



KNOWLEDGE ATTITUDE AND PRACTICES OF UNIVERSITY STUDENTS REGARDING HEPATITIS B AND C

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ABSTRACT

The purpose of this study was to assess knowledge, attitude and practices of university students, regarding hepatitis B and C and to compare knowledge and practices/attitudes scores between two different groups. This multi-centre cross-sectional study was conducted from January to June 2008. A group of 2800, at least graduate students, studying in six different universities in Lahore was included in the study. Close-ended questionnaire was used to record demographic information and responses to assess knowledge, attitude and practices about hepatitis B and C. Regarding complications of hepatitis B and C, 47.5% of group I and 26.5% of group II had some relevant knowledge. About mode of transmission, contaminated needles/syringes was mentioned by 89.3% of group I and 82.1% of group II. Similarly blood transfusion, used blades, tattooing and ear/nose piercing were stated higher in group I (92.2%, 90.7%, 68.3% and 73%, respectively) than in group II (72.2%, 75.6%, 45% and 36%, respectively). The availability of hepatitis B vaccine was known to 61.7% in group I and 57.3% in group II. Absence of any vaccine for hepatitis C was known to 36.0% of group I and 13.7% of group II. More than half of both groups wanted to be vaccinated against hepatitis B and almost three quarters of both groups were willing to be screened against hepatitis B and C. In both groups their main source of information was television. Non-biological-sciences group was less informed than the biological sciences group. Health education about risk factors and prevention of hepatitis B and C infections by running awareness programs was found necessary for all students especially for non-biological sciences students in order to improve awareness of these diseases.

Keywords: hepatitis, B virus, C virus, HBV, HCV, knowledge, attitude, practices, KAP.

INTRODUCTION

Hepatitis is characterized by inflammation of liver and in many cases permanent damage to liver tissue. Most common types of hepatitis are hepatitis A, B, C, D, E and G. Hepatitis B and C can lead to permanent liver damage and in many cases death [1]. Pakistan has been rated among countries which are highly endemic for hepatitis B and C and is facing huge burden of these diseases [2]. Many studies were conducted in Pakistan during past decades and guidelines for prevention and control of hepatitis B and C were formulated. Even then trend of hepatitis B and C positive cases is on increase in our population. In recently published review it was determined that due to liver failure and hepatocellular carcinomas, Pakistan face one of the world's highest burdens of chronic hepatitis and mortality [3]. The estimated prevalence of hepatitis B antigen among healthy adults was 2.4% (range 1.4-11.0%) and for hepatitis C antibody was 3.0% (range 0.3-31.9%). Rates in high-risk subgroups were far higher [3]. Prevalence of HBV and anti HCV in general population of Lahore was reported to be 5% and 13.5%, respectively which is alarming [2, 4]. In a study on students and administrative staff of university in Lahore, the prevalence of Hepatitis B virus (HBV) and Hepatitis C were 2.4% and 1.4%, respectively [5].

Pakistan being a developing country has less satisfactory health indicators. It ranks 134th of the 174 countries on human development index of the United Nations [6]. In Pakistan, over one-third of people are

living in poverty and have a fragile health structure; many patients cannot afford costly treatment of these diseases. Estimated cost of treatment of hepatitis B and C are 286.6 billion rupees and 235.2 billion rupees nationally per annum, respectively [7].

Prevention is the only safeguard against epidemic of viral hepatitis. Knowing facts and having proper attitudes and behaviors are critical to prevent the spread of these infections. In Pakistan, some efforts are being made to raise awareness about hepatitis B and C and their prevention through media. To make it more effective, we need to assess gaps in health education. Such information will serve as a guide for development of information, education and communication activities for prevention and control of hepatitis B and C.

The purpose of present study was to assess knowledge; attitudes and practices of universities students regarding hepatitis B and C and to compare their knowledge and practices/attitude score between two educationally different groups (biological-sciences and non-biological sciences).

