



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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Article Info

Abstract

Article history :

Accepted 20
November 2017
Approved 15
February 2018
Published 20 April
2018

Keywords:

Poultry cage
hygiene, po cage
location, ARI,
Diarrh , Scabies

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. analysisist using Chi Square test with degree of significance 5% ($\alpha = 0,05$). 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, Tonjong, Brebes. The conclusion that the community at livestock area of Negarayu village, Tonjong, Brebes more than affected by acute respiratory infection and scabies disease.

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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 stil ignore the health aspect in carrying out the maintainane 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 thtough contact with feces. The poultry can also spread the disease indirectly through contaminated air abd it is inhaled by them everyday (Jahid, 2014).

livestock businesses in the coummunity 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 lifestock raising if the farmer is not concern about livestock hygiene, it can invite flies and cause air pollution such as unpleasent smells from the poultry feces. The most common symptom are itching, disgestive and respiratory sydtem disorder.

The data of upper respiratory tract infection in Berbes Regency show that the insidence of this disease in 2008 are 9,898 cases, and it increase to 15.982 cases. The insidence of uper respiratory

infection is in Tojong District in 2015 is 5.361 cases. In 2016 the nimber is increase to 6c026 cases. On 2017, there are 508 cases in Negrayu Village (DKK Brebes, 2016).

On 2015, the propotion of diare case in Central Java is 67.7 %, its is decreased compare to the propotion 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 there home whether it is located infront, beside, or behind their house.

The goal of this study is to analyze the effect of hygiene and livestock cage locations to uper 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 compleere the requirements criteria, then using slovin formula, so there are 160 respondeny. 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 yeara 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.

Categor y	Livestock Cage Hygiene						Cage Location					
	ARI		Normal		Total		ARI		Normal		Total	
	F	%	f	%	F	%	f	%	f	%	f	%
IP	63	58,9	44	41,1	107	100	68	61,8	42	38,2	110	100
P	21	39,6	32	60,4	53	100	16	32,0	34	68,0	50	100
Total	84	52,5	76	47,5	160	100	84	52,5	76	47,5	160	100
p-value	0,022						0,000					
OR	2,18						3,44					

Explanation P (Proper), IP (Improper)

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 hygiene it will cause unpleasant odor, the unpleasant odor come from the poultry feces so, it can affect human respiratory System. Based on tge 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 rhat 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).

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

Categor y	Livestock Cage Hygiene						Cage Location					
	Diarrhea		Normal		Total		Diarrhea		Normal		Total	
	F	%	f	%	F	%	f	%	f	%	f	%
IP	51	47,7	56	52,3	107	100	51	46,4	59	52,3	110	100
P	23	43,4	30	56,6	53	100	23	46,0	27	54,0	50	100
Total	74	46,3	86	53,8	160	100	74	46,3	86	53,8	160	74
p-value	0,610						0,966					
OR	1,19						1,02					

Explanation P (Proper), IP (Improper)

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. If there is no proper hygiene it will cause unpleasant odor and invited the flies.

The result show that there are farmers, mostly adult, who admitted to have more than three times defecation in a day with liquid consistency. The farmer trying to put the poultry feces away from them by producing plat fertilizer from poultry feces. So, it can decrease the flies breeding in a dirty cage and to prevent the spread of the infectious diseases such as diarrhea.

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 contains 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 middel 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.

Category	Livestock Cage Hygiene						Cage Location					
	Scabies		Normal		Total		Scabies		Normal		Total	
	f	%	f	%	f	%	f	%	f	%	f	%
IP	56	52,3	51	47,7	107	100	59	53,6	51	46,4	110	100
P	17	32,1	36	67,9	53	100	14	28,0	36	72,0	50	100
Total	73	45,6	87	54,4	160	100	74	46,3	86	54,4	160	74
p-value	0,015						0,003					
OR	2,33						2,98					

Explanation P (Proper), IP (Improper)

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.

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