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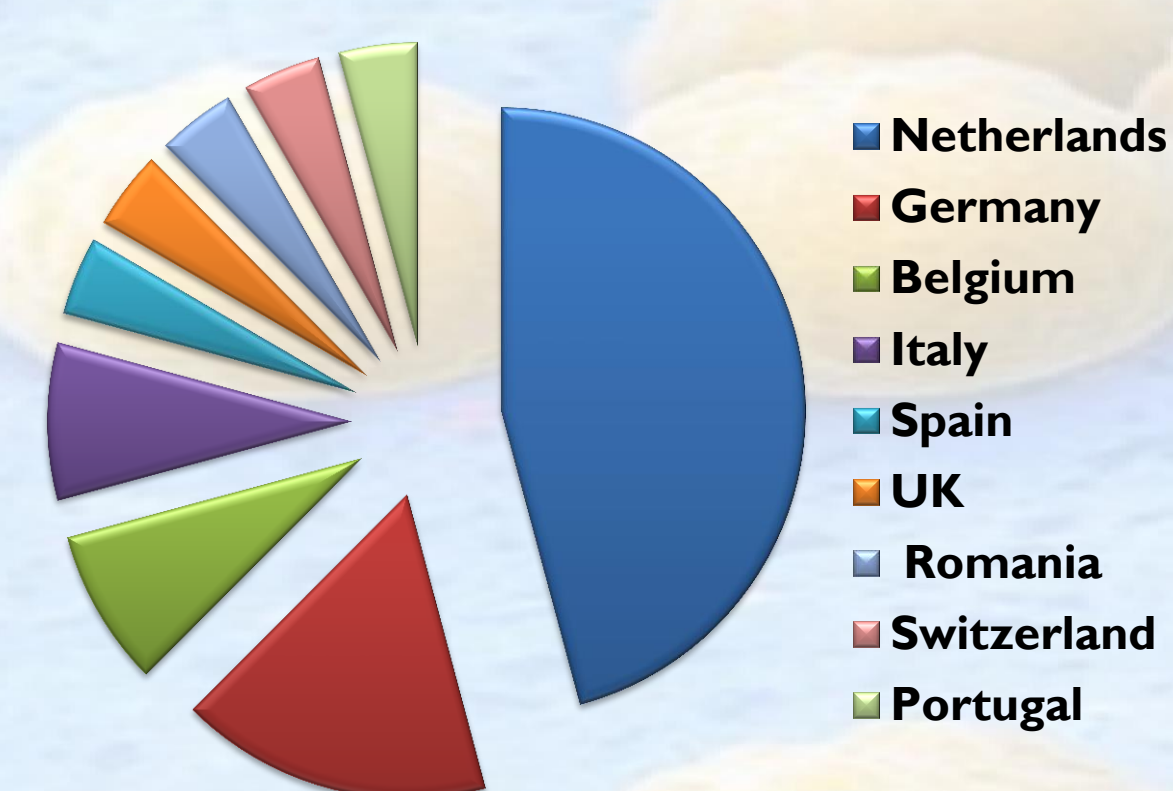
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The worldwide escalation in antibiotic resistant microorganisms has sustained the increasing concerns regarding antibiotics extensive use in animal food industry, which can result in a selection pressure that is driving the emergence of strains such as methicillin-resistant *staphylococcus aureus* (MRSA). Human MRSA infections are a well-known cause of numerous hospitalizations and deaths associated with extremely high mortality rates for invasive infections. Both animals and humans can become bacterial reservoirs of Livestock Associated MRSA (LA-MRSA) in which colonization predisposes to staphylococcal acquisition in clinical settings and to transfer the infection to others including household members. Biomonitoring of occupational exposed individuals which spend several hours per day in direct contact with MRSA-positive animals and thus are irrefutably exposed to a high risk of nasal colonization is imperative in order to develop effective preventive strategies. Here we performed an extensive review regarding the prevalence of LA-MRSA colonization in both occupational exposed individuals and their house-holds in a European context.

