of infection for their clients, since the customers are exposed to the same long-handled, fixed-blade razor used on other clients and reuse of razorblades may transmit infection through micro-trauma [13]. In the current study, a small percentage of barbers used a fixed-blade razor. Almost all (96%) sterilized the instrument before use by dipping it into an antiseptic contained in a bowl; however, the solution was not changed regularly. Nevertheless, the clients were satisfied with this degree of sterilization. The present study also observed that barbers used public wastebaskets, openly disposing of razors and thus posing a major hazard to sweepers and waste handlers; this practice is also a risk for transmitting infections [9]. This finding also compares with the observations of a previous report [14]. Regarding awareness about the quality of blade, most of the barbers and clients insisted on use of a new blade, a finding analogous to that of another study [15].

A recent study showed that about half of the barbers and one third of their clients knew about hepatitis but only a small percentage of them could identify it as a disease of the liver, and only 13% and 42% of the barbers and clients respectively had the knowledge that hepatitis can be transmitted by razors. This finding is in accordance with those of former studies where 13% of the barbers identified that hepatitis was a liver disease and could be transmitted by razors [11,14], while another study reported that 54% knew about Hepatitis B, 12% about Hepatitis C, and 24% about Hepatitis B and C [16], which is also in concordance with current result. However, our findings differ from those of an earlier study where knowledge was high among the majority of clients, and good practices during shaving and hair-cutting were observed for the majority of barbers, who appeared to have no job-related risk of acquiring viral hepatitis [17].

In the current study, 26% of the clients admitted that they also requested barbers to perform minor surgery such as circumcision, cutting of in-grown toe nails, and abscess drainage. Of great significance among the various minor surgical procedures performed by the barbers is the circumcision, an important religious procedure completed during early infancy. Of the children who acquire HBV infection during the perinatal period, more than 90% will develop chronic HBV infection. Similarly, of those infected between one and five years of age, 25% to 50% will end up with chronic HBV infection [18]. Chronic HBV infection will eventually develop into HBV-related hepatocellular carcinoma or cirrhosis in

25% of infants and children who live with chronic HBV infection [18].

The low number of subjects in this study who have been vaccinated against hepatitis is a matter of concern. HBV infection is generally associated with poor socioeconomic conditions [19] and exposure to related risk factors categorizes hepatitis B as a disease of poverty. Although a very small percentage of the subjects were immunized against HBV infection, our data indicated that only half of the barbers and clients recognized themselves to be at risk for hepatitis. This shows ignorance about the disease among this segment of society.

During the interventional session emphasis was laid on vaccination against hepatitis B; furthermore, other related preventive measures were discussed in detail as primary prevention is the most effective and desirable way to prevent the spread of the infections. Educational interventions have proven to be highly effective, even in less privileged people with little education. The limitation of this study is the collection of data by self-reporting that requires further verification.

In summary, there is a need to educate both the barbers and their clientele in Karachi about viral hepatitis to reduce the acquisition of hepatitis B and C infections at barbershops and roadside chairs.

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