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COMMUNITY KEY PERSON EMPOWERMENT FOR LEPTOSPIROSIS PREVENTION AND CONTROL IN MUANG DISTRICT CHAIYAPHUM PROVINCE

SOMYING AKKATHAM

With compliments
of
บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล

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Thesis

Entitled

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COMMUNITY KEY PERSON EMPOWERMENT FOR LEPTOSPIROSIS PREVENTION AND CONTROL IN MUANG DISTRICT CHAIYAPHUM PROVINCE

was submitted to the Faculty of Graduate Studies , Mahidol University
for the degree of Master of Science (Public Health)
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4236383 PHPH/M : MAJOR: HEALTH EDUCATION AND BEHAVIORAL SCIENCE; M.Sc. (PUBLIC HEALTH)
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Leptospirosis is still one of the public health problems which need to be prevented and controlled since contact cases have been increasing, especially among the age group of 12 to 44 years. The objective of this quasi-experimental research was to study the effectiveness of an empowerment program in which the Appreciation Influence Control (AIC) concepts were applied. The program was designed for 27 community leaders to perform prevention and control of Leptospirosis. The community leaders comprised the village headman, community health volunteers, members of the housewives group and members of the community saving fund group. They were required to participate in the empowerment program for 12 weeks. A self-administered questionnaire was used to collect data, both before and after experimentation. Informal talks and participatory observation of the experimental activities were also used to collect qualitative data. The project was followed up on five subsequent occasions.

Research results reveal that after the implementation of the empowerment program among the community leaders, the leaders gained more knowledge, had better perception regarding susceptibility, severity and self-efficacy , and performed better prevention and control behaviors in relation to Leptospirosis than before the experiment with; statistically significant difference. The leaders could implement the Leptospirosis project as planned. It was also found that the sampling group of people in the experimental village had significantly better knowledge of Leptospirosis prevention and control behaviors than before the experiment. Regarding the performance satisfaction of the leaders, a statistically significant difference between the experiment and the control groups was not found. These research results indicate that empowerment programs with the AIC concepts should be used in other similar areas.

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สมหญิง อรรคธรรม : การสร้างพลังแกนนำชุมชนในการป้องกันและควบคุมโรคเลปโตสไปโรซิส อำเภอเมือง จังหวัดชัยภูมิ (COMMUNITY KEY PERSON EMPOWERMENT FOR LEPTOSPIROSIS PREVENTION AND CONTROL MUANG DISTRICT, CHAIYAPHUM PROVINCE) คณะกรรมการควบคุมวิทยานิพนธ์ : นิรัตน์ อิมามี, Ph.D., วาสนา จันทร์สว่าง, ศศ.ม., ประหยัด แดงสุภา, วท.ม. 97 หน้า ISBN 974-04-1500-8

โรคเลปโตสไปโรซิส ยังคงเป็นปัญหาสาธารณสุขที่สำคัญที่ต้องป้องกันควบคุม เนื่องจากมีจำนวนผู้สัมผัสเชื้อเพิ่มขึ้นเรื่อย ๆ โดยเฉพาะในกลุ่มอายุ 12-44 ปี การวิจัยครั้งนี้เป็นการวิจัยกึ่งทดลอง มีวัตถุประสงค์เพื่อศึกษาประสิทธิผลของโปรแกรมการสร้างพลังที่ประยุกต์แนวคิดของ AIC (Appreciation Influence Control) ในการป้องกันและควบคุมโรคเลปโตสไปโรซิส โดยแกนนำชุมชน ซึ่งประกอบด้วยผู้ใหญ่บ้าน อาสาสมัครสาธารณสุขชุมชน สมาชิกกลุ่มแม่บ้านและกลุ่มออมทรัพย์ประจำชุมชนจำนวน 27 คน ที่เข้าร่วมโปรแกรมการสร้างพลังเป็นเวลา 12 สัปดาห์ รวบรวมข้อมูล ด้วยใช้แบบสอบถามทั้งก่อนและหลังการทดลอง รวมทั้งการรวบรวมข้อมูลเชิงคุณภาพโดยวิธีการสนทนาแบบไม่เป็นทางการ การสังเกตแบบมีส่วนร่วมในกิจกรรมการทดลอง มีการติดตามประเมินผลการดำเนินโครงการ 5 ครั้ง

ผลการวิจัยพบว่า หลังดำเนินการทดลองโปรแกรมการสร้างพลังในกลุ่มแกนนำชุมชนในการป้องกันและควบคุมโรคเลปโตสไปโรซิส มีผลทำให้แกนนำชุมชน มีความรู้ การรับรู้โอกาสเสี่ยงและความรุนแรงของโรค ความคาดหวังในความสามารถของตนเอง และพฤติกรรมการป้องกันและควบคุมโรคเลปโตสไปโรซิสมากกว่าก่อนการทดลองอย่างมีนัยสำคัญทางสถิติ แกนนำชุมชนสามารถวางแผนและดำเนินโครงการตามที่ได้กำหนดไว้ได้ นอกจากนี้ยังพบว่า ประชาชนกลุ่มตัวอย่างในหมู่บ้านทดลองมีความรู้และพฤติกรรมในการป้องกันและควบคุมโรค เลปโตสไปโรซิสดีขึ้นกว่าก่อนทดลองอย่างมีนัยสำคัญทางสถิติเช่นเดียวกัน ส่วนในเรื่องความพึงพอใจในการดำเนินงานของแกนนำชุมชนนั้นไม่พบความแตกต่างกันอย่างมีนัยสำคัญทางสถิติ จากผลการวิจัยแสดงให้เห็นว่าการนำรูปแบบการสร้างพลังมาประยุกต์ใช้ร่วมกับกระบวนการ AIC ทำให้ชุมชนสามารถวางแผนการป้องกันและควบคุมโรคเลปโตสไปโรซิส ได้อย่างมีประสิทธิผล ดังนั้นจึงควรนำวิธีการนี้ไปประยุกต์ใช้ในพื้นที่อื่น ๆ ที่ใกล้เคียงกันต่อไป

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CHAPER I

INTRODUCTION

Background of the Problems

Leptospirosis is one of a major health problem. It is transmitted to human by animals (Zoonosis), which carry small virus called 'Leptospirainterogans'. There are currently more than 200 types of this virus that have been found (Serovars). It can live well in the humid condition, with oxygen, pH about 7.0 – 7.4, temperature 28 – 30 °C. The infection occurs through direct contact with infected animal urine or making direct contact with contaminated environment. Consequently, virus can penetrate into scare or wet skin of a host. Patient, who has obvious symptoms, always infected with the severe virus and causes serious symptoms, for instance, Icterrohemorhagia and Bataviae type. Both types will cause the high body temperature, pale, bleeding in internal organs and dysfunction of kidney (renal failure) more seriously than other types. Incubation period of the disease is approximately 10 days, however, it might be early as 2 days or quite late up to 26 days.

The observation of Leptospirosis disease during 5 years period from 1990 to 1994 (Leptospirosis Centre:1992) shown that there was a largest number of patients, with 190, in 1990 and reduced to 100 patients in the year after. It was increased again in 1995 with 143 patients and 4 death. If both figures are expressed as an incidence rate, the rate will be 0.24 and 0.006 per hundred thousand.

The outbreak of the Leptospirosis has been significantly increasing and becomes a serious problem of public health since 1996. Despite the controlling of Leptospirosis programs have been implementing, the outbreak still occurs in many areas, especially in

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the northeastern part of Thailand. The epidemiological center - region 5 reported that since January 1st to December 30th, 1999, there were 5,709 patients or 9.3 per one hundred thousand population in 60 provinces. This figure was higher 2.56 times than in 1998. And this statistic tends to increase. There were 232 deaths or the mortality rate of 4.06. The most important to be noticed is that, northeastern part has the highest statistical record of the incidence rate of 24 per hundred thousand.

When each region of the country was considered (Epidemiological Section: Public Health Subdivision), it was found that region 5 had the highest incidence rate of Leptospirosis of the country with the rate of 38.8 per one hundred thousand. The second and the third rank were region 6 and 9, respectively. In term of incidence rate, Bureeram province was the highest rate with 106.9 per one hundred thousand, the next rank were Chaiyaphum, Surin, Mahasarakarm and Nakornratchasima with the rate of 25.4, 24.89, 24.64 and 16.92 per one hundred thousand, respectively (Public Health Office Region 5, 2000:3 – 5).

In 1999, Chaiyaphum was found to be the third record of the outbreak crisis in Thailand, with lower than Bureeram and Khon Kaen. There were 282 patients, with the incidence rate of 25.4 per one hundred thousand. There were 20 death or 7.2 percent of case fatality. This was the highest rate of the region 5. The Leptospirosis situation in Chaiyaphum during January 1st to June 30th, 2000 (Planning Division: 2000) was that, there were 131 cases, or the incidence rate of 11.8 per one hundred thousand. In addition, there were 4 death, expressed as the case fatality rate of 5.1.percent. Further more, it was found that the patients were found in all districts of the province. Lardyai had a largest number of Leptospirosis patients in 1999 as well as in 1998, even though the Public Health Office Region 5 has been organized and launched the public health

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program activities to control the disease in all districts and sub-districts. (Public Health Region 5, 2000: 30 – 32).

In the past, in practice, the local health officers provided health education and the investigation of the disease was done only when the new case was reported. The health information about the Leptospirosis was given to the local health volunteers and hopefully they could transfer the health knowledge to the local people.

The researcher did a preliminary study through observation and focus group discussion among 10 samples of selected people and selected community health volunteers of village number 3 and number 8 in Lardyai sub-district. It was found that there were factors related to prevention and control risk behaviors of Leptospirosis. For example they believed that field rice rats were only the reservoir of the disease. They had misperception of severity of the disease. They thought that the disease was not quite serious and could be cured simply by taking a tablet. Usually the patients would wait until they had high body temperature for many days and got muscular pain before went to see a doctor.

They had unfavorable perception of the severity of the disease. They thought, the public areas would not be the place of infection even though there were rats in these public areas. They believed that the risk areas were in rice farms. They had low self-efficacy in controlling and preventing the disease. They told that they could not be able to control the disease because their villages were too large for them.

From observation, there were many water places in and around the villages that were high potential for disease infection. They informed that the villagers did not like to wear boots while working in rice farm because it was not quite convenience to walk as well as to work.

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They, community leaders and the community health volunteers, never been organized as a group to plan and to implement the prevention and control program for Leptospirosis. They usually work individually for example, they try to get rid of rats only in their own houses.

The local health officers rarely provided health information or trained local people about how to prevent and control of disease. The health information regarding the Leptospirosis would be provided to the public only after the outbreak period.

At presently, most countries of the world have been spending a large amount of budget to improve the quality of life of their people through new technologies and strtegies. The government of Thailand also concerns much about the value and the quality of human source. The 8th Economic and Social Development Plan of Thailand (1997 – 2001), expressed that 'human' is a center for development to solve the basic problems of the country such as poverty and education. The solving of these basic problems eventually will be able to improve the standard of life of the people. They will be self-reliance, be able to plan their lives, and live in the society with happiness. Therefore, in summary, the primary health care strategies should be expanded to the family level and be emphasized more on quality. The community participation and involvement as well as the social mobilization from local level should be more emphasized also.

From the results of the preliminary study of the sample community leaders plus the primary health care strategies concepts, thus the researcher would like to study the effectiveness of empowerment program for the community leaders to perform the preventing and controlling of Leptospirosis.

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Research problems

The empowerment program with the application of the A-I-C concepts will bring changes among the community leaders in the following aspects:-

1. Knowledge about Leptospirosis.
2. Perception on susceptibility and severity of Leptospirosis.
3. Perception on self-efficacy regarding the prevention and control of Leptospirosis.
4. Self protection practices and control behavior of Leptospirosis.

Objective of the study

General Objective

To study the effectiveness of empowerment program with A-I-C process among the community key persons on prevention and control of Leptospirosis in Ladyai sub-district, Muang district, Chaiyaphum province.

Specific Objectives

1. To asses the behavioral changes among community key persons in relation to preventing and controlling of Leptospirosis as follows:-.

1.1 Knowledge about Leptospirosis.

1.2 Perception on susceptibility and severity of Leptospirosis.

1.3 Perception on self-efficacy regarding the prevention and control of Leptospirosis.

1.4 Self protection practices and control behavior of Leptospirosis.

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2. To asses the behavioral changes among selected community people in relation to preventing and controlling of Leptospirosis as follows:-.

2.1 Knowledge about Leptospirosis.

2.2 Self-protection practices and control behavior of Leptospirosis.

2.3 Satisfaction of the community key persons' actions on the Leptospirosis program.

Hypothesis

1. The empowerment program with A-I-C process will enhance the community key persons on the following aspects of prevention and control of Leptospirosis:-

1.1 Knowledge about Leptospirosis.

1.2 Perception on susceptibility and severity on Leptospirosis.

1.3 Perception on self-efficacy regarding the prevention and control of Leptospirosis.

1.4 Self-protection practices and control behavior of Leptospirosis.

2. The implementation of Leptospirosis program by the community key persons will improve the following prevention and control of Leptospirosis behaviors among the selected community people:-.

2.4 Knowledge about Leptospirosis.

2.5 Self-protection practices and control behavior of Leptospirosis.

2.6 Satisfaction of the community key persons' actions on the Leptospirosis program.

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Studied variables

1. Independent variable is the empowerment program with A-I-C process for community key persons
2. Dependent variables are
    2.1 Knowledge about Leptospirosis.
    2.2 Perception on susceptibility and severity of Leptospirosis.
    2.3 Perception on self-efficacy regarding the prevention and control of Leptospirosis.
    2.4 Self protection practices and control behavior of Leptospirosis.
    2.5 Satisfaction of the community key persons' actions on the Leptospirosis program.

Definition of Terms

1. Empowerment program is the designed health education program activities that were developed based on the application of empowerment and A-I-C concepts. Participatory learning, group process and brainstorming were mainly used for program activities. The program was designed for the community key persons to change their prevention and control behaviors for Leptospirosis regarding, Knowledge about, perception on susceptibility and severity, perception on self-efficacy regarding the prevention and control of Leptospirosis and self-protection practices and control behavior of Leptospirosis.

2. A-I-C is a workshop based technique that encourages the involved persons to consider social political, and cultural factors along with, technical and economic aspects that influence a given project or policy. It concepts were applied to

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help the community key persons identify a common purposes in prevention and control of Leptospirosis; to encourage them to recognize the range of stakeholders relevant to that purposes; and to create and enabling forum for them to pursue that purposes collaboratively.

