

Aims of the study

To get information about viral hepatitis infection risks of health care workers caring for psychiatric patients and mentally retarded residents, seroprevalence of hepatitis A virus (HAV), hepatitis B virus (HBV) and hepatitis C virus (HCV) markers was estimated.

The investigation in a large hospital and care facility for neurology/psychiatry and the mentally retarded, Westfalia (*institution 1*) adds the data collection in Germany started 1985 in the general health care sector (South Germany, *institution 2*).

Material and Methods

Since 1997, we monitored retro- and prospectively HAV-, HBV- and HCV-markers of workers in a large specialized care facility covering more than 15 years. The investigation was based on medical records of annual occupational examinations.

The analysis was carried out for three panels: 1986-1990, 1991-1995 and 1996-2001. Logistic regression models were standardized by age, occupational and geographical exposure. Data records of n=6.688 (HBV), n=4.010 (HAV) and n=4.516 (HCV) employees were analyzed, as well as of n=408 patients/residents (HBV, last panel). This presentation refers to seroprevalence rates of employees born in Germany and in the case of HAV of those born in countries with low endemicity.

Results: HBV

The proportion of anti HBc/s- positive employees decreased significantly from 6% to 4% between 1990 and 2001 in medical as well as in non-medical professionals (**figure 1**).

Nurses, nursing assistants, laboratory and cleaning staff (the latter presumably due to needlestick- exposure) were at highest risk for HBV-infection. The HBV-infection rate of patients/ residents of 2.5% is comparable to the rate of non-medical staff (3rd panel, 1996-2002, no figure). The seroprevalence among geriatric nurses and physicians/dentists was below the rate of non-blood-exposed staff (**figure 2**).

The decreasing proportion of anti HBc/s- positive employees can be affiliated to the increasing vaccination rate from 25% to 48% (panel 1 to panel 3).

Results: HAV

The generally observed decrease of anti-HAV-seroprevalence in the general population since the end of World War II is visible in this sample, too (**figure 3**). Cohort effects can be pointed out regarding the older age groups, born directly after the end of the war.

The vaccination rate increased during the three panels from 1% to 5%. The age-standardized seroprevalence rate among a certain age group (e.g. 31-35 years) decreased from 14% to 6%. Besides age and geographical provenance, exposure of the actual work place is statistically predictive, too.

Results: HCV

In general, anti-HCV-seroprevalence was low, but significantly higher in the last panel than in panel 1 and 2 in both groups (**figure 4**). With regard to panel 3, the figures were lower among medical than among non-medical staff (0.7% versus 1.3%).

More subjects were found in the group "medical staff" showing simultaneously positive anti-HCV and anti-HBc values than in the group "non-medical staff" (5 out of 6 versus 7 out of 16, HB-vaccinated subjects excluded). Due to the low number of cases, an occupational effect might be presumed, but not concluded.

Conclusions

Work-related HBV-infections are the second most prevalent occupational disease of infectious origin in Germany. Prevention efforts seem to be successful, but are not comprehensive yet. Vaccination has to be more extended including all health care workers as well as non-medical staff with possible exposure to blood contact or infectious body fluids.

Even extension of HA-vaccination should be considered, according to the individual exposure.

Due to the low number of anti-HCV-cases, conclusions regarding occupational effects should be handled carefully.

Fig. 1: Anti-HBc/s+ (med. and non-med. staff)

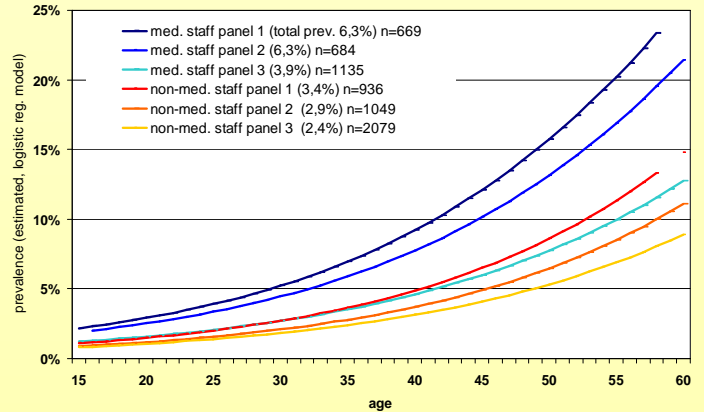


Fig. 2: Anti-HBc/s+ by professional groups, panel 3, 1996-2000

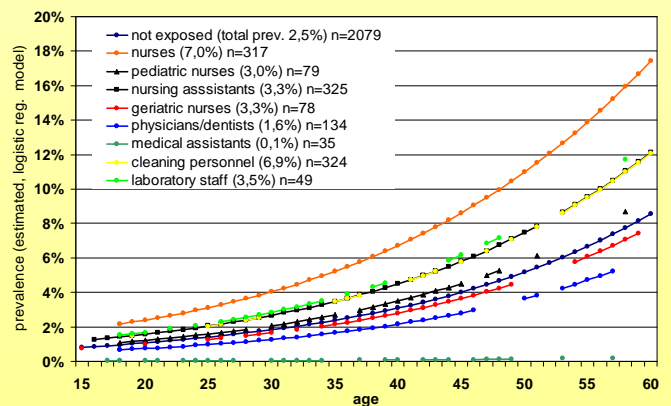


Fig. 3: Anti-HAV+ by age

Employees born in countries with low endemicity (vaccinated excluded)

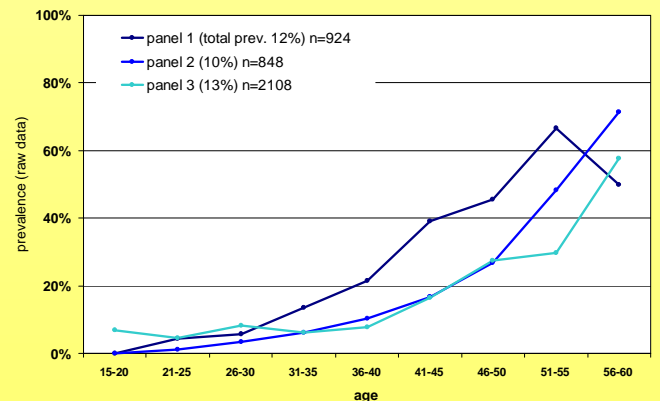


Fig. 4: Anti-HCV+ (med. and non-med. staff)

