Survey of Antimicrobial Resistance (AMR) Bacteria in Lamb and Turkey Meat on Retail Sale in the UK

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Background

The FSA's AMR surveillance programme has been established for several years, with a particular focus on retail meats.

Between 2015 and 2020, we participated in an EU-harmonised survey on AMR E. coli in retail meats, which generated AMR prevalence data in beef, pork and chicken, collected at retail in the UK. The survey confirmed that chicken, and to a lesser extent beef and pork, can be contaminated with AMR E. coli.

However, there is no equivalent AMR data for lamb and turkey meat on retail sale in the UK. To address this gap in our AMR surveillance, we extended the EU survey of AMR E. coli in retail meats to include lamb and turkey meat. Testing for AMR Campylobacter has also been included for turkey meat.

Approach

As this is an extension to the EU harmonised survey on AMR, the sampling methodology and analytical methods will mirror the EU specification as closely as possible to ensure comparability of data between meat types.

This survey involves collecting 200 lamb and 200 turkey meat samples on retail sale in the UK from October through to January 2021, with sampling representing 80% retail market share and 80% population coverage of the four UK countries.

Analysis will require initial isolation and enrichment of E. coli from all meat samples, prior to testing for AMR, specifically Extended Spectrum Beta Lactamases (ESBLs), AmpC and Carbapenemase-producing E. coli. Analysis for colistin resistance and the colistin resistant mcr genes will also be included, as well as testing for AMR Campylobacter in turkey meat.

This survey will help to determine if these meats pose a risk to public health in relation to AMR and allow future monitoring of trends over time. This new data will inform the UK AMR National Action Plan, the FSA AMR surveillance strategy, risk assessments and consumer advice.

Key findings

- AmpC/ESBL resistant E. coli was detected in 2 (1%) of lamb and 24 (11%) of turkey meats whilst carbapenem resistance was not detected.
- A transferable colistin resistance genes was detected in E. coli from 3 (1%) of turkey samples. Although his is the first time this type of resistance has been found in UK retail turkey meat, a FSA risk assessment deemed the risk to consumers to be very low.
- Campylobacter was detected in 11% of turkey samples examined. The most common resistances detected in Campylobacter were to ciprofloxacin, tetracycline and nalidixic acid.

Research report

England, Northern Ireland, Scotland and Wales

PDF
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