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Research Article

**A CROSS-SECTIONAL STUDY TO DETERMINE  
FREQUENCY OF HCV VIRUS IN PREGNANT WOMEN AND  
ITS CASUAL RELATIONSHIP WITH RISK FACTORS**Dr Syeda Khadija Amjad<sup>1</sup>, Dr Ayesha Siddiqui<sup>2</sup>, Dr Zara Afzal<sup>2</sup><sup>1</sup> Mayo Hospital, Lahore<sup>2</sup> Multan Medical and Dental College, Multan

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**Abstract:**

**Objectives:** The aim of this study is to determine the prevalence of Hepatitis C in pregnancy and its causal relationship, so that preventive measures can be taken, as Hepatitis C is like epidemic in Pakistan,

**Study Design:** Cross-sectional study.

**Place and duration:** Department of Gynea/Obs Jinnah Hospital, Lahore for period of one year from November, 2018 to October, 2019.

**Methodology:** A total of 1000 pregnant woman of 16-40 years presenting in antenatal clinic of Jinnah Hospital were enrolled for study. After informed consent their blood was obtained for anti HCV antibody analysis by a third generation Elisa technique. Sera testing positive were also confirmed by HCV RNA by PCR.

**Result:** In our study out of 1000 pregnant woman 400 patients were HCV positive by Elisa method. Among these 400 patients 250 were confirmed of HCV RNA by PCR. 80% of patients were having previous surgery, 60% were multipara, 70% were low socio-economic class and 40% of patients were having history of previous blood transfusion.

**Conclusion:** The prevalence of Hepatitis C is rapidly increasing in our population so proper health education and awareness should be improved and screening for HCV should be encouraged.

**Keywords:** Hepatitis C Virus, Vertical Transmission, Prevalence.

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**INTRODUCTION:**

Hepatitis is an enveloped single stranded RNA virus, belongs to Hepacivirus genus and Flaviridae family. Viral hepatitis during pregnancy is associated with high risk of maternal complications. The prevalence of hepatitis c can be predicted by the risk factors. Hepatitis is like an epidemic in this part of the world. Mode of spread is usually parenteral router, exposure to infected blood transfusions, i/v drug abusers, sharing of needles and barbers. There was time when in hospitals and hostels barbers would come and shave with the same razor. The global prevalence of hepatitis c is 2-3% with 130 to 170 million HCV positive people most of them chronically infective.[1] During 2009-2014, vertical transmission of HCV infection has been increased from 1.8 to 3.4 per 1000 live births.[2] Pathogenesis of HCV infection during pregnancy remains poorly understood. The overall mother to child transmission is 3 to 5%.[3] Co infection with HIV increases vertical transmission upto 19.4%. HCV is one of the major etiological agents of parentally acquired Hepatitis and is the commonest indication for Liver Transplant. Infected pregnant women transmit the virus vertically to fetus. The overall rate of transmission is 3% to 5% if mother is found to be anti-HCV positive. Factors known to increase this transmission include HIV-co-infection, transfusion of unscreened blood products, I/V drug abuse.[4]

Whether pregnancy alters the outcome of acute HCV infection is unknown, but It is conceivable that the immunomodulation of pregnancy could favor viral persistence rather than clearance. Since the infection is prevalent in Pakistan and most of the infections are asymptomatic this study was carried out in the pregnant women attending antenatal clinic of Jinnah Hospital, Lahore to determine

- Prevalence of anti HCV virus in pregnant ladies.
- Its causal relationship with risk factors.

**METHODOLOGY:**

**Settings:** Jinnah Hospital, Lahore. **Study Design:** Cross-Sectional Study **Duration of the Study:** one year. **Sample Size:** 1000 pregnant women of 16 to 40 years of age presenting to Jinnah Hospital, Lahore in antenatal clinics were enrolled.

