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KNOWLEDGE, ATTITUDE AND PRACTICES REGARDING SAFETY, TRANSMISSION AND RISK & PREVENTIVE FACTORS OF HEPATITIS C IN PAKISTAN

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Abstract:

Background: *The prevalence of hepatitis C in Pakistan is possibly the second highest in the world with an estimated 10 million people (~5% of the population) affected. Factors contributing to the high HCV infection rates in Pakistan include, unsafe practices of medical equipment by healthcare providers and dentists, unnecessary clinical use of injections, unhygienic state of instrumentation at barber salons, sharing of needles by drug users and unsafe blood transfusion.*

Methods: *This descriptive cross-sectional study was conducted in Lahore General Hospital, Lahore, Pakistan started from April 2019 and completed in August 2019. 400 people were engaged in our study after being explained with the whole study process and informed consent from them. A self-administered questionnaire was used to evaluate for various knowledge, attitude and practices regarding safety, transmission and risk & preventive factors of hepatitis C.*

Results: *Out of 400 patients all 400(100%) patients were previously diagnosed with HCV via rapid screening or ELISA. All 400(100%) patients had also got PCR confirmation for HCV infection. Out of 400 patients all 400(100%) had previously been diagnosed with HBV via rapid screening or ELISA. 394(98.5%) patients got PCR confirmation for HBV infection and 6(1.5%) patients didn't get confirmation via PCR for HBV infection.2(0.5%) patients had completed vaccination for HBV and 398(99.9%) patients had not completed vaccination for HBV.250(62.5%) patients had frequent therapeutic injections while 150(37.5%) patients didn't have frequent therapeutic injections. 4(1.0%) patients were confirmed cases of STDs and 396(99.0%) patients were not confirmed cases of STDs.78(19.5%) patients had invasive medical and surgical interventions while 320(79.5%) patients didn't have medical and surgical interventions. Out of 400 patients 298(74.5%) patients were close contact of a known case of HCV/HBV and 102(25.5%) patients were not close contact of a case of HCV/HBV*

Conclusions: *Our study population had knowledge about the transmission and various risks and preventive factors of Hepatitis C*

Keywords: *Hepatitis C, Knowledge and attitude*

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INTRODUCTION:

Around the world, infection by the Hepatitis C virus (HCV) causes acute and chronic liver disease and may lead to cirrhosis, liver failure and/or hepatocellular carcinoma. HCV chronic liver disease is one of the main causes of liver transplantation in developed countries [1]. The global prevalence of HCV infection is estimated to be 2.2%, with 170 million individuals infected (2004) [2]. HCV represents a major health problem with approximately 3% of the world population, that is, more than 170 million people infected. While only 20–30% of individuals exposed to HCV recover spontaneously, the remaining 70–80% develop chronic HCV infection. Moreover, 3-11% of those people will develop liver cirrhosis within 20 years, with associated risks of liver failure and hepatocellular carcinoma (HCC) [3]. Sexual transmission of HCV has also been demonstrated, but it is known to occur with less frequency compared to hepatitis B or HIV. Other risk factors are considered, but their role has not been established convincingly. Some case-control studies linked HCV infection to surgical or dental procedures, endoscopies, tattooing, body piercing, acupuncture, household contact with an anti-HCV person, and intranasal cocaine use. There results of the studies are, however, conflicting and some expert groups have found no associations between those exposures and HCV infections. In fact, there may be geographical differences in predominance of certain routes of transmission over others. Although the data on HCV epidemiology in Eastern Europe are scarce, the available literature and experts' opinions indicate that surgical and parenteral procedures (independent from blood transfusions) account for 40%-71% of HCV infections [4]. . The prevalence of hepatitis C in Pakistan is possibly the second highest in the world with an estimated 10 million people (~5% of the population) affected[5-12]. . Factors contributing to the high HCV infection rates in Pakistan include, unsafe practices of medical equipment by healthcare providers and dentists, unnecessary clinical use of injections, unhygienic state of instrumentation at barber salons, sharing of needles by drug users and unsafe blood transfusion [9-12]. Several efficacious direct acting anti-HCV treatments have become available to general population in Pakistan as part of Government's hepatitis control programs[13]. . However, due to the asymptomatic nature of hepatitis C and lack of routine medical examinations, numerous HCV infected individuals with low-grade viremia remain unaware of their infection status for years and therefore, do not pursue treatment until the symptomatic stage of liver impairment [14]. These individuals then also contribute to the spread of the virus to general population. Such situation hampers the efforts for controlling the HCV infections even with the availability of effective treatments. Population based studies to identify specific socio-demographic groups with high HCV prevalence and an analysis of contributing factors is therefore, needed to control the disease in general population. In recent years several HCV related epidemiological studies have been conducted in Pakistan, which provide an overview of HCV prevalence. However, these investigations were limited to small population size [15, 16] or only to highrisk groups (IDUs, blood donors, health care workers) [17, 18] covering very small geographical regions [19].

In the current study, we have identified the risk factors of Hepatitis infection among general population of province Punjab of Pakistan that accommodates 53% of the total population of Pakistan. Aim of this analysis was to identify socio-demographic groups with higher HCV prevalence so that these groups could be further investigated for factors contributing to higher HCV infections. Findings from the study will help in better management of hepatitis C prevention and treatment strategies in the country

MATERIALS AND METHODS

This study was conducted in Lahore General Hospital, Lahore, Pakistan. It was started from April 2019 and completed in August 2019. We explained the whole process of our study to the subjects. Informed consent was taken. 400 people were engaged in our study. It was a descriptive cross sectional study.

