

APPRAISAL OF THE KNOWLEDGE OF INTERNET USERS OF PAKISTAN REGARDING HEPATITIS USING ON-LINE SURVEY

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Background: Hepatitis B and hepatitis C are global health care problems causing morbidity and mortality. Much of it could be prevented by better education of the masses regarding its spread. The study was conducted to assess the knowledge base of internet users of Pakistan to help in formulating education strategies. **Methods:** A survey questionnaire consisting of 20 close ended questions was designed and hosted on a website. The responses submitted at the website were auto-emailed to the author. **Results:** A total of 1024 complete responses were included. The survey shows increased level of awareness according to the educational status. The knowledge status of lowest education level was also adequate possibly due to access to internet to these respondents. **Conclusion:** Internet users in Pakistan have adequate core knowledge regarding hepatitis.

Key Words: Hepatitis, HBV, HCV, Survey

INTRODUCTION

Hepatitis B and hepatitis C are the major health problems globally casting an enormous burden on health care system and major source of patient's misery.¹⁻³ These are also an important cause of hepatocellular carcinoma and are likely to remain a serious health problem resulting in substantial morbidity and mortality for several decades to come.^{4,5}

The prevalence of HBV varies greatly in different areas of world. The HBV virus is endemic worldwide with the areas of highest endemicity being China, Southeast Asia, Sub Sahara Africa, most Pacific island and the Amazon basin.⁶ Approximately 30% of the world's population (2 billion) has serological evidence of hepatitis B virus infection and among them 350 million have chronic HBV infection. About 75% of the entire chronically infected carrier world wide is found in Asia and at least one million die from liver cirrhosis and liver cancer each year.^{7,8}

The prevalence of hepatitis C virus (HCV) varies tremendously in different parts of the world, with the highest incidence in the Eastern parts of the globe compared with the Western parts.⁹ Approximately 170,000,000 people worldwide and 4,000,000 in the United States are infected with HCV, 3-4 million people are newly infected each year perinatal transmission from mother to foetus or infant is also relatively low but possible (less than 10%).¹⁰⁻¹³ Furthermore, certain groups of individuals such as intravenous drug users are at increased risk of acquiring this disease irrespective of the geographical location. Although the main route of transmission is via contaminated blood, curiously enough in up to 50% of the cases no recognizable transmission factor/route could be identified.

Pakistan is also facing the huge burden of these diseases. A community based study in Hafizabad, showed a prevalence of 4.3% of HBV and 6.5% of anti-HCV in the residents. In northern Pakistan, 3.3% of healthy blood

donors were HBs Ag positive, 4% were anti-hepatitis C virus positive.¹⁴ 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.¹⁵ In Pakistan, over one-third of the people are living in poverty and have a fragile health structure; many patients cannot afford the costly treatment of these diseases. Estimated cost of treatment of hepatitis B and C are 286.6 billion rupees and 235.2 billion rupees per annum respectively.¹⁶

Prevention is the only strategy against the worldwide epidemic of viral hepatitis. Concrete measures are required to develop a strategy to educate the public regarding the risk factors. For an effective mass education strategy, base line knowledge of the society needs to be assessed. The objective of this study is to determine the knowledge base of the internet users regarding hepatitis.

MATERIAL AND METHODS

A survey questionnaire consisting of 20 close ended questions was designed. In some questions only one response could be selected while in others more than one selection was possible. The questionnaire was hosted on the principal author's personal website. Form mail software was enabled thus the responses submitted by the visitor on the website were instantly emailed to principal author. Invitation emails to participate in the survey were sent to people on contact lists of all authors with request to forward them to their contacts. The survey was hosted during the period April-July 2006. After this period the form was removed from the website. A data file with corresponding variables was created in the SPSS version 14.0 and responses from the emails were entered by two separate keypunchers. The data entered by two was compared and all non matching data was checked with response emails again and corrected. Responses from only people residing in Pakistan were selected. Using SPSS frequencies of responses were computed, responses

were also computed for educational status using cross tabs command.

RESULTS

A total of 1372 responses were received but only 1024 complete responses were selected and all incomplete responses were rejected. These included 772 (75.4%) responses from males and 252 (24.6%) from females. The details of the respondents are given in Table-1. The questions asked and their responses are given in Table-2. The responses were analyzed according to the educational status. The question # 1 (Q1) was answered correctly by 36.7% under matric while 79.1% of postgraduate answered it correctly. The Q2 was answered correctly by 53.1% under matric while 94.6% postgraduate answered it correctly. The similar trend was observed in Q4-20 with increasing frequency of correct responses with increasing educational level. But in Q3 (Are Hepatitis B & C are treatable?) 95.9% of under Matric answered correctly while 72.5% of postgraduate answered it correctly.

