

Knowledge about hepatitis B and C among patients attending family medicine clinics in Karachi

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المعلومات حول التهاب الكبد "بي" و"سي" بين المرضى في عيادات طب الأسرة في كراتشي، باكستان
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المختصرة: تم تقييم المعلومات حول التهاب الكبد "بي" و"سي" في دراسة مستعرضة شملت 300 بالغاً ممن تزيد أعمارهم عن 18 عاماً، في عيادات طب الأسرة في المستشفى الجامعي لأغاخان في كراتشي في باكستان، ووجد أن معظم من شملتهم الدراسة يعرفون معلومات قليلة حول عوامل اختطار سراية المرض، بينما يعرف 70% منهم أن التهاب الكبد "بي" يمكن اتقاؤه باللقاح، ويخطئ 60% منهم بالاعتقاد بأن التهاب الكبد "سي" يمكن اتقاؤه باللقاح، كما يخطئ معظم المشتركين بالدراسة في اعتقادهم بأنه ينبغي على المصابين بالتهاب الكبد "بي" أو التهاب الكبد "سي" اللجوء إلى نظام غذائي يدعى "بارهيز". وبشكل عام لوحظ أن معارف النساء عن التهاب الكبد تزيد عن معارف الرجال. وتقتزح هذه الدراسة وجوب تقديم التثقيف الصحي حول هذه الحالات المُعدية للناس، ويمكن لأطباء الأسرة أن يؤدوا دوراً هاماً في تثقيف الناس حول الوقاية منها.

ABSTRACT Knowledge about hepatitis B and C was assessed in a cross-sectional study of 300 adults aged 18 or older attending family medicine clinics at The Aga Khan University Hospital, Karachi. Most knew that hepatitis B and C are viral diseases that primarily affect the liver, but knowledge about risk factors for disease transmission was poor. Approximately 70% knew that hepatitis B is vaccine preventable; 60% had the misconception that hepatitis C is also vaccine preventable. The majority incorrectly believed that people with hepatitis B or C should follow the diet 'parhaiz'. Generally women knew more than men about the diseases. This study suggests that health education about these infections should be provided to the public. Family physicians can play an important role in educating people about the prevention of these diseases.

Connaissances sur les hépatites B et C chez les patients fréquentant les consultations de médecine familiale à Karachi

RESUME Les connaissances sur l'hépatite B et C ont été évaluées au cours d'une étude transversale réalisée auprès de 300 adultes âgés de 18 ans ou plus qui se rendaient aux consultations de médecine familiale de l'Hôpital universitaire Aga Khan à Karachi. La plupart savaient que les hépatites B et C étaient des maladies virales touchant principalement le foie, mais connaissaient mal les facteurs de risque de transmission de la maladie. Environ 70 % savaient que l'hépatite B était évitable par la vaccination ; 60 % avaient l'idée fautive que l'hépatite C était aussi évitable par la vaccination. La majorité des sujets croyaient à tort que les personnes atteintes d'hépatite B ou C devaient suivre le régime alimentaire « parhaiz ». De manière générale, les femmes connaissaient mieux ces maladies que les hommes. Cette étude donne à penser qu'une éducation sanitaire concernant ces infections devrait être assurée au public. Les médecins de famille peuvent jouer un rôle important dans l'éducation du public sur la prévention de ces maladies.

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Introduction

Hepatitis B and hepatitis C are serious global public health problems. Worldwide 2 billion people have been infected with the hepatitis B virus (HBV) and more than 350 million have chronic, lifelong infections [1]. An estimated 170 million people are chronically infected with hepatitis C virus and 3–4 million people are newly infected each year [2].

Pakistan is also facing the huge burden of these diseases. In a community-based study in Hafizabad, hepatitis B surface antigen (HBsAg) was positive in 4.3% of residents and anti-hepatitis C virus antibody was positive in 6.5% of residents [3]. In northern Pakistan, 3.3% of healthy blood donors were HBsAg positive, 4.0% were anti-hepatitis C virus positive and 0.007% were anti-human immunodeficiency virus positive [4]. The transmission risk of these diseases increases among persons who are given unsterilized therapeutic injections, patients with thalassaemia, patients on haemodialysis and persons who have their faces or armpits shaved by street barbers [3,5–7].

