Factors Affecting Delay in Receiving Medical Treatment among Patients with Leptospirosis in Sisaket Province

Aree Butsorn PhD*

** College of Medicine and Public Health, Ubon Ratchathani University, Ubon Ratchathani, Thailand*

Background: *Leptospirosis is a significant public health problem in Sisaket Province. According to the epidemiological data, it reveals that there is a gradual increase in the number of patients with leptospirosis not receiving medical treatment in time.*
Objective: *To investigate factors affecting delay in receiving medical treatment in patients with leptospirosis in Sisaket Province.*
Research design: *Retrospective analytic study (Matched Case-control study).*
Material and Method: *Cases were 157 leptospirosis patients at Sisaket Hospital with delay in receiving medical treatment, controls were 157 leptospirosis patients without delay in receiving medical treatment at the same hospital, individually matched by occupation, and age. Data were collected from January to December 2015 by means of questionnaires and medical record. The data were statistically multiple logistic regression analysis was used to analyze influential factors. Values of relations were presented in adjusted odds ratios at 95% confidence interval.*
Results: *The study of factors affecting delay in receiving medical treatment among leptospirosis patients in Sisaket Province with a statistical significance level at 0.05 showed that the likelihood of delay in receiving treatment was 2.40 times higher among leptospirosis patients seeking treatment 3 or more times compared to those seeking treatment less than 3 times (OR_{adj} = 2.40: 95% CI = 1.61-3.37). The likelihood of delay in receiving treatment was 1.8 times higher among leptospirosis patients than with the low level knowledge of leptospirosis compared to those with the high level knowledge of leptospirosis (OR_{adj} = 1.81: 95% CI = 1.22-3.37). The likelihood of delay in receiving medical treatment was 1.67 times higher among leptospirosis patients with low levels of social support compared to those with high levels of social support (OR_{adj} = 1.67: 95% CI = 1.20-3.88). In addition, the likelihood of delay in receiving medical treatment was 1.46 times higher among leptospirosis patients who bought medicines for self-medication compared to those who received medical treatment in government health service facilities when having initial symptoms (OR_{adj} = 1.46: 95% CI = 1.02-3.97).*
Conclusion: *Factors affecting delay in receiving medical treatment among leptospirosis patients in Sisaket Province were the number of times of seeking treatment, knowledge of leptospirosis, no social support, buying medicines for self-medication to treat initial symptoms, and solving problems of delay in receiving medical treatment among leptospirosis patients. Therefore, importance of the a forementioned factors should be more emphasized by surveillance and raising awareness.*

Keywords: *Factors, Delay, Leptospirosis, Sisaket province*

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Severe epidemics of leptospirosis occur in the northeast of Thailand. According to the information from 2010 to 2014, there were case reports of leptospirosis in the following numbers: 3,385, 3,857, 4,130, 1,798, and 894, respectively; and, morbidity rates per hundred thousand populations were found in those numbers of case reports: 15.72, 17.72, 21.63, 8.33, and 4.14, respectively. In addition, mortality rates in those numbers of case reports were 39, 24, 60, 17, and 12, respectively[1]. According to disease surveillance data from January 1 to December 31 2014, it showed totally 2,263 patients. The morbidity rate was 3.51 per hundred thousand populations. 25 patients died, accounting for the mortality rate of 0.04 per hundred thousand populations. The male to female ratio was 1: 0.23. The most frequently found age groups, respectively, were 45-54 years (22.01%), 35-44 years (20.95%), and 55-64 years (17.23%). Patients were Thai, 98.5%, Cambodian, 0.3%, and Lao, 0.1%. Most patients were agriculturists, 58.0%, employees, 21.2%, and students, 8.7%. Highest morbidity rates per hundred thousand populations were found in the following regions: the south, 6.19, the north, 2.07, and the central, 0.62. Highest morbidity rates per hundred thousand populations were found in the following top 5 provinces: Ranong (20.81), Sisaket

Correspondence to:
Butsorn A, College of Medicine and Public Health, Ubon Ratchathani University, Ubon Ratchathani 34190, Thailand.
Phone: +66-45-353900
E-mail: butsorn.aa@gmail.com

(18.38), Phang Nga (15.15), Kalasin (12.38), and Surin (11.33). From January 1 to June 29 2015, totally 556 patients were found, accounting for 0.85 per hundred thousand populations as a morbidity rate. 10 patients died, accounting for 0.02 per hundred thousand populations as a mortality rate. The male to female ratio was 1: 0.20. The mostly found age groups, respectively, were 45-54 years (21.04%), 55-64 years (19.42%), and 35-44 years (19.24%). Most patients were agriculturists, 54%, employees, 21.20%, and students, 7.60%. Highest morbidity rates per hundred thousand populations were found in the following top 5 provinces: Ranong (4.52), Sisaket (3.89), Nakhon Si Thammarat (3.49), Khon Kaen (2.57), and Ubon Ratchathani (2.28), respectively[2].