METHODOLOGY

It was a community-based cross-sectional study, undertaken from January to June 2008. A close-ended questionnaire was developed by one of the authors at National Health Research Complex. Questionnaire containing information regarding demographic, knowledge, attitude and practices of students about



hepatitis B and C infections was briefly pre-tested on a smaller group. Estimated sample size was 3200 students. After cleaning of data, final sample analyzed was consisted of 2800 subjects. Out of these 1200 were in group I (Biological-sciences) and 1600 in group II (Non-Biological sciences). All respondents were students undergoing their graduation and master degrees at different universities in the city of Lahore. Selection of students from different departments was based on convenient sampling. Prior permission was taken from heads of relevant departments of university. The

anonymity of respondents was assured and their verbal consent was obtained. Results were entered and analyzed through SPSS version 16.

RESULTS

A total of 2800 participants of group I and group II were matched by age ($p>0.05$). Table shows the distribution of subjects in two groups by age and educational background (Table-1).

Table-1. Distribution of cases by gender and education.

Variables	Categories	Group I	Group II	Total
		N	N	
Gender	Male	678	809	1487
	Female	522	791	1313
Education status	Graduates	716	932	1648
	Masters	484	668	1152
University	The University of Lahore	100	500	600
	University of the Punjab, Lahore	600	250	850
	University of Engineering and Technology, Lahore	-	300	300
	Lahore College for Women University, Lahore	150	200	350
	FC College University, Lahore	100	200	300
	Government College University, Lahore	250	150	400
Total		1200	1600	2800
Mean age	Male	22.1±4.1 yrs	23.9±5.6 yrs	23.0±4.8 yrs
	Female	21.2±3.2 yrs	20.2±3.9 yrs	20.7±3.6 yrs
	Mean	21.6±3.6 yrs	22.0±4.8 yrs	21.8±4.2 yrs

All respondents of group I and group II had fair knowledge about disease, its causative organism and about main organs involved. A high proportion in both groups knew about infectivity and communicability of these diseases by unsafe syringes, needles, contaminated blood and shared blades. But only few respondents of both

groups were of the view that tattooing ear and nose piercing could also transmit hepatitis B and C. Awareness about complications due to hepatitis B and C, availability of preventive vaccination against hepatitis B and non-availability of vaccine against hepatitis C was found to be very low (Table-2).

**Table-2.** Knowledge of study participants about hepatitis B and C.

#	Knowledge variables	Study Groups					
		Group I			Group II		
		Correct (%)	Incorrect (%)	indeterminate (%)	Correct (%)	Incorrect (%)	indeterminate (%)
	Basic information about:						
1	Disease	100.0	0.0	0.0	100.0	0.0	0.0
2	Causative organism	92.7	4.5	2.8	73.2	14.9	11.9
3	Site of action	93.0	4.0	3.0	70.7	17.0	12.3
4	Complications	47.5	28.8	23.7	26.5	48.8	24.7
5	Age of getting disease	89.8	6.7	3.5	75.5	17.1	7.4
6	Mode of transmission:						
	Un-sterilized syringes	89.3	7.2	3.5	82.0	6.4	11.6
	Contaminated blood	92.2	4.0	3.8	72.2	9.6	18.2
	Blades of barbers	90.7	4.5	4.8	75.6	6.5	17.9
	Tattooing	68.3	14.9	16.8	45.0	24.5	30.5
	Ear/Nose piercing	73.0	16.0	11.0	36.0	38.9	25.1
7	Vaccine availability:						
	Hepatitis B	61.7	20.1	18.2	57.3	17.1	25.5
	Hepatitis C	36.0	51.0	13.0	13.7	66.1	20.2
8	Treatment availability:						
	Hepatitis B	86.0	10.2	3.8	66.0	11.9	22.1
	Hepatitis C	78.2	11.0	10.8	61.3	14.3	24.4
9	Burden of disease	88.2	6.0	5.8	72.9	12.4	14.7

Knowledge about hepatitis B and C of group I was significantly higher than group II at $p < 0.05$ (Table-3).

