Factors influencing antimicrobial use in pig production
An anthropological research in Bac Ninh province, Viet Nam

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Introduction

In Vietnam, the use of antimicrobials in livestock in general and in pig production in particular has been perceived as not well regulated and practiced. This leads to the over-use of antibiotics and would contribute to the antimicrobial resistance (AMR) in animals, human and the environment. While many studies have focused on quantification of antimicrobial use (AMU) and AMR profiles resistance in livestock production, much less has been known on how farmers and other actors on the social aspect of the AMU, meaning the drivers and decision leading to the AMU.

Objectives

Our study aims to understand how and why antimicrobials are used in pig production and identify factors that influence the AMU in raising pigs in Vietnam. This study is part of the “Health and Antibiotics in Vietnamese Pig Production” (VIDA-PIG Project), funded by the Danish International Development Agency (DANIDA) that addresses the major health issues affecting Vietnamese pig farms.

Methods

The research was conducted in Bac Ninh province in the Red River Delta of Vietnam, about 30 kilometers from Ha Noi during 2018-2019. The research team conducted 74 in-depth interviews with pig producers, local veterinarians, local authorities, leaders of department of health, veterinarian drug shops, feed shops, veterinarian drug companies, feed companies, organic food stores; 9 focus group discussions with farmers in different farm scale sizes namely small (<20 pigs), medium (<200 pigs), and large farm sizes (>200 pigs). Researchers also had 7 farm stay observations where they stayed 5-7 days in each farm to observe daily pig production activities and pig disease treatments.

Results

<table>
<thead>
<tr>
<th>Types of food</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of food</td>
<td>Industrial bran</td>
<td>Industrial bran</td>
<td></td>
</tr>
<tr>
<td>Hygiene conditions</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Relation with local vets</td>
<td>Self-injection for pigs + Call local vets when pig has serious illness</td>
<td>Self-injection for pigs - Rental vets treat for pigs</td>
<td></td>
</tr>
<tr>
<td>Quantities of antibiotics for pig disease treatments</td>
<td>Use antibiotics following drug sellers' advice</td>
<td>Use antibiotics by their own experiences - Often follow the rented vets' instruction</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Relationship between farm scales and antimicrobial use in different conditions

Drivers of antimicrobial use

Conclusions

AMU in pig production was driven by multiple and complex factors such as profits of farmers, profits of veterinary drug shops and companies, market price of pork, mass media and policy regulations. Veterinarian plays important roles in AMU. The decision on whether or not to prescribe an antimicrobial was influenced by numerous factors relating to the veterinarians’ experience, the clinical situation presented, and the profit they may earn from selling veterinary drugs. This study described the practices of feeding and pig health management in different size farms and examined the factors that influenced the AMU practices and decision of AMU of multiple actors in pig production. The profits of different actors along the value chain is key to AMU.

Partners

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