March 2004

Knowledge and practices of barbers about hepatitis B and C transmission in Rawalpindi and Islamabad

N Z. Janjua
Aga Khan University

M A M Nizamy

Knowledge and Practices of Barbers about Hepatitis B and C Transmission in Rawalpindi and Islamabad

N. Z . Janjua, M. A. M. Nizamy*

Department of Community Health Sciences, The Aga Khan University, Karachi and Rawalpindi Medical College*, Rawalpindi.

Abstract

Objective: To assess the knowledge and practices of barbers regarding transmission risk of HBV and HCV viruses.

Methods: A cross-sectional survey of barber's shops in Rawalpindi and Islamabad was conducted during September- November1998. Barbers were queried about hepatitis, knowledge regarding hepatitis transmission through razor, vaccination, sterilization, and the form of media they use for information and entertainment. Use of instruments on at least 2 clients were observed in each shop. Proportion and their 95% confidence intervals were computed.

Results: Of 96 barbers approached, 12 (13%) knew that hepatitis is a disease of the liver, causing jaundice, it is transmitted through parenteral route and could also be transmitted by razor. During the actual observation of 192 clients, razors were cleaned with antiseptic solution for 22 (11.4%) and reused for 88 (46%) shaves.

Conclusion: Level of awareness among barbers about hepatitis and risks of transmission is very low, and their practice of razor reuse that may spread hepatitis is very common. Messages about hepatitis need to be incorporated in media campaigns, in addition to regulation of practices (JPMA 54:116;2004).

Introduction

Epidemics of blood-borne pathogens have plagued the entire developing world. Such diseases impose heavy burdens on national economies and individual families due to costs arising from acute and chronic morbidity and mortality. Globally, 2 billion people are infected with the hepatitis B virus (HBV), of which more than 350 million have chronic infections.[1] An estimated 170 million persons are chronically infected with hepatitis C virus (HCV) and 3 to 4 million persons are newly infected each year.[2] Although no recent population- based estimates for the prevalence of HBV and HCV are available in Pakistan, a previous study done at Hafizabad [3] and studies on blood donors[4] suggest that the prevalence of both diseases ranged from 2-10%.[5,6]

Important factors contributing to HBV and HCV spread include unsafe use of therapeutic injections[7], blood transfusion[8], shaving from barbers, tattooing[9], mother to child transmission[10] and unsafe sexual practices.[11,12] Razor sharing and shave from the barbers has been identified as a key risk factor for HBV spread in Italy[13] and for HCV among psychiatric patients in Japan[14], Egypt[15] and Pakistan.[16] In Pakistan, therapeutic injections administered in healthcare settings have been identified as major and consistently reported risk factors for HBV[17] and HCV.[16,18] Besides therapeutic injections, daily facial shave and armpit shave has also been identified as risk factors for HCV in Pakistan.[16] However, there is no information on knowledge regarding the spread of blood-borne pathogens and practices of barbers from Pakistan and very little from the rest of the world.[19] If initial assessment of knowledge and practices of barbers are available, appropriate interventions may be conducted. In this study we assessed the knowledge and practices of barbers from two cities in Pakistan regarding risk of transmission of HBV and HCV.

Subjects and Methods

During September-November 1999 a cross sectional survey of barbers' shops was conducted in Rawalpindi and Islamabad. We divided the twin cities into 20 areas based on markets where barbers' shops were located, and then selected 8 areas on the basis of convenience. These included both low and high socioeconomic areas of Rawalpindi and Islamabad. In the selected areas, all barber shops were visited, barbers were requested for participation, and one senior-most barber was selected for interview from each shop. By this technique we were able to visit 96 barbers' shops in both cities. The purpose of study was explained and informed verbal consent was obtained from the study participants.

