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Impact of Behavior as Risk Factor on Leptospirosis Disease In Yogyakarta, Indonesia

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Abstract

Background: Yogyakarta is one of the largest cities in Indonesia. The city is crossed by three major rivers, which often cause flooding in some areas. Flooding is often hurt to all aspects of human life, including the post-flood disease. Environmental changes due to flooding will result in the spread of leptospirosis. Leptospirosis is one of rodent borne disease, which transmitted by leptospira infected in animal urine. The aim of the study was to determine the relationship of individual behavior on the incidence of leptospirosis in the Yogyakarta city.

Methods: This study used a case control design. The data in this study is derived from the secondary data obtained from medical records of general hospital Yogyakarta city and through structured interviews using questionnaires that have been developed. Subjects were 130 people, where 65 positive leptospirosis as cases and 65 negative leptospirosis respondent as a control, with a ratio of 1: 1.

Results: The results showed that behavior factors influencing the incidence of leptospirosis is the type of work (Odd Ratio (OR) = 2.6; 95% Confidence Interval (CI): 1.211 to 5.691; p value = 0.022) and a history of injury (OR = 4.2; 95% CI: 1, 93 to 9.14; p = 0.027). While the behavior is not a risk factor for leptospirosis cases are: contact with the carcass, using footwear, using soap, bathing in the river, hand washing, use of personal protective equipment, cover food and throw away leftovers.

Conclusion: The type of work and history of injury as risk factors for leptospirosis cases in Yogyakarta city.

Keyword: rodent borne disease, type of work, history of injury



IMPACT OF BEHAVIOR AS RISK FACTOR ON LEPTOSPIROSIS DISEASE IN YOGYAKARTA

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I. INTRODUCTION

- **Leptospirosis** : a significant zoonosis in the developing world
- **Related with: socioeconomic, climatic conditions (endemicity in animal vectors and human exposure)**
- **More than 50000 cases leptospirosis/year worldwide.**
- **Mortality is greater than 10%**
- **Epidemics occur during seasonal heavy rainfall and flooding**

- Severe manifestations leptospirosis (WHO, 2010)
 1. Anicteric (fever, myalgia, severe head ache, conjunctival suffusion)
 2. Icteric (jaundice, urinalysis, renal failure, hemorrhagic fever, pneumonitis, death)

Incidence of leptospirosis in Provinsi DI Yogyakarta, 2011

N0	Kabupaten	Kasus	Kematian	CFR
1	Kota	26	5	19,23
2	Bantul	92	11	11,96
3	Kulon Progo	192	15	7,8
4	Gunung Kidul	8	1	12,8
5	Sleman	38	2	5,26

(Sumber: Dinkes Prov.DIY; 2012)

Table 3. Cross-tabulation between behavior risk factors with the incidence of leptospirosis in Yogyakarta City during 2011-2013

Behaviour	P	OR	CI95%
Types of job	0,013	2,625	1,21 – 5,691
- Risk			
- Not risk			
Contact with the carcasses	0,432	1,514	0,535 – 4,286
- Ever			
- Never			
Wound in the skin	0,0001	4,2	1,93 – 91,41
- Yes			
- No			
Discharging footwear	0,471	0,706	0,273 – 91,41
- No			
- Yes			
Bath in the river	0,509	0,643	0,172 – 2,405
- Yes			
- No			
Discharging soap	0,315	0	0,414 – 0,594
- Yes			
- No			
The instrument self protection	0,402	0,483	0,085 – 2,741
- Yes			
- No			
Washing hand	0,243	0,379	0,072 – 2,037
- Yes			
- No			
Cover food	0,559	0,492	0,043 – 5,57
- Yes			
- No			
Throw leftovers	0,201	0,825	0,304 – 1,286
- Yes			
- No			