

Research Article

A Cross-Sectional Research Study on the Co-Relation Patients Family History to Developmental Pattern of Hepatitis “C” in Liver Centre District Headquarters Hospital, Faisalabad

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ABSTRACT

Hepatitis C prevalence is at increase all over the globe, Pakistan is largely affected and death rate is high. In the setting of underdeveloped countries, the vaccine is scarce and expensive and under-privileged society is unable to bear the expenses of treatment. Research effort is required to study the associated factors of Hepatitis “C” in order to treat it through multiple efforts. Our research is also a step for the assessment of related factor among thirty-eight patients through a questionnaire particularly focusing on the relationship of family history and Hepatitis “C”. Repeated incidence is in married patients, family history, illiterate patients, road accidents, surgical operations, patients’ age, jaundice history and shaving by barber. Urban population faces the common issues of the family history including rural areas with differing features. It was observed that there is a strong relation between patient’s history and Hepatitis “C”.

Key words: Risk factors, Hepatitis C, Family history and Disease duration.

INTRODUCTION

Hepatitis “C” is liver inflated disease and refers to the inflammatory disorder of liver caused because of a viral infection including hepatitis and autoimmune hepatitis as an outcome of secondary medications, toxins, alcohol and drugs. An incident of production of reverse antibodies for liver is characterized as autoimmune hepatitis, presently 5 types of viruses are known:

Hepatitis A: It is also referred as infectious hepatitis, life threatening and cause because of contaminated drinking water.

Hepatitis B: Referred as serum hepatitis transfers from mother to the infants, blood transfer, sexual contact and needles causes liver cancer.

Hepatitis C: Also called non-A, non-B hepatitis and it is commonly viral spreads through

needles, transfusion of blood and observed in the 25 percent cases of the HIV positive. Spreads from the HIV infected injection and severe in the HIV cases.

Hepatitis D: Infects commonly intravenous drug users and holds the virus of hepatitis B, which spreads same as in the incidence of hepatitis B, hepatitis D is a serious threat to the human health as it is accompanied with severe signs of hepatitis B.

Hepatitis E: Same as hepatitis A and prevalent in the poor sanitation countries and causes threat to the lives of affected individuals.

Hepatitis C is referred as the disease of blood spreads because of small (50 nm), positive-sense, enveloped, single-stranded RNA virus also called HCV, which spreads through the blood to blood contact and no treatment is

available for this virus. Our research, disease development pattern determination was carried out in general population. National mortality and morbidity of US declared hepatitis "C" a separate disease in 1982 and this virus belonged to the family of flavi virus.

Virus bears 6 – 8 weeks incubation period, which causes acute hepatitis milder form in comparison to the hepatitis B; whereas, 50% cases were chronic, that may cause hepatocellular carcinoma and chronic liver disease. The spread is because of the transfusion of the blood, donation of organ and blood products [1].

Liver biopsy is the diagnosis process of the chronic HCV through the scores of histology through consecutive biopsy specimens. There are number of accompanied HCV infections having non-specific autoimmune syndromes and biological extra-hepatic abnormalities and prevalence associated with the correlation of certain pathologies as non-Hodgkin lymphomas. Fifty percent of the cases face biological peculiarity that is cryoglobulinemia and 20 – 25 percent of the cases develop rheumatoid arthritis. A rare occurrence is peri-arteries nodosa. Hepatitis C is also non-clear mechanism acquired and globally endemic common in countries like Japan, Spain, Italy and South Africa. There are four percent HCV blood donor's antibodies in forty percent of the cases with the drug history and five percent blood exposure. There is a sustainable global hepatitis "C" seroprevalence which varies in the global geographical differences [2, 3]. Eighty percent of the patients in Pakistan are HCV infected chronically and one third of the cases are because of the continuous liver injury, cirrhosis and fibrosis in the time span of 20 – 30 years. In USA blood transmission is credited to parenteral route and in USA, Japan and Europe the correlation is with the blood products also prevalent among intravenous and hemodialysis drug users. It is revealed in a recent study carried out in the HCV acute hepatitis cases an act of sex with multiple heterosexual partners is linked with the HCV acquisition [5, 6].

