Research Article

Correlation of literacy and awareness regarding hepatitis C: a survey of family members of hepatitis C patients'

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Abstract

Objective: To determine the knowledge among family members of Hepatitis C patients and correlate it with their educational status. **Study Design:** A cross sectional observational study. **Place and Duration:** Outpatient department of Aziz BhattiShaheed Teaching hospital, Gujrat from 1st January 2015 to 31st march 2015. **Methodology:** Data was collected to assess the fundamental knowledge and mode of transmission in people coming with HCV infected patients. Collected data was analyzed by SPSS V.20. **Results:** Two hundred and forty one participants were included in study with mean age of 33 years (+11.940 SD). Male to female ratio was 3.30:1, 65.98% married and 104 were below matric (SSC). Two hundred twenty (90%) attendants knew that HCV can cause chronic inflammation, liver failure and liver cancer. Sixty three (26%) assumed it to be a bacterial infection. 164 (Sixty eight %) thought vaccine is available. More than 90% of attendants knew that it is transmitted through sharing or reuse of syringes 236 (97.9%), blood transfusion without screening 235 (97.5%) and needle stick injuries 225 (93.4%). Two hundred thirty two (96.3 %) disagreed its transmission through holding hands, hugging and kissing. Ninety (37.3%) and fifty five (22.8%) assumed its spread through drinking polluted and unsafe sex respectively. Seventy (29%) disagreed its spread perinataly and contact with open wound. Male and above matric participants have significantly better knowledge (<0.05). **Conclusion:** Awareness about HCV among attendants of hepatitis C infected patients was inadequate and has lot of misconceptions especially among females and less educated people.

Key words: Awareness, Knowledge, Hepatitis C, Misconceptions, Education

Introduction

Hepatitis C virus (HCV) is one of the major causes of severe liver disease, including hepatocellular carcinoma and cirrhosis-related end-stage liver failure. According to World Health Organization (WHO), there are 170 million people with chronic HCV infection worldwide [1]. Almost 366000 deaths occur due to hepatitis C annually [2]. As Pakistan is a populous country (165 million) and due to intermediate to high rates of infection, is among the worst suffering nations [2]. It has been estimated that 5% of the Pakistani population are chronic carriers of Hepatitis C whereas in the high-risk population prevalence of Hepatitis C is as high as 15-25% [3]. Majority of patients cannot afford the expensive treatment of HCV so it is essential that everyone, especially those living with HCV infected patients should be familiar regarding its preventive measures and mode of transmission. Misconceptions and lack of awareness about this infection can lead to missed opportunities for diagnosis, prevention, and appropriate care. According to report of Institute of Medicine, knowledge and awareness about hepatitis C was lacking among health professionals, social-workers and the general public [4]. Since most people with hepatitis C do not have symptoms, they often do not get tested for hepatitis C; it is estimated that about 75% of

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people infected with hepatitis C are unaware of their infection [4].

Education plays an important role in increasing public knowledge of a specific disease and reduces dis-crimination [5,6]. Targeting inaccurate beliefs about viral hepatitis might improve public health interventions and better hepatitis outcomes [7]. Appropriate knowledge of HCV can be effective in prevention of spread of infection [8-10].

Hepatitis C infection is a major health problem in our country and is associated with high morbidity and mortality. Lack of awareness and absence of preventive measures at community level has resulted in spread of this illness. Many studies [11-14] are conducted in our country about awareness of hepatitis C, but no one tried to assess the knowledge of the family members of the HCV infected patients. They are the potential recipients of this illness due to close contact with patient. There awareness can significantly reduce risk of spread of this disease. This study will note knowledge and mis-conceptions among community and help in making future planning to fight against this disease.

Methods

It was across sectional observational study which was conducted among the attendants of HCV infected patients coming in Outpatient Department of Aziz Bhatti Shaheed Teaching Hospital, from 1st January 2015 to 31st march 2015. Two hundred forty one persons were selected by convenient sampling. Informed consent was taken from each participant after explaining the purpose of study base line demographic information including name, age, gender, marital status and education were collected from all the participants.

A questionnaire was made, having 20 questions which were to be answered in YES or NO. It was given to the participants to assess the fundamental knowledge regarding HCV and its mode of transmission. Help was offered to those who had difficulty in understanding statements. Knowledge was considered as good if correct answers were 18 (90%), or more, average in those who gave 16 to 17 (80 to 89%). Knowledge was considered poor if less than 16 (80%) questions were answered correctly. All the information was kept confidential. All analysis was done by SPSS-20. Continuous and qualitative variables were mentioned as mean ± SD and number (percent), respectively. Continuous variables among groups were compared by the Independent Samples test and One-Way ANOVA, Chi-Square test was used for comparison of qualitative variables. Pearson correlation coefficient was used to assess the correlation between continuous variables. Statistical significance was accepted at $P < 0.05$.

