Summary

Viral hepatitis is still an important public health problem throughout the world. Hepatitis B and C infection are the most important types particularly as they may progress to chronic liver disease, cirrhosis and primary liver cancer. The present work aims to study epidemiological aspects of hepatitis B and C in adults to define the factors that contribute to the prevalence of this problem in our community.

The subjects of this study were 300 apparently healthy adults (152 females and 148 males) collected from attendants of primary health care centers in Benha city in the period from July, 1994 to August, 1995. Their ages ranged from 18-65 years (mean 33.8 ± 10.8). An interview questionnaire was designed for collection of personal, social and medical characteristics of the selected group. A blood sample was obtained from every individual for serological diagnosis using ELISA technique (2nd generation).

This work revealed the following results :

- The prevalence of HBs Ag, HBs Ab and HCV Ab among the studied group were 5.7%, 28.7% and 27% respectively, with a significant difference between males and females regarding the prevalence of HCV Ab (35.8%, 18.4% respectively) ($P<0.001$).

- The highest prevalence of positive HBs Ag subjects was detected among the age group 45 years and more (8.5%). Also, the percentage of HCV

carrier state significantly increased with age (from 8.3% for age group less 25 years to 40.4% for age group 45 years and more) ($P<0.001$).

- Higher percentages of HBs Ag and HCV Ab were detected in rural areas (7.1%, 31% respectively) than urban ones (4.3%, 22.8% respectively) with statistically insignificant difference.

- The prevalence of HBs Ag and HCV Ab were higher among married (6.2%, 30.3% respectively) than single (3.6%, 12.5% respectively). The difference was statistically significant regarding HCV infection ($P<0.05$).

- Socioeconomic variables were related to the prevalence of HBV infection as the percentage of positive HBs Ag cases was significantly higher among non educated (9.3%) than educated (3.6%) individuals ($P<0.05$). Also, it was higher among those living in houses with the highest crowding index (8.6%). While, there was no significant relation between the previous factors and the prevalence of positive HCV Ab.

- An interesting finding in this study was the lower percentages of carrier state of HBV and HCV infections among medical and paramedical personnel (2.4%, 26.2% respectively) than those of other occupations (6.2%, 27.1% respectively) which indicated that health care workers (HCW) were following the universal precautions to avoid infection by blood born pathogens. However, no significant relation was found in the prevalence of HBs Ag and HCV Ab among the studied group regarding occupation.

- Bilharziasis and diabetes are proved in this study to be risk factors for hepatitis B and C infections. HBs Ag seropositivity was insignificantly higher among bilharzial (6.2%) and diabetic (8.6%) patients than non bilharzial (5.4%) and non diabetic (5.3%) cases. However, significantly higher percentages of positive HCV Ab were found among bilharzial (44.4%) and diabetic (51.4%) patients than non bilharzial (18.7%) and non diabetic (23.8%) cases. The risk of bilharzial and diabetic patients to acquire HCV infection were 3.46 and 3.39 folds respectively that of non bilharzial and non diabetic cases.

- The study also showed that HCV infection is the most common cause of viral hepatitis in our community as HCV Ab appears in 50% of those giving history of previous infection with hepatitis.

- Studying the risk factors which proved to contribute to HBV and HCV infection, the present study revealed that blood transfusion, ear piercing and treatment by injection were significantly related to HCV Ab but not to HBs Ag seropositivity. On the other hand, no significant differences were detected between HBV or HCV carrier states regarding previous visit to a dentist, tattooing, exposure to surgical intervention and the previous family history of hepatitis, although the percentages of positive HBs Ag and HCV Ab cases were higher among those showed the risk factors for infection.

- No one of the vaccinated individuals among the studied group was found to be positive for HBs Ag, while 50% of those vaccinated were immuned

compared to 27.6% of the non vaccinated cases, the difference was statistically significant.

From this study, it was concluded that HBV and HCV infection are endemic in our community, their occurrence and the development of carrier states are related to interaction between several host and environmental risk factors.

It is recommended to develop a system of epidemiological surveillance for hepatitis infection on a national scale; prevention of parenteral transmission especially through screening of blood donors for HBs Ag and HCV Ab, availability of adequate quantities of sterile needles and syringes and proper sterilization of surgical and dental instruments; control of bilharziasis and diabetes and conducting further studies to investigate the relation between diabetes mellitus and HBV and HCV infection especially the immunological changes, training of medical personnel regarding the universal precautions to avoid infection by blood borne pathogens; health education of health care workers, high risk group and the public regarding prevention of hepatitis infection and continuation and encouragement of vaccination of infants and high risk group against hepatitis B infection.