Barbers were interviewed regarding their knowledge about hepatitis, its mode of transmission, risk of transmission with razor reuse, changing of blade, AIDS and media they use for information and entertainment. We also observed 2-3 clients per shop for assessing instrument use practices. The data was entered and analysed in Epi Info version 6.0 and proportions with their 95% confidence intervals were computed.

Results

All 96 barber shops selected in the area participated in the study. All the 96 senior barbers interviewed, were male and their mean age was 35 ± 17 years. Forty six barbers (48%) were unable to read or write and 81 (84%)

Table 1. Sociodemographic characteristics of barbers who participated in this study.

Characteristics	n	%
Age (years)		
15-20	6	6
21-30	27	28
31-40	49	51
>40	14	15
Educational status		
Illiterate	46	48
1-5 years of schooling	0	0
6-9 of schooling	40	42
Matriculation	6	6
F.A.	2	2
B.A.	2	2
Mother tongue		
Punjabi	81	84
Urdu	10	10
Pushto	5	5

were Punjabi speaking (Table 1).

Of 96 barbers, 12 (13%) knew that Hepatitis B and C are diseases of the liver, causing jaundice and the same number 12 (13%) knew about its transmission through the parenteral route. Those who had knowledge about the parenteral route also knew that reuse of razors can transmit HBV and HCV. However, only 7 (7%) were aware that HBV can be prevented by vaccination. A large proportion of barbers {61 (64%)} claimed that they used new blades for every customer, while only 18 (19%) claimed to sterilize their instruments. All barbers disposed off their used blades in municipal waste bins or open places (Table 2).

Table 2. Knowledge of barbers from Rawalpindi and Islamabad about HBV and HCV and job-related practices contributing to the spread of infection (n=96).

Items	n	%	95% CI
Know at least two routes of transmission of HBV and HCV++	12	12.5	7.3-20.3
Know that hepatitis can be transmissed through reuse of razor	12	12.5	8.0-19.1
Know that HBV can be prevented by vaccination	7	7.2	3.6-14.2
Change blade for every client	61	63.5	53.5-73.4
Sterilize instruments	18	18.7	12.2-27.2
Dispose off blades in municipal waste	96	100	

++Any of two correct modes of transmission

CI = Confidence interval for proportions

During actual observation of 192 clients, blades were reused in 88 (46%) cases. Twenty two (11.4%) saloons washed their razors by dipping them in a jar of Dettol water after each use (Table 3).

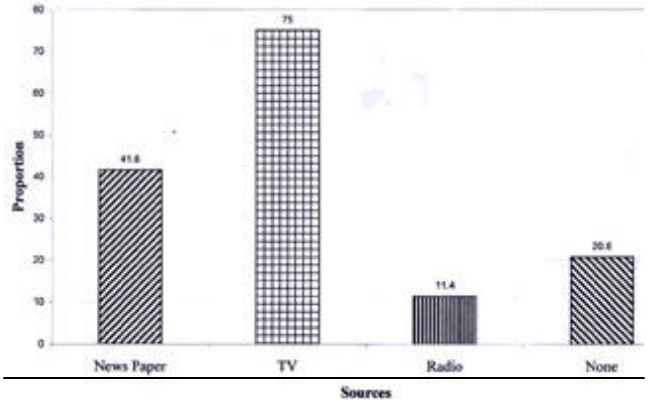
Table 3. Observed practices of barbers who participated in this study. A total of 192 shaves were observed.

Practices	n	%	95% CI
Sterilize razor	4	20	0.8 - 5.2
Wash razor with antiseptic solution after use+	22	11.4	7.7 - 16.7
Wash razor with tap water before use on the next client	26	13.5	9.4 - 19.1
Clean razor with cloth	20	10.4	6.8 - 15.5
Razor not cleaned	32	16.6	12.1 - 22.5
Use of same blade on multiple clients	88	45.8	38.9 - 52.8

CI = Confidence interval for proportion

+ Antiseptic solution used was dettol mixed with water

Eighty six (90%) of the participants had heard the word AIDS before and termed it a fatal disease and 64 (67%) knew about its modes of transmission. Barbers were also asked about the media they usually used for information and entertainment. Seventy two (75%) watched television and 40 (42%) read newspapers (Figure).