3. Perception on susceptibility of Leptospirosis is the perception of the community key persons and the sample people that they have a chance to get infect with the Leptospirosis, if they perform unfavorable self-protection practices. Self-administered questionnaire with five points rating scale was used to measure the susceptibility.

4. Perception on severity from Leptospirosis infection is the perception of the community key persons that the infection of Leptospirosis is quite serious. It might be harmful to the physical, emotional as well as the economic status. Self-administered questionnaire with five points rating scale was also used to measure the severity.

5. Self-efficacy refers to belief in the ability of the community key persons in carrying out the prevention and the control program activities for Leptospirosis.

6. Prevention and control program refers to behavioral practices or actions of the community key persons and of the sample people about their self protection practices as well as their prevention and control activities according to the standard measures. Three level of practice, always, sometimes and never were used to measure the behaviors.

7. Community key person refers to any person in the community who was selected by the community members to be their leader. In this study the key persons were limited to formal leaders, village headman and assistant village headman;

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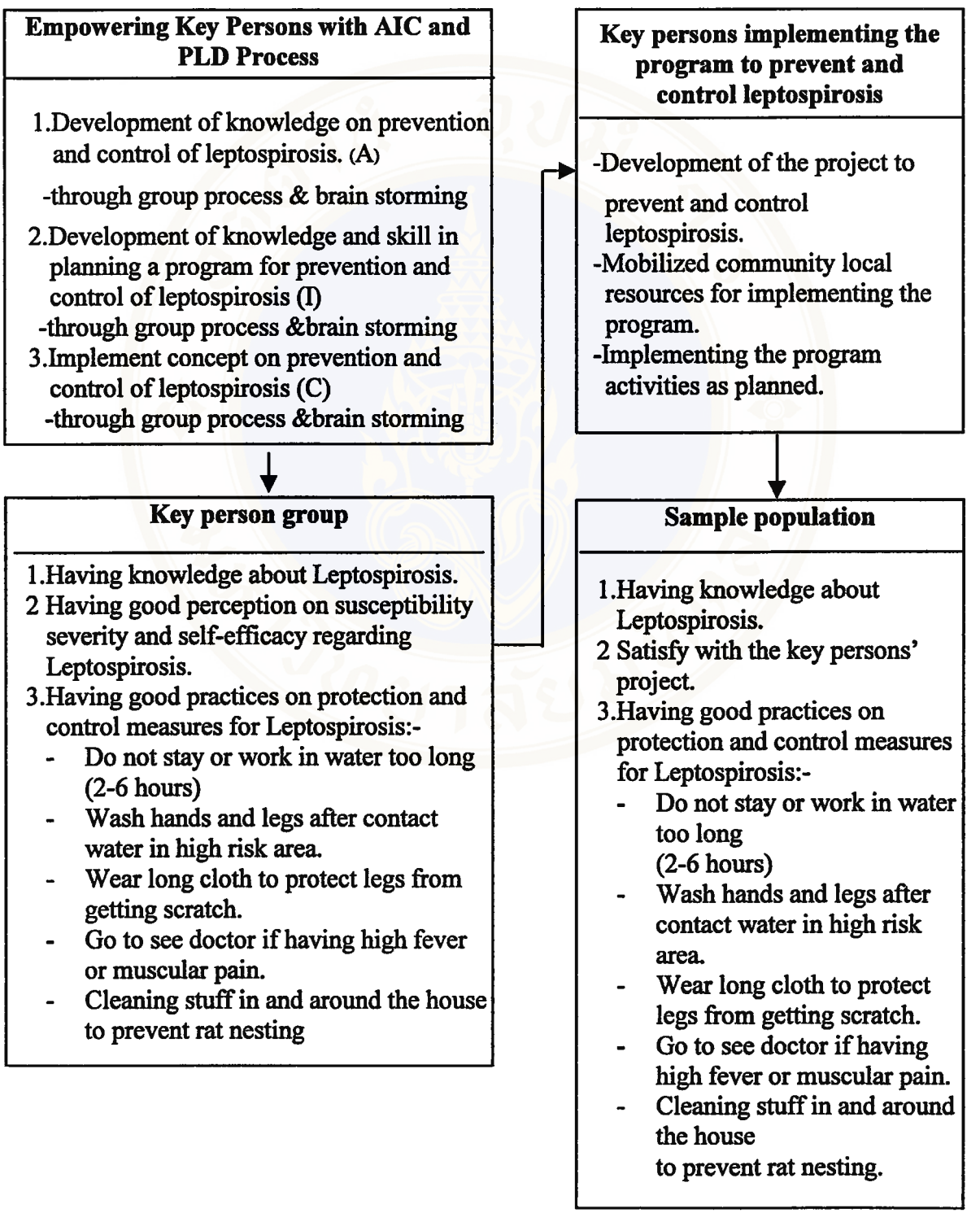
community health volunteer; municipality committee member and committee member of the community saving fun group.

Research Conceptual Framework



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CHAPTER II

LITERATURE REVIEW

LEPTOSPIROSIS

Leptospirosis is an uniquitous zoonosis, caused by infection with a spirochaete of the genus *Leptospira*. Infections have been described in all types of warm-blooded vertebrates. Mammals, marsupials and possibly birds can be infected in natural conditions, while all can be infected experimentally. Further studies of leptospirosis in cold-blooded vertebrates are required. Acute leptospirosis ranges in severity from sub clinical to fatal. Animals (but seldom humans) that survive acute infection may become chronic carriers, maintaining reservoirs of leprosies in their kidneys or genital tracts. Humans, infected through direct or indirect contract with infected animals, are accidental and end hosts from whom transmission does not proceed further; human-to-human transmission is extremely rare, but congenital transplacental infection can occur. Among domesticated animals, genital carriers are known to transmit leptosppirosis venereally, and transplacental infection is important.

The principles that govern the development, course and management of leptospirosis are the same in all animals. The clinical manifestations, severity and progress and epidemiological consequence of leptospirosis differ according to the nature of the infecting leptospire, and the biology, habits and habitat of the animal species. The risks and consequences of leptospirosis for humans are determined by socio-geographical considerations. It is especially hard to control transmission of

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leptospirosis to humans because it is a zoonosis affecting people whose lives are inextricably connected with wide or domesticated animals.

Leptospirosis in humans

Leptospirosis commences suddenly with headache, fever (typically to 102°F , 39°C) malaise, muscle pains, conjunctival suffusion (red eyes) and a transient rash on the palate and skin. Thereafter the illness may be mild and self-limiting or severe and possibly fatal. The mild type may be serious and incapacitating but seldom leads to kidney or liver failure, hemorrhages or death.

Mild Type.

This description is applicable worldwide to illness characteristically seen in infection with serovars hardjo, grippotyphosa or pomona, but also with others. The initial symptoms may be followed by transient remission, in 3 to 5 days, which may infrequently proceed to an exacerbation and include "aseptic" meningitis, renal failure and abdominal or chest pains, reflecting the generalised pathology. Clinical difference diagnosis is required between leptospirosis and severe influenza, viral meningitis, acute abdominal conditions or glomerulonephritis. Recovery is usually complete but weakness, tiredness, depression, and even psychosis may prevent a return to normal living for weeks or months.

Severe Type

Characteristically this is seen in severe infections with serovars icterohaemorrhagiae, copenhageni, bataviae, javanica and others. Illness worsens, usually rapidly after onset, so that renal failure appears within 7-10 days, sometimes accompanied or followed by skin and mucosal haemorrhages, haemoptysis, mycocarditis, or liver failure, leading to death if

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untreated. Peritoneal or extracorporeal dialysis is frequently lifesaving and recovery of renal function subsequently is usually complete; the patient usually recovers to normal activity eventually, provided that other organs (e.g. heart) survived serious damage. Reported relapse and chronic infection are poorly documented.

Leptospirosis of either type in pregnancy carries the risks of intrauterine infection and fetal death.

Pathogenesis and pathology

Leptospirosis enter through small cuts or abrasions or possibly through sodden skin, or by inhalation of aerosols of urine. They spread immediately and circulate in the blood stream although they are phagocytosed by liver and lung fixed macrophages. This diagnostically significant bacteraemic phase lasts for about 1-7 days. After the numbers of leptospirosis in the blood and tissue reach a critical level, lesions due to the action of leptospiral toxin and consequent symptoms appear. The primary lesion is damage to the endothelium of small blood vessels, leading to localized ischaemia in organs resulting in renal tubular necrosis, hepatocellular damage, meningitis, myositis and placentitis. Hemorrhages occur in severe cases as do jaundice and frequency, platelet deficiency. There is usually a mild granulocytosis and splenomegaly. Once immunity develops, leprosies are removed from the circulation and from tissues and organs by phagocytosis, following opsonization, as seen by the appearance of circulating antibodies which can agglutinate and opsonize leptospirosis. Tissue damage, even though it is severe, may be reversible and followed by complete repair (e.g. kidney, liver) although long lasting damage (e.g. myocarditis) may be a complication and may lead to scarring, well recognized in the kidneys of pigs and dogs.

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Mode of transmission

The reservoirs of leptospirosis in the organs of infected animals, from which they infect fresh hosts by direct or indirect means of transmission, are the sources of leptospirosis. Implications and control of these means of transmission are discussed elsewhere. Humans are infected almost exclusively from sources originating in animals. Direct transmission of leptospirosis between humans is extremely rare.

Most commonly encountered leprosies are transmitted directly from the urine of a renal excretor to another animal or person, from an acutely infected mother to her fetus, or from a chronically infected genital carrier during mating. People in selected occupations who handle infected organs or tissues can get leptospirosis from them. Indirect transmission by water, soil, mud or similar vehicles contaminated with pathogenic and virulent leprosies is common and frequent. The infection can develop at a site remote from the source. Epidemiological implications and control are discussed elsewhere

Immunity

Immunity is apparently solely humoral, and can be passively transferred via placenta and colostrum or by serum. Intracellular sequestration of leptospire and cellular immunity are not important in resistance to re-infection. However leprosies may persist in kidney, brain and genital tract in animals and in sequestered sites (anterior chamber of the eye) in humans and animals, leading to hypersensitive (allergic) inflammation (uveitis) on further contract with leprosies, and eventual panophthalmitis and blindness in horses.

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Diagnosis and prognosis

Clinical diagnosis of leptospirosis in humans requires the confidence of current experience supported by laboratory confirmation. The symptoms, while characteristic, are not pathognomonic. The epidemiological environment, clinical history, symptoms and findings on physical examination may allow a clinical diagnosis but usually laboratory diagnosis is required. The main clinically useful features are the sudden onset, severity of headache and fever; almost invariable proteinuria and initially mild or transient nitrogen retention and the palatal and skin rash, conjunctival suffusion and extreme muscle tenderness, especially in the calf and back muscles. Presenting symptoms may mimic or indeed result from an abdominal emergency (e.g. acute cholescystitis), from hemorrhages (haemoptysis), renal failure or liver failure (jaundice).

Patients almost invariably recover completely from the mild type of leptospirosis. Antibiotic treatment hastens recovery and prevents complications and progress to secondary pathology. Long term sequelae are uncommon and usually temporary. If leptospirosis progress to the severe from with renal failure hemorrhages in vital organs and liver failure, renal dialysis and supportive treatment are almost always lifesaving but severe myocarditis may still result in death. Recovery from renal failure appears to be complete and leaves no lasting renal or other organ impairment.

Treatment prevention and control

Antibiotic treatment is effective within the first 7 to 10 days of infection. It should be given immediately on diagnosis or suspicion. Rapid effective antibiotic treatment can reduce the advance of symptoms and the likelihood of sequelae. It can thus prevent progress to the severe manifestations of illness.

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Antibiotic will eliminate leprosies from accessible tissues but will not reverse already established pathological changes, which must run their course and be treated symptomatically or appropriate non-antibiotic therapy.

The antibiotic of choice is benzyl penicillin by injection in doses of 5 mega units per days. A variation is to give half the dose in procaine penicillin for the first 2 days of yhe regime. Patients genuinely hypersensitive to penicillin may be given erythromycin, 250 mg four times daily for 5 days. Doxycyclin (100 mg twice daily orally for 10 days) is also recommended for patients who can tolerate oral therapy. Tetracyclines were used previously but are contraindicated in-patients with renal insufficiency (which occurs in almost all), in children or in pregnant women. They have no place nowadays where alternatives are available. Doxycycline has been used as a chemo prophylactic for short- term exposure, but it cannot be recommended for routine continuous use or for long term occupational exposure.

Prevention

Prevention is difficult. Surveillance can establish the extent of risk, and likely sources of infection. Measures for occupational hygiene such as protective clothing and avoidance of splash from urine or water and often useful but hard to implement because they impede work or are unacceptable to both workers and employers on grounds of cost and perceived low effectiveness. It is not practicable to advice dwellers in tropical villages, for example, to avoid hazardous activities like contact with pigs and other livestock or dogs, and walking or working in wet conditions, including in soil or water contaminated by the animal's urine.

Vaccines for people are have been used successfully in China following floods resulting in exposure of large populations to risk of leptospirosis, and in Japan and Vietnam. Repeated annual revaccination is recommended to retain immunity. The duration of immunity following either natural infection or vaccination is not well documented or certain. Immunity against the

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same serovar is believed to be long lasting, even lifelong, but reinfections with the same or a different serovar have been recorded. Significant debility has been reported from vaccine reactions following single or repeated immunization.

Vaccination of livestock can reduce urinary shedding and risk to human handlers especially, and perhaps only, when associated with a high level of education, awareness, cooperation and hygiene in the community, and support from the instrumentalities responsible for administration of human and veterinary public health. Prenatal vaccination of sows protects young piglets from acute leptospirosis but not from being carriers as adults, thus failing to reduce the risks to handlers, slaughter man and other meat-workers.

Chemotherapy of livestock with dihydrostreptomycin has been used but is relatively expensive and is not practical for widespread control.

THE CONCEPT OF EMPOWERMENT

The present definitions of empowerment have been largely developed by psychologists in industrialized countries in the areas of neighborhood empowerment and community mental health where it has been given pervasive and positive value (Rappaport, J., 1987;Swift and Lewin, 1987, Kari and Michels, 1991). The definitions reflect the motion that empowerment must come from within a person/or a group and can not be given to an individual, a group or community, for example:

Empowerment may be generally described as the connection between a sense of personal competence, a desire for and a willingness to take action in the public domain. (Zimmerman and rappaport, 1988)

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Empowerment is the process by which individuals and communities are able to take power (ability to predict, control, and participate in one's environment) and act effectively in transforming their lives and their environments. (Minkle, 1990)

A social action process that promote participation of people, organization and communities towards the goals of increased individual and community control, political efficacy, improved quality of life and social justice. (Wallerstein, 1992)

Empowerment, or community empowerment, a similar usage because of the social context in which empowerment take place, thus embodies an interactive process of change, where institutions and communities become transformed as people who participate in changing them become transformed. Rather than pitting individuals against community and overall societal needs, the empowerment construct focuses on both individual and community change (Wallerstein & Bernstein, 1994).

