Towards interdisciplinary One Health research: what 20 years of social veterinary epidemiology has taught us

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INTRODUCTION

The integration of social sciences into animal health research has been recognised as a need by various stakeholders who have noted difficulties in implementing scientific findings. For example, innovations in animal health have not always been adopted by end-users and policy decisions have had unexpected outcomes. Such difficulties can be avoided by using social sciences to better understand the needs of end-users or to identify the socioeconomic factors that influence animal health and take them into account when formulating policies with a desired impact. Therefore, research on human behaviour affecting the causes, spread, prevention and control of animal diseases and health problems has emerged. In this article, we aim to characterise this new field for which we propose the name social veterinary epidemiology (SVE), as inspired by its counterpart in human health (social epidemiology). Existing literature will be reviewed to: (i) identify general trends in the field, (ii) develop a framework based on a classification of factors and actors that affect human behaviour in relation to animal health and, potentially, human health, and (iii) provide recommendations for future studies.

METHODOLOGY

To date, over 120 peer-reviewed papers published between 2001 and 2021 have been identified by entering keywords such as ‘animal health’, ‘behaviour farmers’, ‘animal disease’, ‘intervention adoption’ and variations thereon in common search databases and by examining the publications cited in a paper of interest (backward references search), citing a paper of interest (forward reference search) or published by the author(s) of a paper of interest (backward and forward author search). Although the literature search is still ongoing, most of the identified papers have already been analysed by using a heuristic framework developed to characterise the topics studied and the methodological approaches. The framework includes the following elements: year, region, animal species studied, stakeholder studied, type of diseases/health problems, scientific and methodological approach/analysis, as well as investigated variables such as: the approach to knowledge acquisition, problem recognition and responsibility, social influences,

economic impact of animal health management practices, local knowledge, risk aversion, resilience, influence of governmental institutions/regulation.

RESULTS

Preliminary results show that most studies focus on zoonoses or diseases with economic impact in European pig and cattle production. Farmers and veterinarians are the main subjects of the identified studies, which mainly characterise their behaviour using concepts or theories such as the 'theory of planned behaviour' and the 'health belief model'. Individual behaviour is often analysed in relation to one specific disease (e.g. bovine tuberculosis) or the implementation of biosecurity measures against a whole range of diseases. It is also notable that intervention studies were scarcer. In addition, the use of participatory approaches to identify health behaviours was underrepresented and more common in developing countries. A more in-depth analysis of the identified publications is currently being performed.

DISCUSSION

Based on our preliminary results, we recommend that new research (1) places an emphasis on understanding the systems in which farmers and others actors are embedded by applying an approach based in systemic thinking, as opposed to conceptualizing of behaviour as being determined on an individual level and disconnected from the system, (2) applies a more holistic conceptual view on behavioural change by looking beyond communication and education to further explore other avenues for behavioural change such as economic incentives, provisions, regulations and social norms, and (3) focuses more on behavioural and experimental intervention studies.