Pakistan is a developing country and has poor health indicators. It ranks 134th of the 174 countries on the human development index of the United Nations [8]. In Pakistan, over a third of the people are living in poverty and have a fragile health structure; many patients cannot afford the costly treatment of these diseases [9].

Prevention is the only safeguard against the epidemic of viral hepatitis. The best way to prevent hepatitis B and C is to avoid the practices that increase the risk of infection. Knowing the facts and having proper attitudes and behaviours are also critical to prevent the spread of these infections. Family practitioners who work as primary and first level health care providers and

who are engaged with patients and their families in the areas of prevention, cure and care can play an important role by increasing public awareness and understanding of these diseases.

Little is known about the Pakistani population's knowledge of hepatitis B and C transmission, nature and prevention. The objective of our study was to assess knowledge about hepatitis B and C among patients attending family medicine clinics at a teaching hospital in Karachi, Pakistan. This work will help to assess public perceptions about these diseases and thus guide the design and implementation of health promotion and public awareness programmes.

Methods

This was a cross-sectional study conducted in the family medicine clinics at the Community Health Centre in the The Aga Khan University Hospital, Karachi, Pakistan. The Aga Khan University Hospital is a private sector teaching hospital. The majority of physicians practising in the Community Health Centre are family physicians and the preponderance of people who seek medical services there belong to literate and middle economic communities residing in Karachi. Karachi is the largest city and the economic hub of Pakistan with an estimated population of 10 million people of diverse ethnic and socioeconomic groups [10].

On average, 150 patients visit the Community Health Centre each day for medical care. Medical graduates collected the data using a structured and pre-tested questionnaire. On a convenience basis we interviewed 12–15 patients daily. We approached a total of 340 adult patients aged 18 years and older who came to the

facility for any reason during the month of July 2003. After informed verbal consent, 309 patients agreed to participate in the study; the refusal rate was 9% (31/340). Only 300 interviews were complete and were included in the final analysis.

The questionnaire comprised 3 sections for assessment of personal characteristics, knowledge of hepatitis B and knowledge of hepatitis C. Personal characteristics included age in years, sex, marital status, first language, permanent residence inside or outside Karachi, educational level and occupational status. In addition, we also queried hepatitis B and hepatitis C testing, history of household members' illnesses due to hepatitis B and/or C, and main sources of knowledge about health and disease. Separate questions were asked to gauge knowledge about hepatitis B and C in the second and third sections of the questionnaire. These questions were related to risk factors, nature and prevention of the diseases.

Data was analysed using *SPSS* software, version 11. Frequencies for questions regarding knowledge of hepatitis B and C were calculated in percentages. In order to calculate differences in knowledge variables by sex, chi-squared test was used. *P*-value of less than 0.05 was significant.

Results

Characteristics of study sample

The average age was 36.2 years. The 300 study participants included 185 males (62%) and 115 females (38%). Of the total, 174 (58%) were married and 202 (67%) were permanently residing in Karachi. The respondents reported their first languages as: Urdu (59%); Sindhi (15%); Punjabi (11%); or of other ethnic groups such as

Gujrati, Pushto or Balochi (15%). In all, 211 (70%) were educated to secondary or higher levels and 156 (52%) were businessmen or were working office jobs. Of study subjects, 28 (9%) had been tested for hepatitis B and/or hepatitis C and 15 (5%) had household members who had had hepatitis B and/or hepatitis C. Of the 300 participants, 233 (78%) obtained health information through their family physicians and/or the media.

