



LOW TBE VACCINE UPTAKE IN EUROPE

Background

TBE is the second most tick-transmitted disease in Europe (following Lyme disease), and in 2020, 24 EU/EEA countries have reported a total of 3817 TBE cases (see [Snapshot week 48/2022](#)). Two TBE vaccines (FSME-IMMUN and Encepur) have been licensed in Western Europe, and formulations are available not only for adults, but also for children and adolescents. These vaccines have shown an effectiveness of at least 95%. The vaccine coverage is, however, in parts relatively low and unsatisfying.

An online household survey has been carried out in 2020 to analyze TBE awareness (comprising more than 50,000 participants) with comprehensive and standardized questions in 20 European countries spanning endemic and non-endemic TBE regions. Disease awareness and perceptions were also evaluated in comparison with other viral and bacterial infectious diseases than TBE. In this survey, “vaccine uptake” was defined as percentage of subjects having received at least one TBE vaccine dose.

Results

Influenza, measles and tetanus were the most well-known infectious diseases across all countries with a disease awareness between 72% and 98%. For other infectious diseases, awareness was lower, 39%–88% for bacterial meningitis, 35%–94% for pneumococcal pneumonia, and 51%–92% for Lyme disease. Awareness for TBE was on average 74% in TBE-endemic countries (low in Switzerland, but high in Slovenia, Czech Republic, and Lithuania), but only 30% in non-endemic countries, e.g., France with 19% – regarded as non-endemic in this survey. In all countries, the perception of TBE as a severe disease was higher in older subjects (60–65 years of age) compared to younger adults (18–60 years).

TBE vaccine awareness in TBE-endemic countries was 56% (highest in Latvia: 95%) compared to

only 12% in non-endemic countries (lowest in France: 6%) and was lower compared to influenza, measles and tetanus vaccines. Substantial regional differences were seen between endemic federal states in Germany and between endemic and non-endemic states within Germany, but such differences were not observed among various regions in Austria.

For tetanus, measles and influenza, higher vaccine uptake (26%–70%) was reported compared to TBE with an average of 22% in endemic countries (highest in Austria and Latvia with 81% and 62% respectively) and only 5% in non-endemic countries, e.g., 1% in France and 8% in Denmark and the UK. The lowest vaccine uptake rate was in individuals over 60 years of age.

Among vaccinated individuals in endemic regions, the overall vaccination completion (3 doses of primary series) was 46% and was lower (28%) for the first booster dose (only 9% in Poland compared to 63% in Austria).

The most effective driver to accomplish TBE vaccination was by recommendation of a physician (both in endemic and non-endemic countries). The main barriers to vaccination were respondents either not living in or traveling to risk areas, not perceiving themselves to be at risk, and the belief that TBE vaccination was not necessary.

Discussion

Vaccine awareness was found to be very heterogenous even among highly endemic countries, and public awareness towards TBE vaccination has to be improved.

Completion and compliance for TBE vaccination also need improvement, although vaccine effectiveness remains high in individuals with fewer vaccine injections than recommended.

Among all countries, the perception of personal risk or lack thereof is the most important



motivator or barrier for vaccination. Thus, improving awareness and knowledge about TBE and TBE vaccination by healthcare providers and public could lead to improved recommendations, patient guidance and risk perception.

Literature

Pilz et al.

Vaccine uptake in 20 countries in Europe 2020: Focus on tick-borne encephalitis (TBE)

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Compiled: December 2022
