The Impact of Livestock Cage Condition on Public Health at Livestock Area in Negarayu Village on Tonjong Region of Brebes Regency.

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Abstract

A farm in public area can give bad effect for public health. The appearance of sigh about bad effect of this poultry farming business because it still many breeders disregarding the disposal handling from their business for example feces and food residue causing bad smell and can generate some disease for public. The purpose research to analyze the effect of livestock cage condition to public health at livestock area of Negarayu Village, Tonjong District, Brebes Regency in 2017. This research was quantitative research type. Research design used analytic survey with cross-sectional. The population of 264 families of farmers and a sample of 160 samples obtained by Consecutive Sampling. The instruments used were questionnaires and interviews. analisist using Chi Square test with degree of significance 5% (α = 0.05). Result of this research shows there is significant relationship between livestock cage hygiene and Acute Respiratory Infections (p = 0.022), Scabies (p =0.015). There is no significant relationship between livestock cage hygiene with diarrhea (p =0.610). There is significant relationship between livestock cage condition with Acute Respiratory Infections (ARI) (p =0.000), Scabies (p =0.003). There is no significant relationship between livestock cage condition with diarrhea (p =0.966) at livestock area of Negarayu village, Tanjong, Brebes. The conclusion that the community at livestock area of Negarayu village, Tonjong, Brebes more than affected by acute respiratory infection and scabies disease.
INTRODUCTION

Berbes regency is not only famous for their onions and salted eggs, but also it famous for the farm. The result of an initial survey of farming development in brebes regency, people in this region placed their livestock cage near their house in order to provide easy access to feed their cattle and to avoid the theft from taking the livestock.

Negrahayu is one of 14 village in tonjong District Berbes regency with 2.034 people who lived in this area. Mostly, they work as farmer.

Poultry farming has a good prospect to be developed, because there is a high demand for its meat. Poultry farming business provide high profit and good income for the farmer, unfortunately they still ignore the health aspect in carrying out the maintainance of their farm. (Linggotu et al, 2016).

The cage sanitation should be noted, usually people are unaware about the high risk that caused by their livestock. The infectious diseases can be transmitted though contact with feces. The poultry can also spread the disease indirectly through contaminated air and it is inhaled by them everyday (Jahid, 2014).

livestock businesses in the community also had serious effect on human health. Livestock also produce dust and high amount of other contamination that can caused air pollution (Widoyono, 2008).

The impact of livestock raising if the farmer is not concern about livestock hygiene, it can invite flies and cause air pollution such as unpleasant smells from the poultry feces. The most common symptom are itching, digestive and respiratory system disorder.

The data of upper respiratory tract infection in Brebes Regency show that the incidence of this disease in 2008 are 9,898 cases, and it increase to 15,982 cases. The incidence of upper respiratory infection is in Tojong District in 2015 is 5,361 cases. In 2016 the number is increase to 6,026 cases. On 2017, there are 508 cases in Negrayu Village (DKK Brebes, 2016).

On 2015, the proportion of diare case in Central Java is 67.7%, its is decreased compare to the proportion on 2014 which is 79.8%. The case if diare in Negarayu on 2017 is 81.0% . The incidence of scabies in Berbes Regency is 472 cases. There are 80 cases in Negarayu Village (DKK Brebes, 2016).

The result of a problem survey in a livestock area in Negarayu, Tonjong shows that there are some health problem for them who has poultry farming and placed the livestock near their home whether it is located in front, beside, or behind their house.

The goal of this study is to analyze the effect of hygiene and livestock cage locations to upper respiratory tract infection, diare, and Scabies at livestock area in Negarayu, Tonjong, Brebes Regency.

METHODS

This study was conducted by field survey with Cross Sectional design The independent variables of this study is the condition of the livestock cage including the hygiene and the location of the cage. The dependent variable of this study is public health including ARI, Diarrhea and Scabies.

The population of this study are all family who has poultry livestock, and there are 246 people. The sample was conducted by using Consecutive Sampling, is a sampling based on every respondent which comple the requirements criteria, then using slovin formula, so there are 160 respondents. The data were analyzed quantitively. The design of this study is analytical survey. The primary data are incidence of ARI,
Scabies and Diare. the secondary data are the farmer family at livestock in Negarayu, Tonjong, Brebes Regency.

RESULT AND DISCUSSION

The sex characterization of 160 respondent are consist of 130 males (81%) and 30 females (18.7%). The ages characterization are consist of various group of age, 53 person with age around 36-45 (33.1%), 26-35 yearta old (22.5 %), 46-55 years old (25.0%) and 56-65 years old (19.4%). Every responden has different level of education, they are Elementary school 75 people (46.9%), Junior High Schools (24.4%), Senior High School (25.6%) and college (3.1%).

Table 1. The Correlation between the cage hygiene and cage location with the incidence of ARI.

<table>
<thead>
<tr>
<th>Category</th>
<th>Livestock Cage Hygiene</th>
<th>Cage Location</th>
<th>y \</th>
<th>\ F</th>
<th>Normal</th>
<th>Total</th>
<th>ARI</th>
<th>Normal</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP</td>
<td>63</td>
<td>58.9</td>
<td>44</td>
<td>100</td>
<td>66.8</td>
<td>42</td>
<td>38.2</td>
<td>110</td>
<td>100</td>
</tr>
<tr>
<td>P</td>
<td>21</td>
<td>39.6</td>
<td>32</td>
<td>100</td>
<td>51</td>
<td>21</td>
<td>32.0</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>84</td>
<td>51.3</td>
<td>76</td>
<td>100</td>
<td>56</td>
<td>64</td>
<td>47.5</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>p-value</td>
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<td></td>
<td></td>
<td></td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td>2.18</td>
<td></td>
<td></td>
<td></td>
<td>3.44</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. The Correlation between the cage hygiene and cage location with the incidence of diarrhea.

