



INFECTIOUS DISEASES NEWS AND VIEWS*

Hepatitis B, C and HIV infection in Libya: A national population-based nationwide seroprevalence survey

Limited surveillance data exist among general population in Libya for the three bloodborne viruses (BBVs) of greatest importance: hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV). For the first time a general population-based seroprevalence nationwide survey of these three BBVs has been carried out in Libya. The Libyan National Centre for Infectious Diseases Prevention and Control has conducted, through a national steering committee**, a survey for the general population which could contribute to the identification of new high-risk populations. Parts of the survey's results have been presented in numbers of national and international conferences (1,2). The survey sought to estimate the prevalence of HBV, HCV and HIV among the general population in Libya, and to explore epidemiologic risk factors for these three BBVs.

Between October 2004 and March 2005, 67.711 participants were chosen according to a stratified, multistage algorithm to produce a

representative sample of the general population from all parts of Libya. The sample included individuals (males and females) of different age groups including pre-school age groups, school-age groups, university age-groups, school teachers, attendance of polyclinics and hospital out-patient departments, and employees and workers in different governmental and private work places.

All consenting participants completed a structured questionnaire assessing sociodemographic characteristics, sexual and intravenous drug histories, and a risk factor profile for the infections under investigation. Blood samples (about 10 ml) were then obtained and after centrifuged, serum samples were sent to the Libyan National Centre for Infectious Diseases Prevention and Control, where they analysed. Sera were then tested at the Virology Unit of the laboratory of the centre for the presence of antibodies to HCV (ELISA, Abbot), antibodies to HIV (ELISA, Abbot), and hepatitis B surface antigen (HBsAg) (ELISA, Abbot), in accordance with the respective manufacture's instructions. Data were entered into a database and analysed statistically using the SPSS software package.

67.711 subjects (aged 1-70 years) were recruited to participate in the study. Of them, 65.300 participants were gave a blood samples for testing (final response rate for testing 96.4%). The prevalence rates of HBsAg, Anti-HCV, Anti-HIV in Libya were found to be 2.2%, 1.2%, and 0.13%, respectively (1,2). These are corresponding to approximately 120.000 HbsAg-positive persons, 67.000 Anti-HCV positive persons, and 8000 anti-HIV positive persons in Libya.

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Active age-groups showed relatively higher prevalence rates of these HIV and HCV infections which would be advisable to further investigate. Some study areas in the country showed higher prevalence rates. HBV was found to be related to male gender, past history of hepatitis and using skin scarifications such as ear piercing and tattooing. In contrast, HCV infection was related to previous history of blood transfusion, intravenous drug abuse, previous hospital admission, previous surgery as well as using skin scarification such as ear piercing and tattooing.

The hardest hit age group for HIV individuals was 30-34 years. Spatial distribution displayed a maximum in the south of Libya bordering sub-Saharan Africa and in the area around Tripoli. HIV infection was found to be related to intravenous drug abuse, male gender and previous history of extra marital sexual contacts.

These results highlight the burden of infection attributable to HBV, HCV and HIV in Libya. Approximately 120.000 persons, 67.000 persons, 8000 persons in the Libyan general population have chronic infection with HBV, HCV and HIV, respectively. The overall prevalence rates of these three infections in Libya are comparable to the low and intermediate international prevalence rates. High prevalence rates of these infections in some study-areas of the country needs further detailed study to determine the main risk factors for transmission of these infections in that areas.

It is unknown what proportion of infected persons with these infections in Libya are aware of their infections. however, it is anticipated that many of these positive subjects we identified have not been tested and have not received appropriate counseling.

According to the results of this survey, at the time being Libya ranked among countries having a low HIV prevalence, highly concentrated in high risk behaviour groups

such as intravenous drug abusers. There are areas in the south of the country with a high prevalence (up to 0.6%) which need to be further investigated. The Tripoli area and satellite towns display a higher rate (around 0.4%), presumably connected with parenteral drug abuse. «Around 20% of the country's population live in these areas, so that the implementation of HIV and risk behaviour surveillance systems and harm reduction programmes must be regarded as a priority».

Moreover, implementing of stringent measures for prevention and control of hepatitis B and C infections in Libya are needed to be continued. These include screening focused on high risk groups of population and determination, prevention and control of risk factors for transmission of these infections. Furthermore, continuous of hepatitis B infection vaccine to all newborns and high risk groups needs also to be continued.

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