Case review of patients with leptospirosis revealed that delay in receiving medical treatment among leptospirosis patients resulted in more severe illness related to leptospirosis and might cause renal failure and death. In addition, the delay had impacts on medical care. Avoiding their body parts to come in contact with water contaminated by urine of wild animals was difficult because letting their body parts come in contact with water was related to people's way of life. To succeed in treating leptospirosis, it was important to enhance skills, knowledge, and understanding of observing symptoms, including more awareness of leptospirosis prevention[3]. Based on the study, it showed that reducing mortality rates of leptospirosis patients was due to receiving medical treatment in the hospital in a timely manner. According to leptospirosis case investigation reports in case of patients' death, the reports illustrated the following related factors. Most patients did not protect themselves while touching water, did not notice the main symptoms requiring medical attention, the severity of the disease, and continued to buy medicines for self-medication during illness[4]. Patients with leptospirosis who died usually did not know about symptoms, and therefore did not realize or thought about the need for medical attention. Other factors were sex, marital status, income, histories of illness, behaviors of seeking treatment, travelling, travelling time, drinking alcohol and smoking cigarettes[5]. In addition, factors included symptoms related to tuberculosis, travelling expenses, health service centers for early treatment, first analysis, channels for receiving media, and living in outer boundary areas[6]. Finally, no medical treatment received at the onset of symptoms, seeking treatment 5 or more times, a distance from home to a health care service center of 10 or more kilometers, and not waiting for medical care service when the hospital was crowded with many outpatients were also relevant factors. Based on leptospirosis patients' medical histories from medical hospital records, leptospirosis patients bought medicines for self-medication or went to the clinic or the health promotion hospital in the sub-district for medical care before receiving medical care in the hospital of the community; consequently, there was a delay in receiving medical treatment. The data were consistent with the case report in 2014 in Sisaket Province in which there were 6 patients who died. All patients went to the hospital for medical care after having symptoms for about 4 days. According to leptospirosis case investigation reports of public health officials, they indicated that all patients received treatment after having symptoms within about 3-4 days. Most patients were sick and had to take aspirin at home[3]. However, no information indicating causes of delay in seeking treatment by leptospirosis patients was clearly found. Therefore, the researchers intended to investigate factors affecting delay in receiving medical treatment among leptospirosis patients in Sisaket Province in order to use research results for solving problems caused by delay in receiving medical treatment among leptospirosis patients for further effective operation.

Material and Method

Research design

Retrospective analytic study (Matched Case-control study).

Samples

Cases were 157 leptospirosis patients at Sisaket Hospital with delay in receiving medical treatment, controls were 157 leptospirosis patients without delay in receiving medical treatment at the same hospital. Subsequent to enrollment of a case, eligible control patients within the same occupation and 5-year age categories were approached until a suitable control patient was individually matched to each case patient. All gave informed consent for their participation in the study. Data were collected, based on questionnaires and medical record forms from January to December 2015.

Sample size calculation

Sample sizes were calculated by Hsieh's formula[7]: $n_p = n_1/1\text{-}p^2_{1.23....p}$. The sample size of the retrospective study (case-control study) was calculated by Schlesselman's formula[8], yielding a sample size of

127 people. In consideration of the correlation between independent variables that should not be too high in conjunction with possibility of successfully conducting the research, the researchers decided to use the multiple correlation coefficient equal to 0.04, yielding the sample size of 157 people in each group. The total sample size was 314 people.

Variables

Independent variables were sex, age, education, marital status, occupation, income, early-stage symptoms, time intervals from first symptoms to start of medical treatment, knowledge, attitudes towards leptospirosis, treatment receiving intention, receiving information, and behaviors related to receiving treatment. Factors on nursing care were buying medicines for self-medication during the early stage of symptoms, initially detected symptoms, frequency of receiving medical care at the hospital, health service facilities for early treatment, and first study results. Factors on travelling were travelling expenses, distance from home to public health service centers, travelling time from home to public health service centers, and vehicles used for travelling. Factors on patient referral systems and social supports were stimulation from public health officials, people in families and support from public health officials, people in families, and people in the community such as neighbors and community leaders.

