

THE STRATEGY OF COMMUNITY
NURSING INTERVENSIION
THROUGH HEALTH CADRE
CONTRIBUTION, HEALTHY LIFE
STYLE PERCEPTION, AND ANAK
KANDANG*) EMPOWERMENT
IN AN EFFORT TO BREAK THE
H5N1 VIRUS TRANSMITTAL

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THE STRATEGY OF COMMUNITY NURSING INTERVENTION THROUGH HEALTH CADRE CONTRIBUTION, HEALTHY LIFE STYLE PERCEPTION, AND ANAK KANDANG*) EMPOWERMENT IN AN EFFORT TO BREAK THE H₅N₁ VIRUS TRANSMITTAL CHAIN

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ABSTRACT

Introduction: *Avian Influenza* is a kind of disease which has potentially threat towards human health and is deadly in nature so that it is necessary to pay a continuous attention to be research in order to break the *Avian Influenza* transmittal chain. One of the efforts is the change of community behavior through community nursing in terms of the *Avian Influenza* risk factor. **Methods:** The research design is *explanatory research* using a *cross sectional* approach conducted to 34 *anak kandang* as the samples. Regression test is applied as the statistical test component. **Results:** Simultaneous health cadre role, healthy life style perception, and *anak kandang* empowerment affect and give contribution towards the effort of breaking the chain of H₅N₁ transmittal ($F_{count} = 21.399 > F_{table} = 4.45$) as much as 68.2% and respectively each health cadre gives 11.4% of the contribution, healthy life style perception gives 0.1%, and *anak kandang* empowerment gives 56.7%. **Discussion:** The success of *Avian Influenza* control so that it will not be a *new emerging disease* and *emerging disease* is determined by the role and support of the community, mainly the role of health cadre, healthy life style perception, and *anak kandang* empowerment in the effort of breaking the chain of H₅N₁ transmittal.

Keywords: perception, empowerment, health cadre role

INTRODUCTION

The global concord in the *Millenium Development Goals* (MDGs) cannot be separated from the direction of national health development, where every sector of health service has to work more effectively and efficiently to improve the optimum level of community health. To meet the target of MDGs, it is launched a development movement related to the community health which is urgent and deals with broad community. One of the wide spreading health problems in the community which is a kind of *new emerging disease* and *emerging disease* and also a deadly one is *Avian Influenza* (AI).

The Department of Agriculture of Republic Indonesia (2009) reported that in the development of AI in Indonesia in 2007 there were confirmed of 98 cases; 78 death

CFR= 79.58%). In Central Java during November 2005 until May 27, 2007 there were 9 cases, with 8 cases of death (CFR= 88.89%).

The detail of cases is from Magelang Regency there were 2 cases, and in Boyolali, Semarang, ¹ Banjarnegara, Sukoharjo, Wonogiri, dan Grobogann Regency was respectively 1 case.

The Ministry of Health of Republic Indonesia (2017) reports that the cases of *Avian Influenza* in Indonesia are 199 with 167 death cases, and in the last 10 years there has been a decrease of AI cases.

Nonetheless, the problem of AI either on poultry or human is still a serious one demanding a serious attention from all sides; community, private and public sector. The data analysis result of Boyolali Regency in 2014 reported that there were

* *Anak kandang* are the workers having a direct contact with the poultry farming or husbandry

2273 chickens in Ngargorejo, Sobokerto had 6500 broilers and 8217 village chickens, Ngesrep had 11500 broilers and 4372 village chickens, Gagaksipat had 10500 broilers and 3879 village chickens, and Sindon had 6000 broilers and 3742 village chickens (Health Bureau of Boyolali, 2014). The condition provided a potential threat and risk of H₅N₁ Virus development.