Results

Two hundred and forty one participants were included in study with mean age of 33 years (+ 11.94 SD) and age ranges from 14 to 78 years. Male to female ratio was 3.30:1 (male185and female 56). 65.98% (n=159) of the participants were married. Educational status of 104 (43.15%) participants were matric or below while above matric were 137 (56.85%)

Table-1 shows the information regarding fundamental knowledge of participants. More than 90% attendants knew that HCV can cause chronic inflammation, liver failure and liver cancer. Twenty six % (n=63) thought it to be a bacterial infection and 20.3% (n=49) did not consider it viral infection. One hundred and sixty four (68%) stated that vaccine is available for hepatitis C.

Table-1: Assessment of fundamental knowledge of hepatitis C.

No	Questions	Correct (%)	Incorrect (%)
1	It is a bacterial infection.	178 (73.9)	63 (26.1)
2	It is a viral infection.	192 (79.7)	49 (20.3)
3	It can cause chronic inflammation.	218 (90.5)	23 (9.5)
4	It can cause liver failure.	222 (92.1)	19 (7.9)
5	It can cause liver cancer.	218 (90.5)	23 (9.5)
6	Its vaccine is available.	77 (32.0)	164 (68.0)

When we assessed the knowledge of participants about mode of transmission (Table-2) we found that more than ninety percentof attendants knew that it is transmitted through sharing or reuse of syringes (97.9%), blood transfusion without screening (97.5%) and needle stick injuries (93.4%). Two hundred thirty two (96.3%) were aware that it could not be transmitted through holding hands and two hundred nineteen (90.9%) participants knew that its transmission is impossible by hugging and kissing. 80 to 90% of the answers regarding transmission through sharing tooth brush and razors (89.6%), breast feeding to babies (84.6%), coughing and sneezing (84.6%), sharing eating and drinking utensils (83.0%), body piercing and tattooing (81.7%) were correct. Ninety participants (37.3%) considered HCV transmissible through drinking polluted water and 22.8% (55) through unsafe sex can spread illness. Seventy one (29.5%) disagreed with possibility of its transmission perinataly while 70 (29%)were unaware that HCV can spread through contact with open wound.

Male participants of study have significantly higher knowledge score as compared to females; (13.1081) vs. (9.6607) (p value <0.05).

When we compared the participants on the basis of education levels, we found that people having above matric education had higher knowledge score (12.963+sd 1.729) as compared to matric or below (9.596+sd 1.675) and p-value was found significant. (0.005)

Table-2: Assessment of knowledge about mode of transmission.

No	Questions	Correct (%)	Incorrect (%)
1	Sharing or reuse of syringes	236 (97.9)	5 (2.1)
2	Unsafe sex	186 (77.2)	55 (22.8)
3	Perinatal transmission	170 (70.5)	71 (29.5)
4	Blood transfusion without screening	235 (97.5)	6 (2.5)
5	Contact with open wound	171 (71.0)	70 (29)
6	Hugging and kissing	219 (90.9)	22 (9.1)
7	Sharing eating and drinking utensils	200 (83.0)	41 (17.0)
8	Holding hands	232 (96.3)	9 (3.7)
9	Sharing tooth brush and razor	216 (89.6)	25 (10.4)
10	Coughing and sneezing	204 (84.6)	37 (15.4)
11	Needle stick injuries on	225 (93.4)	16 (6.6)
12	Breast feeding to babies	204 (84.6)	37 (15.4)
13	Body piercing & tattooing	197 (81.7)	44 (18.3)
14	Drinking polluted water	151 (62.7)	90 (37.3)

Table-3: Most common Misperceptions:

Sr.No	Statements	Correct (%)	Incorrect (%)
1	Its vaccine is available.	77 (32.0)	164 (68.0)
2	Drinking polluted water	151 (62.7)	90 (37.3)
3	Perinatal transmission	170 (70.5)	71 (29.5)
4	Contact with open wound	171 (71.0)	70 (29.0)
5	It is a bacterial infection.	178 (73.9)	63 (26.1)
6	Unsafe sex	186 (77.2)	55 (22.8)
7	It is a viral infection.	192 (79.7)	49 (20.3)

Table-4: Knowledge score comparison in males and females through Independent sample t-test.

	Gender	N	Mean	Std. Deviation	P-value
Knowledge Score	Female	56	9.6607	1.70855	**0.036**
	Male	185	13.1081	1.72236	

Table- 5: Knowledge score comparison in matric and under matric by independent sample t-test.