Dependent variables, for example, delay in receiving medical treatment among leptospirosis patients which started from the day of onset of symptom to the day of medical attention to receive treatment and diagnosis of having leptospirosis. The patients were divided into 2 groups.

1) Patients with delay were patients who had symptom onset until the day of receiving treatment from a doctor. Then they were diagnosed by the doctor that they had leptospirosis for more than 4 days.

2) Patients without delay were patients who had symptom onset until the day of receiving treatment from a doctor. Then they were diagnosed by the doctor that they had leptospirosis, not exceeding 4 days.

Research tools and quality assessment of research tools

1) The research tools were structured questionnaires for interviewing leptospirosis patients and record forms of medical records. The questionnaires were based on conceptual frameworks from review of related studies, consisting of 8 sections: 1) leptospirosis patients' general information; 2) factors on seeking nursing care; 3) factors on travelling and patient referral; 4) knowledge of leptospirosis; 5) attitudes towards leptospirosis; 6) intentions of receiving medical treatment for leptospirosis; 7) social support; and 8) behavior in receiving leptospirosis treatment. There were 2 series of record forms of medical records, which were patient information record forms when receiving treatment according to patient profiles.

2) To assess the quality of research tools, content of created questionnaires and record forms were validated by 3 qualified people in terms of content validity and correct questions. Later the researcher edited and modified questionnaires for appropriate content. After that, confidence interval values were calculated to ensure that research tools were appropriate.

Data collection

Data were collected by interviewing all samples directly and recording information from profiles of leptospirosis patients who registered to receive medical care at the hospital in Sisaket Province from January 1 to December 31 2015.

Statistical analysis

1) Descriptive statistics were used for analyzing personal characteristics and other variables. Data were analyzed with descriptive statistics and then presented in frequency distribution and percentages. In case of continuous data with normal distribution, data were presented in averages and standard deviations. For continuous data with non-normal distribution, data were presented in medians and maximum and minimum values.

2) Inferential statistics were used for analyzing relationships between factors and sputum changes by multiple logistic regression analysis. Values of relationships were presented in adjusted Odds ratios (OR_{adj}) and a 95% confidence interval. In the first step of multiple logistic regression analysis, there was rough data analysis by the use of the Chi-square test or the Fisher's exact test. In case that 20% of all cells had the expected value less than 5, all variables obtained from literature review were taken into account, and then variables with rough analysis results yielding *p*-value <0.25 were selected to be entered into an initial model of multivariate analysis. Selecting variables to be entered into the initial model was based on considering the contents from literature review. From the initial model, the best model was analyzed by

eliminating variables one at a time which determined a significance level of 0.05.

Results

General information

In the case group, a majority of the patients were male, 66.67%. The average age was 44.44 years (SD = 3.15 years). 83.33% were married 86.67% graduated from primary schools 96.67% were agriculturists. Their median family income was 3,000 baht (min = 1,500 baht: max = 15,000 baht). Most patients had fever as an initial symptom, 96%. The median time interval from early-stage symptoms to medical attention was 4.5 days (min time = 1 day: max time = 7 days). 33% of patients were informed about leptospirosis. 67% of patients had the low level of knowledge of leptospirosis. Patients' moderate levels of attitude towards receiving treatment, treatment receiving intentions, and behaviors of disease prevention were 82%, 78%, and 72%, respectively. Most patients in the control group were male, 70%. The average age was 47.54 years (SD = 4.02 years). They were married, 80%. They graduated from primary schools, 90%, 96.7% were agriculturists. Their median family income was 3,000 baht (min = 1,500 baht: max = 20,000 baht). The median time interval from early symptoms to medical attention was 3.5 days (min time = 1 day: max time = 4 days). 39% of patients received information on leptospirosis. 61% of patients had the low level of knowledge. Patients' moderate levels of attitude towards receiving treatment, treatment receiving intentions, and disease prevention behaviors were 84%, 80%, and 75%, respectively. Study results were presented in the Table 1.

