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MODE OF TRANSMISSION OF HEPATITIS C VIRUS IN DISTRICT BUNER, KPK, PAKISTAN

AKBAR Z[1], AHMAD B[1*], AHMAD M[1], SALEEM Z[2], SALEEM U[3*]

1: Riphah Institute of Pharmaceutical Sciences, Riphah International University, Township Campus, Lahore

2: Punjab University College of Pharmacy, The University of Punjab, Lahore

3: Faculty of Pharmaceutical Sciences, G.C. University, Faisalabad

***Corresponding authors:** uzma95@gmail.com; ahmadbprof@gmail.com**

ABSTRACT

Hepatitis C virus (HCV) is a major health problem in Buner, district of KPK, Pakistan. The objective of this study was to determine the mode of transmission of hepatitis C in Buner. A descriptive study of 10 month duration was carried out in DHQ Hospital Daggar, Buner. Brief questionnaire was designed and data of 720 Hepatitis C patients was collected and analyzed using Microsoft excel and Spss. Results showed that Surgery 297(41.2%) and having shave at barbershop 198(27.5%) in addition to family history are major mode of hepatitis C transmission.

Keywords: Hepatitis C, Risk factors, KPK-Pakistan

INTRODUCTION

Hepatitis C develops slowly which affects liver cells and cause many medical complications. It is estimated that approximately 3% of the world's population is infected with HCV, and about 170 million are chronic carriers of HCV [1]. The prevalence of HCV in Pakistan is 4–6% [2]. About 80% of patients who develop acute hepatitis have no symptoms [3]. Approximately 70-90% of patients with acute hepatitis C develop chronic conditions [4]. In Pakistan, approximately 8% of patients with hepatitis C have hepatocellular carcinoma (HCC) [5] as previous study regarding HCV transmission to household members in Hafizabad, Pakistan showed that family members received 4 injections that are 9-11 times more likely to develop HCV [6]. Another study in the dialysis population in northern

Alberta, showed that the prevalence of hepatitis C was 65%, with a greater risk of disease between 18 and 55 years [7]. Therapeutic injections and Barber scratches during shave are significant factors [8]. Blood transfusion, surgery, injections, dental extraction and Barber shaving are also risk factors for the hepatitis C virus [9]. Doctors in surgical practice are at high risk of HCV [10]. Patients who share needles / syringes have a 9% more chance of getting HCV disease [11]. Some other researchers have found that drug injection, sex partners with a history of liver disease, blood transfusion and sexual partner with a history of intravenous drug use are the factors associated with hepatitis C [12].

MATERIALS AND METHOD

This was a descriptive study that was conducted on 720 hepatitis C patients. All patients included in this study were admitted in gastroenterology ward of DHQ Hospital Daggar Buner irrespective of age, gender, education status, marital status and socioeconomic status. Brief questionnaire was designed that include patients basic demographics i.e age, gender, marital status, education level, socioeconomic status , residential area and various modes of hepatitis C transmission including blood donation, family history, hospitalization, reused syringes, blood recipients, organ transplantation, surgery, dialysis, sharing personal items, acupuncture, unprotected sex, drug abuse, having shave at barber shop, poisoned history and tattooing. Data was collected for a duration of 10 months; April 2015 to February 2016.

RESULTS

Sociodemographic profile

The complete Sociodemographic profile of the study sample is shown in Table 1. Majority of patients who suffered from hepatitis C were males 409(56.8%) and were between age 21-40 years 301(41.8%). In terms of marital status, 648(90%) were married 72(10%) were unmarried. Around 102(14.2%) were not educated, 175(24.3%) had primary education, 283(39.3%) had secondary education and 160(22.2%) had higher education. Around 640(88.9%) belong to lower socioeconomic status and 562(78.1%) were from rural areas.

Risk factors of Hepatitis C transmission

Table 2 shows various factors that are associated with the transmission of Hepatitis C i.e. blood donation 88(12.2%), family history 173(24%) , hospitalization 29(4%), reuse syringes 18(2.5%), blood recipients 9(1.2%), organ transplantation 2(0.3%), surgery 297(41.2%), dialysis 3(0.4%), sharing personal items 15(2.1%), acupuncture 80(11.1%), unprotected sex 55(7.6%), drug abuse 14(1.9%), shave at barbershop 198(27.5%), history of jailed 72(10%) and tattooing 80(11.1%).

Table 1: Patient basic demographics

Parameters		Frequency (n=720)	Percentage
Gender	Male	409	56.8
	Female	301	41.8
	Transgender	10	1.4
Age	<20y	32	4.4
	21-40y	301	41.8
	41-60y	232	32.2
	61-80y	155	21.5
Marital status	Married	648	90.0
	Unmarried	72	10.0
Education level	Not educated	102	14.2
	Primary	175	24.3
	Secondary	283	39.3
	Higher	160	22.2
Socioeconomic status	Lower	640	88.9
	Middle	80	11.1
Residential area	Urban	158	21.9
	Rural	562	78.1

Table 2: Risk factors of Hepatitis C transmission

Risk factors	Frequency (n=720)	Percentage
Blood donation	88	12.2
Family history	173	24.0
Hospitalization	29	4.0
Reuse syringes	18	2.5
Blood recipients	9	1.2
Organ transplantation	2	0.3
Surgery	297	41.2
Dialysis	3	0.4
Sharing personal items	15	2.1
Acupuncture	80	11.1
Unprotected sex	55	7.6
Abuse drug	14	1.9
Shave at Barbershop	198	27.5
History of Jailed	72	10.0
Tattooing	80	11.1