MATERIAL AND METHOD

Awareness about the blood spread diseases is less and scarce work has been completed for HCV and its prerequisites also need proper and planned investigative research efforts. Pakistan has been reported for an uncontrolled incidence of HCV as its population is growing in the region [7]. A research held recently reveals that 8.8 million have been affected by HCV in Pakistan and anti-HCV bodies are also reported in the general population of Pakistan. Numerous research studies also aimed at the anti-HCV prevalence in the different parts of Pakistan and it is reported that sixty percent suffer from liver cancer and thalassemia contributed fifty percent [8]. Liver cirrhosis is caused because of chronic HCV linked with the development of hepatocellular carcinoma. Although HCV symptoms in the various cases are mild and twenty percent of the suffering cases may have an incidence of liver cancer and cirrhosis. An effective treatment is considered the Interferon alpha administration combined with ribavirin. It is reported that IFN-alpha exhibits the sustenance of virologic response in 20 – 50 percent HCV cases [5, 6]. A small amount of blood is enough for the spread of infection. For sixteen hours the virus survival is possible even outside of the body and not more 4 days. UK faces injecting of drugs as hepatitis risk factor and infection can spread through sharing of needles, unprotected intercourse and HIV incidence increases the chances of HCV. Homosexuality is another cause of transmission of HCV infection.

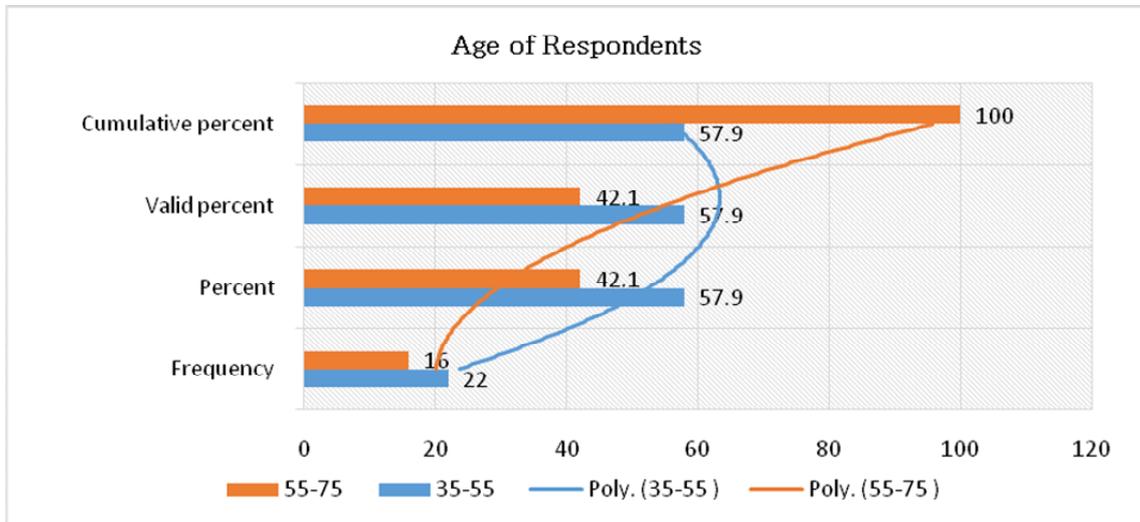
METHODS

Our research was cross-sectional research held at the DHQ Faisalabad (Liver Centre). It took twenty-five days starting from 5 – 30 August, 2014 with a total thirty-eight patients through the Non-Probability sampling method. Interviews were taken in personnel and close ended questions were asked from the participants. Percentage and frequency was used for data collection (cumulative and valid). Ethical permission was secured from the administration and informed consent from all the participants was also secured.

RESULTS:

Table-I: Age of Respondents

Age	Frequency	Percent	Valid percent	Cumulative percent
35-55	22	57.9	57.9	57.9
55-75	16	42.1	42.1	100
Total	38	100	100	



In the distribution of age factor 57.9 % cases were in the age of 35 – 55 years and 42.1 % were in the range of 50 – 75 years with a minimum and maximum age respectively as 35 & 75 years.