The primary success key to break the chain of H₅N₁ Virus transmittal is determined by the role and support of all levels of community, mainly by the change of community behavior. Selfi, Zakianis, dan Wibowo (2010) explains that the survey results inform that out of 320 respondents 62.2% still has poor information about AI, 57.1% performs poor personal hygiene, 61% does poor sanitation of food resourcing from poultry and 57.1% acts poor sanitation of poultry coops. So far efforts carried out to cope with the health problem was still oriented to the disease cure, which means that what the community has done in the health area is just to deal with the one taking place that is considered less effective due to the costly expenses on the cure action. Syafrudin and Hamidah (2009) postulate the community behavior can be affected by many factors. The one factor can derive themselves, another person who can encourage good or bad behavior, or the surrounding environment supporting their behavioral change. Efforts acted by the community to help themselves are making basic hygiene and sanitation of clean and healthy life as a habit, and avoiding direct contact with sick or suddenly dead poultry. It is expected that those efforts can create the change of healthy behavior in the community to prevent any disease because of H₅N₁ Virus.

METHODS

The research aims at explaining the correlation between the effect and contributions of predictor of healthy life pattern perception (X₁), *anak kandang* empowerment (X₂), heath cadre role (X₃),

towards the efforts of breaking the chain of H₅N₁ (Y) Virus transmittal in the certain period of time. The research design is *explanatory research* using a *cross sectional approach*. The research population is all the *anak kandang* making a direct contact with the chicken coops in the chicken husbandry in Ngeemplak, Boyolali Regency; 52 respondents. The sample taking technique is *Purposive sampling* and the quantity of the samples applies the *Slovin* formula:

$$n = \frac{52}{1 + 52(0.1^2)} = 34.sampel$$

The research instrument to take the data variable of healthy life style perception, *anak kandang* empowerment, and heath cadre role is *questionnaire*.

RESULTS

Table 1 Characteristic of Respondents

Age (years)	Σ
<30	8
31-50	14
>51	12
Education	Σ
Elementary school	16
Secondary school	12
University	6
Cadre Experience (years)	Σ
< 5	8
5 – 10	22
>10	4

Respondent Age

Out of 34 respondents under the research in Ngeemplak, Boyolali Regency, most of them are are 31-50 years old ; namely 14 persons (41.2%), 8 are less than 30(23.5%), and 12 are more than 51(35.3%). The frequency distribution of respondent age in Ngeemplak, Boyolali Regency is illustrated in Table 1.

Respondent Education

Out of 34 respondents, most of them are in the level of elementary school, or 16 persons (47.1), 12 are in secondary school (35.3%), and 6 are in university level

(17.6%). The frequency distribution of respondent education in Ngemplak, Boyolali Regency is illustrated in table 1.

Cadre Experience

Out of 34 respondents, most of them have an experience as cadres from 5 to 10 year, i.e. 22 persons (64.7%), 4 have more than 10 years of experience (11.8%), and 8 own less than 5 years of it (23.5%). The respondent experience distribution in Ngemplak, Boyolali Regency is illustrated in Table 1.

Table 2 Result

Variable	Σ
Health role cadre	Σ
Low	11
Medium	19
High	4
Healthy life pattern perception	Σ
Low	24
Medium	6
High	4
Anak kandang empowerment	Σ
Low	6
Medium	19
High	9
The Breaking of H₅N₁ Virus Transmittal Chain	Σ
Low	8
Medium	16
High	10

Health Cadre Role

Out of 34 samples, most of health cadre role is categorized as medium, i.e. 19 persons (55.9%), low cadre role category belongs to 11 (32.4%), and the high one is owned by 4 persons (11.8%). The frequency distribution of health cadre role is illustrated in Table 2.

Anak Kandang Empowerment

Out of 34 respondents, most of the *anak kandang* empowerment level belongs to the medium category, i.e. 19 (55.9%), low category 6 (17.6%), and high category 9 (23.2%). The distribution of *anak*

kandang empowerment is illustrated in Table 2.

Healthy Life Pattern Perception

Out of 34 respondents, most of them is categorized in the low healthy life pattern perception level, i.e. 24 persons (70.6%), medium level is i.e. 6 (17.6%), and high level is i.e. 4 (11.8%). The frequency distribution of healthy life pattern perception is illustrated in Table 2.