Empowerment, as defined by Israel et al. (1994), composed of three different levels individual, organization and community.

1.Individual or Psychological Empowerment: It refers to an individual ability to make decisions and have control over his or her personal life. It is similar to other constructs such as self-efficacy and self esteem in its emphasis on the development of the positive self-concept or personal competence. Empowerment at the individual level is linked with the organizational and community level through the development of personal control and competence to act, social support, and the development of interpersonal, social and political skill.

2.Organizational Empowerment: Empowering organizations are democratically managed, in which members share information and power, utilize cooperative decision making processes, and involved in design, implementation, and control of effort toward

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mutually defined goal. Empowerment at the organizational level incorporated both processes that enable individuals to increase their control within the organization, and the organization to influence policies and decision in the larger community.

3.Community Empowerment: An empowered community is one in which individuals and organization applies their skill and resources in collective effort to meet their respective needs. Through such participation, individuals and organizations within an empowered community provide enhanced support for each other, address conflicts within the community, and gain increased influence and control over the quality of life in their community.

A review of the empirical literature resulted in the identification of eleven "critical" factors which positively influence the process of community empowerment: outside agents as the promoters of change, true participation, attention to marginalized populations, resource mobilization, critical thinking, organizational structures, leadership, governance, needs assessment, programme management and partnerships. (Iawerack, 1996)

EDUCATION FOR EMPOWERMENT

Much of theoretical underpinnings of empowerment education come from Brazilian educator, Paulo Freire, in 1960's, based on highly successful literacy training program for slum dwellers in Brazil. Freire' s students learned to read and write through discussion of basic problems they themselves were experiencing. As the causes of their problems become clear, the students analyzed and discussed what joint action could be taken to change their situation. A Freirian programme emphasizes action and subsequent reflection as keys to the learning process.

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In the last three decades, Freire' s ideas have been a catalyst for worldwide program in literacy, English as a second language, health education, and work with teenagers, college course, and community development (Wallerstein, 1992). Various names of this type of educational programme were called participatory literacy education (Jurmo, 1989), popular education (Bishop ET al. 1988; Arnold & Burke, 1983) pedagogy for liberation (Shor & Freire, 1987), pedagogy for the oppressed (Freire 1981; translated by Rumos), training for empowerment (Marshall et al. No date), empowerment health education model (Wallerstein, 1992) and life-skills training (Botvin & Will, 1985).

Empowering people to enhance their own health was recommended by WHO (1991) as the ultimate goal of self-care strategy. One recommendation was made as a significant measure to implement effective health promotion program, as social action in which three other strategies are needed to create social action: 1) Advocacy; 2) Social Support; and 3) Empowerment (Dhillon, 1992). Nevertheless, besides individual empowerment, other strategies need to be under taken in order to change desirable behaviors of the people, as known as environmental supports. In the process of empowering people, educational principle are needed to be applied. Educational principles suggested by educational psychologists (Bishop et al. 1988; Arnold & Bruke,1983 ; Duongsaa & Duongsaa,1994) were as follows:

1.To empower people by supporting learner to form relationship between themselves and the world and promote changed perception of self-worth and a belief in the mutability of harmful situation.

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2.The starting point is from the concrete experience of the learner, then critically assessing the social, historical and cultural root of their problems, and develops action strategies to change their personal and social lives.

3.Involving a high level of participation, people learn less from listening passively to an expert's talking about things, and learn more from being actively involved in their own learning: exploring the situation, investigating the problem, searching for alternative, and planning for action and solution.

4.A collective learning: it is assumed that everyone is learning together; every teaches, every learns. Though a group process not only promote intense individual learning but also a powerful group learning that can lead a significant action.

5.Change: the change may not be observable by other, it may be immediate or take time to change; but learning brings about some type of change in understanding, knowledge, attitude, feeling and skill.

6.Leads to action for change: empowerment education is not only can change the above psychological factor, but also provides the opportunity and stimulus for planning action and creating change.

7.A Flexible educational process of lifelong learning that continually adapts to the changing historical and local conditions of participants.

8.It is fun.

Appreciation-Influence-Control

"Appreciation Influence Control" (AIC) is both a philosophy and a model for action. The philosophy, anchored by the principle that power relationships, are central to the process of organizing, was translated into a model for organizing

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development work by William E. Smith in the late 1970s and early 1980s. AIC is a workshop based technique that encourages stakeholders to consider social, political, and cultural factors along with technical and economic aspects that influence a given project or policy. AIC (a) helps workshop participants identify a common purpose, (b) encourages participants to recognize the range of stakeholders relevant to that purpose, and (c) creates an enabling forum for stakeholders to pursue that purpose collaboratively. Activities focus on building appreciation through listening, influence through dialogue, and control through action.

AIC is a process that recognizes the centrality of power relationships in development projects and policies. Conferences that are part of the AIC process encourage stakeholders to consider social, political, and cultural factors in addition to technical and economic factors that influence the project or policy with which they are concerned. In other words, AIC facilitates recognition of "the big picture." This process has been implemented in a variety of sectors and settings, including local, regional, and national.

The AIC Process

In the development context, AIC proceeds along the following course: identifying the purpose to be served by a particular plan or intervention; recognizing the range of stakeholders whose needs are addressed by that purpose. And, through the AIC process, facilitating creation of a forum that empowers stakeholders to pursue that purpose collaboratively. Through the AIC process of meetings, workshops, and activities (collectively referred to as the "conference" in AIC terms), stakeholders are encouraged to do the following:

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- Appreciate through listening. Appreciate the realities and possibilities of the situation by taking a step back to gain perspective on the stakeholders and situation.

- Influence through dialogue. Explore the logical and strategic options for action as well as the subjective feelings and values that influence selection of strategies.

- Control through action. Enable the stakeholders to take responsibility for choosing a course of action freely, based on information brought to light in workshops, meetings, and activities.

AIC Philosophy in Practice

AIC was designed to break the patterns of "top-down" planning by stressing the following:

- The value of small, heterogeneous groups. Initially, when stakeholders are meeting, perhaps for the first time, heterogeneous, small groups allow for interaction and learning among people who tend not to interact in daily life. The objectives of these small groups are to interrupt the normal mood, thus opening participants to new ideas and different perspectives.

- The value of homogenous groups. Later on, when a strategy is generated for realizing the vision created during the appreciation phase, the power of homogenous groups of stakeholders, who share a common language, is harnessed for action. The objective of these groups is to consolidate

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the expertise of like stakeholders, each of which has recently learned the perspectives of the other stakeholders at the conference.

- The value of symbols. Language and literacy differences can be a stumbling block, particularly at the beginning of a conference when participants are becoming familiar with each other's objectives. Participants often begin by creating nonverbal representations of their experience and understanding-drawings and pictures-to ease communication and to elicit creative thinking.

- The value of the written word. Agreements reached during sessions are promptly written up after the first workshop to clarify and create a common understanding of the elements of the plan. Seeing the groups' progress in writing helps participants to understand their individual responsibilities in context and to move forward on their commitments.

- The importance of a strong facilitator. The type of listening encouraged by AIC can be stressful for people who are used to taking immediate, decisive action. Similarly, certain stakeholders might not be accustomed to voicing their opinions. A skilled facilitator is trained in navigating around tough spots, guiding the entire group through new experiences, and stimulating open discussions and negotiation. The facilitator is a critical catalyst for setting the AIC conference in motion and for steering participants toward a conference closure that leads to action.

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Development of leptospirosis protection measures

Factors related to the increasing of the disease.

1. Public health officers and common people had not enough knowledge about the disease.

2. The diagnosis for Leptospirosis is quite complicated and all the leptospire could not be diagnosed by laboratory test. Thus using the lab test for the clinical diagnosis and for suspected death is not insisted. .

3. Clinical symptoms of the disease are similar to many others infectious diseases, causing the reliability of diagnosis and specific treatment.

4. Disease detection could not be clearly point out specifically about the carriers and the reservoir because the leptospire in the environment, in the patients and in the carrier animals is hardly to identify.

5. Controlling of the disease carrier animals is difficult even trying to get rid of rats. Campaigning solely could not stop disease spreading because, besides rats, there are other carrier animals such as buffalo, cow and pig.

Diagnosis

Laboratory test should be done for all suspect cases. The paired serum must be used, the second test should be done at least 10 days after the first test even though the patients already be discharged. To be confirmed by the second lab test, the test should be performed by the authorized standard institute, such as by the Department of Communicable Diseases Control or by the Department of Medical Science, Ministry of Public Health. In case of the first serum test is positive, the Department of Medical Science will support the latex to collect data for the report form number 506. If the test result is negative, then wait for the second serum test.

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Controlling measures by local health officer: using 4 E

Early Detection

Active case finding or surveillance cases in an endemic area should be done as early as possible. The village health volunteers should be used to do the early detection and screening. The suspected case or the high risk case will be referred to local health office. Then the health officer will review the clinical symptoms and perform the second E procedure.

Early diagnosis

General indications and criteria for early diagnosis are as follow:-

1. Had experience in walking, staying in water or contacting with water in risk areas.
2. Had high fever (38-40 °C)
3. Had severe headache.
4. Had muscular pain around calf, thigh or hip.

If the suspected case had the above criteria then it should be aware that he or she might be infected with leptospirosis. The suspected case should be transferred to see the doctor immediately. And the latex test will be done for case diagnosis. If the latex test result is positive then the case is confirmed.

Early treatment

1. If the suspected case had high fever (38-40 °C) for more than 3 days; plus having experience in walking, staying in water or contacting with water in risk areas; having severe headache and having muscular pain then he or she must be referred to the nearest hospital immediately.

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2. If the suspected case had high fever less than 3 days, then prescribe Doxycyclin 100 mg. 1 tablet 2 times a day between 6 hours after meal. If the suspect does not get better in 2 days or having jaundice, yellow eye then he must be referred to the hospital.

Early control

For the high risk areas

1. Provide health education to the people regarding:-
   1.1 Risk environment.
   1.2 Risk behaviors.
   1.3 Self protect behaviors such as warning shoes , eating cook meal
2. Implementing the active case surveillance in the community in order to detect the suspected cases as early as possible.
3. Get assistant from the government health authorities to asses the present situation as well as to prevent and control the disease in advance to prevent or reduce it's severity.

Community based control measure

Community is a center for change and development. The community should be empowered in order to enhance and to increase the capabilities of the community to think, to plan and to implement a program project by themselves. They must relies that leptospirosis is quite severe. There fore the health practice behaviors, regarding protection, prevention and control of leptospirosis, should be changed or adapted. Family, community and local administrative organization should be involved in the following activities:-

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1. Get rid of rats by using local appropriate technologies both mechanical and chemical methods and get rid of rabbits and rat food continuously.
2. Promote knowledge and understanding about the disease including the emphasize of risk environment, risk behaviors self protection practices. The community building, networking to communicate leptospirosis news among villagers should be considered also.
3. Define the cattle area to protect the cattle away from agriculture and risk water area.
4. Define the cattle transportation law especially the economic cattle such as cow, buffalo, and pig, which can carry the disease.
5. Establish the leptospirosis shoes fund to make people ware shoes every time going out of the house and people in the village must need to have the fund to have shoes to protect the leptospire and wound. The Department of Communicable Disease and Control will support 50 lepto shoes for each village the fund and the procedure will be set by the members of the village.

Review literature

Since there is no literature related to leptospirosis and empowerment of the community key persons, the literature review will be focused on other disease such as AIDS.

Saengduenchai S. (1999 : E studied the effectiveness of empowerment for related prevention of amphetamine dependence at Thanyarak hospital. The study

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sample was divided into an experimental group of 14 subjects and comparison group of 16 subjects. The experimental group got the empowerment program. Both groups lived normally in the hospital. The study results showed that after the program the experimental group had perceived seriousness of amphetamine and ability to prevent relapse of amphetamine used higher than before participating in the program and higher than that of the comparison group.

Kanchanomai T. (1997 : A) designed the program, key concepts of the protection motivation and empowerment theories, participation learning as well as assertiveness communication were also used to plan health education program activities. The sample of the study was 120 pregnant women. Sixty were assigned into the experimental group and the less were comparison group. The experimental group participated in the designated program activities for 13 weeks. The results showed that after the experimental group participated in health education program, changes occurred in many aspects. They were namely, the threat appraisal consists of AIDS noxiousness and perceived probability, the coping appraisal consists of self-efficacy and response efficacy on AIDS prevention behavior, with statistical significantly more accurate and higher than that of comparison group. It was also found that AIDS preventive behavior in the comparison group. Furthermore, the factors of threat appraisal, coping appraisal and intention to have proper AIDS prevention behavior of the sample. About 31 percent of the variance on AIDS preventive behavior could be explained by the above predicting variables.

Thaitawat S. (2001: V) studied the development of sub-district administration organization potentiality on AIDS prevention and control through empowerment process in Lae sub-district, Phatumrachwongsa district, Amnatcharean Province. It was

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found that SAO council members who participated in the empowerment program significantly gained more perception about AIDS, attitude toward AIDS patients and HIV^+, self efficacy, self-esteem, and ability of management on AIDS prevention and control. They made future annual policies, plans, budgets, and evaluation for AIDS prevention and control activities, namely public relations, AIDS network, sports for anti-AIDS and narcotic drug prevention, a supplemental income program, and AIDS fund. The impact of the program was that people significantly perceive an advantage of AIDS prevention and control in their community.

Pongthai A. (1995: c) studied the development of housewife volunteers for improving preventive behaviors of diarrheal disease among mothers of children under one year of age in Muang district Udonthani Province. The results of the study revealed that after the experiment in the experimental group, the perceived susceptibility, perceived severity, and perceived cost and benefit including preventive behaviors of diarrheal disease were significantly batter than prior to the experimentation and better than the comparison group. It was also found that there was a low relationship between perceived susceptibility and perceived severity and preventive behavior. On the other hand, there was no relationship between perceived cost and benefit and preventive behavior of diarrheal disease. About 6.4 percent of the variance in preventive behavior could be explained by the demographic variables. In the demographic variables, income was the only variable that could be used to predict preventive behavior of diarrheal disease.