Table-II: Gender of Respondents

Gender	Frequency	Percent	Valid percent	Cumulative percent
Male	21	55.26	55.26	55.26
Female	17	44.73	44.73	100
Total	38	100	100	

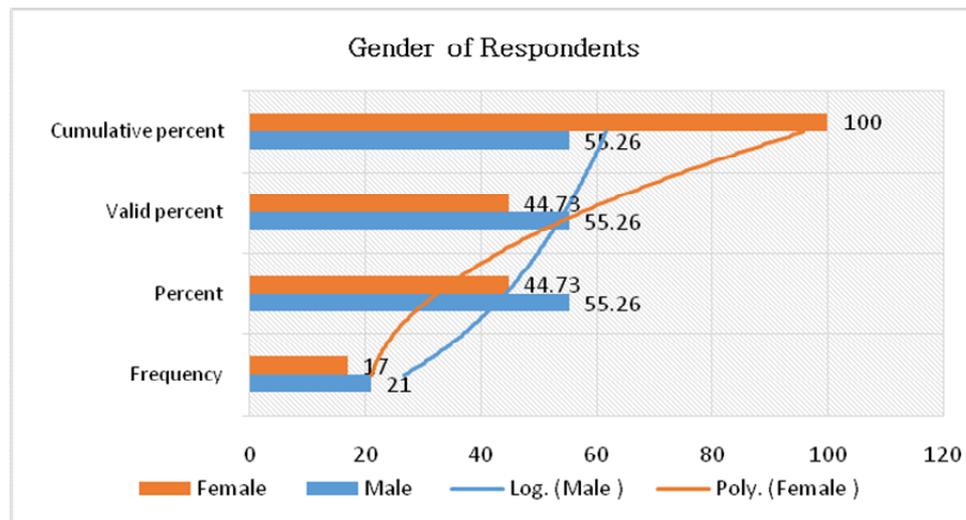


Table-III: Duration of Disease of Patients

Age	Frequency	Percent	Valid percent	Cumulative percent
1-5 years	13	34.2	34.2	34.2
5-10 years	16	42.1	42.1	76.3
10-20 years	4	10.5	10.5	86.8
>20 years	5	13.2	13.2	100
Total	38	100	100	

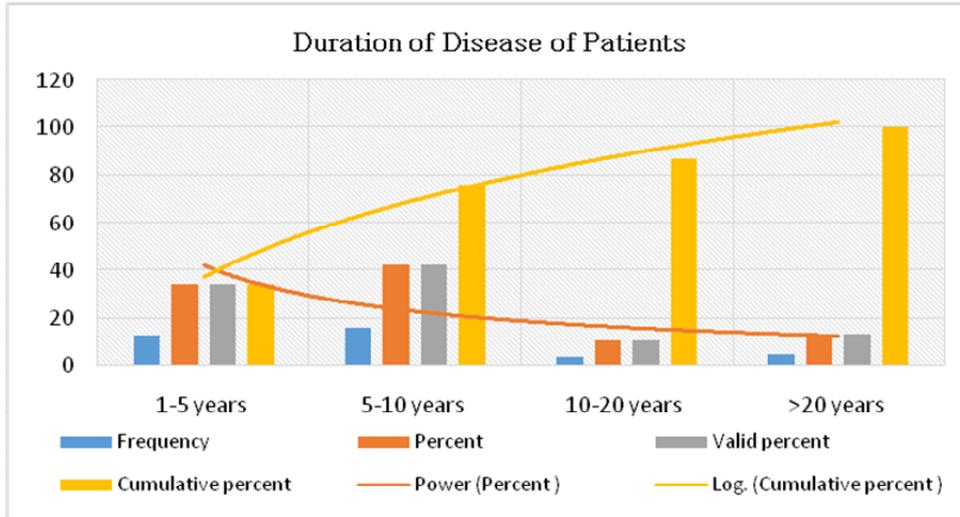


Table-IV: Marital Status of the Patients

Marital Status	Frequency	Percent	Valid percent	Cumulative percent
Married	38	100	100	100
Unmarried	0	0	0	100
Total	38	100	100	

Table-V: Occupation Status of Patients

Occupation	Frequency	Percent	Valid percent	Cumulative percent
Housewife	15	39.5	39.5	39.5
Office worker	3	7.9	7.9	47.4
Manual labor	7	18.4	18.4	65.8
Shopkeeper	6	15.8	15.8	81.6
Agriculture	5	13.2	13.2	94.8
Unemployed	2	5.3	5.3	100
Total	38	100	100	