The Breaking of H₅N₁ Virus Transmittal Chain

Out of 34 respondents, the effort to beak the chain of H₅N₁ Virus transmittal is categorized as medium, i.e.16 persons (47.1%), the high category, i.e. 10 persons (29.4%), and the low category i.e. 8 persons ((23.5%). The frequency distribution of breaking the chain of H₅N₁ Virus transmittal is illustrated in Table 2.

Double Regression Analysis

Double regression analysis is applied to investigate the simultaneous effect of variables of healthy life pattern perception(x1), *anak kandang* empowerment (x2), and health cadre role towards the breaking of H₅N₁ Virus transmittal chain. The equation is as follows

Table 3. Summary of Double Regression Result

Variable	Regression coefficient	t	Sig
Coeff. of cadre role regression	0.537	2.71	0.009
Coeff. of perception regression	0.0013	1.169	0.047
Coeff. of empowerment regression	0.239	3.247	0.003
Constanta	16.417	4.289	0.000
R	0.826		
R ²	0.682		

F 21.39
9

Source : Primary Data (Analyzed by SPSS for Windows version10.0, 2017).

Table 1 presents there is a positive effect of 0.537 on the health role cadre variable towards the breaking of H₅N₁ Virus transmittal chain. Moreover, healthy life pattern perception impacts positively towards the breaking of H₅N₁ Virus transmittal chain, i.e. 0.0013, and *anak kandang* empowerment effect is 0.239.

F-test Statistics

F test analysis results in the value of $F_{count} = 21.399$ and $F_{table} = 4.45$. Because the value of $F_{count} = 21.399$ or higher than the value of $F_{table} = 4.45$, $F_{count} = 21.399$ is located in the area of rejection H_0 or acceptance H_a , which means that simultaneously healthy life pattern perception, *anak kandang* empowerment, and health cadre role can explain the efforts to break the H₅N₁ Virus transmittal chain in Ngemplak, Boyolali Regency.

T-Test-Statistics

Test analysis result leads to the comparison of the value of $t_{health\ cadre\ role\ count} = 2.771 > t_{table} = 1.690$ with the degree of thrust of 95% so that H_0 is rejected and H_a is accepted, meaning that partially health cadre role has a significant effect towards the breaking of H₅N₁ Virus transmittal chain, $t_{healthy\ life\ patten\ perception\ count} = 1.169 > t_{table} = 1.690$ with the degree of thrust of 95% so that H_0 is accepted and H_a is rejected, meaning that partially healthy life pattern partially results in a significant effect in breaking the H₅N₁ Virus transmittal chain and $t_{anak\ kandang\ empowerment\ count} = 3.247 > t_{table} = 1.690$ with the degree of thrust of 95%, so that H_0 is rejected and H_a is accepted or partially *anak kandang* empowerment provides a significant effect towards the breaking of H₅N₁ Virus transmittal chain in Ngemplak, Boyolali Regency.

R² Test (Coefficient Determination)

Regression statistic test result gains the value of $R^2 = 0.682$ meaning that 68.2% health cadre role, health life pattern perception, and *anak kandang* empowerment can explain the breaking of H₅N₁ Virus transmittal chain, and 31.8% is affected or explained by other variables outside the models applied. To investigate the variation of the respective independent variable in explaining the efforts of the breaking of H₅N₁ Virus transmittal chain, R^2 analysis is conducted to the respective independent variable (health cadre role, health life pattern perception, and *anak kandang* empowerment) towards the breaking of H₅N₁ Virus transmittal chain.

R^2 statistical analysis result presents aggregate of the predictors of health cadre role (X_1), healthy life pattern perception (X_2), and *anak kandang* empowerment (X_3) = 68.2%. R^2 of the predictor of *anak kandang* empowerment variable (X_3) = 56.7% and R^2 of the predictors of health cadre role and *anak kandang* empowerment variable (X_1 and X_3) = 68.1%, as a result R^2 of the respective variable towards the efforts to break the H₅N₁ Virus transmittal chain is $X_3 * Y = 56.7\%$, $R^2 X_1 * Y = 68.1\% - 56.7\% = 11.4\%$ and $R^2 X_2 * Y = 68.2\% - 68.1\% = 0.1\%$. The result of the R^2 Stepwise value analysis with the assistance of SPSS for Windows version 10.0 application programs is illustrated in Table 3.