	Education	N	Mean	Std.Deviation	P-value
Knowledge	Matric and Below	104	9.5962	1.67517	**0.005**
	Above Matric	137	12.963	1.72954	

Discussion

The aim of the present study was to identify the basic knowledge, misconceptions and awareness regarding possible modes of transmission of hepatitis C among people living with infected patients. We also compared the knowledge score on the basis of education levels in district headquarter hospital Gujrat. We were thinking of good awareness levels among them but results were otherwise. The participant's fundamental knowledge was very poor, while knowledge about transmission was at suboptimal level.

The major misconception was about vaccine of hepatitis C. 68% of the participants think vaccine is available, same type of results were seen in an Indian study [15] nearly, 38% (38/100) of dental, 31% (31/100) medical and 49.1% (27/55) of nursing students claimed to have vaccination against hepatitis C infection whereas no viable vaccine against HCV exists at present.

A large number of participants think that it is spread through drinking polluted water while studies showed that lack of proper screening of the blood and blood products during transfusion, use of contaminated needles and instruments, intravenous drug use, unsterilized instruments usage by hair dresser, ear and nose piercing, tattooing, poor personal hygiene habits and medical practice by non-qualified people are the major causes of spread of disease [16-18]. Seventy one (29.5%) participants think that its spread from mother to fetus is impossible, while studies showed that approximately 5 out of every 100 infants born to women with chronic hepatitis C become infected from the mother [19,20].

Large numbers of participants consider it a sexually transmitted disease while transmission of hepatitis C through sexual contact appears to be uncommon, with transmission among long-term monogamous partners occurring in less than 1% of couples per year [21,23].

Our study showed that people with higher qualifications have significantly higher awareness about hepatitis C, the results are similar with the study conducted in Japan [24] in which people with higher education levels had better knowledge regarding HBV/HCV and less negative attitude towards HBV/HCV infected colleagues. Community-based studies proved that increasing the level of knowledge of HIV/AIDS and tuberculosis by education leads to a decrease in negative attitudes towards infected patients [25, 26]. But a study conducted in Iran [27], no statistically significant difference was found in the mean of knowledge scores about hepatitis B and C with regard to participant's gender, marital status and education level. The difference may be the setting of study, that study was performed among medical staff of teaching healthcare settings.

Conclusion

This study found that the awareness about HCV among attendants of the patients was inadequate. A significant number of participants have misconceptions about basic information and modes of transmission of disease. Education can improve the knowledge and help in stopping its spread.

Abbreviations Used

HCV – Hepatitis C Virus
WHO – World Health Organization
CI – Confidence Interval
CLD – Chronic Liver Disease

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References

1. Jamil MS, Ali H, Shaheen R, Basit A. Prevalence, knowledge and awareness of hepatitis C among residents of three Union Councils in Mansehra. J Ayub Med Coll Abbottabad. 2010 Jul-Sep;22(3):192-6.

2. Ali SA, Donahue RM, Qureshi H, Vermund SH. Hepatitis B and hepatitis C in Pakistan: prevalence and risk factors. Int J Infect Dis. 2009 Jan;13(1):9-19. doi: 10.1016/j.ijid.2008.06.019. Epub 2008 Oct 2.

3. Huda WU, Jameel N, Fasih U, Rehman A, Shaikh A. Prevalence of Hepatitis B and C in Urban Patients Undergoing Cataract Surgery. Pak J Ophthalmol 2013; 29 (3): 147-50.

4. Mitchell AE, Colvin HM, Palmer Beasley R. Institute of Medicine recommendations for the prevention and control of hepatitis B and C. Hepatology. 2010 Mar; 51(3):729-33. doi: 10.1002/hep.23561.

5. Lim VK, Teo TS, Teo AC, Tan KT. HIV and youths in Singapore--knowledge, attitudes and willingness to work with HIV-infected persons. Singapore Med J. 1999 Jun;40(6):410-5.

6. Heijnders M, Van Der Meij S. The fight against stigma: an overview of stigma-reduction strategies and interventions. Psychol Health Med. 2006 Aug; 11 (3): 353-63.

7. Krauskopf K, McGinn TG, Federman AD, Halm EA, Leventhal H, McGinn LK, Gardenier D, Oster A, Kronish IM. HIV and HCV health beliefs in an inner-city community. J Viral Hepat. 2011 Nov;18(11):785-91. doi: 10.1111/j.1365-2893.2010.01383.x. Epub 2010 Oct 18.

8. Muñoz Sastre MT, Bacq Y, Mullet E, Sorum PC. Misconceptions regarding hepatitis C in the French public. Prev Med. 2002 Jun;34(6):596-9.

9. van der Veen YJ, Voeten HA, de Zwart O, Richardus JH. Awareness, knowledge and self-reported test rates regarding Hepatitis B in Turkish-Dutch: a survey. BMC Public Health. 2010 Aug 24;10:512. doi: 10.1186/1471-2458-10-512.