Hansopee N. (1997 : c) studied the empowerment program to promote preventive amphetamine abuse behavior among Mathayomsuksa II students, Saraburi Province. The results of the study showed that the experimental group had significantly

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better knowledge, self-esteem, self-efficacy and practices in preventing amphetamine abuse after the experiment than prior to the experiment and than the comparison group. It was also found that knowledge, self-esteem and self efficacy were significantly correlated with practices in preventing amphetamine abuse.

Intarasomwang C. (2000 : D) studied the effectiveness of an empowerment program on AIDS prevention among pregnant woman attending antenatal care at Pramongkutklao hospital. The sample of this study was 190 pregnant women; 95 were assigned to the experimental group and the rest were assigned to comparison group. The results of the study showed that the empowerment program could effect significantly increase of knowledge, self-esteem, self-efficacy and practices in preventing AIDS among pregnant women.

Suwan P (1997: 26) studied the effectiveness of AIDS prevention and control program in family: women empowerment, and community participation. After the experimental found that the experimental group got more knowledge about AIDS than before the experimental significantly.

Paganon P.(2000:D) studied community key person empowerment for aedes aegypti larvae control in Toungsriudom district Ubon ratchathani Province. It was found that after the experiment, community key person in the experimental area had significantly better behaviors in controlling the Aedes larva than before the experiment and than those in the comparison area. However, their self-esteem and self-efficacy were not significantly different. The perception about the larva control of the key persons in the comparison area was significantly better than that of the experimental area. It was also found that the community empowerment activities made the experimental area have more group activities and participation in the larva control,

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which resulted in significant reduction of the container index (C.I.)in the experimental area.

Premkird S. (2000 : V) studied the development of sub-district administrative organization potentiality on AIDS prevention and control through empowerment process in Nakornpamak sub-district, Bangkratum district, Pitsanulok province. It was found that Sub-district Administration Organization Council members were more concerned with AIDS prevention and control after participating in the empowerment program. They made future annual policies, plans, budgets, and evaluation in AIDS prevention and control activities in short and long terms. The impact of the program was that people significantly perceived an advantage of AIDS prevention and control in their communities. They were sincerely satisfied with the programme and gave very good cooperation to the AIDS prevention and control program regarding the research findings, the empowerment program could significantly affect increase of perception, positive attitude, self efficacy, and self esteem included in the implementation in AIDS prevention and control program.

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CHAPTER III

RESEARCH METHODOLOGY

The main purpose of this study is to assess the effectiveness of empowerment program with AIC process among the community key persons on prevention and control of Leptospirosis in Ladyai sub-district, Muang district, Chaiyaphum province. This chapter will summarily presented in 5 parts.

Part 1 Research Design

Part 2 Population and Sampling

Part 3 Research Instruments

Part 4 Experimentation and Data Collection

Part 5 Data Analysis

1 Research design

This research study was a quasi – experimental research applying the empowerment concepts and methods to enhance the community key persons' health behaviors regarding the protection, prevention and control leptospirosis. Needed data were collected through interview questionnaire developed by the researcher.

The research design and the experimental chart were as follow:-

Experimental group	O1	X	O3	O4
Comparison group	O2			O5

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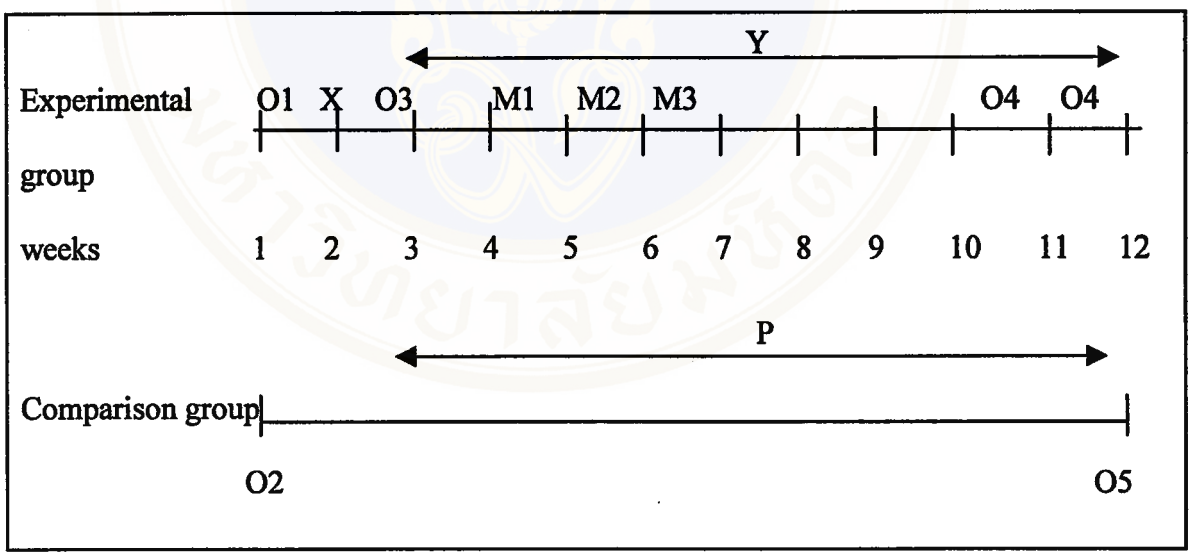
O1, O2 = Collecting data before the experimentation by using self-administered questionnaire for community key persons and using interview questionnaire for sample people both in experimental and comparison groups.

O3 = Collecting data after empowerment training in the key persons group through self-administered questionnaire.

O4, O5 = Collecting data from sample people after the experimentation both in the experimental and the comparison groups via questionnaire.

X = Implementation of the empowerment program activities

Research Procedure



O1, O2 = Collecting data before the experimentation by using self-administered questionnaire for community key persons and using interview questionnaire for sample people both in experimental and comparison groups.

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O3 = Collecting data after empowerment training in the key persons group through self-administered questionnaire.

O4, O5 = Collecting data from sample people after the experimentation both in the experimental and the comparison groups via questionnaire.

X = Implementation of the empowerment training program.

Y = Implementing program activities by key persons.

M1-M3 = Making supervision and follow up the program by researcher to advise and motivate the key persons to perform the program activities as planned.

P = Stimulating the sample people by key persons through village broadcasting tower.

2 Populations and Sampling

Research population

This research study consisted of two groups of population. The first group was community key persons that comprised if village headman, municipality council member, model housewife group, village health volunteers and community saving fun group. The second group was community people who could give information, age over 18 years old in Lad-yai sub-district, Muang district, Chaiyaphum province.

Sampling selection.

Selecting the study area through criteria

1. Choose sub-district which had the highest incidence rate of leptospirosis.

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2. The area in which the leptospirosis had been found in two consecutive years.

Selecting the comparison area

1. The comparison area must not close to the experiment area to avoid contamination of treatment between the experimental group and the comparison group.
2. The area in which the leptospirosis had been found in two consecutive years.

Selecting the sampling unit

1. The study unit were village headman, municipality council member, model housewife group members, village health volunteers and community saving fun group members in village number 8 or Mooban number 8.
2. Willing and cooperate to go through the planned program activates.
3. Can read and write.

3 Research instrument

Implementation Instrument: Empowerment training program

The training program used in this study was applied from the empowerment theory and the A-I-C concept. The program was designed in such a way that the key persons could be able to plan and implement the program regarding protection, promotion and control the leptospirosis. The training program was developed by the researcher. It aimed at the development capability of the community key persons. The

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training program took one day at the health center Lad-yai sub-district, Muang district, Chaiyaphum province. The A-I-C procedures were mainly applied for the training. The training audio visual aids included video, radio, brochures, poster and flipchart.

Instruments for Data collection

Instrument for data collection consisted of self-administered questionnaire for the key persons and structured interview questionnaire for the sample people. Both instruments, developed by the researcher, were designed to collect data about knowledge, perception and behavioral practices of the sample in relation to leptospirosis. The instruments consisted of 6 major parts.

Part 1 Socio demographic characteristics

Part 2 Question on leptospirosis knowledge

Part 3 Question about perceived severity of leptospirosis

Part 4 Question about perceived susceptibility of leptospirosis

Part 5 Question about perceived self efficacy

Part 6 Question about protection, prevention and control behaviors of leptospirosis

Part 7 Question about sample population satisfaction

Part 3-7 of the interview questionnaire was developed according to the concept of measurement of attitude of summated rating method of Likert Scale. Five choices type question strongly agree, agree, uncertain, disagree and, strongly disagree were used. To answer the questions, choose only one provided answer.

The score will be assigned as follow:-

For positive statement:-

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strongly agree	assign scores 5
agree	assign score 4
uncertain	assign score 3
disagree	assign score 2 ,
strongly disagree	assign score 1.

For negative statement:-

strongly agree	assign scores 1
agree	assign score 2
uncertain	assign score 3
disagree	assign score 4 ,
strongly disagree	assign score 5.

Part 1 Comprised of socio demographic characteristics of the respondents. The following variables were included:-name and family name, address, age, sex, educational level, and occupation.

Part 2 The knowledge question in part 2 consisted of 10 close ended questions. Zero score will be assigned for the wrong answer while score one will be assigned for the correct answer. The total score of each respondent will be categorized according to the following criteria:-

Category 1 = score 0-49	not pass the minimum criteria
Category 2 = score 50-59	pass the minimum criteria
Category 3 = score 60-69	pass the moderate criteria
Category 4 = score 70-79	pass the good criteria
Category 5 = score 80+	pass the excellent criteria

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Since the actual score gained from the study was not much different, then the above categories were adjusted.

Category 1 = score 0-59% not pass the minimum criteria

Category 2 = score 60-79 pass the moderate criteria

Category 3 = score 80+ pass the good criteria

Part 3 Perceived susceptibility questions. This part comprised of 12 five points rating scale questions. Therefore the minimum and maximum possible score will be 12 to 60. The total score of each respondent also will be categorized in to three categories according to the following criteria

Category 1 = low level Score between 12 – 35 (less than 60%)

Category 2 = moderate level Score between 36 – 47 (60 - 79%)

Category 3 = high level Score between 48 – 60 (more than 79%)

Part 4 Perceived severity questions. This part comprised of 12 five point rating scale questions. Therefore the minimum and maximum possible score will be 12 to 60. The total score of each respondent also will be categorized in to three categories according to the criteria as in part 3.

Part 5 Perceived self-efficacy questions. This part comprised of 10 five point rating scale questions. Therefore the minimum and maximum possible score will be 10 to 50. The total score of each respondent also will be categorized in to three categories according to the following criteria

Category 1 = low level Score between 10 – 29 (less than 60%)

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Category 2 = moderate level Score between 30 - 39 (60 - 79%)

Category 3 = high level Score between 40 – 50 (more than 79%)

Part 6 Protection, prevention and controlling behavior questions. This part comprised of 14 three rating point scale questions. Therefore the minimum and maximum possible score will be 14 to 42. The total score of each respondent also will be categorized in to three categories according to the following criteria

Category 1 = low level Score between 14 – 25 (less than 60%)

Category 2 = moderate level Score between 26 – 33 (60 - 79%)

Category 3 = high level Score between 34 – 42 (more than 79%)

Part 7 Satisfaction questions of the sample people. This part comprised of 7 five points rating scale questions. Therefore the minimum and maximum possible score will be 7 to 35. The total score of each respondent also will be categorized in to three categories according to the following criteria

Category 1 = low level Score between 7 – 21 (less than 60%)

Category 2 = moderate level Score between 22 – 27 (60 - 79%)

Category 3 = high level Score between 28 – 35 (more than 79%)

Experimental Instrument

2.1 Leptospirosis VDO

2.2 Leptospirosis brochure

2.3 Leptospirosis exhibition poster

2.4 sound slide

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Instrumentation Development

To design the questionnaire

1. Study the content from documents, method and concern research.
2. Define the scope and structure of the questionnaire contents.
3. Write the questionnaire about knowledge, perceived susceptibility, perceived severity, self-efficacy and leptospirosis protection behavior including define the scoring criteria for each question.
4. Did content validity by the expert. Check out and consider the correction and coverage of the content, then make the adjustment by the adviser and by the expert.
5. Try out the instruments with the sample population in Banloa, Bankai sub-district Muang district Chaiyaphum province. Made an analysis as follow:-
    - 5.1 Compute the reliabilities of knowledge, perceived susceptibility ,perceived severity ,self efficacy and leptospirosis protection behavior by using the Cronbach's Alpha Coefficient.
    - 5.2 Analyzed the discrimination power of knowledge, perceived susceptibility, perceived severity, self efficacy and leptospirosis protection behavior by using the student's t-test with less than P-value 0.05
    - 5.3 Computed the difficulty level of knowledge about the leptospirosis each question must have level of difficulty between 0.2 – 0.8

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4 Experimentation and data collection

The research procedures were roughly divided into three phases namely:- preparation phase, implementation and after implementation.

Preparation

1. Made coordination with the Ladyai sub-district councilor, district health officers to explain the objectives of the study, steps in conducting the research and other related matters.
2. Did pre-planning with concern persons such as Ladyai sub-district councilor and district health officers.
3. Meeting with the responsible officers to explain the objectives of the study for cooperation.
4. Collecting the data.

Implementation

This phase of study involved the implementation of the empowerment training program for the community key persons as well as the implementation of the protection, prevention and control program for leptospirosis conducted by the key persons. The program activities had been implementing for 10 weeks.

1st week: Explaining the objectives of the study to the key persons provincial councilors, village headman, community health volunteers, housewife, saving group for program cooperation.

2nd week:- Conduct training for 27 key persons for 1 day using the empowerment training program with the A-I-C process. The program emphasized in making them to develop their thought about good planning and implementing the plan

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with better self-confidence. The training program activities emphasized full participation in sharing ideas among group members. The trainees also were motivated to analyze the reasons and look in to the future.

3rd week (first follow up):program

1.The key persons who completed the training conducted a meeting to appoint the Leptospirosis protection and control committee.

2. Key person made the public relation board to motivate people to perform protecting behaviors about the Leptospirosis.

4-10th week: Implementing the program by key persons:-

1. Key person participation.
2. Making the get rid of rat champagne
3. Making Cleaning residence champagne
4. Going visit to the key persons' house to give the knowledge of protecting the Leptospirosis to people
5. Teaching about Leptospirosis by board casting

2nd follow up:-

1. Follow up how was the process going by the key persons
2. Get rid of r to rats in the community

3rd follow up:

1. Follow up how the program progress, listen to the problems or obstacles in implementing the program; giving advise about means to solve the problem.
2. Supervised the key persons in providing health information.