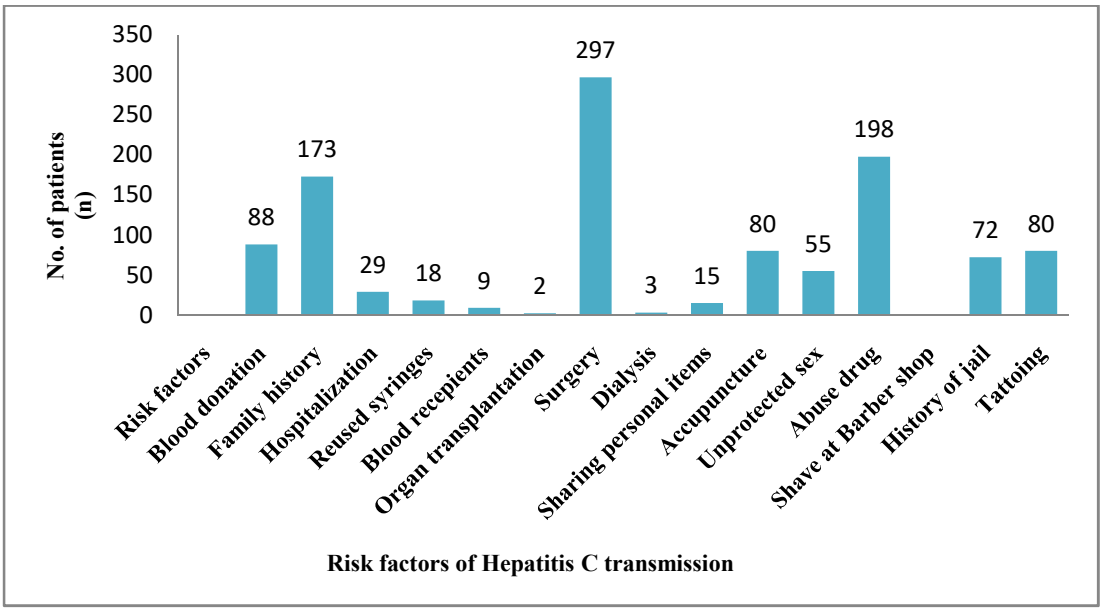

Figure 1: Different risk factors associated with hepatitis C transmission

DISCUSSION

In this study, mode of transmission of Hepatitis C was determined in the Buner, district of KPK. The results reflected that people got infected with hepatitis because of major risk factors such as blood transfusion and surgical procedures especially dental. As previous study indicated that blood transfusion is the most important risk factor of causing hepatitis C [13]. This may also be due to a reduction in hygienic conditions in dental surgical treatment where people used to visit the dental surgeon in the routine. Many of the patients in this study belong to a low socioeconomic level where they regularly visit barbershops and almost all hairdressers are uninformed of the transmission of hepatitis C infection by their non-sterile equipments. Parallel results were documented by [14]. This study revealed that the male were more prone to hepatitis C infection as compared to females, as reported by previous study [15]. The lower incidence of HCV in women may be associated with the minimal risk of contact with the hepatitis C virus, such as visiting hairdressers and use of I/V drugs [16]. In this study all blood donors were male unlikely in USA, prevalence of HCV in blood donors among female and male were 47% and 53% respectively. Hemodialysis patients are at high risk of contracting HCV when exposed to hemodialysis, mainly due to the weakness of the patient's immune response [17]. These patients often require blood transfusions, surgery and hospitalization that increase chance of contracting nosocomial infections [18]. The incidence of hepatitis C is generally higher in dialysis patients than in the general population and healthy donors [19] and the prevalence varies from 2 to 60% in different studies worldwide [20]. Both the hygiene standards and the dialysis process influence the risk of hepatitis C [21]. The occurrence of hepatitis C among drug users is a serious health problem as studied earlier in Pakistan [22].

CONCLUSION

Hepatitis C is a major health concern of District Buner, Khyber Pakhtunkhwa. The possibility of high incidence may be due to the lack of health facilities. The significant mode for transmission of hepatitis C was surgery followed by being shaved at barber shop and then by acupuncture treatment and those who had a habit of tattooing.

RECOMMENDATIONS

The spread of this dreadful pathogen can be decreased if the following measures are taken into consideration:

1. Appropriate and convenient procedures to be adopted for HCV detection.
2. Therapy should be offered at

affordable rate to HCV positive individuals.

3. Doctors along with other health professionals need to be adequately instructed for psychotherapy of the patient.
4. Follow proper sterilization and other international health standards, such as autoclaves and sterilization of instruments and equipment.
5. Effective and goal-oriented training of health professionals should be initiated for HCV preventive measures and HCV elimination.
6. It is necessary to establish an adequate control system for the registration of patients infected with hepatitis C for proper management as a matter of priority.
7. For awareness of medical communities and lay man aggressive measures to raise awareness must be started.
8. Uninterrupted research should be encouraged to better understand the factors that influence it.
9. It is necessary to participate in extensive campaigns to better manage strategies against this disease.
10. Develop and implement mechanisms to improve international preventive measures to minimize the potential for spreading HCV infection.

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