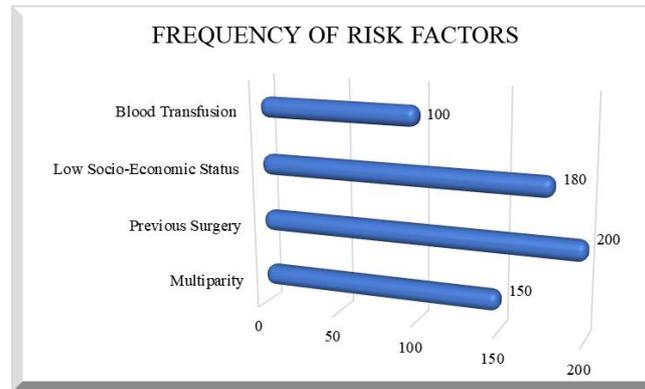
**Data Collection Procedure:** After informed consent their blood was obtained for ant HCV antibody analysis by a third generation Elisa technique. Sera testing positive were also confirmed by HCV RNA by PCR. Detail history of HCV positive patients was taken to find out the risk factor and their causal relationship.

**RESULTS:**

Out of 1000 patients pregnant 400 were found to be HCV positive. 250 out of that tested positive for HCV RNA by PCR. In the group of pregnant women highest prevalence of HCV was estimated in the patients of low socio-economic status, history of repeated surgeries, blood transfusion and repeated injection. Statistically significant association was found with the pregnant women whose husbands were I/V drug abuses. The effect of sharing different items among the pregnant women like comb, razers, repeated visit to the beauty salon undergoing dilation and curettage and history of abortion was found to be significantly associated with anti HCV status (Abdul Majeed). In our study prevalence of disease was found to be about 25%, 80 % of patient were having previous surgery, 60% of patients were multipara, 72% belong to socio- economic class and 40% patients were giving history of blood transfusion. As shown in Table 01.

**Table No 01: Frequency of Risk Factors in HCV Positive Patients**

Variable	Frequency	Percentage
Multiparity	150	60%
Previous Surgery	200	80%
Low Socio-Economic Status	180	72%
Blood Transfusion	100	40%



### DISCUSSION:

HCV infection is major health problem in Pakistan and after introduction of routine screening of blood and blood products prior to transfusion, other modes of spread are gaining importance. HCV infection is on the rise during pregnancy and it is an alarming issue, which needs attention.

In our study prevalence of HCV among pregnant women was 25%, which lie close to the prevalence reported by Shah and Shabbir (2002).[5] Another study conducted in Nawab Shah reported that seroprevalence of HCV was 3.44% among pregnant women which is quite less as compare to the present study. This is comparable to another study conducted by Farhana Sheikh.[6]

This high prevalence is due to increasing number of risk factors in our patient and co-existing other viral infection like HBsAg.[7] Prevalence is due to fact that Allied Hospital is only draining hospital of district Faisalabad which received all high-risk cases. Significant HCV prevalence is noticed in high risk group including low socio-economic class multiparity, previous surgeries and blood transfusion.[8] Our study show increase prevalence of Hepatitis-C in multiparous female. Our study showed increased HCV prevalence in patients who received repeated blood transfusion in which is same as another study conducted in Northbridge.[9,10] Increased causal relationship had been found in repeated surgeries as well.[11] In our study 72% patients belonged to low socio- economic class while in another study conducted in India in 2016 showed 90% of the patient of low economic class this difference was due to that fact that Indian study addressed all viral infections where as we were dealing with Hepatitis C Virus only.[12]

According to our study there is significant relationship of HCV positive pregnant ladies with history of surgical procedures. In under- developed countries like Pakistan because of poverty and lack of education, hence HCV screening should be carried out during pregnancy to identify asymptomatic women with chronic disease so that

they can be benefited from anti-viral therapy after pregnancy.[13]

### CONCLUSION:

The prevalence of Hepatitis C is rapidly increasing in our population so proper health education and awareness should be improved and screening for HCV should be encouraged.

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