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4th follow up:-

1. Observed the behavior of the people about protection

2. Clean up the people's residence.

5th follow up:-

1.Summarized the results and listen to the problem of the protecting and controlling Leptospirosis.

After Implementation

This phase involved collecting data after experimentation in the experimental and comparison areas.

Two trained community health volunteers were conducted the data collection:-

Self-administered questionnaire was used to collect data from the community key persons both before and after the experiment. While structured interview questionnaire was used to collect data from the sample people.

Some qualitative data were collected through observation during the follow up and supervision as well as from interviewing the selected concerned people.

Data Analysis.

After collected all the data, then check the questionnaire for correction, make the code-book, coding, and fill in the diskette and made analysis to test the hypothesis and objectives by computer using the Spss / for windows program which the confidence estimate value of 0.05 to accept the hypothesis.

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Statistic used

1. Socio demographic characteristics of the sample was analysed by percentage, mean and standard deviation
2. Compare the mean within the experimental group between the experiment and after about knowledge, perceived susceptibility, perceived severity, self efficacy and leptospirosis protection behavior with pair sample t-test.
3. Compare the difference of mean between experimental group and comparison group before the experimental and after about knowledge, perceived susceptibility, perceived severity, self efficacy and leptospirosis protection behavior with student t-test.

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CHAPTER IV

RESULTS OF THE STUDY

This study emphasized the empowerment of community key persons about protection and control of leptospirosis in Lad-yai sub-district, Muang district, Chaiyaphum province. Both quality and quantity data were collected. The data were analyzed and presented as follow:-

Data analysis of the key persons was presented into two parts, the quantity and quality.

The quantitative part consisting of:-

Part 1 General data

Part 2 Comparison of knowledge, perception and behavioral practice score before and after the experiment

Part 1 General Data

Most of the sample key persons was 50 to 59 years old, with the mean age of 48.96 years old; 55.60 percent of them were female. Most of them, about 89 percent, were farmers; 66.70 percent finished grad 6. See detail in table 1

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Table 1 Number and percentage of the sample key persons by socio-demographic variables

Socio-demographic variable	Key Person	
	n	Percentage
Gender		
Male	12	44.4
Female	15	55.6
Age (Year)		
20-29	1	3.7
30-39	3	11.1
40-49	7	25.9
50-59	15	55.5
60 and over	1	3.7
Average age 48.96	SD. = 7.70	
Occupation		
Farmer	24	88.9
Agricultural	1	3.7
Laborer	2	7.4
Education		
Grade 1 to Grade 6	18	66.7
Grade 7 to Grade 9	2	7.4
Grade 10 to Grade 12	6	22.2
Diploma	1	3.7

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Part 2 Comparison of knowledge, perception and behavioral practice score before and after the experiment

Knowledge about leptospirosis

There were 11 knowledge questions about leptospirosis with the actual possible range score of 0-11. The sample key persons had the mean knowledge score of 4.81 and 9.48 before and after the experiment respectively. When these mean scores were compare and tested, the statistical significant different was found at p-value < 0.01. See table 2

Table 2 Comparison of the mean knowledge scores about leptospirosis of the key persons before and after the experiment

	n	X	S.D	t-value	df	p-value
Before	27	4.81	1.66	-11.580	26	< 0.01
After	27	9.48	1.39			

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Perception On Susceptibility of the Leptospirosis

There were 12 questions about perceived susceptibility of leptospirosis with the actual possible range score of 12-60. The sample key persons had the mean perception score of 42.26 and 45.93 before and after the experiment respectively. When these mean scores were compare and tested, the statistical significant different was found at p-value = 0.015. See table 3

Table 3 Comparison of the mean perceived susceptibility scores about leptospirosis of the key persons before and after the experiment

	n	X	S.D	t-value	df	p-value
Before	27	42.26	3.79	-2.610	26	0.015
After	27	45.93	5.72			

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Perception On Severityity of the Leptospirosis

There were 12 questions about perceived severity of leptospirosis with the actual possible range score of 12-60. The sample key persons had the mean perception score of 39.33 and 41.81 before and after the experiment respectively. When these mean scores were compare and tested, the statistical significant different was found at p-value = 0.015. See table 4

Table 4 Comparison of the mean perceived severity scores about leptospirosis of the key persons before and after the experiment

	n	X	SD	t-value	df	p-value
Before	27	39.33	5.10	-2.60	26	0.015
After	27	41.81	2.34			

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Perception on Self-Efficacy for the Prevention and Control of Leptospirosis

There were 10 questions about the self-efficacy with the actual possible range score of 10-50. The sample key persons had the mean perception score of 40.81 and 43.55 before and after the experiment respectively. When these mean scores were compare and tested, the statistical significant different was found at p-value = 0.037. See table 5

Table 5 Comparison of the mean self-efficacy scores of the key persons before and after the experiment

Self efficacy	n	X	SD	t-value	df	p-value
Before	27	40.81	5.14	-2.202	26	0.037
After	27	43.55	4.15			

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Behavioral Practice in Prevention and Control of the Leptospirosis

There were 14 questions about the behavioral practices about leptospirosis with the actual possible range score of 14-42. The sample key persons had the mean perception score of 32.07 and 34.67 before and after the experiment respectively. When these mean scores were compare and tested, the statistical significant different was found at p-value = 0.04. See table 6

Table 6 Comparison of the mean behavioral practice scores about leptospirosis of the key persons before and after the experiment

	n	X	SD	t-value	df	p-value
Before	27	32.07	3.72	-2.16	26	0.040
After	27	34.67	5.51			

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The qualitative part consisting of:-

Projects or activities related to protection and control leptospirosis

Participation in planning the activities of the key persons

Projects or activities related to protection and control leptospirosis

The following activities were implemented and recorded:-

1. There was a walk rally campaign for getting rid of rats in the village. The walking rally took place both in and around the village. It was once during the study period by key persons, health village volunteers, housewives and saving group fun. The villagers in general did interested in getting rid of the rats in their house.

2. There was campaign to clean up the houses over the village. It was emphasized in cleaning around the house to destroy rats breeding places. The leader of each zone had responsibility for his zone. Most of the household followed the leader except a few wanted to postpone to the next day. The campaign was then scheduled to implement every 5^{th} and 25^{th} of the month.

3. Community key persons took responsible to give information about leptospirosis to 16 households. They in fact had high capability to perform this task. Few of them could not used the recorded book properly.

4. Since the village broadcasting was out of order during the implementation. An amplifier of the local municipality was borrowed,

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with permission needed, to fill this gap, but it did not effective as the village broadcasting.

5. The key persons established the bootery fund which supported by Chaiyaphum district health center to sell the cheap boots.

6. Public relation advertisement with cooperation from local health officers and key persons to get the needed resources and put the advertisement notice along the road.

7. The clean up contest for each village could not be done, because the key persons and the villager were not ready as we did the research in harvesting season, so it should be done after January.

Participation in planning the activities of the key persons

The researcher conducted meeting for planning to protect and control Leptospirosis of the Lad-yai village M 8 using the AIC and did the following activities.

1. Clean up every household inside everyday and outside every 5th and 25th of the month.
2. Get rid of rats every month.
3. Tell people about Leptospirosis by village broadcasting once a week.
4. Made the caution notice say.
5. Tell people about Leptospirosis every household by 1 keyperson : 16 household.
6. Clean up contest once in each village.
7. Raised money to by the equipments such as gloves, boots.

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Research Results of the Sample People

Part 1 General characteristics

Age:- Most of the sample in experimental group were between 30-49 years old with mean of 39.42 years old while the comparison group were 30-39 years old with mean of 38.98 years old.

Gender:- There were more female than male in experimental group, female 70.8 percent and male 29.2 percent. The comparison group, 75 percent were female and 25 percent were male.

Occupation:-Most of them are farmers both in experimental and comparison group as seen in table 7.

Education level:-Most of them finished primary school in experimental and comparison group as seen in table 7.

Table 7 Number and percentage of the sample population in experimental and comparison group by general characteristic.

General Characteristics	Experimental group		Comparision group	
	n	%	n	%
Gender				
Male	14	40.9	12	25.0
female	34	59.1	36	75.0
Age				
20-29	6	12.5	7	14.6
30-39	16	33.3	18	37.5
40-49	15	31.3	14	29.2
50-59	10	20.8	9	18.8
60 and over	1	2.1	0	0.0
Average age	39.42		38.98	
SD	11.28		10.42	

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Table 7 Number and percentage of the sample population in experimental and comparison group by general characteristic.(continue)

Sociological chalacteristic	Experimental group		Comparision group	
	N	%	N	%
Occupation				
Farmer	43	89.6	44	91.7
Laborer	3	6.2	4	8.3
Housewife	1	2.1	0	0.0
Agricultural	1	2.1	0	0.0
Education				
Primary education	40	83.3	41	85.5
Secondary education	6	12.5	5	10.4
Vocational education	1	2.1	1	2.1
Diploma	1	2.1	1	2.1

Part 2 Comparison of knowledge, behavioral practices and satisfaction score of the sample people between the study groups and before and after experiment.

Knowledge Score

There were 10 knowledge questions about leptospirosis with the actual possible range score of 0-10.

Before experiment, the sample people in the experimental group had the mean knowledge score of 3.54 while the comparison group also had 3.38 of mean score. When these mean scores were compare and tested, the statistical significant different was not found, p-value = 0.537. See table 8

After experiment, the experimental group had the mean knowledge score of 7.06 while the comparison group also had 6.08 of mean score. When these mean scores were compare and tested, the statistical significant different was found with p-value = 0.001. See table 8

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When the mean scores before and after the experiment of each group were compared, the statistical significant different was found with p-value < 0.001. See details in table 8

Table 8 Comparison of knowledge mean scores of the sample people between and with in the study groups.

Knowledge	χ	SD	t-value	df	P-value
Before					
Comparison group (n = 48)	3.54	1.57	-0.62	94	0.573
Experimental group (n = 48)	3.38	1.00			
After					
Comparison group (n = 48)	6.08	1.23	3.52	94	0.001
Experimental group (n = 48)	7.06	1.48			
Comparison group (n = 48)					
Before	3.38	1.00	-11.12	92	<0.001
After	6.08	1.48			
Experimental group(n = 48)					
Before	3.54	1.57	-11.67	47	<0.001
After	7.06	1.22			

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Behavioral Practices

There were 14 questions about behavioral practices with the actual possible range score of 14-42.

Before experiment, the sample people in the experimental group had the mean score of 30.54 while the comparison group also had 30.77 of mean score. When these mean scores were compare and tested, the statistical significant different was not found, p-value = 0.743. See table 9.

After experiment, the experimental group had the mean score of 32.25 while the comparison group had 31.12 of mean score. When these mean scores were compare and tested, the statistical significant different was found with p-value = 0.049. See table 9.

When the mean scores before and after the experiment of each group were compared, the statistical significant different was found in the experimental group with p-value = 0.001 while the statistical significant different was not found. See details in table 9.

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Table 9 Comparison of behavioral practice mean scores of the sample people between and with in the study groups.

behavior	$\bar{\chi}$	SD	t-value	df	P-value
Before					
Comparison group (n = 48)	30.54	3.17	0.43	94	0.743
Experimental group (n = 48)	30.77	3.93			
After					
Comparison group (n = 48)	31.12	3.39	2.01	94	0.049
Experimental group (n = 48)	32.25	3.02			
Comparison group (n = 48)					
Before	30.77	3.17	-2.42	92	0.001
After	31.12	3.38			
Experimental group(n = 48)					
Before	30.54	3.93	-0.55	47	0.001
After	32.25	3.02			

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People Satisfaction

There were 7 questions about people satisfaction with the actual possible range score of 7-35.

Before experiment, the sample people in the experimental group had the mean score of 25.25 while the comparison group also had 25.14 of mean score. When these mean scores were compare and tested, the statistical significant different was not found, p-value = 0.856. See table 10.

After experiment, the experimental group had the mean score of 26.58 while the comparison group had 25.50 of mean score. When these mean scores were compare and tested, the statistical significant different was not found with p-value = 0.130. See table 10.

When the mean scores before and after the experiment of each group were compared, the statistical significant different was found in the experimental group with p-value = 0.05 while the statistical significant different was not found. See details in table 9.

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Table 10 Comparison of people satisfaction mean scores of the sample people between and with in the study groups.

satisfaction	$\bar{X}$	SD	t-value	df	P-value
Before					
Comparison group (n = 48)	25.14	3.00	0.18	94	0.856
Experimental group (n = 48)	25.25	2.59			
After					
Comparison group (n = 48)	25.50	4.14	1.53	94	0.130
Experimental group (n = 48)	26.58	2.65			
Comparison group (n = 48)					
Before	25.14	3.00	0.90	47	0.372
After	25.50	4.14			
Experimental group(n = 48)					
Before	25.25	2.59	2.97	47	0.05
After	26.58	2.65			

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CHAPTER V

CONCLUSSION DISCUSSION

AND RECOMMENDATION

This research was a quasi-experimental research for key persons and people. Collecting the data before and after the experimental object to study the efficiency of key person group empower to protect and control the leptospirosis decease in Lad-yai sub-district, Muang district, Chaiyaphum Province. To make the key persons know about that leptospirosis knowledge, perceived leptospirosis' s severity and susceptibility, perceived self-efficacy and leptospirosis protection behavior. While the people also know about the decease, know how to protection and control the decease and satisfy the key person process. With 27 key persons cooperation in the empowerment program and AIC procession for 1 day seminar makes some projects and following up the projects.

The sample group of this research is the 27 key persons, which are housewives, health volunteers, headman, saving group and people. The empowerment program took 12 weeks from 1st November 2000 to 30th January 2001 with to collect the data use the questionnaire about socio-demographic characteristic, leptospirosis knowledge, perceived leptospirosis ' s severity and susceptibility, perceived self efficacy, leptospirosis protection behavior and satisfaction in key person procession. There are 2 times of collecting data first before doing the experiment in first week and second after doing the experiment in 12th week. Then analysis the data by SPSS/ PC+ program using the percentage analysis, compare the difference of means, use the pair t-test to analysis data within group and student t-test to between 2 groups and the results are as follow.

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CONCLUSSION

After the experiment, the key person group had better leptospirosis knowledge, perceived leptospirosis severity and susceptibility, perceived self efficacy and leptospirosis protection behavior than before the experiment and the difference were statistical significant.