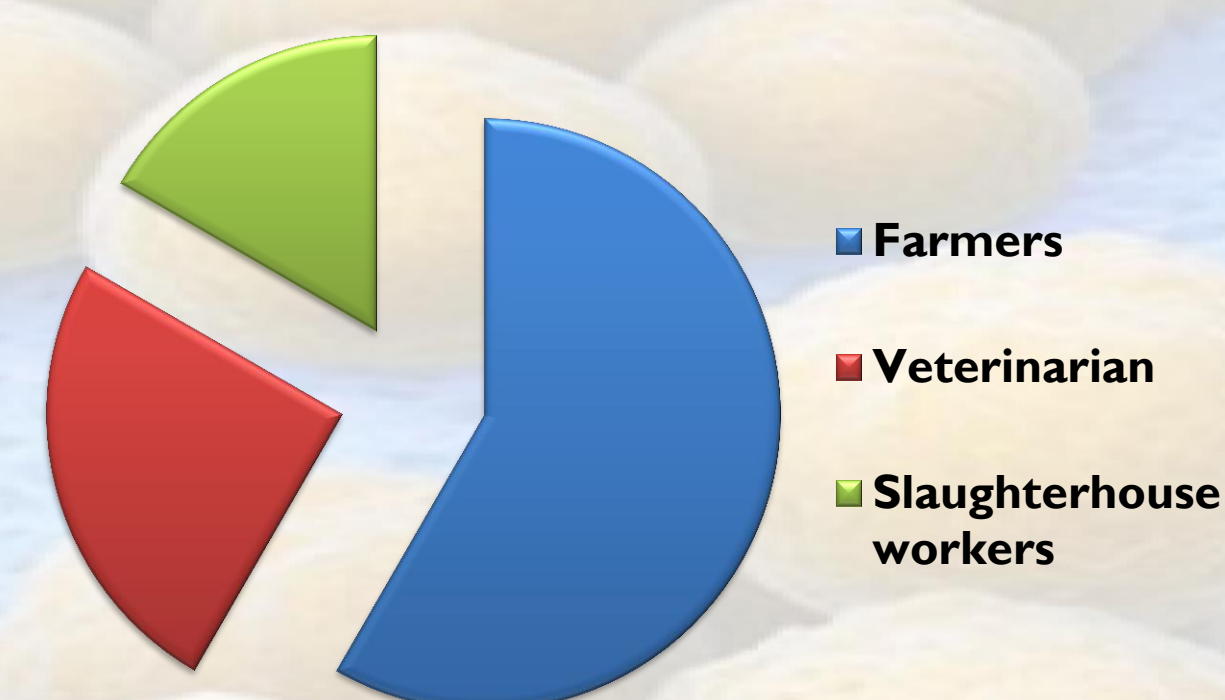
In this work, we performed an exhaustive revision of the literature available in scientific databases, such as PubMed, B-ON, Medline, OSHA, NIOSH and Google Scholar that reporting occupational exposure to LA-MRSA in European countries using the key-words “occupational exposure”, “LA-MRSA”, “colonization” and “household members”. 26 articles that, besides written in English, also presented findings regarding the prevalence, persistence and effects of LA-MRSA were chosen for further analyses.

