

The Correlation between House Physical Environments and Diphtheria in Blitar in 2016

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Abstract— Nowadays, Diphtheria is a contagion deadly disease caused by *Corynebacterium diphtheriae* and this case increases year-by-year. *Corynebacterium diphtheriae* is one of bacteria that certainly have its own condition to maintain its life. In this paper, we describe intensively a correlation between house physical environments and diphtheria in Blitar in 2016.

Keywords : Diphtheria, House Physical Environments, Blitar

1. INTRODUCTION

Nowadays, Diphtheria is a contagion deadly disease caused by *Corynebacterium diphtheriae* and this case increases every year. *Corynebacterium diphtheriae* is one of bacteria that certainly has its own condition to maintain its life. *Corynebacterium diphtheriae* can be dead by direct sunlight for more or less 3 hours (Sharp, 1938). House ventilation has a function to maintain the air flows in the house remain fresh and make the house free from bacteria (Notoatmodjo, 1997). Notoatmodjo (1997) also states that one of the conditions of healthy house is that the kind of floor should be sanitary in the dry and rainy season.

2. MATERIALS AND METHOD

This research is an Observational-analytic study that used case control design in 2016 in Blitar. The sample for this research were 30 diphtheria patients of case group and 59 people of control group which are not diphtheria patients. The independent variable is the house physical environments, and the dependent variable is Diphtheria in Blitar in 2016. The data of the research were analyzed by Chi Square test.

3. RESULTS AND DISCUSSION

From the 89 samples, there are 53 people who have good house physic environment, and there are 19 people who were infected by diphtheria. Meanwhile, from 36 people who do not have good house physic environment, there are 11 people who were infected by diphtheria. According to Chi Square test, p value is 0.772, so that there is no correlation between house physical environments with diphtheria.

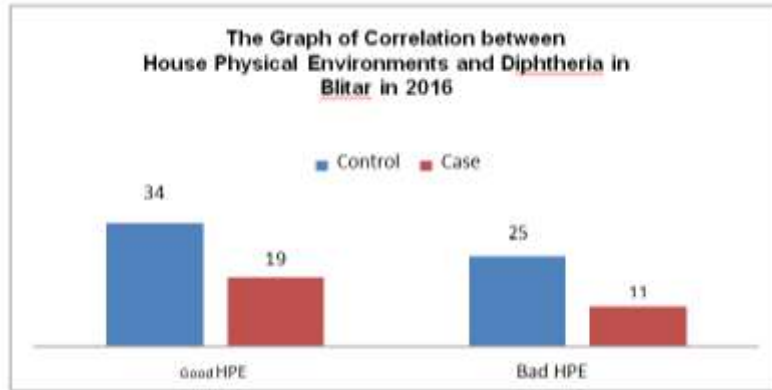


Fig. 1. The Graph of Correlation between House Physical Environments and Diphtheria in Blitar in 2016

Fig. 2. Chi square test of Correlation between House Physical Environments and Diphtheria in Blitar in 2016

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.269 ^a	1	.604		
Continuity Correction ^b	.084	1	.772		
Likelihood Ratio	.270	1	.603		
Fisher's Exact Test					
Linear-by-Linear Association	.266	1	.606	.653	.388
N of Valid Cases	89				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.13.

b. Computed only for a 2x2 table

Risk Estimate

	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio for House Physical Environments (good / bad)	.787	.319	1.945
For cohort Status = Normal	.852	.463	1.569
For cohort Status = 2.00	1.083	.805	1.455
N of Valid Cases	89		

Based on the result of Chi square test, there is no significant correlation between house physical environments and diphtheria. This result may have some deficiencies in the data and samples which lead to less of proper result. Based on literature, the house physical environments such as (±) ventilation, direct sunlight and the kind of floor may have correlation to diphtheria. Furthermore, more detailed observation is needed to get better result.

4. CONCLUSION

There is no a correlation house physical environments and diphtheria. For the next researchers, they should research with more appropriate study design and observation in order to see the better result of the house physical environment effects.

5. ACKNOWLEDGEMENT

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