1.Socio demographic characteristic

Key person group

Most of the key person age are between 50-59 years old, 48.96 years old average, female are more than male, most of them are farmer 88.90% and their most highest education is primary school 66.70 as table 1

People group

The population of experimental group and comparison group are similar both groups are between 30-49 years old average 39.42 and 38.98 years old both group studied primary school and both of them are farmers.

2.Leptospirosis knowledge

Comparing the means of leptospirosis aknowledgement between the 2 groups before and after experiment found that:-

2.1 Key person group, the leptospirosis knowledge after the experiment are more than before and the mean is more, the difference of the means before and after the experimental are statistical significant as table 2

2.2 People: Before experiment, most of the acknowledgement in experimental group and comparison group are low 82.8% of the means in both

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groups are not different. After experiment, experimental group got more acknowledgement than before and more than the comparison group and the difference are statistical significant following the 2.1 hypothesis that the empowerment program of key person can make people change their knowledge to be better than before the experiment.

Comparison group leptospirosis acknowledgement before and after the experiment are low and medium and the difference are statistical significant.

3 Perceived leptospirosis s severity and susceptibility

3.1 Perceived leptospirosis ' s severity

After the experiment, the key person group perceived leptospirosis ' s severity are more than before, the means are more and the difference of the means after and before the experiment is statistical significant

3.2 Perceived leptospirosis 's susceptibility

After the experiment, the key person group perceived leptospirosis's susceptibility are more than before, the means are more and the difference of the means after and before the experiment is statistical significant as hypothesis 1.2

4. Perceived self efficacy

After the experiment, the key person group Perceived self efficacy are more than before, the means are more and the difference of the means after and before the experiment is statistical significant as hypothesis 1.3

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5. leptospirosis protection behavior

After the experiment, the key person group leptospirosis protection behavior are more than before, the means are more and the difference of the means after and before the experiment is statistical significant as hypothesis 1.4

People group

Before the experiment, the points of protect and control leptospirosis behavior in the experimental group and comparison group are medium and the difference of the means is non-significant.

After the experiment, the point of leptospirosis protection behavior in the experimental group is higher than before the experiment and the comparison group. The difference of the means is statistical significant as hypothesis 2.2

Comparison group, the point of leptospirosis protection behavior after and before the experiment are similar most o them are medium and the difference of the means is non-significant.

6.Satisfaction in key person procession

People group

Before the experiment, the points of satisfaction in key person procession in experimental group and comparison group are medium and low. The difference of the means between these 2 groups is non-significant.

After the experiment, experimental group, the points are more than before but not different from the comparison group that reject hypothesis 2.3.

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Comparison group, the points are more than before and the difference of the means is non-significant.

DISSCUSION

After studied the empowerment of the key persons to protect and control leptospirosis at Lad-yai sub-district Muang district Chaiyaphum province made the key person got more acknowledgement, perceived leptospirosis's severity and susceptibility, perceived self efficacy and leptospirosis protection behavior, expecting more in their ability and more correct. After the key persons procession people changed discussed by the research hypothesis and analysis result in these following.

Hypothesis 1.1

After the experiment, after the empowerment program there are the key persons who got better knowledge about leptospirosis than before the programme.

After the experiment, the key persons who join the empowerment programme got better knowledge than comparison group and before the experiment. The difference of the means is statistical significant and accept hypothesis 1.1 and almost all the issue are better such as (1) The leptospirosis carrier animals are rat, cat, buffalo, cat, pig, dog. (2) The decease germs will be in water, grass leave, and mud before come into human body (3) the decease most spread far and wide between end of rainy season and winter (4) Early symptom is getting high fever, headache, calf muscle pain then the worst case is liver failure and kidney failure. (5) The pain will occur at head, calf, and thigh and body (6) the best way to protect the leptospirosis is to ware boots, do not stand in water for long time. Those issue show the efficiency of the empowerment programme make

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the mark and means go up the researcher' s activities are presentation, VDO, pitch book about leptospirosis which the result is identify to Hansopee N. (1997: c) studied the empowerment program to promote preventive amphetamine abuse behavior among Mathayomsuksa II students, Saraburi Province. The results of the study showed that the experimental group had significantly better knowledge in preventing amphetamine abuse after the experiment than prior to the experiment and than the comparison group. It was also found that knowledge were significantly correlated with practices in preventing amphetamine abuse and identify to Intarasomwang C. (2000: D) studied the effectiveness of an empowerment program on AIDS prevention among pregnant woman attending antenatal care at pramongkutklao hospital. The results of the study showed that the empowerment program could effect significantly increase of knowledge in preventing AIDS among pregnant women. And identify to Suwan P (1997: 26) to studied effectiveness of AIDS prevention and control program in family: women empowerment, and community participation. After the experimental found that the experimental group got more knowledge about AIDS than before the experimental significantly.

Hypothesis 2.2

After the experiment, the key person who join the empowerment programme got more perceived severity and susceptibility' s leptospirosis than before than programme.

From the research result found that the means of perceived severity and susceptibility' s leptospirosis of the key person different significantly from before the experiment as the hypothesis 1.2, the better issues are (1) Wearing boots can protect the leptospirosis (2) Too many rats in the household area and rice field make more change

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to get leptospirosis (3) Most of the patients are farmer (4) If there are some water shut around the household area it will make more chance to get leptospirosis (5) The farmer who wear boots get less chance getting the leptospirosis (6) The leptospirosis can not disappear without remedy. (7) The leptospirosis patient cannot get better without remedy. (8) The leptospirosis patient that gets high fever, muscle pain and red eyes will be difficult to remedy. Sothe difference of the means of these issues can be discussed that the key person knows about leptospirosis perceived severity and susceptibility from empowerment seminar. The researcher declared the objectives of this activity to make the key person understand and take them to the activity by introducing to one-another to make then get familiar and relationship. Then to make then see the view of community leptospirosis using AIC. To make the group shows the leptospirosis community in the past and future to make then know about leptospirosis perceived severity and susceptibility. And let the key person let people do what they do with the researcher and play to people the VDO. , Tape of leptospirosis perceived susceptibility to let the people know if they get wrong remedy or too late they will die. To make the key person scare of leptospirosis and know how important to plan and about the community protect and control the leptospirosis, so the key person know about leptospirosis perceived severity and susceptibility more than before the experiment, identify to Higbee and Sutton (Kanchanomai T. 1997: 114) found that the most severe information result in changing people's attitude and behavior more than the less severe information and realization assess process of people about the information make people know about decease susceptibility and identify to Saengduenchai S.(1999 : E)to studied effectiveness of empowerment for relapse prevention of amphetamine dependence at Thanyarak hospital. The study result showed that after the program the experimental group had

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perceived seriousness of amphetamine higher than before participating in the program and higher than the comparison group significantly.

Hypothesis 1.3

After the experiment, the key person who got empowerment programme got more perceived self-efficacy in their abilities than before the experiment.

The research result found that after the experiment the difference of the means before and after the experiment is statistical significant as hypothesis 1.3, the better issues are (1) To wear cloth completely covered to the farm protect leg and foot injury. (2) If you or family member get 2-3 days high fever, should go to the hospital. The difference of these issues means can be discussed that empowerment programme among key person makes better perceived self-efficacy. After let the key person watch VDO. And use the AIC. To make the activities and let the people participate to the problem analysis find the reason and the way to solve the problem and this activities make the key person present the project (chapter III) and self efficacy, This research result identify to Hansopee N. (1997: 97) found that after the experimental, the experimental group's means of self efficacy in preventive amphetamine is different from before the experiment significantly and identify to Thaitawat S. (2001:110) found that after the sub-district administration organization potentiality on AIDS prevention and control means is significantly different but different but different from Paganon P. (2000 :71) found that after the experiment the difference of the mean between before and after the experiment is significant but not between the experimental group and comparison group.

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Hypothesis 1.4

After the experiment, the key person who join the empowerment program change their behavior to protect and control leptospirosis better than before the experiment.

The research result found that the key person change their behavior to be more correct and significantly different from before the experiment as hypothesis 1.4 found the better issues are (1) You never stand in water until your foot get rotten. (2) You wash your hands and feet every time after pass in the water. (3) You wear cloth completely covered to protect legs and feet injury. (4) You are in the community getting rid of rats campaigned. (5) You are looking for more information about leptospirosis (6) You told the neighbor about leptospirosis and can explain that what you know is come from the empowerment programme and activities and VDO. About protect and control leptospirosis behavior and group discussion to make them realize to behavior themselves correctly identify to Intarasomwang C. (2000: 101) let the experimental group learn the empowerment programme and practice, using VDO and document including postcard to let the pregnant women realize how to protect AIDS.

Hypothesis 2.1

After the experiment, the experimental group got the empowerment program from key person makes their leptospirosis knowledge changed.

The research result found that after the experiment of the experimental group means is significantly more than before the experiment. And also comparison group but the comparison group, the increasing of the means is not much, this may be because the province authority did the same campaign in the same time. After the experiment the

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experimental group got more knowledge significantly than before. that show the most of experimental group have higher knowledge than the comparison group. as hypothesis 2.1 when analysis issue by issue found that the experimental group got more knowledge than the comparison group in these issue (1) The leptospirosis carrier animals are rat, cat, buffalo, cat, pig, dog. (2) The decease germs will be in water, grass leave, and mud before come into human body (3) the risk group is farmer. (4) Early symptom is getting high fever, headache; calf muscle pain then the worst case is liver failure and kidney failure. (5) The pain will occur at head, calf, and thigh and body (6) the best way to protect the leptospirosis is to ware boots, do not stand in water for long time. (7) The leptospirosis will get into the body by skin injury This activity process by key person planed to give people knowledge by 1 per 16 household and follow up and take note every time that identify

Hypothesis 2.2

After the experiment, the experimental group got empowerment programme from the key person make them change their protect and control leptospirosis behavior to be more correct than the comparison group except this found that the better behavior is 22.6% more and the difference of the mean between the experimental group and comparison group is statistical significant. as hypothesis 2.2 and the better issues are (1) You don't walk in water long time (2) You wear boots in water. (3) You never stand in water until your foot gets rotten. (4) You wear cloth completely covered to protect legs and feet injury. (5) You are in the community getting rid of rats campaigned. (6) You are looking for more information about leptospirosis (7) you told the neighbor about leptospirosis (8) You told everyone in your family about leptospirosis. After

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interview the experimental group agreed with doing protect and control leptospirosis. They know about key person intend to make people change there behavior correctly by the key person show to people about leptospirosis and what people should do and walk through their house and field to protect the spreading among their pet and carrier animal. Suspect that although the people try to do in tomorrow but they give some cooperation well and they interested and hasten to find the boots and glove to where similar to Pongthai A. (1995 :Abstract) To study health education program organized by the trained housewife-volunteers was significantly enable the mother of children under one year of age change their perceptions and preventive behaviors of diarrhea disease.

Hypothesis 2.3

The research result found that, after the experiment. The empowerment group get key person' s empowerment programme satisfied the key person process more than before the experiment in medium level and high level more but not significantly different from the comparison group which reject the hypothesis 2.3 when compare between before and after the experiment issue by issue found that most got P-value < 0.001 except the issue: Key person can answer guest ions clearly (P-value =0.109) which is not different because the key person can only answer the questions they seminar different from Thaitawat S. (2001: 167) The impact of the program was that people significantly perceive an advantage of AIDS prevention and control in their community. And different from Premkird S. (2000: V) To studied development of sub-district administration organization potentiality on AIDS prevention and control through empowerment process in Nakornpamak Sub-district, Bangkratum District, Pitsanulok

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Province. It was found they were sincerely satisfied with the programme and gave very good cooperation to the AIDS prevention and control programme.

Recommendation

Recommendation from the results of the study

1. The empowerment training program for self protection, prevention and control leptospirosis can enhance the key persons gain more knowledge, perception and change their behaviors. However leptospirosis still has been found and is one of the most important public health problems. For this study, only community key persons especially village health volunteers were involved and participated in most of the program activities. There for others involve parties such as the community school, temple and community development officers should be involved.
2. The application of concepts and process of participatory development through AIC for this study program could significantly help the community key persons to have better self-efficacy in performing protective, prevention, control health behaviors regarding leptospirosis. It also helped them to understand the community health situation, the community needs, the important of participation and involvement from community stakeholders to do health problem analysis as well as the means to solve the problems. Thus this study program should be applied to other endemic areas of leptospirosis.
3. The recording technique should be applied for other program. The results of the study, qualitative data, found that household visit recording by the

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community key persons was one of the important self-motivated technique for them to implement program activities regularly. .

4. Since the application of participatory development and the AIC for this study was used only the beginning of the implementation phase, there for they should be applied occasionally after the formative evaluation has been done.

Recommendation for further study

1. The research study was implemented during the harvest season; as a result, all of the head of the households could not involve in the study program. The program should be scheduled either before or after the harvest season.
2. Beside the participatory development and AIC technique, different training techniques for the community key persons should be employed in the comparison group.
3. Even though, the training program with community participatory development and AIC was the study independent variable, the training process should be evaluated for the purpose of learning experience for future implementation.

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APPENDIX

QUESTIONNAIRE

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แบบสอบถามโครงการวิจัย เรื่อง

"การสร้างพลังแกนนำชุมชนในการป้องกันและควบคุมโรคเลปโตสไปโรซิส อำเภอเมือง จังหวัดชัยภูมิ"

ชุดที่ 1 สำหรับแกนนำชุมชน

ชื่อผู้ถูกสัมภาษณ์(นาย / นาง/นางสาว.....นามสกุล.....

บ้านเลขที่ .....หมู่ที่ ..... ตำบลลาดใหญ่ อำเภอเมือง จังหวัดชัยภูมิ

ส่วนที่ 1 ข้อมูลทั่วไป

คำชี้แจง ให้เขียนเครื่องหมาย ✓ ลงในข้อที่คิดว่าถูกต้อง / ตรงกับความเป็นจริงมากที่สุด

1. เพศ ☐ ชาย ☐ หญิง

2.อายุปัจจุบัน.....ปี

3.จบการศึกษาสูงสุด.....

4.อาชีพหลัก ☐ ทำนา ☐ ทำไร่ ☐ ค้าขาย ☐ พ่อบ้าน/แม่บ้าน ☐ รับจ้าง ระบุ ..... ☐ อื่นๆ.....

5.บ้านท่านมีคอกสัตว์หรือไม่

☐ ไม่มี ☐ มี ระบุ(เลี้ยงอะไร).....