Table 4. Summary of Effective Contribution Result

Variable	R^2 (coefficient Determination)
Health role cadre (X_1)	11,4%
Healthy life pattern perception (X_2)	0.1%
<i>Anak kandang</i> empowerment (X_3)	56.7%
X_1, X_2, X_3 simultaneous	25,4 %

Source: Primary Data (Analyzed by SPSS for Windows version10.0, 2017)

DISCUSSION

Health cadre role, healthy life pattern perception, and *anak kandang* empowerment all together lead to a positive effect towards the efforts to break the H₅N₁ Virus transmittal chain. Simultaneously those variables can explain the varying efforts in breaking the H₅N₁ Virus transmittal chain in Ngeemplak, Boyolali Regency. The *anak kandang* empowerment variable provides a greater effect on this action compared to either health cadre role or healthy life pattern perception. It explains that the action of breaking or preventing of H₅N₁ Virus transmittal chain in the community is predominantly affected by *anak kandang* empowerment. The success of the community on this action cannot be separated from the participation of *anak kandang* as the member of the community.

The empowerment is expected to be able to obtain an internal control of *anak kandang* who leads the community to always conduct the preventing or breaking of H₅N₁ Virus transmittal chain in their neighborhood. The behavioral control, if supported by a good perception about healthy life pattern perception and the health cadre role, can be more effective to reach the goal.

Based on the research results, to improve the community contribution in the preventing or breaking the H₅N₁ Virus transmittal chain, it is necessary to develop the human resources, the members of the community, themselves. All the community actions to reach their goals depend very much on their own resources. Syafrudin and Hamidah (2009) clarify that the action of community empowerment in the health service may need some cooperation of related parties, among others: local government, public figures, health cadres, youths, NGO, and the community member in general. This action can be implemented by the support of perception pattern and health cadre role.

Health cadre role is one of the resources to execute the implementation of

the community-based total sanitation development program either inter or intra village. The effort is a good support to the cooperation and also a media to develop the community awareness of the importance of the prevention of H₅N₁ Virus transmittal and the experience sharing about overcoming the problem they face together, including the breaking of H₅N₁ Virus transmittal chain by them. Therefore, the health cadre role has a great effect in this action in Ngeemplak, Boyolali Regency.

According to the statistical test result, health cadre role variable towards the breaking of H₅N₁ Virus transmittal chain obtains the regression coefficient value of 0.537, meaning that in each 5% improvement of health cadre role in terms of the healthy life pattern perception and controlled *anak kandang* empowerment variables the efforts of breaking the H₅N₁ Virus transmittal chain follows as much as 0.537%. Furthermore t test result to examine and analyze the effect of health cadre role variable presents that the value of $t_{\text{health cadre role count}} = 2.771 > t_{\text{table}} = 1.690$, which clarifies that health cadre role in some partial parts significantly affects the breaking of H₅N₁ Virus transmittal chain in the community. This factor is partially proven to be a significant contribution to the action, i.e. 11.4%. it implies that health cadre role aspects, dealing with their readiness to activate their role, belief to be skilled in their duties, participation in the action, and discipline can build positive behavior and can contribute positively in breaking the H₅N₁ Virus transmittal chain.

The research results in the theory formulated by Syafrudin and Hamidah (2009) asserting that health cadre role is one of the success **5**ys in the development implementation UKBM (*upaya kesehatan berbasis masyarakat*) or **community-based health efforts**. The health cadres have the opportunity to develop their creativity and conduct the observation and evaluation of the program. The research results is also supported by the research conducted by Wijaya, Murti, and Suriyasa (2013)

elucidating that in the control of tuberculosis cases the well-informed health cadres provide higher potential to be 18 times more active than the others, the well-behaved cadres are 8 times more active than the others, and the highly-motivated cadres are 15 times more active than the lowly-motivated ones. As a result, the more active health cadre role in breaking the H₅N₁ Virus transmittal chain in the community are, the higher the success in breaking the H₅N₁ Virus transmittal chain will be.