Based on multiple logistic regression analysis, the study on factors affecting delay in receiving medical treatment by leptospirosis patients in Sisaket Province with a statistical significance level at 0.05 demonstrated that the likelihood of delay in receiving treatment was 2.40 times higher among leptospirosis patients seeking treatment 3 times or more compared to those seeking treatment less than 3 times (OR_{adj} = 2.40: 95% CI = 1.61-3.37). The likelihood of delay in receiving treatment was 1.81 times higher among leptospirosis patients with the low level of knowledge of leptospirosis compared to those with the high level knowledge of leptospirosis (OR_{adj} = 1.81: 95% CI = 1.22-3.37). The likelihood of delay in receiving treatment was 1.67 times higher among leptospirosis patients than with low levels of social support compared to those with high levels of social support (OR_{adj} = 1.67: 95% CI = 1.20-3.88). In addition, the likelihood of delay in receiving treatment was 1.46 times higher among leptospirosis patients who bought medicines in the onset of symptoms compared to those who were admitted to government health service centers in the onset of symptoms (OR_{adj} = 1.46: 95% CI = 1.02-3.97), respectively. Study results were presented in the Table 2 and 3.

Discussion

The study results revealed 4 factors affecting delay in receiving medical treatment among leptospirosis patients: seeking treatment, knowledge of leptospirosis, receiving social support, and buying medicines for self-mediation in the onset of symptoms with a statistical significance level at 0.05 (*p*-value <0.05). Leptospirosis patients seeking treatment 3 or more times and buying medicines for self-medication in the onset of symptoms were associated with delay in receiving treatment because they tried to have primary self-care without knowing real causes, possibly leading to inappropriate treatment for diseases. Symptomatic treatment was a therapy of a disease that only affected its symptoms not its cause, leading to delay in receiving medical treatment. Similarly, buying medicines for self-medication during illness was a way of seeking health services and a way of solving problems based on symptoms which might not correspond to a real cause of diseases. The study results were consistent with the study of Sendagire et al[9]. The study of Sendagire et al demonstrated that patients seeking treatment approximately 4 times were associated with delay in receiving medical treatment. The higher number of times patients seek for treatment, the longer duration of disease transmission there will be, causing more difficulty in treatment given to infected patients. In addition, Aree Butsorn[6] pointed out that factors to delay in receiving treatment were seeking for health services based on health beliefs, receiving first treatment at a private hospital or a clinic, and basic awareness of illness. The low level of knowledge on leptospirosis was associated with delay in receiving medical treatment because knowledge affected awareness of risks, severity, and possible advantages. Patients with good knowledge would be aware of their symptoms and went to the hospital for treatment earlier than those with lower levels of knowledge. The study results were consistent with the study of Kampanart Chaychoowong[10], showing that factors related to delay in receiving medical treatment among tuberculosis patients, knowledge of tuberculosis, low levels of social support, and not receiving treatment at

Table 1. Characteristic of leptospirosis patients in delay and non-delay group

Factors/variables	Delay (n = 157)		No delay (n = 157)	
	Number	Percentage	Number	Percentage
Gender				
Male	105	66.67	110	70.00
Female	52	33.33	47	30.00
Age				
<45 year	73	46.67	84	53.33
≥45 year	84	53.33	73	46.67
Mean (SD)	44.44 (3.15)	47.54 (4.02)		
Status				
Marries	139	88.33	126	80.00
Other	18	11.67	31	20.00
Education level				
Primary school	135	86.67	141	90.00
Higher	22	13.33	16	10.00
Occupation				
Agriculturist	152	96.67	152	96.67
Other	5	3.33	5	3.33
Income per month				
≤3,000 baht	94	60.00	99	63.33
>3,000 baht	63	40.00	53	36.67
Median (min: max)	3,000 (1,500:15,000)		3,000 (1,500:20,000)	
Initial symptoms				
Fever with chills	151	96.00	152	96.67
Conjunctivitis	94	60.00	99	63.33
Nausea, vomiting	84	53.33	78	50.00
Low urine output	16	10.00	10	6.67
Aching muscles	115	73.33	120	76.67
Time of first symptom and first contact provider				
≤4 day	67	42.68	84	53.50
>4 day	90	57.32	73	46.50
Median (min: max)	4.5 (1:7)	3.5 (1:4)		
Receiving information about leptospirosis				
Yes	21	33.00	61	39.00
No	136	67.00	96	61.00
Leptospirosis knowledge level				
Low	119	75.80	97	61.78
High	38	24.20	60	38.22
Social support level				
Low	93	59.24	94	59.87
High	64	40.76	63	40.13
Attitude level				
Good	129	82.00	132	84.00
No good	38	18.00	25	16.00
Intention level				
Intention	122	78.00	126	80.00
Un-intention	35	22.00	31	20.00
Prevention behaviorlevel				
Appropriate	113	72.00	118	75.00
Un-appropriate	44	28.00	39	25.00