6.บริเวณบ้านของท่านมีแหล่งน้ำขังที่ขังเป็นเวลานานหรือขังครั้งละหลายวันหรือไม่

☐ ไม่มี ☐ มี

7.บ้านหรือบริเวณบ้านของท่านมีหนูอยู่หรือไม่

☐ ไม่มี ☐ มี

8.ที่นาของท่านมีหนูอาศัยอยู่หรือไม่

☐ ไม่มี ☐ มี

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ส่วนที่ 2 ความรู้เรื่องโรคเลปโตสไปโรซิส

คำชี้แจง โปรดทำเครื่องหมาย O ลงในข้อที่ถูกต้องที่สุดเพียงข้อเดียว

1.สัตว์ใดเป็นตัวนำโรคเลปโตสไปโรซิส (ตอบได้มากกว่า 1 ข้อ)

ก. หนู ข.วัว ควาย ค. แมว ง. หมา จ. หมู

2. สัตว์ใดเป็นตัวนำโรคเลปโตสไปโรซิสที่สำคัญที่สุดของจังหวัดเรา

ก. หนู ข. แมว

ค. หมา ง. วัว ควาย

3. เชื้อโรคเลปโตสไปโรซิสจะอยู่ที่ใดก่อนที่จะเข้าร่างกายคน (ตอบได้มากกว่า 1 ข้อ)

ก. ในน้ำ ข. ตามใบหญ้า

ค. ตามใบข้าว ง.อยู่ในพื้นดินแฉะๆ

4.ส่วนใหญ่โรคเลปโตสไปโรซิสจะระบาดมากในช่วงฤดูใด

ก. ช่วงปลายฝนต้นหนาว ข.ฤดูฝน

ค. ฤดูหนาว ง.หน้าน้ำท่วม

5.ใครเป็นกลุ่มที่เสี่ยงต่อการเป็นโรคเลปโตสไปโรซิส

ก. ชาวไร่ ข. ชาวสวน

ค. ชาวนา ง. ชาวบ้านทั่วๆไป

6. เชื้อโรคเลปโตสไปโรซิสจะเข้าสู่ร่างกายเราได้อย่างไร

ก. เข้าทางผิวหนังที่มีบาดแผล ข.เข้าทางเท้า

ค. เข้าทางแขน ขา ง. เข้าทางผิวหนัง

7.อาการระยะแรกของไข้ฉี่หนูคืออะไร

ก.ไข้สูง ปวดหัว ปวดกล้ามเนื้อบริเวณน่อง ข. ไข้สูง ไอ เจ็บคอ

ค.ปวดกล้ามเนื้อ บริเวณน่อง ง. ไข้ เยื่อบุตาแดง

8. ถ้าปล่อยให้เป็นหลายวันจะมีอาการรุนแรงอย่างไร

ก.มีจุดเลือดออกตามผิวหนัง ข. ตับวาย ไตวาย

ค.หัวใจวาย ง. ช๊อค

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9.อาการปวดกล้ามเนื้อเนื่องจากเป็นโรคเลปโตสไปโรซิสส่วนใหญ่จะปวดที่ใด (ตอบได้มากกว่า 1 ข้อ)

ก. หัว ข.กล้ามเนื้อน่อง

ค. โคนขา ง. กล้ามเนื้อตามลำตัว

10. เพราะเหตุใดจึงมีคนตายจากการเป็นโรคเลปโตสไปโรซิสทั้งที่โรคเลปโตสไปโรซิสสามารถรักษาให้หายได้

ก.ไปรักษาเมื่อมีอาการรุนแรงแล้ว ข.อาการของโรคไม่ชัดเจนจึงไม่ได้รักษาตั้งแต่ต้น

ค.รักษาด้วยยากลางบ้าน ง.หาซื้อยาจากร้านขายยามากินเอง

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ส่วนที่ 3 การรับรู้โอกาสเสี่ยงต่อการเกิดโรคเลปโตสไปโรซิส

คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่องด้านขวามือในแต่ละข้อที่ตรงกับความคิดเห็นหรือความรู้สึกของท่านมากที่สุดเพียงข้อเดียว โดยพิจารณาจาก เห็นด้วยอย่างยิ่ง เห็นด้วย ไม่แน่ใจ ไม่เห็นด้วย และ ไม่เห็นด้วยอย่างยิ่ง

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
1..คนที่มีสุขภาพแข็งแรงจะไม่ป่วยเป็นโรคเลปโตสไปโรซิส	.....	.....	.....	.....	.....
2.คนที่มีบาดแผลที่ขาหรือเท้า หากเดินย่ำน้ำ มีโอกาสติดโรคเลปโตสไปโรซิสได้มากกว่าคนที่ไม่มีบาดแผล	.....	.....	.....	.....	.....
3.คนที่เคยป่วยเป็นโรคเลปโตสไปโรซิสมีโอกาสเป็นโรคเลปโตสไปโรซิสได้อีก	.....	.....	.....	.....	.....
4.คนที่สวมรองเท้าบู๊ททำนามีโอกาสเป็นโรคเลปโตสไปโรซิสน้อย	.....	.....	.....	.....	.....
5.คนที่ป่วยเป็นโรคเลปโตสไปโรซิสส่วนใหญ่จะเป็นชาวไร่ชาวนา	.....	.....	.....	.....	.....
6.ถ้ารอบๆบ้านมีน้ำขังจะทำให้คนในบ้านมีโอกาสเป็นโรคเลปโตสไปโรซิสได้	.....	.....	.....	.....	.....
7.ชายจะป่วยเป็นโรคเลปโตสไปโรซิสมากกว่าหญิง	.....	.....	.....	.....	.....
8.ถ้าน้ำท่วมนานๆประชาชนทั่วไปจะมีโอกาสเป็นโรคเลปโตสไปโรซิสมากขึ้น	.....	.....	.....	.....	.....
9.การที่สวมเสื้อผ้ามิดชิดช่วยป้องกันไม่ให้เป็นโรคเลปโตสไปโรซิสได้	.....	.....	.....	.....	.....
10.หากที่บ้านหรือที่ทุ่งนามีหนูอยู่ชุกชุมจะทำให้มีโอกาสเป็นโรคเลปโตสไปโรซิสได้มากขึ้น					
11.หมู่บ้านเรามีโอกาสเป็นโรคเลปโตสไปโรซิสได้น้อยเพราะไม่เคยมีใครเป็นมาก่อน					
12.หมู่บ้านเราอยู่ในเขตอำเภอเมือง จึงมีโอกาสเป็นโรคเลปโตสไปโรซิสได้น้อยกว่าหมู่บ้านรอบนอก					

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ส่วนที่ 4 การรับรู้ความรุนแรงของโรคเลปโตสไปโรซิส

คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่องด้านขวามือในแต่ละข้อที่ตรงกับความคิดเห็น หรือความรู้สึก ของท่านมากที่สุดเพียงข้อเดียว โดยพิจารณาจาก เห็นด้วยอย่างยิ่ง เห็นด้วย ไม่แน่ใจ ไม่เห็นด้วย และ ไม่เห็นด้วยอย่างยิ่ง

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
1.คนที่ป่วยเป็นโรคเลปโตสไปโรซิสและมีไข้สูงติดต่อกันหลายวัน	.....	.....	.....	.....	.....
2. คนที่ป่วยเป็นโรคเลปโตสไปโรซิสหลายวันจะทำให้ตับวาย ไตวายได้	.....	.....	.....	.....	.....
3. คนที่ป่วยเป็นโรคเลปโตสไปโรซิส ถ้าเป็นอีกจะมีอาการรุนแรงกว่าครั้งก่อน	.....	.....	.....	.....	.....
4.คนที่ป่วยเป็นโรคเลปโตสไปโรซิส ถ้ารักษาไม่ทันทำให้เสียชีวิตได้	.....	.....	.....	.....	.....
5.คนที่ป่วยเป็นโรคเลปโตสไปโรซิสหลายวันต้องเข้าโรงพยาบาลทำให้เสียค่าใช้จ่ายมาก	.....	.....	.....	.....	.....
6.คนที่มีอาการไข้สูงหลายวันต้องรีบไปพบแพทย์	.....	.....	.....	.....	.....
7.โรคเลปโตสไปโรซิสไม่ต้องรักษาก็สามารถหายเองได้	.....	.....	.....	.....	.....
8.คนที่เป็นโรคเลปโตสไปโรซิสและมีอาการปวดกล้ามเนื้อเมื่อหายแล้วต้องพักฟื้นทำงานหนักไม่ได้	.....	.....	.....	.....	.....
9.โรคเลปโตสไปโรซิสรักษาได้ง่าย โดยซื้อยาฆ่าเชื้อหรือยา-ปฏิชีวนะมาทานเองก็ได้	.....	.....	.....	.....	.....
10.คนที่เป็นโรคเลปโตสไปโรซิส ถ้าไม่มีอาการรุนแรงก็ปล่อยให้หายเองได้	.....	.....	.....	.....	.....
11.คนที่เป็นโรคเลปโตสไปโรซิสถ้าปล่อยไว้จนมีไข้สูง ปวดกล้ามเนื้อและตาแดง จะรักษาให้หายได้ยาก					
12.เนื่องจากโรคเลปโตสไปโรซิสในระยะเริ่มแรก สามารถรักษาให้หายได้ การป้องกันจึงมีความสำคัญน้อยกว่าการรักษา					

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ส่วนที่ 5 ความคาดหวังในความสามารถของตนเองในการป้องกันและควบคุมโรคเลปโตสไปโรซิส

คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่องด้านขวามือในแต่ละข้อที่ตรงกับความคิดเห็น หรือความรู้สึก ของท่านมากที่สุดเพียงข้อเดียว โดยพิจารณาจาก เห็นด้วยอย่างยิ่ง เห็นด้วย ไม่แน่ใจ ไม่เห็นด้วย และ ไม่เห็นด้วยอย่างยิ่ง

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
1.ท่านสามารถสวมรองเท้าบูท ไปทำนาได้	.....	.....	.....	.....	.....
2.ท่านไม่ลงแช่น้ำเมื่อเท้าของท่านมีบาดแผล	.....	.....	.....	.....	.....
3.หลังจากเดินลุยน้ำหรือทำงานที่ต้องแช่น้ำเป็นเวลานานๆเมื่อกลับถึงบ้านท่านสามารถล้างเท้า/อาบน้ำทันที	.....	.....	.....	.....	.....
4.ท่านสามารถสวมเสื้อผ้ามิดชิดเวลาไปทำไร่ทำนาเพื่อป้องกันการเกิดบาดแผลที่ขาหรือเท้าได้	.....	.....	.....	.....	.....
5.ถ้าท่านหรือคนในบ้านมีไข้สูง 2-3 วัน ท่านจะไปรับการตรวจรักษาที่โรงพยาบาลได้	.....	.....	.....	.....	.....
6.ท่านสามารถบอกวิธีป้องกันไม่ให้เป็นโรคเลปโตสไปโรซิสแก่สมาชิกในครอบครัวได้	.....	.....	.....	.....	.....
7.ท่านสามารถให้ความรู้แก่เพื่อนบ้านในเรื่องการป้องกันไม่ให้เป็นโรคเลปโตสไปโรซิสได้	.....	.....	.....	.....	.....
8.หากในบ้านของท่านมีหนูอาศัยอยู่ท่านสามารถกำจัดได้	.....	.....	.....	.....	.....
9.ท่านทำความสะอาดเก็บกวาดบ้านได้ทุกวัน	.....	.....	.....	.....	.....
10.ท่านสามารถชักชวนคนในชุมชนให้ช่วยกันกำจัดหนูได้ทั้งที่บ้านและในนา.					

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ส่วนที่ 6 พฤติกรรมในการป้องกันและควบคุมโรคเลปโตสไปโรซิสของประชาชน

คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่องด้านขวามือให้ตรงกับความเป็นจริงที่ท่านได้กระทำหรือเคยกระทำมากที่สุด

ข้อความ	ทำเป็นประจำ (ทุกครั้ง)	ทำเป็นบางครั้ง	ไม่เคยทำเลย
ใน 3 เดือนที่ผ่านมา ท่านได้ทำสิ่งต่อไปนี้หรือไม่			
1.ท่านเดินหรือแช่น้ำเป็นเวลานานๆ	.....	.....	.....
2.ท่านทำงานที่ต้องแช่น้ำโดยไม่ได้สวมรองเท้าบู๊ท	.....	.....	.....
3.ท่านทำงานที่ต้องแช่น้ำหรือเดินย่ำน้ำขังโดยที่มีแผลที่เท้าหรือขา	.....	.....	.....
4.ท่านเคยแช่น้ำนานๆจนเท้าเปื่อย	.....	.....	.....
5.ท่านล้างมือล้างเท้าทุกครั้งหลังจากที่สัมผัสน้ำที่ท่วมขังนานๆ	.....	.....	.....
6.ท่านสวมเสื้อผ้ามิดชิดเพื่อป้องกันการเกิดแผลที่ขา,เท้า	.....	.....	.....
7.ท่านกินยาป้องกันโรคเลปโตสไปโรซิส	.....	.....	.....
8.ท่านซื้อยามากินเองเมื่อมีอาการไข้สูงติดต่อกัน 2-3 วัน	.....	.....	.....
9.ท่านจัดเก็บบ้านเรือนให้สะอาดเพื่อไม่ให้เป็นที่อยู่ของหนู	.....	.....	.....
10.ท่านดักจับหนูในบ้านและบริเวณบ้าน	.....	.....	.....
11.ท่านดักจับหนู/เบื่อหนูในนาหรือสวน	.....	.....	.....
12.ท่านมีส่วนร่วมในการรณรงค์กำจัดหนูของหมู่บ้าน	.....	.....	.....
13.ท่านแสวงหาความรู้เกี่ยวกับโรคเลปโตสไปโรซิสเพิ่มเติม	.....	.....	.....
14.ท่านให้ความรู้เรื่องโรคเลปโตสไปโรซิสกับคนในครอบครัว	.....	.....	.....
15. ท่านให้ความรู้เรื่องโรคเลปโตสไปโรซิสกับเพื่อนบ้าน			

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แบบสอบถามโครงการวิจัย เรื่อง
"การสร้างพลังแกนนำชุมชนในการป้องกันและควบคุมโรคเลปโตสไปโรซิส อำเภอเมือง จังหวัดชัยภูมิ"
ชุดที่ 2 สำหรับประชาชน

ชื่อผู้ถูกสัมภาษณ์(นาย / นาง /นางสาว).....นามสกุล.....