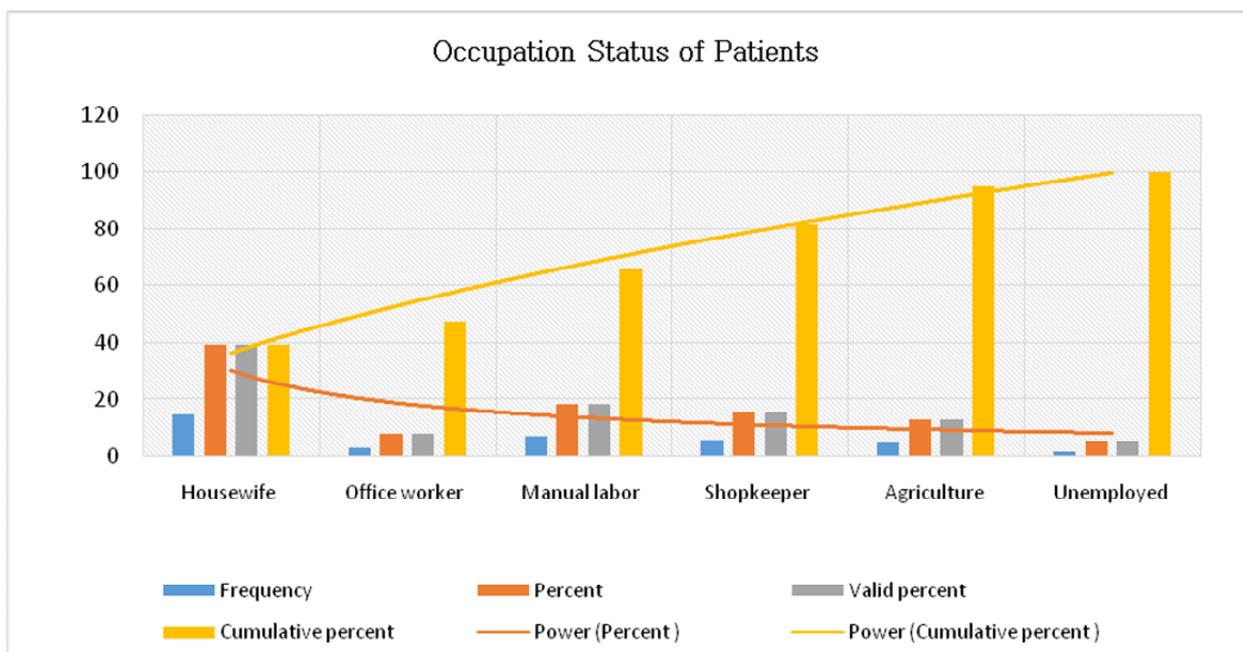
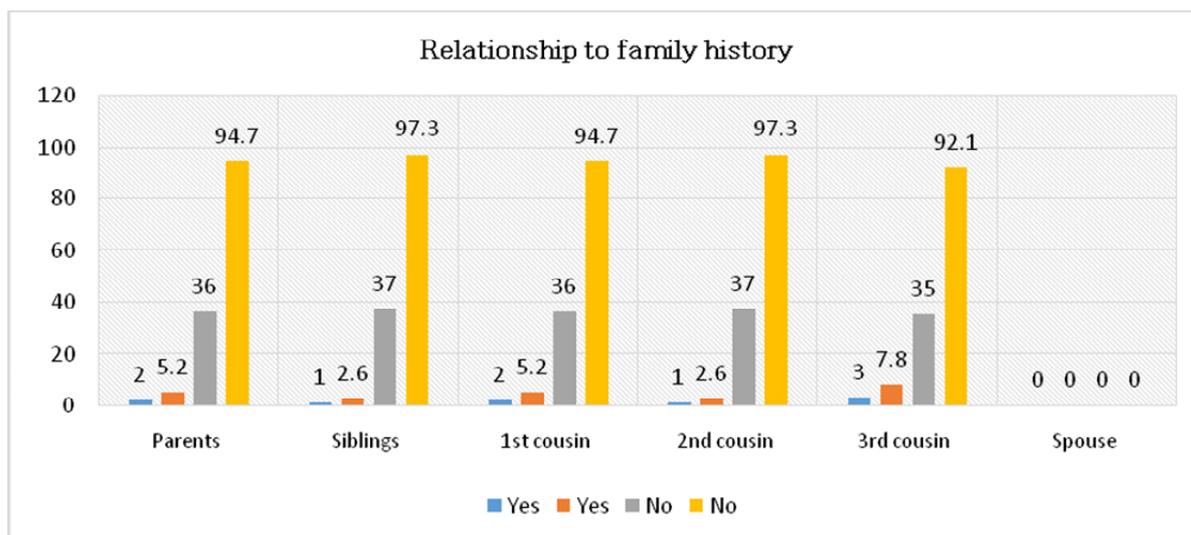


