Seroprevalence of *Yersinia*, Hepatitis E and *Trichinella* among migrant and non-migrant populations in Berlin and Brandenburg (Germany)


Pork is a potential source of infection for *Yersinia*, Hepatitis E virus and *Trichinella*. In 2014, 2484 cases of yersiniosis, 671 Hepatitis E cases and 1 *Trichinella* case were reported in Germany. Although migrants represent 27% of Berlin inhabitants, data is lacking on subpopulation-specific exposure risks to zoonotic diseases. We aimed to estimate the seroprevalence and to identify potential risk factors for *Yersinia*, Hepatitis E and *Trichinella* in migrants and non-migrants in Berlin/Brandenburg.

We used a cross-sectional design to determine the seroprevalence (IgG-antibodies) of *Yersinia*, *Trichinella* and Hepatitis E in participants without migration background, and in subpopulations with a Turkish, Russian or Vietnamese background. Using a convenience sample, we included healthy participants, aged ≥ 18 years, residents of Berlin/Brandenburg, presenting to the participating hospitals, health care centers, and migrant associations. Participants were interviewed with a questionnaire asking for demographics, travel history, alimentation, animal contacts and medical history. Multiple logistic regression was used to examine potential risk factors.

Between 02/2014-04/2015, 562 participants were included in the study (370 of German, 114 of Turkish, 56 of Vietnamese and 22 of Russian origin). The seroprevalence for *Yersinia* was very high among Germans (57%) compared to Turks (30%) and Vietnamese (29%). Hepatitis E-seropositivity was highest in Vietnamese (34%), followed by Germans (24%), both higher than in Turks (11%). No seropositive *Trichinella*-samples were found. *Yersinia*-seropositivity was associated with raw pork consumption (OR 2.1, 95%CI 1.4-3.2).

In contrast to low numbers of notified cases, seropositivity of anti-*Yersinia* and anti-Hepatitis E-antibodies was high, suggesting a lot of subclinical/mild infections. Although yersiniosis is often associated with the consumption of raw/undercooked pork, a high seroprevalence was also detected in the Turkish subpopulation, known to eat pork rarely. Hence other transmission routes may play a role. To prevent zoonoses, specific risk factors among subpopulations including migrants should be further investigated.

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Epidemiology and control of hazards in pork production chain – SAFEPORK
One health approach under a concept of farm to fork


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