Knowledge of hepatitis B

Table 1 shows responses to questions regarding knowledge of hepatitis B by sex. Only 20% of males and 14% of females stated that hepatitis B is a major public health problem in Pakistan. This difference between the sexes was not significant. The majority of study participants knew that hepatitis B is a viral disease, primarily affects the liver and can be transmitted by unsterilized needles and surgical instruments; however, they had poor knowledge about transmission risks related to contaminated blood. Females were more knowledgeable than males about: transmission of HBV by unsafe sex (males: 35% versus females: 49%, $P = 0.02$); transmission through tattooing and ear and nose piercing (males: 7% versus females: 14%, $P = 0.03$); and that infected people can remain asymptomatic (males: 12% versus females: 24%, $P = 0.01$). The majority of males (59%) and females (65%) had the misconception that persons infected with hepatitis B should follow a specific diet known as *parhaiz* (abstinence from dairy products, oily foods and meat). Furthermore, 27% of males and 35% females knew that hepatitis B could cause liver cancer. A total of 68% of males and 81% of females reported that hepatitis B is a vaccine preventable disease

Table 1 Responses to questions of knowledge of hepatitis B by sex of respondents (n = 300)

Agreed:	Males (%) (n = 185)	Females (%) (n = 115)	Significance (P-value)
Hepatitis B is a major public health problem in Pakistan	37 (20.0)	16 (13.9)	0.18
Hepatitis B is a viral disease	138 (74.6)	77 (66.9)	0.15
Hepatitis B primary affects the liver	116 (62.7)	73 (63.5)	0.89
Hepatitis B can be transmitted by unsterilized needles and surgical instruments	104 (56.2)	58 (50.4)	0.33
Hepatitis B can be transmitted by contaminated blood and blood products	80 (43.2)	44 (38.3)	0.39
Hepatitis B can be transmitted by unsafe sex	64 (34.6)	56 (48.7)	0.02
Hepatitis B can be transmitted by tattooing and ear and nose piercing	12 (6.5)	16 (13.9)	0.03
Hepatitis B infected person can remain asymptomatic	22 (11.9)	28 (24.3)	0.01
Hepatitis B can affect any age group	57 (30.8)	49 (42.6)	0.04
Hepatitis B can persist for one's whole life	30 (16.2)	31 (26.9)	0.03
Specific diet (<i>parhaiz</i>) is recommended	109 (58.9)	75 (65.2)	0.28
Hepatitis B can cause liver cancer	50 (27.0)	40 (34.8)	0.15
Hepatitis B is a vaccine preventable disease	125 (67.6)	93 (80.9)	0.01

n = sample size.

P < 0.05 is significant.

and this difference in knowledge between the sexes was significant ($P = 0.01$).

Knowledge of hepatitis C

Table 2 shows responses regarding knowledge of hepatitis C among study subjects by sex. Approximately 14% of males and 10% of females stated that hepatitis C is a major public health problem in Pakistan. Many respondents knew that hepatitis C is a viral disease, primarily affects the liver and can be transmitted by unsterilized needles and surgical instruments; there was no significant difference for these responses among males and females. Knowledge that hepatitis C virus can be transmitted by contaminated blood and blood products was

significantly different between males (46%) and females (33%; $P = 0.03$). More women (10%) than men (3%) reported that tattooing and ear and nose piercing could transmit hepatitis C ($P = 0.01$). Only 29% of males and 38% of females answered correctly the question about hepatitis C transmission by unsafe sex ($P = 0.10$). More females (18%) than males (9%) knew that people infected with hepatitis C can remain asymptomatic; this difference was significant ($P = 0.02$). The majority of respondents (62% males and 70% females; $P = 0.16$) stated that the diet *parhaiz* should be recommended for persons with hepatitis C infection. A total of 61% of males and