<table>
<thead>
<tr>
<th>Category</th>
<th>Livestock Cage Hygiene</th>
<th>Cage Location</th>
<th>y \</th>
<th>\ F</th>
<th>Normal</th>
<th>Total</th>
<th>Diarrhea</th>
<th>Normal</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP</td>
<td>51</td>
<td>47.7</td>
<td>56</td>
<td>100</td>
<td>52.3</td>
<td>59</td>
<td>52.3</td>
<td>110</td>
<td>100</td>
</tr>
<tr>
<td>P</td>
<td>23</td>
<td>43.4</td>
<td>30</td>
<td>100</td>
<td>36.6</td>
<td>33</td>
<td>24.6</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
<td>46.3</td>
<td>86</td>
<td>100</td>
<td>53.8</td>
<td>86</td>
<td>53.8</td>
<td>140</td>
<td>71</td>
</tr>
<tr>
<td>p-value</td>
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<td></td>
<td></td>
<td></td>
<td>0.966</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td>1.19</td>
<td></td>
<td></td>
<td></td>
<td>1.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

there are broken and dirty poultry cage that was located less than 10 m inside the house, even if the livestock cage was cleaned and was located 10 m or more than 10 m outside the house. If there is no proper hygine it will cause unpleasant odor, the unpleasant odor come from the poultry feces so, it can affect human respiratory System. Based on the result of this study, most of the farmers 35-46 years old and the respondent often got cough that is more than 14 days.

The result of this study in Negarayu, shows that there are alot of farmer who put their poultry livestock inside their house with the value of OR=3.44. This result shows that the farmer with improper location of the livestock cage has 3.44 higher risk to get RIA.

Purwanto (2013) said about the community perspective on environmental impact of broiler livestock business. One of the most common impact is caused by the livestock feces. A study conducted by Hooiveld (2015) reported that there is a correlation between raising poultry with unpleasant smell in the environment with the respiratory tract.

The main impact from poultry farming industry is the unpleasant smell which come from poultry feces decomposition. This unpleasant smell is derived from high ammonia gas and hydrogen sulfide gas, dimethyl sulphide, carbon disulfide, and mercaptan. These odorous compounds can be easily formed under anaerobic conditions such as wet feces (Greger, 2010).
It is possible that there is another factor that cause diarrhea in this study. Based on the observation result we can find that some farmers still put the livestock cage inside their house especially on the kitchen, so the kitchen set was parallel to the cage.

Animal feces also contain of E. Colli bacteria that cause diarrhea from one person to another, transmits directly from contaminated food or drink by bacteria (Devin et al, 2003).

Transmission of diarrheal can occur from various model of transmission: contaminated water, contaminated food, from vectors, contacted hands of bacteria, and contaminated soil (Solares, 2011).

Based on a study conducted by Sitohang (2013), there is no significance correlation between the distance of the cage and livestock waste recycling place and the flies existence with the incidence of diarrhea.

Table 3. The Correlation between the cage hygiene and the cage location with scabies.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Livestock Cage Hygiene</th>
<th>Cage Location</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Scabies</td>
<td>Normal</td>
</tr>
<tr>
<td>y</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>P</td>
<td>56</td>
<td>32.3</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>45.6</td>
</tr>
</tbody>
</table>

p-value: 0.015, OR: 2.33, 2.98

Farmer in the livestock area are mostly 36-46 yearsold years and they often experience itching at night part of the fingers and toes, thighs, elbows, genitals and cause lesions on the skin.

The observations result found that most respondents hang their clothes above the cage poultry so that the farmers could have been exposed to scabies due to less hygiene, ad an example of drying their clothes in improper place. Dust from unclenched cages can stick to the clothes, then the mites can breed and cause itching on the farmer’s entire body.

The improper cage if it is not cleaned and it is located less than 10 m inside the house, even if the livestock cage was cleaned and was located 10 m or more than 10 m outside the house. The cage sanitation and dirty environment which is lack of sun light so, it will increase the humidity in the cage. A humid condition can cause the mites to survive more than 30 day. The infected poultry is not isolate from the health poultry to avoid the spread of the disease. (Cletus, 2014).

The result of bivariat analysis with Chi-square shows that there is correlation between the cage location with the incidence of Scabies on the farm at Negarayu, Tonjong, Brebes Regency with The value of OR = 2.98. A study conducted by Cahya (2013) showed that there correlation of scabies incidence among farmees in District Wary, Paciran Region, Lamingan Regency.

Madis (2014) reported that factors which caused diarrhea come from their habit such as drying their clothes in improper place.

CONCLUSION

There is an impact from the cage condition such as the cage hygiene and its location with ARI and scabies, but there is no correlation between cage the cage condition and diarrhea.

The department of health and livestock department of Brebes Regency give the community an education about health on farmer community such as the cage hygiene and the danger of raising the livestock inside the house.

REFERENCES


