Carcasses condemnation due to potentially zoonotic infectious diseases in slaughterhouses located in Minas Gerais, Brazil (2013-2020)

Gabriela Zangari Cardoso[1], Maria Vitoria Mendes Felix Costa[1], Igor Antonio[1], Weslley Domenicci De Freitas[1], Ana Clara De Lima Pereira [1], Felipe Segatto Stwart[1], Anna Monteiro Correia Lima[1], Kênia De Fátima Carrijo[1], Marcus Vinícius Coutinho Cossi[1]

[1.] Universidade Federal de Uberlândia, Faculdade de Medicina Veterinária, Uberlândia, Minas Gerais, Brasil

Official Sanitary inspection in slaughterhouses is an activity defined in Brazilian legislation and has a fundamental importance for food safety and security. Post-mortem inspection, for example, is essential to evaluate and provide the correct destination for slaughtered carcasses, being a tool to protect public health. Despite the limitations inherent to macroscopic inspection, the identification of infection or zoonotic diseases in carcasses highlights the relevance of this activity for food safety. However, more important than the identification of the disease is the prevention work, which the condemnation data generated in slaughterhouses can support. Therefore, the present work aimed to analyze the frequency of condemnation due to infectious diseases in three slaughterhouses located in Triângulo Mineiro, Minas Gerais, Brazil (2013-2020). The Three slaughterhouses (Sl) selected for this study have averages of 200 (SlA), 721 (SlB) and 1138 (SlC) cattle slaughtered per day. For this evaluation, the monthly number of animals slaughtered, number and causes of condemnation (total + partial) were used. In addition to a descriptive analysis, the frequency of condemnation for infectious disease (ID) in each slaughterhouse was compared using the Chi-square test ($P<0.05$). The total number of animals slaughtered in the 3 slaughterhouses was 3,844,875 animals and the condemnation for ID were 31,519 (0.82%). SlA was the slaughterhouse with the highest frequency of condemnations due to ID ($P<0.05$), with 413,902 cattle being slaughtered, of which 10,341 (2.5%) carcasses were condemned. In SlB, 1,239,707 were slaughtered and 9,460 (0.76%) were condemned. In SlC, 2,191,266 were slaughtered with 11,718 (0.53%) condemnations. Data analysis showed that the chance of condemnations ID in SLA is 3.33 and 4.77 times greater than that occurring in SlB or SlC, respectively. These data show that SIA, as a slaughterhouse with a smaller slaughter capacity, may have less competitive power when purchasing animals, which may influence the sanitary quality of these animals. Among the condemnations for lesions suggestive of ID (31,519), Cysticercosis was the most frequent, accounting for 61.3% of condemnations, followed by Abscesses with 14.2%, Lymphatic disease with 5.6%, Tuberculosis Lesions with 5 .3% and Pneumonia with 4.4%. These findings represent 90.87% of the total condemnations, other causes (9.13%), were classified as other, such as Fasciolosis, which was responsible for 0.33% of the condemnations, with 104 positive carcasses. Thus, it is concluded that there is a wide variety of lesions suggestive of ID being identified in inspection lines, with Cysticercosis being the most common. Furthermore, it was possible to observe the influence of daily slaughter volume on the occurrence of these causes. Finally, this work highlights the importance of inspection for epidemiological studies and decision-making on the part of animal and public health.

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