SPSS version 22 was used for the data entry and data analysis. P value less than 0.05 was considered statistically significant. Frequencies of different qualitative variables like gender, occupation etc. were calculated. Mean and standard deviation for quantitative variable like age etc. were found. Frequencies were calculated about awareness of various risk factors, mode of transmission and prevention of Hepatitis C in our subjects.

RESULTS:

We studied on 400 patients. 180(45.0%) were males and 220(56.0%) were females.364(91.0%) patients were married and 36(9.0%) patients were unmarried. The number of housewives was 210(52.5%), laborers were 54(13.5%), government employees were 130(32.5%) and students were 6(1.5%).

Descriptive statistics of our population are in table 1:

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	400	15.00	77.00	41.4200	12.52941
Temperature (Celsius)	400	98.00	99.00	98.0050	.07062
Pulse (BPM)	400	64.00	100.00	85.0050	4.78982
BP (Systolic)	400	10.00	1202.00	119.2100	78.02857
BP (Diastolic)	400	20.00	90.00	75.9350	6.61136
Weight	400	40.00	95.00	63.0950	9.95509
Valid N (listwise)	400				

(BP= Blood Pressure), (BPM=Beats per minute)

Out of 400 patients all 400(100%) patients were previously diagnosed with HCV via rapid screening or ELISA. All 400(100%) patients had also got PCR confirmation for HCV infection. Out of 400 patients all 400(100%) had previously been diagnosed with HBV via rapid screening or ELISA. 394(98.5%) patients got PCR confirmation for HBV infection and 6(1.5%) patients didn't get confirmation via PCR for HBV infection.2(0.5%) patients had completed vaccination for HBV and 398(99.9%) patients had not completed vaccination for HBV.250(62.5%) patients had frequent therapeutic injections while 150(37.5%) patients didn't have frequent therapeutic injections. 4(1.0%) patients were confirmed cases of STDs and 396(99.0%) patients were not confirmed cases of STDs.78(19.5%) patients had invasive medical and surgical interventions while 320(79.5%) patients didn't have medical and surgical interventions. Out of 400 patients 298(74.5%) patients were close contact of a known case of HCV/HBV and 102(25.5%) patients were not close contact of a case of HCV/HBV.174(43.5%) patients had blood transfusion and 226(56.5%) patients didn't have blood transfusion. 16(4%) patients were confirmed positive cases of HIV and 384(96.0%) patients didn't have HIV. 210(52.5%) patients were hospitalized before and 190(47.5%) patients were not hospitalized before. 72(18%) patients had tattooing, ear/nose piercing while 328(82%) patients didn't have tattooing, ear/nose piercing. 22(5.5%) patients were injectable drug users and 378(94.5%) patients were not injectable drug users. 324(81%) patients had dental interventions while 76(19%) patients didn't have dental interventions. 18(4.5%) patients had history of multiple sex partners while 382(95.5%) patients didn't have history of multiple sex partners. Out of all 400 patients 22(5.5%) patients were truck drivers or transgenders while 378(94.5%) patients were not truck drivers or transgender.

DISCUSSION:

From our research studies it is concluded that different factors increase the risk of Hepatitis infection which include history of multiple sex partners. Hepatitis C infection is more prevalent in patients with occupational history of truck driver and being transgenders. Patients who used injectable drugs, had dental interventions and individuals with practices of tattooing and nose/ear piercing were more prone to Hepatitis C infection. Close contact with patients of HBV/HCV also contributed to Hepatitis C infection. Patients with frequent therapeutic infections also showed more susceptibility to Hepatitis infection. Confirmed cases of STDs didn't show any significant relation as risk factor of Hepatitis infection (14).

Our studies further support existing data showing confirmation of risk factors of Hepatitis infection in Punjab, Pakistan, furthermore our studies have stratified these pre proved risk factors in particular population of Punjab.

As narrated in our results that people with multiple sex partners and transgenders showed greater risk of Hepatitis infection so it is inferred that multiple and homo sexual contact with partners may act as a source of transmission for agents responsible for Hepatitis infection, similarly the higher incidence of Hepatitis C infection in people who used injectable drugs, had dental interventions and had tattooing and nose/ear piercing practices infer that agents responsible for this infection are passed from external environment into the body through pierced skin and blood (15).

Our studies can be implied clinically as particular patients having contact with high risk factors can be pre managed for the disease. As our studies also link the occupational as well as health related risk factors so care taken in such fields can be an advantage as pre management and prevention of disease.

Our studies imply that care taken during dental surgical procedures, having safe sexual practices

and blood transfusion and Intravenous drug usage can be used to prevent hepatitis infection.

Using these stratified risk factors of Hepatitis C infection not only prevention of disease can be assured but also further studies on these risk factors can reveal the mode of transmission and mortality associated with these risk factors. Not only this but also these risk factors can also be associated with other diseases with further research and experimentation (16).

CONCLUSIONS:

Our study population had knowledge about the transmission and various risks and preventive factors of Hepatitis C

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