Discussion

The present study was conducted to assess the knowledge of barbers about hepatitis B and C. Their knowledge about hepatitis, modes of its transmission and risk factors, especially reuse of razors, was very low. Most interviewees knew about AIDS. Approximately, half of the barbers interviewed reused blades on multiple clients without sterilization. Such practices of barbers are enhancing the risk of transmission of pathogens from one person to another person.[14,16] Similar practices of blade reuse have also been reported from a survey of barbers in India.[19] Micro trauma caused during a shave can contaminate the razor, and reuse of such a razor may result in transmission of the viruses. The probability of transmission increases with the frequency of reuse. The

dynamics of blood borne pathogen transmission can be considered similar to that of therapeutic injections. However, the dose of exposure in therapeutic injections may be high but the frequency of the exposure is low, while in the case of daily shaving the frequency of exposure is very high. Besides reuse of razors, the common practice of throwing razors openly in municipal waste baskets poses a major risk to sweepers and garbage handlers. As in Pakistan and other developing countries, the culture of searching waste dumps for 'valuable things' and metals is very common among waste scavengers, who may be children. They are also at risk of acquiring infections.

The level of knowledge about human immunodeficiency virus (HIV)/AIDS and its mode of transmission was found to be quite consistent with the earlier reports of knowledge about HIV/AIDS among general population in Lahore.[20] Another study among secondary school students in Islamabad reported that 95% of boys and 100% of girls knew about AIDS and their source of information was national television.[21] The awareness campaigns on national media have a strong impact on the knowledge about AIDS in the general Pakistani population. However, there have been no such campaigns about HBV and HCV until recently, and knowledge about HBV, HCV is very poor. Knowledge about a problem is typically the first step towards risk reduction and improvement in the quality of life. We believe that national campaigns for HBV and HCV, similar to the AIDS campaign, can successfully increase awareness among the general population. Moreover, our result showed that 80% of the barbers watched television for information or entertainment purposes.

Although barbers had some knowledge about AIDS , this had not resulted in any risk reduction practices. This could be because barbers perceived AIDS to be an uncommon disease in our country. Specific information on the risk of HBV and HCV transmission can therefore have more of an impact on the practices. In order for health education to be effectively translated into positive changes in behavior, the contribution of other factors that enable and reinforce the change is critical.[22] Such factors include strict government legislation for use of a new blade for every client and an environment conducive to change in practices.

Although this study did not evaluate the practices of circumcision, incision and drainage of abscesses by barbers, it is known to be a common practice especially in rural areas of Pakistan. The reuse of instruments without proper sterilization can lead to transmission of HBV and HCV and this needs to be explored.

The study was conducted in Rawalpindi and Islamabad, where the literacy rate[23] is higher than in rural areas and small towns. Any comprehensive strategy for reducing HBV/HCV transmission must consider this important mode of transmission. The campaign can be focused on two groups, a high risk group (e.g. barbers) and the general population. Barbers' practices can have a more direct impact on risk reduction. If they can be sensitized to the gravity of problem, they may be able to accept the change in their behaviors and practices. This strategy has a high probability of success, as the change of blade costs only Rs.2.00 (1US $ = Rs.60), and this can be incorporated in the client service charges. The general population, or barbers' clients, can be targeted through mass media campaign that can push for change in practices of barbers. There is immediate need to incorporate the message about the risk associated with harmful practices in media campaign for AIDS and to initiate a similar campaign for hepatitis.

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. 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.

Level of awareness among barbers about hepatitis and associated risks of transmission is very low and their practice of razor reuse on multiple clients can promote the spread of hepatitis in Rawalpindi and Islamabad. 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.