10. Chao J, Chang ET, So SK (2010) Hepatitis B and liver cancer knowledge and practices among healthcare and public health professionals in China: a cross-sectional study. BMC Public Health 10: 98. doi:10.1186/1471-2458-10-98.

11. Razi A, Rehman R, Naz S, Ghafoor F, Khan M A. Knowledge attitude and practices of university students regarding hepatitis B and C. ARPN J Agricul and Bio Sci. 2010; 5(4): 38-43. ISSN 1990-6145

12. Ghahramani F, Mohammad beigi A, Mohammad salehi N. A Survey of the Students' Knowledge about Hepatitis in Shiraz University of Medical Sciences. Hepatitis monthly.2006; 6(2): 59-62.

13. Jamil MS, Ali H, Shaheen R, Basit A. Prevalence, knowledge and awareness of hepatitis C among residents of three Union Councils in Mansehra. J Ayub Med Coll Abbottabad. 2010 Jul-Sep;22(3):192-6.

14. Anjum Q, Siddiqui H, Ahmed Y, Rizvi SR, Usman Y. Knowledge of students regarding hepatitis and HIV/AIDS of a private medical university in Karachi. J Pak Med Assoc. 2005 Jul;55(7):285-8.

15. Gambhir R., Kapoor V., Jindal G., Garg S., Setia S., Setia S. Attitudes and awareness regarding Hepatitis B and Hepatitis C amongst health-care workers of a tertiary Hospital in India. *Annals of Medical and Health Sciences Research*. 2013;3(4):551–558. doi. 10.4103/ 2141-9248.122105.

16. Bari A, Akhtar S, Rahbar MH, Luby SP. Risk factors for hepatitis C virus infection in male adults in Rawalpindi-Islamabad, Pakistan. Trop Med Int Health. 2001 Sep;6(9):732-8

17. Previsani N, Lavanchy, D. WHO / CDS/ CSR/ LYO/ 2002. 2 : Hepatitis B. Geneva : World Health Organization; 2002. Hepatitis B.

18. Raja NS, Janjua KA. Epidemiology of hepatitis C virus infection in Pakistan. J Microbiol Immunol Infect. 2008 Feb;41(1):4-8.

19. Conte D, Fraquelli M, Prati D, Colucci A, Minola E. Prevalence and clinical course of chronic hepatitis C virus (HCV) infection and rate of HCV vertical transmission in a cohort of 15,250 pregnant women. Hepatology. 2000 Mar;31(3):751-5.

20. Mast EE, Hwang LY, Seto DS, Nolte FS, Nainan OV, Wurtzel H, Alter MJ. Risk factors for perinatal transmission of hepatitis C virus (HCV) and the natural history of HCV infection acquired in infancy. J Infect Dis. 2005;192:1880-9 PMID: 16267758 doi: 10. 1086/497701.

21. Kao JH, Liu CJ, Chen PJ, Chen W, Lai MY, Chen DS. Low incidence of hepatitis C virus transmission between spouses: a prospective study. J Gastroenterol Hepatol. 2000 Apr;15(4):391-5.

22. Marincovich B, Castilla J, del Romero J, García S, Hernando V, Raposo M, Rodríguez C. Absence of hepatitis C virus transmission in a prospective cohort of heterosexual serodiscordant couples. Sex Transm Infect. 2003 Apr;79(2):160-2.

23. McMahon JM, Pouget ER, Tortu S. Individual and couple-level risk factors for hepatitis C infection among heterosexual drug users: a multilevel dyadic analysis. J Infect Dis. 2007 Jun 1;195(11):1572-81. Epub 2007 Apr 16.

24. Eguchi H, Wada K (2013) Knowledge of HBV and HCV and Individuals' Attitudes Toward HBV- and HCV-Infected Colleagues: A National Cross Sectional Study among a Working Population in Japan. PLoS ONE 8(9): e76921. doi:10.1371/journal.pone.0076921.

25. Corrigan PW, Watson AC, Warpinski AC, Gracia G. Implications of educating the public on mental illness, violence, and stigma. Psychiatr Serv. 2004 May; 55(5):577-80.

26. Hoa NP, Diwan VK, Co NV, Thorson AE. Knowledge about tuberculosis and its treatment among new pulmonary TB patients in the north and central regions of Vietnam. Int J Tuberc Lung Dis. 2004 May; 8(5):603-8.

27. Ataei B, Meidani M, Khosravi M, Khorvash F, Akbari M. Knowledge, attitude, and performance of medical staff of teaching healthcare settings about hepatitis B and C in Isfahan, Iran. Adv Biomed Res. 2014 Dec 31;3:267. doi: 10.4103/2277-9175.148249. eCollection 2014.

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