Table 2 Responses to questions of knowledge of hepatitis C by sex of respondents

Agreed:	Males (%) (n = 185)	Females (%) (n = 115)	Significance (P-value)
Hepatitis C is a major public health problem in Pakistan	25 (13.5)	12 (10.4)	0.43
Hepatitis C is a viral disease	118 (63.8)	66 (57.4)	0.27
Hepatitis C primary affects the liver	84 (45.4)	58 (50.4)	0.39
Hepatitis C can be transmitted by unsterilized needles and surgical instruments	94 (50.8)	53 (46.1)	0.43
Hepatitis C can be transmitted by contaminated blood and blood products	85 (45.9)	38 (33.0)	0.03
Hepatitis C can be transmitted by unsafe sex	54 (29.2)	44 (38.3)	0.10
Hepatitis C can be transmitted by tattooing and ear and nose piercing	5 (2.7)	11 (9.6)	0.01
Hepatitis C infected person can remain asymptomatic	17 (9.2)	21 (18.3)	0.02
Hepatitis C can affect any age group	52 (28.1)	44 (38.3)	0.07
Hepatitis C can persist for one's whole life	28 (15.1)	21 (18.3)	0.48
Specific diet (<i>parhaiz</i>) is recommended	114 (61.6)	80 (69.6)	0.16
Hepatitis C can cause liver cancer	33 (17.8)	29 (25.2)	0.13
Hepatitis C is a vaccine preventable disease	113 (61.1)	80 (69.6)	0.14

n = sample size.

P < 0.05 is significant.

70% of females had the misconception that hepatitis C is a vaccine preventable disease.

Discussion

Our study exposed significant gaps in knowledge about hepatitis B and hepatitis C even though the majority of our study population had at least some education. Overall women knew more about the diseases than men. Knowledge was particularly poor about the different modes of disease transmission. The majority of study participants also shared misconceptions that there is a specific diet recommended for people with these diseases and that hepatitis C is a vaccine preventable disease.

The Community Health Centre is one of the outpatient medical services of The Aga Khan University Hospital. Most of our patients belong to the middle and lower middle socioeconomic classes; very poor people usually attend public sector hospitals. Because our study did not capture the characteristics of the lower socioeconomic strata of Karachi, we expect that knowledge of hepatitis B and C in the general population of Pakistan may be much lower than we report here.

Pakistan has one of the highest frequencies of injections in the world. The average number of injections per person per year is 8.5 and 49% of patients receive injections at their first outpatient visit [11]. In addition

to the unnecessary use of injections, injection practices are not safe in the country. In 18 clinics in periurban areas in Karachi, for example, 94% of injections used were not safe [12]. These unsafe injections may be attributed to a lack of knowledge and understanding and a high patient demand for injections [13]. Many patients believe that injections work faster than other types of treatment and that they are more powerful than oral drugs.

Further complicating the situation, 50% of blood bank facilities in Karachi regularly use paid blood donors [14]. During pre-donation interviews, only a small minority of donors were asked their history of high-risk behaviours [14]. Laboratory equipment for screening major blood pathogens was present in less than half of the facilities [14]. Moreover, in Karachi the majority of blood recipients believed that generalized weakness was a valid indication for blood transfusion and were unaware of the risks of blood transfusion [15].

Hepatitis B and C are very common infections among the Pakistani population. Prevention is the best strategy to deal with the problem of hepatitis B and C epidemics. Knowing the facts and having proper attitudes and behaviours are critical to prevent the spread of these infections. Our study suggests that more attention should be given to providing health education about risk factors and prevention of infections to the general public. The public should be informed about safe injections and screened blood transfusions. They should also be informed about the risk of infections through unsafe sex, tattooing and ear and nose piercing. All should be informed that these

diseases can affect any age and can persist for one's whole life, that infected people may remain asymptomatic and that diseased people may develop chronic complications like liver cancer. Information should also be provided to the public that there is no specific diet recommended for people infected with hepatitis B and C, that hepatitis B is vaccine-preventable disease and that no vaccine is available to prevent hepatitis C.

Family physicians can play an important role by effectively counselling and consulting with their patients. They should allocate more time to educate patients and their families about the risk factors and the prevention methods for these diseases. Furthermore, in order to provide health care at the primary level, family physicians should conduct and organize grassroots health education and disease prevention programmes for the general population. Moreover, they should be encouraged to keep themselves updated about the diseases.

More studies are needed to assess knowledge and misconceptions about these diseases. Intervention studies should also be conducted to enhance public awareness and to evaluate the effect of interventions.

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