References

1. World Health Organization. Hepatitis B. Fact Sheet WHO/204. Geneva: WHO 2000.
2. World Health Organization. Hepatitis C. Fact Sheet No. Geneva: WHO 2000.
3. Luby S, Qamruddin C, Shah A, et al. The relationship between therapeutic injections and high prevalence of hepatitis C infection in Hafizabad, Pakistan. Epidemiol Infect., 1997; 119:349-56.
4. Mujeeb SA. HVC, and HBV infections in Karachi, Pakistan. In: 18th Gastroenterology Congress 2002 Karachi, Pakistan May 2-5 2002.
5. Zuberi SJ. Seroepidemiology of HBV & HCV in Pakistan. Int Hepatol Comm 1996;5:19-26.
6. Parker SP, Khan IH, Cubitt WD. Detection of antibodies to hepatitis C virus in dried blood samples from mothers and their offspring in Lahore, Pakistan. J Clin Microbiol., 1999; 37:2061-63.
7. Hutin Y, Harpaz R, Drobeniuc J, et al. Injections given in healthcare settings

as a major source of acute hepatitis B in Moldova. Int J Epidemiol 1999;28:782-6.

8. Francisci D, Antonelli S. Preziosi R, et al. Risk factors for acute parentally transmitted viral hepatitis: a 20 year study. Eur J Epidemiol 1993;9:625-28.

9. Haley R W, Fischer PR. Commercial tattooing as a potentially important source of hepatitis C infection. Clinical epidemiology of 626 consecutive patients unaware of their hepatitis C serology status. Medicine 2001;80:134-51.

10. Gibb DM, Goodall TD, Dunn DT, et al. Mother-to-child transmission of hepatitis C virus: evidence for preventable peripartum transmission. Lancet 2000; 356:904-7.

11. Gitlin N. Hepatitis B: diagnosis, prevention and treatment. Clinical Chemistry 1997;43:1500-6.

12. Lauer GM, Walker BD. Hepatitis C virus infection. N Engl J Med 2001;345:41-52.

13. Mele A, Corona R, Tosti ME, et al. Beauty treatment and risk of parenterally transmitted hepatitis: results from the hepatitis surveillance system in Italy. Scand J Infect Dis 1995;27:441-4.

14. Sawayama Y, Hayashi J, Kakuda K, et al. Hepatitis C virus infection in institutionalized psychiatric patients: possible role of transmission by razor sharing. Dig Dis Sci 2000 45:351-6.

15. Habib M. Hepatitis C virus infection in a community in the Nile Delta: risk factors for seropositivity. Hepatology 2001;33:248-53.

16. Bari A, Akhtar S, Rahbar MH, et al. Risk factors of hepatitis C virus infection in male adults in Rawalpindi -Islamabad, Pakistan. Trop Med Int Health 2001;6:732-8.

17. Usman HR, Akhtar S, Rahbar MH, et al. Risk factors of acute hepatitis B in Karachi. Epidemiol Infect 2003;130:293-300.

18. Pasha O, Luby SP, Khan AJ, et al. House hold members of hepatitis C virus-infected people in Hafizabad, Pakistan: infection by injections from healthcare providers. Epidemiol Infect 1999;123:515-18.

19. Khandait DW, Ambadekar NN, Vasudeo ND. Knowledge and practices about HIV transmission among barbers of Nagpur City. Indian J Med Sci 1999;53:167-71

20. Population AIDS awareness survey. National AIDS Programme/Aftab Associate (Pvt.) Ltd., Lahore, 1996:4.

21. Shaikh MA, Assad S. Adolecent's knowledge about AIDS-perspective form Islamabad. J Pak Med Assoc 2001;51:194-5.

22. Green LW, Kreuter MW. Health promotion and planning; an educational and environmental approach. 2nd edition. Mountain view: Mayfield Publishing Company; 1991.

23. National Census 1998. ,opulation Census Organization, Statistics Division. Government of Pakistan, Islamabad 1999.