ROUTES OF HEPATITIS C TRANSMISSION: AWARENESS AMONG HEALTHY CONTROLS AND HEPATITIS C PATIENTS

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ABSTRACT

Objective: To evaluate the awareness level regarding risks factors of HCV prevalence in Rawalpindi.
Study Design: Cross sectional descriptive study.
Place and Duration of Study: Army Medical College, Rawalpindi during periods of Jan 2014 to Jul 2014.
Material and Methods: After institution's ethics committee approval and informed consent of the subjects, questionnaire based cross sectional study was conducted including healthy individuals (n=14) and hepatitis C infected patients (n=100). The participant's age, gender and marital status along with their knowledge regarding routes of HCV transmission were evaluated.
Results: All of the healthy subjects (100%) and most of the patients (75%) knew that main spreading cause is blood products as compared to other risk factors which were either over estimated or under-estimated. Overall the knowledge of the patients was poor as compared to the healthy subjects.
Conclusion: Insufficient knowledge regarding HCV risk factor was observed. Hence it is recommended that measures should be taken to educate people regarding possible risks of acquiring HCV on emergent basis.

Keywords: HCV, Hepatitis C patients, Routes of transmission, Awareness level, Pakistan.

INTRODUCTION

HCV has affected ~170-180 million people around the world[1-3] with Pakistan among the highly burdened countries[4]. It is predicted that in next two decades, the death rate due to HCV will increase 2-3 fold because of cirrhosis, indicating the importance of hepatitis C as a worldwide public health issue[5].

HCV infection is asymptomatic and hence many people are unaware of the infection. When they develop liver associated complications, they screen themselves for HCV infection and visit the doctor for medical care[6].

Blood and its related products are main cause of HCV transmission. Along with this sharing of needles (e.g. injection drug users (IDU)), reuse of syringes or medical instruments, hemodialysis, surgical procedures and HCV infected sex partner can transmit HCV infection[7]. Besides, HCV infected mother can transmit HCV to her new born child[8].

As no effective vaccine is available yet, hence strong effort is needed to educate both hepatitis C infected patients and the subjects who are at risk of acquiring HCV[9]. Hence awareness regarding HCV is very important for HCV management and treatment. It has been observed in recent studies that hepatitis C awareness level is verylow amongst people in Pakistan especially females and subjects with less education[10,11].

Health education & counseling are important to control hepatitis C infection[12]. For this purpose, assessing the awareness about the routes of transmission of HCV is essential. The study was designed to evaluate such awareness in healthy population and those having history of hepatitis C infection.

MATERIAL AND METHODS

The study was first approved by Ethics Committee, Army Medical College, Rawalpindi

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during periods of Jan–July 2014. All subjects who gave written informed consent were included in the study through convenience sampling technique. A structured, self-administered questionnaire based cross sectional study was conducted including normal individuals (n=14) marked as group-I and hepatitis C infected patients (n=100) marked as group-II. The subjects were given three options for each question i.e. agree, disagree and don't know. The subjects included in the study were told about the aim and objectives of the study. Each subject was assigned with an ID and their contact information was also recorded. The patients and healthy subjects were assured that their data will be kept confidential. The patients and healthy subjects were given ample time to complete the questionnaire. The questionnaire designed included the participant's age, gender and marital status and their knowledge about theroutes of transmission of hepatitis C. Awareness questionnaire was adopted with some modifications from Mayor et al (2010)[13] and Tiftikci et al (2009)[9] with some modifications.

RESULTS

For awareness survey, fourteen normal healthy individuals (group-I) andhundred subjects with history of hepatitis C infection (group-II) were included in the study. Age of the subjects included in group-I ranged between 21 and 59 years whereas age of the subjects included in group-II ranged between 17 and 77 years. The subjects included were evaluated for their knowledge regarding basic routes of HCV transmission.

Data showed that all of the subjects in group-I (i.e. 100%) and most of the subjects included in group-II (i.e. 75%) were aware of the fact that blood and its products can transmit HCV infection.

Most of the members of group-I (92.86%) knew that injection drug users (IDU) have higher risk to acquire HCV as compared to group-II where only 46% were aware of this route of transmission.

Re-use of syringe was marked as source of HCV infection by 85.72% of the subjects included in group-I whereas 58% of the subjects included in group-II knew about it.

Most of the subjects included in group-I (92.86%) were knowledgeable that tooth brush can transmit HCV infection and only 41% in group-IIwere aware of this route of transmission.

Transmission of HCV infection by blade sharing was known to 92.86% in group I and 49% in group-II.

Both groups had confusing remarks while answering the sexual contact as source of HCV transmission. It was found that only 50% in group-I were aware of sexual transmission as possible route of HCV transmission but only 37% had this awareness in group-II.

Regarding route of HCV transmission from infected mother to baby, it was observed that only 57.14% subjects of group-I were aware of this transmission route whereas in group-II, only 33% of subjects were aware of this fact.

Misconceptions were observed regarding coughing & sneezing as transmission routes of HCV. Results showed that 71.43% of subjects included in group-I were aware that HCV is not transmitted through coughing or sneezing whereas only 19% of group II had this information.

With respect to casual contact, 71.43% of the subjects in group-I and only 21% of the subjects in group-II knew the fact that casual contact is not a source of HCV transmission.