Table-3. Overall comparison of knowledge among study groups.

Knowledge	Group I (%)	Group II (%)
Correct	80.0	62.5
Incorrect/ No knowledge	20.0	37.5
Total	100	100

$p = 0.001$

Based on knowledge, students were further inquired about their practices for prevention of hepatitis B and C. Majority of participants in both groups had developed good practices of selecting new syringes, screened blood for transfusion. Respondents who were visiting barbers for hair cuts/shave, about half of them inured to request barbers to use new blade for their hair cut/shave. Whereas most of subjects were found in regular practice of sharing personal use items of their friends and family members (Table-4).

**Table-4.** Attitude and Practices of participants regarding hepatitis B and C.

#	Variables	Study Groups					
		Group I			Group II		
		Yes (%)	No (%)	Indecisive (%)	Yes (%)	No (%)	Indecisive (%)
	Practices:						
1.	Do you use sterilized syringe when required?	86.8	11.2	2.0	79.6	17.3	3.1
2.	Do you get the blood screened for hepatitis B and C before transfusion?	75.2	21.5	5.3	73.5	15.2	11.3
3.	Do you ask barber to use new blades for shaving or hair cutting?	48.2	45.2	6.5	50.6	43.5	5.9
4.	Do you share personal belongings (glass, razor and towel) of others?	28.0	68.5	3.5	24.8	70.3	4.9
	Attitudes:						
1.	Will you like to get yourself screened for hepatitis B and C?	57.3	34.5	8.6	54.3	36.7	9.0
2.	Would you like to get vaccinated for hepatitis B free of cost?	76.6	19.2	4.2	73.6	17.6	8.8
3.	Will you like to get further investigations/treatment if found positive for hepatitis B or C without any symptom?	88.3	7.7	4.0	83.0	7.5	9.5

No statistically significant difference ($p > 0.05$) between group I and group II was found regarding their attitudes and practices about hepatitis B and C. More than half of both groups wanted to be vaccinated against hepatitis B and almost three quarters of both groups were willing to be screened against hepatitis B and C (Table-5).

Table-5. Overall comparison of attitude and practices among study groups.

Attitude/practices	Group I (%)	Group II (%)
Positive	65.7	62.8
Negative	34.3	37.2
Total	100	100

$p = 0.119$

Major source of information was TV in both groups while internet was second leading source of information among group I. It was reprehensible that very small proportion of respondents got information from health care workers (Table-6).

Table-6. Sources of information about hepatitis B and C.

Source	Group I (%)	Group II (%)
TV	52	55.7
Internet	21.2	5.1
News papers	6.2	7.6
Radio	3.1	12.9
Family/friend	11.3	13.5
Health care workers	6.2	5.2
Total	100	100

DISCUSSIONS

Viral hepatitis is a major public health problem worldwide. Hepatitis A and E viruses are transmitted orally. Hepatitis B, C and G are transmitted parentally, due to injury with contaminated sharp instruments, sharing of needles or by sexual contact and also through perinatal transmission from mother to child [8]. Hepatitis B and hepatitis C are major health problems globally casting an enormous burden on health care system and major source of patient's misery [9, 10]. These are important causes of hepatocellular carcinoma and are likely to remain a serious health problem resulting in substantial morbidity and mortality for several decades to come [11]. Knowledge attitude and practice studies are useful steps to assess extent to which an individual or community is in a position to adopt a disease risk-free behavior for this disease.

The survey showed fair level of knowledge among university students regarding hepatitis B and C, but gaps in knowledge were identified which need to be strengthened in students especially in non-biological sciences group. These results are in agreement with another survey conducted in general community [12]. A study showed that cases with hepatocellular carcinoma were found to give positive history of having suffered from hepatitis B or C or both [13]. In this study participants knew about causative organism, and body organs attacked by disease but they did not had adequate knowledge about complications of disease.