Table-1: Details of respondents of survey

		#	%
Gender	Male	772	745.4
	Female	252	24.6
Education Status	Under Matric	49	4.8
	Matric	23	2.2
	Inter	71	6.9
	Graduate	437	42.7
	Postgraduate	444	43.4
Profession	Student	281	27.4
	Unemployed	49	4.8
	Self employed	182	17.8
	Govt. Service	123	12
	Non-Govt. Service	389	38
Medical Association	None	642	62.7
	Medical Student	144	14.1
	GP/Resident	142	13.9
	Consultant	49	4.8
	Teaching Faculty	47	4.6

DISCUSSION

The study gives a good indication of the status of knowledge base regarding hepatitis in a subset of population which is considered to have access to the vast knowledge available on internet. The survey showed fair amount of knowledge regarding hepatitis B and C among the internet users of Pakistan which was proportional to the educational status. In a recent survey regarding knowledge sexually transmitted diseases in a rural community of Khairpur, Pakistan the knowledge was very scanty.¹⁷ Several other surveys conducted in different part of the world regarding hepatitis B and C showed poor knowledge regarding these diseases.¹⁸⁻²⁴ The better results in our survey could be due to access to knowledge available on internet. But still the knowledge needs to be strengthened more in less educated segment of the society.

Table-2: Questions and responses given by respondents

Question	Answers	No.	%
Q1: Hepatitis B & C are caused by?	Bacteria	166	16.2
	Virus	784	76.6
	Fungus	11	1.1
	All	63	6.2
Q2: Hepatitis B & C affect which part of body?	Heart	45	4.4
	Liver	931	90.9
	Lung	27	2.6
	Kidney	21	2.1
Q3: Hepatitis B & C are treatable?	Yes	754	73.6
Q4: Hepatitis B & C could be transmitted by casual contact?	No	756	73.8
Q5: Hepatitis B can convert into Hepatitis C and vice-versa?	No	644	62.9
Q6: Vaccine to prevent hepatitis is available against which type of hepatitis?	HBV	908	88.7
	HCV	243	23.7
Q7: Are you vaccinated against above mentioned hepatitis?	Yes	685	66.9
Q8: The risk of transfer of hepatitis from a pregnant lady to her baby is?	<20	250	24.4
	20-80	406	39.6
	>80	368	35.9
Q9: Can hepatitis mother breast feed her child?	Yes	592	57.8
Q10: While visiting your local family physician (GP) do you:	Insist for New Syringe	943	92.1
	Are Not Bothered	26	2.5
	Do Not Notice	55	5.4
Q11: In your opinion are hepatitis B & C major health problem in Pakistan?	Yes	949	92.7
Q12: Hepatitis B & C can be transmitted by:	Tattoo	698	68.2
	Piercing	767	74.9
	Handshake	61	6.0
	Eating together	81	7.9
Q13: Hepatitis B & C can infect any age group?	Yes	989	96.6
Q14: In your opinion which diets are harmful for patients of hepatitis?	Fried food	598	58.4
	Meat	199	19.4
	Dairy products	227	22.2
	Pullaow/Baryani	434	42.4
Q15: Can Patient of hepatitis be symptom free?	Yes	818	79.9
Q16: Which mode of treatment offers effective treatment of hepatitis?	Allopathy	718	70.1
	Homeopathy	196	19.1
	Hikmat	173	16.9
	Taweez/Faith healers	86	8.4
Q17: Have you ever come across advertisement for hepatitis cure by practitioners of any of following mode of treatments?	Allopathy	378	36.9
	Homeopathy	416	40.6
	Hikmat	377	36.8
	Taweez/Faith healers	270	26.4
	Q18: Which media was used for such advertisements?	Newspaper	560
Magazine	382	37.3	
TV	357	34.9	
Radio	180	17.6	
Handbill	370	36.1	
Q19: Should advertisements regarding treatment of diseases be allowed in mass media?	Yes	780	76.2
Q20: Should action be taken against people advertising/practicing medicine without license to practice medicine?	Yes	955	93.3

Government should take aggressive steps towards the awareness programs involving both the media and by modifying the school syllabus that ideally includes how to prevent against the viral hepatitis and other communicable diseases. Help can be taken through television, radio programs, news paper and by outdoor media. The public should be informed about safe injections and screened blood transfusions. Media again can play a very important role to create awareness among the masses about voluntary donations by eliminating the fears and misconceptions about blood donations and conveying its advantages to general public.

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.

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