Table 2. Relationship between variables and delay in seeking treatment by leptospirosis patients

Factors/Variables	Delay in receiving treatment		Crude OR	95% CI for Crude OR	*p*-value
	Delay number (percentage)	No delay number (percentage)			
Gender					
Male	105 (66.67)	110 (70.00)	1.57	0.64-3.96	0.323
Female	52 (33.33)	47 (30.00)	1		
Age					
<45 year	73 (46.67)	84 (53.33)	0.99	0.36-1.90	0.667
≥45 year	84 (53.33)	73 (46.67)	1		
Status					
Marries	139 (88.33)	126 (80.00)	1.33	0.43-3.98	0.547
Others	18 (11.67)	31 (20.00)	1		
Education level					
Primary school	135 (86.67)	141 (90.00)	1.47	0.57-3.79	0.318
Higher	22 (13.33)	16 (10.00)	1		
Occupation					
Agriculturist	152 (96.67)	152 (96.67)	1.76	0.42-3.22	0.450
Others	5 (3.33)	5 (3.33)	1		
Income per month					
≤3,000 baht	94 (60.00)	99 (63.33)	1.45	0.87-3.99	0.221
>3,000 baht	63 (40.00)	58 (36.67)	1		
Initial symptoms					
Fever with chills	151 (96.18)	152 (96.67)	1.33	0.78-4.02	0.355
Other symptoms	6 (3.82)	5 (3.33)	1		
Receiving information about leptospirosis					
Yes	21 (33.00)	61 (39.00)	1.09	0.87-3.33	0.789
No	136 (67.00)	96 (61.00)	1		
Leptospirosis knowledge level					
Low	119 (75.8)	97 (61.78)	1.94	1.52–3.46	<0.001
High	38 (24.2)	60 (38.22)	1		
Social support level					
Low	113 (71.97)	94 (59.87)	1.72	1.22-3.78	0.033
High	44 (28.03)	63 (40.13)	1		
Attitude level					
Good	129 (82.00)	132 (84.00)	1.44	1.00-3.11	0.086
No good	28 (18.00)	25 (16.00)	1		
Intention level					
Intention	122 (78.00)	126 (80.00)	1.05	0.68-3.77	0.123
Un-intention	35 (22.00)	31 (20.00)	1		
Receiving antibiotic in first contact					
Receive	88 (56.05)	87 (55.41)	1.87	0.97-3.89	0.635
No receive	69 (43.95)	70 (44.59)	1		
Seeking treatment 3 times or more					
3 times or more	129 (82.17)	101 (64.33)	2.56	1.84–3.26	<0.001
Less than 3 times	28 (17.83)	56 (35.67)	1		
Travel expenses					
≤100 baht	75 (47.77)	74 (47.13)	2.11	0.99-4.22	0.758
>100 baht	82 (52.23)	83 (52.87)	1		
Self-care for initial illness					
Self-reliance	111 (70.7)	93 (59.24)	1.66	1.11-3.99	0.042
Go to see doctor	46 (29.3)	64 (40.76)	1		

Table 3. Relationship between seeking treatment 3 times or more, leptospirosis knowledge level, social support level, self-care for initial illness and delay in seeking treatment by leptospirosis patients

Factors/variables	Delay in receiving treatment		OR_{crude} (95% CI)	OR_{adj}* (95% CI)	*p*-value
	Delay number (percentage)	No delay number (percentage)			
Seeking treatment 3 times or more					
3 times or more	129 (82.17)	101 (64.33)	2.56 (1.84-3.26)	2.40 (1.61-3.37)	<0.001
Less than 3 times	28 (17.83)	56 (35.67)			
Leptospirosis knowledge level					
Low	119 (75.8)	97 (61.78)	1.94 (1.52-3.46)	1.81 (1.22-3.37)	<0.001
High	38 (24.2)	60 (38.22)			
Social support level					
Low	113 (71.97)	94 (59.87)	1.72 (1.22-3.78)	1.67 (1.20-3.88)	0.03
High	44 (28.03)	63 (40.13)			
Self-care for initial illness					
Self-reliance	111 (70.7)	93 (59.24)	1.66 (1.11-3.99)	1.46 (1.02-3.97)	0.04
Go to see doctor	46 (29.3)	64 (40.76)			