LA-MRSA occupational colonization studies in Europe

European countries



Occupational exposed individuals

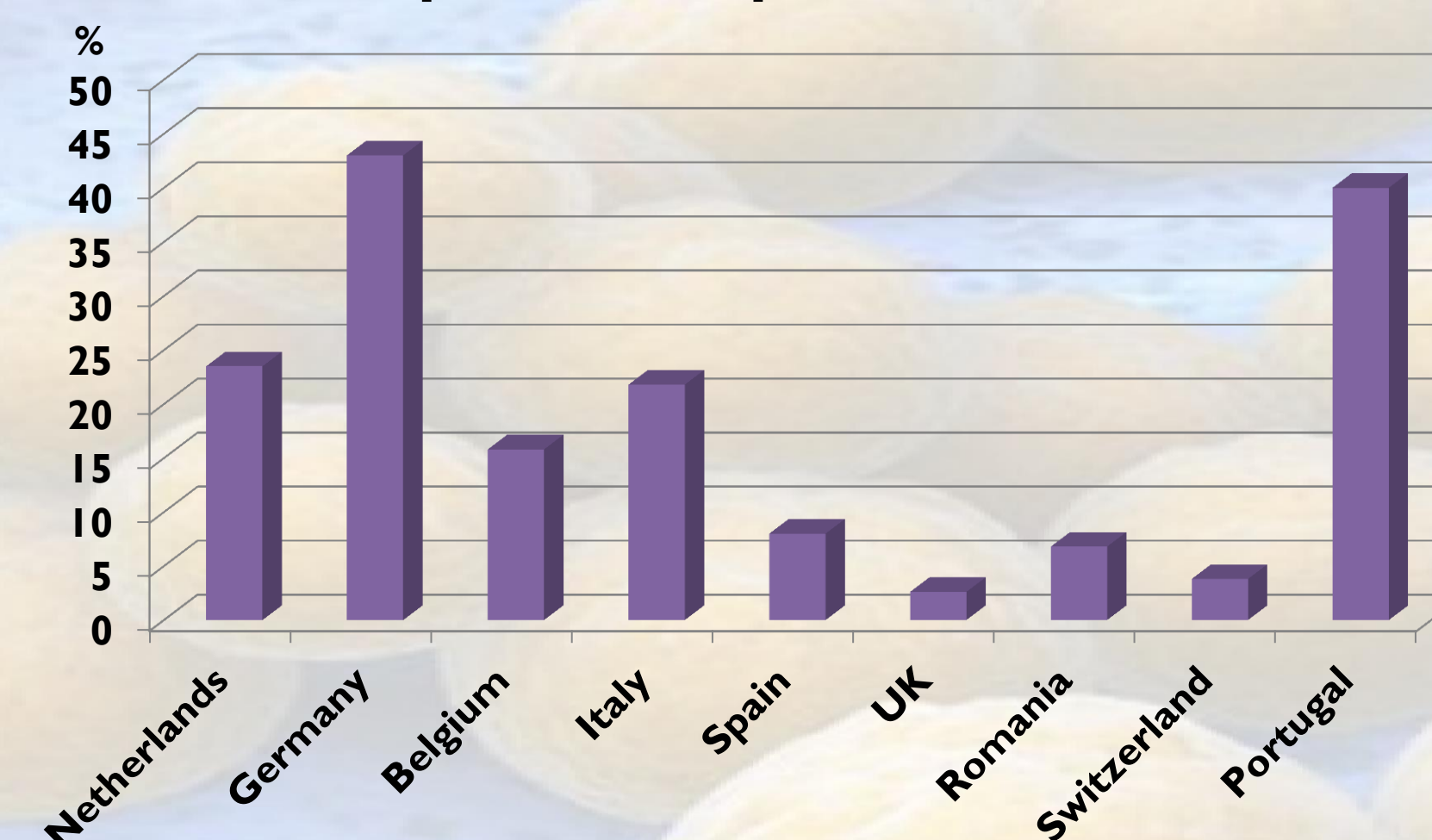


LA-MRSA occupational colonization has been mostly evaluated in Netherlands and Germany (11 and 4 studies respectively), in contrast to 2 or 1 studies performed in other EU countries.

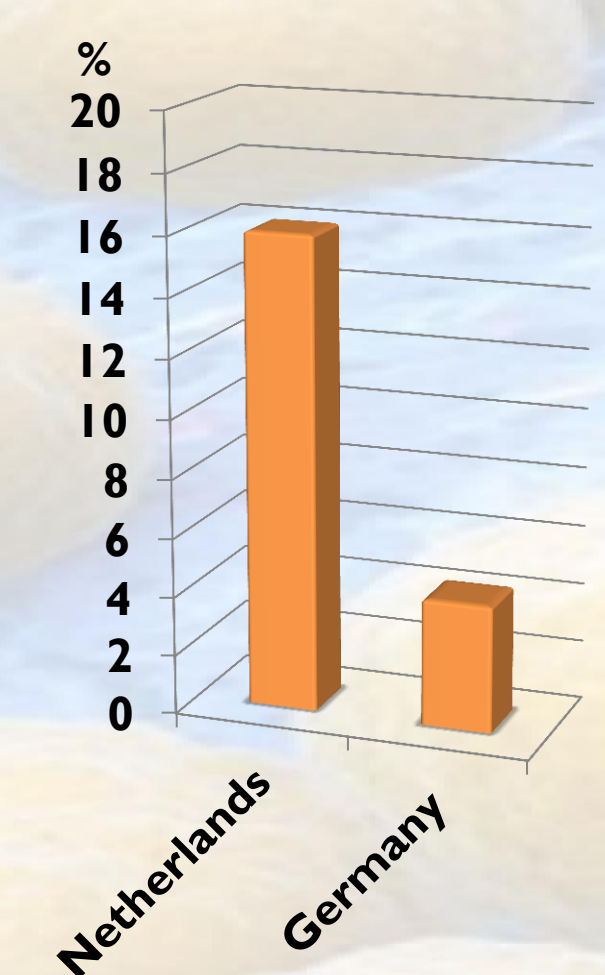
The exceedingly higher colonization in farm workers (85%) followed by attending veterinarians (45%) and finally slaughterhouse workers 8% suggests that the direct contact with live animal carriers is the main route of exposure.

Mean prevalence of LA-MRSA colonization

Occupational exposed individuals



Household members



Higher levels of LA-MRSA colonization were reported in Germany. However the limited data obtained from other countries may not reflect the reality of the communities.

Occupational exposure to LA-MRSA not only constitutes an effective professional hazard but also a significant risk to individuals that came in direct contact with exposed workers, particularly children.

There is an urgent need to monitor MRSA strains associated with animal carriers, occupational exposed individuals and potential sources of environmental contamination. Valuable efforts must be made to determine and regulate the antibiotic selection pressure that is driving the emergence of resistant strains.