Initially it was believed that transfusion was the most common route of transmission of hepatitis. Other modes of transmission include unsafe injections (unsafe syringe), unsafe blades for face or armpit shaving at community barber shops, ear/nose piercing and tattooing [14, 15]. In our study, students regarded blood transfusion,



unsterilized syringes and blades of barbers as major modes of transmission while they were not sure regarding tattooing and ear/nose piercing as potential risk factors for transmitting hepatitis B and C.

In present study knowledge about hepatitis B vaccine was not satisfactory among study groups. In another study in a teaching hospital in Lahore, it was determined that lack of awareness was the commonest reason for not being vaccinated against hepatitis B [16]. Study conducted in medical university in Karachi observed that students of preclinical class had less information about non availability of preventive vaccine for Hepatitis C than that of clinical class [17]. In this study more than half of the study participants claimed availability of vaccine that can protect against hepatitis C. This misconception about hepatitis C vaccine was more profound in group II (non-biological sciences).

In this study knowledge about treatment availability for hepatitis B and C was satisfactory among group I and poor among group II (Table-2). A study done in Nawabshah on patient's knowledge, attitude towards hepatitis B and C determined a significant lack of knowledge regarding treatment of diseases. Even educated persons were following customs of community and relying on homeopathic or herbal medicines for their treatments [18]. Majority of respondents knew that these diseases were major public health problem in Pakistan. These results are in consistent with results of study on knowledge of internet users about hepatitis [12].

In Pakistan blood transfusion still remains one of the major mode of transmission of hepatitis B and C. In a study on healthy blood donors in Lahore, prevalence of anti-HCV antibodies was 1.18% [19]. Practice of getting screened blood for transfusion was satisfactory as many students in both groups, knew to use screened blood for transfusion. Reason for inadequate screening of blood include lack of resources, weak infrastructure, weak technology, poorly trained staff, inadequate policy implementation, and frequent power breakdowns [20, 21].

Most of students in this study were found to have used new syringes when required by them. Several published studies suggested that excessive use of unnecessary injections and reuse of unsterilized syringes are leading factors for HCV transmission in Pakistan [22, 23].

In this study to ask barbers to use new blades for shave was not found as common practice. In Pakistan reuse of blades by barbers is quite common and raises significant risk for HCV infection [15, 24]. Another unsafe practice in students especially among males was to share personal belongings of their friends and family. A study showed that a high proportion of hepatitis B and C positive subjects had a trend of sharing common use personal things with friends [5].

Level of knowledge attitude and practices regarding hepatitis was compared in both groups, a significant difference was observed in knowledge between two groups ($p < 0.05$). The attitude and practices of students in the two groups did not differ significantly

($p > 0.05$). Data collected from community setting also suggested that improving education of health care workers as well as common people is very important [25].

TV is current and probably the future important source of knowledge about health. In our study also, TV was found to be leading source of information about these diseases. Health workers could be important source of information but unfortunately, this was not the case in our study. Probably, the level of knowledge, skill to impart health education and facilities to undertake such activities in community is deficient among health personnel.

CONCLUSIONS

Knowledge, attitudes and practices about hepatitis C and B among university students was partial, with important gaps which need to be strengthened especially in non-biological sciences group. Students of Pharmacy, Zoology, Botany and Biochemistry etc. (Biological Sciences) have some direct or indirect knowledge about diseases but the students of Management, Computer Sciences, Engineering and other disciplines of humanity (Non-Biological Sciences) have less opportunity to be exposed to health information. A critical level of public awareness, especially among young students, is essential to decrease burden of these diseases in Pakistan in future.

In addition, some preventive measures should be taken by management of universities as well as government by running awareness programs to avoid the occurrence of these problems.

RECOMMENDATIONS

Hepatitis being a very important health problem affecting almost 10% of the population requires a very serious planning to combat its risks factors. A carefully designed strategy with multiple educational approaches directed to all strata of population has to be devised at an early stage. Students are one of the best groups to be addressed for health education regarding Hepatitis who could then act as resource of their families.

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