* Adjusted: gender, occupation and symptoms

the hospital in the onset of symptoms. The paper of Wanida Wiangpitak[11] demonstrated factors affecting behavior of leptospirosis control and prevention which included attitudes, receiving information, and getting motivation and social support. Also, Nuchanapang Phuvasunti[12] found factors affecting people's behavior of leptospirosis control and prevention: knowledge, receiving information, and attitudes positively affecting behaviors of leptospirosis control and prevention. Low levels of social support were associated with delay in receiving treatment. Other factors were warning and stimulation from public health officials, people in families and social support from public health officials, people in families, and people in the community such as neighbors and community leaders who could help leptospirosis patients active in observing and taking care of themselves during illness. The study results were consistent with the paper of Kampanart Chaychoowong[10], showing factors related to delay in receiving medical treatment among tuberculosis patients: knowledge of tuberculosis, low levels of social support, and not receiving first treatment at the hospital. Wanida Wiangpitak[11] found factors affecting behaviors of leptospirosis control and prevention: knowledge, attitudes, receiving information, and getting motivation from social support, affecting behaviors of leptospirosis control and prevention. In addition, Nuchanapang Phuvasunti[12] showed factors affecting people's behaviors of leptospirosis control and prevention: knowledge, receiving information, and attitudes positively affecting behavior of leptospirosis control and prevention.

Conclusion

Factors affecting delay in receiving medical treatment among leptospirosis patients in Sisaket Province were the number of times seeking treatment, knowledge of leptospirosis, no social support, buying medicines for self-medication to treat initial symptoms, respectively and solving problems delay receiving medical treatment among leptospirosis patients. Therefore, importance of the aforementioned factors should be more emphasized.

What is already known on this topic?

Previous studies found association between knowledge, attitudes and prevention behaviors. These may be not consisted with Northeastern region's people lifestyle and it was not point to solving severity and death form leptospirosis.

What this study adds?

This study clarified about awareness and perception on early symptoms of leptospirosis. Then, early detection and early treatment are mainly strategies for mitigation leptospirosis cases severities and death.

In conclusion, this study recommended to finding leptospirosis cases by enhancements awareness and perception on early symptoms of leptospirosis patients.

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Potential conflicts of interest

None.

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ปัจจัยที่มีอิทธิพลต่อความล่าช้าในการเข้ารับการรักษาของผู้ป่วยโรคเลปโตสไปโรซีส จังหวัดศรีสะเกษ

อารี บุตรสอน

ภูมิหลัง: *โรคเลปโตสไปโรซีสเป็นปัญหาสาธารณสุขที่สำคัญของจังหวัดศรีสะเกษ จากข้อมูลทางระบาดวิทยาพบว่าจังหวัดศรีสะเกษมีผู้ป่วยโรคเลปโตสไปโรซีสเข้ารับการรักษาที่ไม่ทันเวลาเพิ่มขึ้นอย่างต่อเนื่อง*

วัตถุประสงค์: *เพื่อศึกษาปัจจัยที่มีอิทธิพลต่อความล่าช้าในการเข้ารับการรักษาของผู้ป่วยโรคเลปโตสไปโรซีส จังหวัดศรีสะเกษ*