Table-VI: Analysis of risk factors among subjects

Risk factors among subjects (n-38)				
Variable	Yes		No	
	Number	Percent	Number	Percent
Patient history of jaundice	14	36.8	24	63.1
History of blood transfusion	4	10.5	34	89.4
Dental surgery	6	15.7	32	84.2
Surgical operations	4	10.5	34	89.4
Kidney dialysis	-	-	-	-
Tattooing	-	-	-	-
Body piercing	7	18.4	31	81.5
Usage of injecting drugs	1	2.6	37	97.3
Vaccination	2	5.2	36	94.7
Barber shaves	4	10.5	34	89.4
Sharing razors		•	-	-
Sharing syringes		-	-	-
Sharing toothbrush	-	-	-	-

Table-VII: Relationship to family history

Family history of hepatitis in	Yes		No	
	Number	Percent	Number	Percent
Parents	2	5.2	36	94.7
Siblings	1	2.6	37	97.3
1st cousin	2	5.2	36	94.7
2nd cousin	1	2.6	37	97.3
3rd cousin	3	7.8	35	92.1
Spouse	-	-	-	-



Frequent factor of risk was jaundice history in HCV cases; as 36.8% cases had jaundice history followed by surgeries including minor and major surgeries. Another repeated event was hepatitis history including the frequency

(23.4%) that means 23.4% cases were relatives having disease from their relatives and body piercing as (18.4%), drug injection and barber shave was observed as 2.6% and 10.5%.

DISCUSSION

HCV prevalence has an association with the numerous factors in the various groups of age and regions. It is among the deadliest disease and major issue and concern for the healthcare in a country like Pakistan [9]. As per the WHO estimate, three percent of the global population has been affected by HCV and every year the incidence is rising 4 million per year. Our research also aimed at the estimation and investigation of relation of HCV and family history in the setting of DHQ Faisalabad (Liver Center) and observed that older male was largely affected by the HCV incidence and risk factor directly increase the chances of infection. Urban cases were studied in the factors of educational level and healthcare facility availability; similarly, hospital facilities, environmental hazards, awareness level and education affected the disease prevalence. Hence, this research was required for the assessment of the risk factors in the demographic and socio-economic factors in the rural and urban backdrop [11]. Outcomes of the research have been reflected from Table I to Table VII, which have been complemented to the other research studies held for the same subject. Young were less involved in the incidence of HCV as they had less exposure to the contributing factors [28]. Age group 41 – 50 years was more affected as they had increased exposure to the contributing factors. Pakistani setting forwards many other disease development observations such as grade-IV hepatocellular carcinoma or cirrhosis [13], which have been established in an earlier research [12, 13], time taken by the HCV in the damage of Liver is 15 – 20 years. An active HCV rate in the age group of 21 – 30 and 31 – 40 years was observed respectively as 1.9% & 3.33%. Highest prevalence is observed in the elder age groups because of increased exposure to the barbers, needle pricks and quakes etc. An anti HCV prevalence was documented high in active HCV infection and possible reasons were absence or presence of RNA virus in an individual's serum, which is also a self-limiting hepatitis "C" nature among few of the patients.

Shave by the barber was observed in the rural areas as barbers were unaware of the associated health risks, barbers were also involved in the minor unhygienic surgeries (14%) such as growing toe, abscess drainage and nail excision. Reuse of the blades was observed in a research held in Islamabad and Rawalpindi [15]. Our research found that shave was not a risk factor in the urban male population because of the awareness factor. During hospital admission surgeries whether minor or major were associated to the HCV infection, there was a negative correlation of HCV infection and education. Surgeries were associated to the unhealthy and unsafe healthcare practices causing risk to the patients because of non-professional and untrained medical staff. According to the research of Lawitz and Hepburn (2004) evaluated hepatitis "C" risks in the Haitian general population using intravenous drug and multiple sex partners [17]. In our research in the total sample of 38 patients sample size was limited that reduced the overall test power. Scarce literature in the Pakistan was available that lead us to the completion of this research.

CONCLUSION

It is concluded that repeated risk factors of HCV infection are married patients, family history, illiterate patients, unsafe surgical practices, barber shaves and road accidents; in the demographical perspective age of the patient, jaundice history and unsafe sexual practice. Urban and rural population faced the issue marriage and family history. Hepatitis "C" increased risk was involved the urban population and transmission issues of HCV were varying in the rural and urban population. Moreover, it was also observed in the general population of Pakistan that vital factor is the positive history of the family; furthermore, this research model can predict the developmental pattern of Hepatitis "C" in the maximum patients.

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