Misconceptions were also observed regarding saliva as well. Data showed that 71.43% of the subjects included in group-I and only 14% of subjects included in group-II ruled out HCV transmission through saliva.

It was found that, among group-I members, most of the subjects i.e., 78.57% knew that sharing utensils does not transmit HCV infection but group-II members were having some confusion as only 18% were aware of this fact.

Overall,it was found that males have more knowledge regarding transmission of HCV infection as compared to females. The data is shown in table.

DISCUSSION

HCV has hit all countries and has become the main health issue worldwide since its Infection[4]. The probable increase in death rate 2-3 fold in the following two decades because of HCV induced cirrhosis development will make it a signature for transplantation of liver. As HCV is a significant global public health issue[5], healthe ducation and counseling is significant for controlling HCV infection[12]. Hence, assessing the

Table: HCV Awareness questionnaire and response (Percentage of correct answers) (n=114).

Questions	Subjects with history of HCV infection n (%)			Healthy subjects n (%)		
	Males (n=62)	Females (n=38)	Total (n=100)	Males (n=6)	Females (n=8)	Total (n=14)
Blood / blood products	46 (74.19)	29 (76.32)	75 (75)	6 (100)	8 (100)	14 (100)
Injection drug users	30 (48.39)	16 (42.11)	46 (46)	6 (100)	7 (87.5)	13 (92.86)
Re-use of syringes	39 (62.90)	19 (50)	58 (58)	6 (100)	6 (75)	12 (85.72)
Sharing tooth brushes	25 (40.32)	16 (42.11)	41 (41)	6 (100)	7 (87.5)	13 (92.86)
Sharing of blade	34 (54.84)	15 (39.47)	49 (49)	6 (100)	7 (87.5)	13 (92.86)
Sexual contact	23 (37.10)	14 (36.84)	37 (37)	3 (50)	4 (50)	7 (50)
Mother to baby	19 (30.65)	14 (36.84)	33 (33)	3 (50)	5 (62.5)	8 (57.14)
Coughing and sneezing	15 (24.19)	4 (10.53)	19 (19)	4 (66.67)	6 (75)	10 (71.43)
Casual contact	16 (25.81)	5 (13.16)	21 (21)	4 (66.67)	6 (75)	10 (71.43)
Saliva	12 (19.35)	2 (5.26)	14 (14)	5 (83.3)	5 (62.5)	10 (71.43)
Sharing utensils	13 (20.97)	5 (13.16)	18 (18)	5 (83.3)	6 (75)	11 (78.57)

discovery. This issue needs extensive active interventions in order to prevent and control the disease. In many regions around the world, HCV was associated with cirrhosis development and liver cancer. According to epidemiological studies, HCV prevalence pattern is very complicated with high variability at intra and inter countries level. The evaluation of the HCV epidemiology and routes of transmission should be accomplished for authorities to take preventive measures on priority basis utilizing the resources at national level[14].

HCV has victimized ~170-180 million world's population[1-3]. Pakistan is among the countries with high prevalence of HCV awareness level regarding HCV transmission routes among population is necessary. The study was carried out to evaluate the HCV awareness level among hepatitis C patients compared with that of healthy and normal subjects. Among therisk factors, the subjects included in the study were more aware of blood and related products (the well known risk factor) as potential routes of HCV transmission. Other risk factors were either overestimated or under-estimated. These results were similar to study by Tiftikci et al., (2009) in Turkey who evaluated the awareness level regarding risk factors of HCV infection among healthcare staff, hepatitis C patients and their household contacts. The subjects were well

awarethat HCV can be transmitted by blood or blood products whereas other risk factors were either over-estimated or under-recognized[9]. In Pakistan, studies done in different areas of the country showed that awareness level for HCV is not satisfactory amongst own population[10,15]. Same situation was observed in our study.

Overall, healthy subjects had more awareness regarding HCV risk factors than that of HCV infected patients. Misconception was observed in our study regarding casual contacts, sneezing coughing and sharing utensils. It has been established that thereis no proofof association of HCV transmission with casual contacts/sharing utensils[16] and with sneezing and coughing[17]. This misconception affected patients who suffer because their family and friends minimized contact with themleading to depressing condition for patients. HCV transmission through oral fluid is a controversy 18 but the virus has been detected in the saliva in many studies[17,18]. Hence confusion was found among subjects regarding salivary route as risk factor for HCV transmission.

Overall, the knowledge of the hepatitis C patients regarding risk factor for HCV transmission was very low in HCV patients as compared to healthy subjects. Awareness level was lower amongst females than in males in both the groups.

Education regarding risk factors of HCV among patients and their house hold contacts is very important to control the spread of HCV infection. Insufficient knowledge and misconception may consequently cause unnecessary separation of the chronic hepatitis C patients leading to despair and social disgrace[9]. Awareness regarding risk factors responsible for transmission of HCV is itself an important risk factor for HCV. The data shows that HCV knowledge is inadequate in Pakistan[10,15], and hence public awareness regarding basic routes of HCV transmission is extremely important to make HCV free Pakistan and a society safer for new generations. The need is to educate the people aboutmisconceptionsregarding routes of HCV transmission also in order to ease the life of patients as well as healthy subjects.

CONCLUSION

Insufficient knowledge regarding HCV risk factor was observed.

Hence it is recommended that measures should be taken to educate people regarding possible risks of acquiring HCV on emergent basis.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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