รูปแบบการวิจัย: *เป็นการวิจัยเชิงวิเคราะห์แบบย้อนหลัง*

วัสดุและวิธีการ: *กลุ่มตัวอย่าง คือ ผู้ป่วยโรคเลปโตสไปโรซีสในจังหวัดศรีสะเกษ ที่ได้รับการวินิจฉัยและรักษาในโรงพยาบาลในจังหวัดศรีสะเกษ แบ่งเป็นกลุ่มศึกษา คือ ผู้ป่วยโรคเลปโตสไปโรซีสที่เกิดความล่าช้าในการเข้ารับการรักษาจำนวน 157 คน และกลุ่มควบคุม คือ ผู้ป่วยโรคเลปโตสไปโรซีสที่ไม่เกิดความล่าช้าในการเข้ารับการรักษา จำนวน 157 คน โดยการ Match อาชีพ และอายุ เก็บรวบรวมข้อมูลด้วยแบบสอบถามและแบบคัดลอกจากเวชระเบียน ระหว่างมกราคม พ.ศ. 2558 ถึง ธันวาคม พ.ศ. 2558 วิเคราะห์ข้อมูลโดยใช้สถิติ ร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน มัธยฐาน ค่าต่ำสุดและค่าสูงสุด วิเคราะห์ปัจจัยที่มีอิทธิพลด้วยวิธีการวิเคราะห์ถดถอยพหุโลจิสติก นำเสนอขนาดความสัมพันธ์ด้วยค่า Adjusted Odds Ratio (OR_{adj}) และ 95% ช่วงความเชื่อมั่น*

ผลการศึกษา: *ปัจจัยที่มีอิทธิพลต่อความล่าช้าในการเข้ารับการรักษาของผู้ป่วยโรคเลปโตสไปโรซีส จังหวัดศรีสะเกษ ปัจจัยที่มีอิทธิพลต่อความล่าช้าในการเข้ารับการรักษาของผู้ป่วยโรคเลปโตสไปโรซีส จังหวัดศรีสะเกษ อย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 โดยพบว่า ผู้ป่วยโรคเลปโตสไปโรซีสที่แสวงหาการรักษาตั้งแต่ 3 ครั้งขึ้นไป มีโอกาสที่จะเข้ารับการรักษาของผู้ป่วยโรคเลปโตสไปโรซีสล่าช้าเป็น 2.40 เท่าของ ผู้ป่วยโรคเลปโตสไปโรซีสที่แสวงหาการรักษาน้อยกว่า 3 ครั้ง (OR_{adj} = 2.40: 95% CI = 1.61-3.37) ผู้ป่วยโรคเลปโตสไปโรซีสที่มีความรู้เรื่องโรคเลปโตสไปโรซีสในระดับต่ำมีโอกาสที่จะเข้ารับการรักษาของผู้ป่วยโรคเลปโตสไปโรซีสล่าช้าเป็น 1.81 เท่าของผู้ป่วยโรคเลปโตสไปโรซีสที่มีความรู้เรื่องโรคเลปโตสไปโรซีสในระดับสูง (OR_{adj} = 1.81: 95% CI = 1.22-3.37) ผู้ป่วยโรคเลปโตสไปโรซีสที่ได้รับแรงสนับสนุนทางสังคมในระดับต่ำ มีโอกาสที่จะเข้ารับการรักษาของผู้ป่วยโรคเลปโตสไปโรซีสล่าช้าเป็น 1.67 เท่าของผู้ป่วยโรคเลปโตสไปโรซีสที่ได้รับแรงสนับสนุนทางสังคมในระดับสูง (OR_{adj} = 1.67: 95% CI = 1.20-3.88) และผู้ป่วยโรคเลปโตสไปโรซีสที่ซื้อยามารับประทานเองเมื่อเจ็บป่วยครั้งแรก มีโอกาสที่จะเข้ารับการรักษาของผู้ป่วยโรคเลปโตสไปโรซีส ล่าช้าเป็น 1.46 เท่าของผู้ป่วยโรคเลปโตสไปโรซีสที่เข้ารับการรักษาที่สถานบริการของรัฐบาลเมื่อเจ็บป่วยครั้งแรก (OR_{adj} = 1.46: 95% CI = 1.02-3.97) ตามลำดับ*

สรุป: *ปัจจัยที่มีอิทธิพลต่อความล่าช้าในการเข้ารับการรักษาของผู้ป่วยโรคเลปโตสไปโรซีส 4 ปัจจัย คือ การแสวงหาการรักษาตั้งแต่ 3 ครั้งขึ้นไป ความรู้เรื่องโรคเลปโตสไปโรซีสในระดับต่ำ แรงสนับสนุนทางสังคมในระดับต่ำ และการซื้อยามารับประทานเองเมื่อเจ็บป่วยครั้งแรก ดังนั้น การแก้ไขปัญหาความล่าช้าในการเข้ารับการรักษาของผู้ป่วยโรคเลปโตสไปโรซีส จึงควรให้ความสำคัญกับปัจจัยดังกล่าวให้มากขึ้นโดยการเฝ้าระวังและสร้างความตระหนัก*