Perception is the occurrence of responses which is preceded by sensing the stimulus, organizing, interpreting, evaluating, and responding it with some action. Hence, healthy life pattern perception factor has a contribution in improving the efforts to break the H₅N₁ Virus transmittal chain in the community. Based on the statistical result, this variable obtains the value of regression coefficient of 0.0013 meaning that in every 5% increase of it under the assumption that the other two variables are controlled, the improvement of the efforts of breaking the H₅N₁ Virus transmittal chain of 0.0013%.

On the other hand, the result of t test to examine and analyze the partial effect of each variable shows that $t_{\text{perception count}} = 1.169 < t_{\text{table}} = 1.690$, which means that the healthy life pattern perception individually gives a significant effect on the efforts to break the H₅N₁ Virus transmittal chain in Ngemplak, Boyolali Regency. The factor partially brings an insignificant contribution for the efforts to break the H₅N₁ Virus transmittal chain of 0.1 %.

The research results share the same stance on Zulfiqqar's opinion (2013) explaining that one's positive perception leads to a positive effect on the adoption of healthy life pattern. Therefore, the individual and community's perception affects the problem-solving process, and the decision will encourage someone to take an action to pursue their goal. An action based on perception causes a real behavior leading to an optimum effort to break the H₅N₁ Virus transmittal chain.

The contribution of *anak kandang* empowerment towards the efforts to break the H₅N₁ Virus transmittal chain

Community empowerment cannot be separated from an effort to develop a community-based sanitary program. It is expected that *anak kandang* empowerment can develop several methods to burrow and make use of resources in the community to improve the community health based on the local wisdom.

Anak kandang empowerment in health area, more specifically in terms of preventing the H₅N₁ Virus transmittal will increase their skill to identify any health problem in the community and its solution. It is expected that *anak kandang* empowerment can give a contribution for the efforts to break or to prevent the H₅N₁ Virus transmittal chain in order to increase the level of community health. Based on the result of statistic test on *anak kandang* empowerment variable towards the action, the value of regression coefficient is 0.239 which leads to the 5% increase in every *anak kandang* empowerment under the assumption that the other two variables are controlled, so that the increase of the efforts to break the H₅N₁ Virus transmittal chain follows i.e. 0.239%. In the meantime based on the t test result to determine the partial effect on each variable, it results in $t_{\text{anak kandang empowerment count}} = 3.247 > t_{\text{table}} = 1.690$, which means that *anak kandang* empowerment individually obtains a significant effect on the efforts to break the H₅N₁ Virus transmittal chain.

This factor is proven to be able to give a positive contribution for 56.7% effect on the efforts. It also means that these aspects of *sense of self determination* (free to choose the problem solving method), *sense of meaning* (care about what action is taken due to its impact on himself), *sense of competence* (assure with their ability to solve problems), and *sense of impact* (believe that what has been done will impact the surrounding to make the others accept their ideas) has built a good *anak kandang* empowerment.

Empowerment is an idea to develop human resources through *anak kandang's* active participation so that they are able to conduct their function as *anak kandang*, including the health function.

The research result directs to a research conducted by Susi, (2009) asserting that empowerment is the most encouraging factor in the implementation of clean and healthy life behavior. Another research conducted by Muljono (2010) supporting this research explains family empowerment can improve their family health function. Hence, *anak kandang* empowerment builds individual and community independent behavior to the extent of the effort to break or to prevent the H₅N₁ Virus transmittal chain.

CONCLUSION AND RECOMENDATION

Simultaneous health cadre role, healthy life style perception, and *anak kandang* empowerment affect and give contribution towards the effort of breaking the chain of H₅N₁ transmittal as much as 68.2% and respectively each health cadre gives 11.4% of the contribution, healthy life style perception gives 0.1%, and *anak kandang* empowerment gives 56.7%. The recommendations of the ventilating concord village communities as container is representative to sit together in the context of the discussion to know, Identifying and troubleshooting the behavior of health especially in the prevention of H5N1.

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