บ้านเลขที่ .....หมู่ที่ ..... ตำบลลาดใหญ่ อำเภอเมือง จังหวัดชัยภูมิ

ส่วนที่ 1 ข้อมูลทั่วไป

คำชี้แจง ให้เขียนเครื่องหมาย ✓ ลงในข้อที่คิดว่าถูกต้อง / ตรงกับความเป็นจริงมากที่สุด

1. เพศ ☐ ชาย ☐ หญิง

2.อายุปัจจุบัน.....ปี

3.จบการศึกษาสูงสุด.....

4.อาชีพหลัก ☐ ทำนา ☐ ทำไร่ ☐ ค้าขาย ☐ พ่อบ้าน/แม่บ้าน ☐ รับจ้าง ระบุ ..... ☐ อื่นๆ.....

5.บ้านท่านมีคอกสัตว์หรือไม่

☐ ไม่มี ☐ มี ระบุ(เลี้ยงอะไร).....

6.บริเวณบ้านของท่านมีแหล่งน้ำขังที่ขังเป็นเวลานานหรือขังครั้งละหลายวันหรือไม่

☐ ไม่มี ☐ มี

7.บ้านหรือบริเวณบ้านของท่านมีหนูอยู่หรือไม่

☐ ไม่มี ☐ มี

8.ที่นาของท่านมีหนูอาศัยอยู่หรือไม่

☐ ไม่มี ☐ มี

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ส่วนที่ 2 ความรู้เรื่องโรคเลปโตสไปโรซิส

คำชี้แจง โปรดทำเครื่องหมาย O ลงในข้อที่ถูกต้องที่สุดเพียงข้อเดียว

1.สัตว์ใดเป็นตัวนำโรคเลปโตสไปโรซิส (ตอบได้มากกว่า 1 ข้อ)

ก. หนู ข.วัว ควาย ค. แมว ง. หมา จ. หมู

2. สัตว์ใดเป็นตัวนำโรคเลปโตสไปโรซิสที่สำคัญที่สุดของจังหวัดเรา

ก. หนู ข. แมว

ค. หมา ง. วัว ควาย

3. เชื้อโรคเลปโตสไปโรซิสจะอยู่ที่ใดก่อนที่จะเข้าร่างกายคน (ตอบได้มากกว่า 1 ข้อ)

ก. ในน้ำ ข. ตามใบหญ้า

ค. ตามใบข้าว ง.อยู่ในพื้นดินแฉะๆ

4.ส่วนใหญ่โรคเลปโตสไปโรซิสจะระบาดมากในช่วงฤดูใด

ก. ช่วงปลายฝนต้นหนาว ข.ฤดูฝน

ค. ฤดูหนาว ง.หน้าน้ำท่วม

5.ใครเป็นกลุ่มที่เสี่ยงต่อการเป็นโรคเลปโตสไปโรซิส

ก. ชาวไร่ ข. ชาวสวน

ค. ชาวนา ง. ชาวบ้านทั่วๆไป

6. เชื้อโรคเลปโตสไปโรซิสจะเข้าสู่ร่างกายเราได้อย่างไร

ก. เข้าทางผิวหนังที่มีบาดแผล ข.เข้าทางเท้า

ค. เข้าทางแขน ขา ง. เข้าทางผิวหนัง

7.อาการระยะแรกของไข้ฉี่หนูคืออะไร

ก.ไข้สูง ปวดหัว ปวดกล้ามเนื้อบริเวณน่อง ข. ไข้สูง ไอ เจ็บคอ

ค.ปวดกล้ามเนื้อ บริเวณน่อง ง. ไข้ เยื่อบุตาแดง

8. ถ้าปล่อยให้เป็นหลายวันจะมีอาการรุนแรงอย่างไร

ก.มีจุดเลือดออกตามผิวหนัง ข. ตับวาย ไตวาย

ค.หัวใจวาย ง. ช๊อค

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9.อาการปวดกล้ามเนื้อเนื่องจากเป็นโรคเลปโตสไปโรซิสส่วนใหญ่จะปวดที่ใด (ตอบได้มากกว่า 1 ข้อ)

ก. หัว ข.กล้ามเนื้อน่อง

ค. โคนขา ง. กล้ามเนื้อตามลำตัว

10. เพราะเหตุใดจึงมีคนตายจากการเป็นโรคเลปโตสไปโรซิสทั้งที่โรคเลปโตสไปโรซิสสามารถรักษาให้หายได้

ก.ไปรักษาเมื่อมีอาการรุนแรงแล้ว ข.อาการของโรคไม่ชัดเจนจึงไม่ได้รักษาตั้งแต่ต้น

ค.รักษาด้วยยากลางบ้าน ง.หาซื้อยาจากร้านขายยามากินเอง

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ส่วนที่ 3 พฤติกรรมในการป้องกันและควบคุมโรคเลปโตสไปโรซิสของประชาชน

คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่องด้านขวามือให้ตรงกับความเป็นจริงที่ท่านได้กระทำหรือเคยกระทำมากที่สุด

ข้อความ	ทำเป็นประจำ (ทุกครั้ง)	ทำเป็นบางครั้ง	ไม่เคยทำเลย
ใน 3 เดือนที่ผ่านมา ท่านได้ทำสิ่งต่อไปนี้หรือไม่			
1.ท่านเดินหรือแช่น้ำเป็นเวลานานๆ	.....	.....	.....
2.ท่านทำงานที่ต้องแช่น้ำโดยไม่ได้สวมรองเท้าบู๊ท	.....	.....	.....
3.ท่านทำงานที่ต้องแช่น้ำหรือเดินย่ำน้ำขังโดยที่มีแผลที่เท้าหรือขา	.....	.....	.....
4.ท่านเคยแช่น้ำนานๆจนเท้าเปื่อย	.....	.....	.....
5.ท่านล้างมือล้างเท้าทุกครั้งหลังจากที่สัมผัสน้ำที่ท่วมขังนานๆ	.....	.....	.....
6.ท่านสวมเสื้อผ้ามิดชิดเพื่อป้องกันการเกิดแผลที่ขา,เท้า	.....	.....	.....
7.ท่านกินยาป้องกันโรคเลปโตสไปโรซิส	.....	.....	.....
8.ท่านซื้อยามากินเองเมื่อมีอาการไข้สูงติดต่อกัน 2-3 วัน	.....	.....	.....
9.ท่านจัดเก็บบ้านเรือนให้สะอาด เพื่อไม่ให้เป็นที่อยู่ของหนู	.....	.....	.....
10.ท่านดักจับหนูในบ้านและบริเวณบ้าน	.....	.....	.....
11.ท่านดักจับหนู/เบื่อหนูในนาหรือสวน	.....	.....	.....
12.ท่านมีส่วนร่วมในการรณรงค์กำจัดหนูของหมู่บ้าน	.....	.....	.....
13.ท่านแสวงหาความรู้เกี่ยวกับโรคเลปโตสไปโรซิสเพิ่มเติม	.....	.....	.....
14.ท่านให้ความรู้เรื่องโรคเลปโตสไปโรซิสกับคนในครอบครัว	.....	.....	.....
15. ท่านให้ความรู้เรื่องโรคเลปโตสไปโรซิสกับเพื่อนบ้าน			

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ส่วนที่ 4 ความพึงพอใจในการดำเนินงานของแกนนำชุมชน

คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่องด้านขวามือในแต่ละข้อตามความรู้สึก ความคิดเห็นของท่านมากที่สุดเพียงข้อเดียว โดยพิจารณาจาก เห็นด้วยอย่างยิ่ง เห็นด้วย ไม่แน่ใจ ไม่เห็นด้วย และ ไม่เห็นด้วยอย่างยิ่ง

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
<u>การทำงานของแกนนำชุมชน</u>					
1.แกนนำชุมชนมาให้ความรู้/คำแนะนำเรื่องโรคเลปโตสไปโรซิสด้วยความเป็นกันเอง	.....	.....	.....	.....	.....
2. แกนนำชุมชนมีความต้องการไม่ให้เกิดโรคเลปโตสไปโรซิสในชุมชน	.....	.....	.....	.....	.....
3.คำแนะนำของแกนนำชุมชนทำให้ท่านเข้าใจเรื่องโรคเลปโตสไปโรซิสดียิ่งขึ้น	.....	.....	.....	.....	.....
4.เมื่อมีปัญหาหรือข้อสงสัยเกี่ยวกับโรคเลปโตสไปโรซิสแกนนำชุมชนสามารถตอบข้อซักถามได้เป็นอย่างดี	.....	.....	.....	.....	.....
5.คำแนะนำของแกนนำชุมชนไม่น่าสนใจ	.....	.....	.....	.....	.....
6.คำแนะนำของแกนนำชุมชนเป็นการออกคำสั่งให้ท่านปฏิบัติ	.....	.....	.....	.....	.....
7.ท่านพอใจกับการทำงานของแกนนำชุมชน	.....	.....	.....	.....	.....

ข้อเสนอแนะที่มีต่อการทำงานของแกนนำชุมชน :

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ตารางอบรมแกนนำชุมชนในการป้องกันและควบคุมโรคเลปโตสไปโรซิส

ต.ลาดใหญ่ หมู่ 8 อ.เมือง จ.ชัยภูมิ

วันที่ 26 ตุลาคม 2543

ณ. สถานีอนามัยลาดใหญ่

8.00 – 9.00 น.	ลงทะเบียน และ ทดสอบก่อนอบรม
9.00 – 9.20 น.	ชี้แจงวัตถุประสงค์ และกิจกรรมมารู้จักกันเถอะ
9.20 - 9.30 น.	กำหนดกติกากลุ่มร่วมกัน
9.30 – 9.45 น.	โยงใยปัญหา
9.45 –10.20 น.	ดูวิดิทัศน์เกี่ยวกับความรู้โรคเลปโตสไปโรซิส
10.20 -10.30 น.	พักรับประทานอาหารว่าง
10.30 -10.50 น.	ภาพในอดีต (แต่ละคน)
10.50 – 11.40น.	ภาพรวมในอดีตเกี่ยวกับโรคเลปโตสไปโรซิสในชุมชน
11.40 – 12.00น.	วาดภาพฝันที่ต้องการให้ชุมชนเป็น (แต่ละคน)
12.00 – 13.00น.	พักรับประทานอาหารกลางวัน
13.00 – 13.45น.	ภาพฝัน (ต่อ) รวมภาพฝันของหมู่บ้าน
13.45 – 14.30 น.	กิจกรรมเพื่อป้องกันโรคเลปโตสไปโรซิส
14.30 – 14.40 น.	พักรับประทานอาหารว่าง
14.40 – 15.30 น.	หาผู้รับผิดชอบกิจกรรม + สรุปกิจกรรม
15.30 – 16.00 น.	พันธะสัญญา ปิดการอบรม

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ตารางที่ 11 จำนวนและร้อยละของแกนนำชุมชน จำแนกคะแนนแต่ละหมวดเกี่ยวกับโรคเลปโตสไปโรซิส

ข้อคำถาม	ก่อนทดลอง		หลังทดลอง	
	จำนวน	ร้อยละ	จำนวน	ร้อยละ
1. ความรู้ เกี่ยวกับโรคเลปโตสไปโรซิส				
ต่ำ	23	85.2	-	-
ปานกลาง	4	14.8	11	40.7
สูง	0	0.0	15	59.3
2. การรับรู้โอกาสเสี่ยงของโรค				
ต่ำ	-	-	-	-
ปานกลาง	24	88.9	17	63.0
สูง	3	11.1	10	37.0
3. การรับรู้ความรุนแรงของโรค				
ต่ำ	6	22.2	-	-
ปานกลาง	20	74.1	26	96.3
สูง	1	3.7	1	3.7
4. ความคาดหวังในความสามารถของตนเอง				
ต่ำ	-	-	-	-
ปานกลาง	14	51.9	8	29.6
สูง	13	48.1	19	70.4
5. พฤติกรรมการป้องกันและควบคุมโรค				
ต่ำ	1	3.7	-	-
ปานกลาง	22	81.5	15	55.6
สูง	4	14.8	12	44.4

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ตารางที่ 12 เปรียบเทียบคะแนนความรู้เรื่องโรคฉี่หนูของแกนนำชุมชนก่อนทดลองและหลังทดลอง ของแกนนำชุมชน

ความรู้	ก่อนทดลอง		หลังทดลอง		t-value	p-value
	X	SD.	X	SD		
1.สัตว์ใดเป็นตัวนำโรคเลปโตสไปโรซิส [1]	0.07	0.27	0.89	0.32	10.69	<0.001
2. สัตว์ใดเป็นตัวนำโรคเลปโตสไปโรซิสที่สำคัญที่สุดของจังหวัดเรา	0.89	0.32	0.89	0.32	0.00	0.160
3.เชื้อโรคเลปโตสไปโรซิสจะอยู่ที่ใดก่อนที่จะเข้าร่างกายคน [2]	0.26	0.45	0.89	0.32	6.65	<0.001
4.ส่วนใหญ่โรคเลปโตสไปโรซิสจะระบาดมากในช่วงฤดูใด	0.03	0.19	0.85	0.36	10.69	<0.001
5. ใครเป็นกลุ่มที่เสี่ยงต่อการเป็นโรคเลปโตสไปโรซิส	0.78	0.42	0.85	0.36	0.81	0.425
6. เชื้อโรคเลปโตสไปโรซิสจะเข้าสู่ร่างกายเราได้อย่างไร	0.70	0.47	0.92	0.26	2.28	0.031
7. อาการระยะแรกของไข้ฉี่หนู	0.59	0.50	0.92	0.26	3.12	0.004
8. ถ้าปล่อยให้เป็นหลายวันจะมีอาการรุนแรงอย่างไร	0.33	0.48	0.70	0.46	3.05	0.005
9.อาการปวดกล้ามเนื้อเนื่องจากเป็นโรคเลปโตสไปโรซิสส่วนใหญ่จะปวดที่ใด [2]	0.15	0.36	0.88	0.32	8.61	<0.001
10.เพราะเหตุใดจึงมีคนตายจากการเป็นโรคเลปโตสไปโรซิสทั้งที่โรคเลปโตสไปโรซิสสามารถรักษาให้หายได้	0.44	0.51	0.70	0.46	1.89	0.070

1 = คะแนนเต็ม 5

2 = คะแนนเต็ม 4

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ตารางที่ 13 เปรียบเทียบคะแนนการรับรู้โอกาสเสี่ยงต่อการเกิดโรคเลปโตสไปโรซิส ระหว่างก่อนทดลองและหลังทดลองของแกนนำชุมชน

ข้อคำถาม	ก่อนทดลอง		หลังทดลอง		t-value	p-value
	X	SD.	X	SD.		
1..คนที่มีสุขภาพแข็งแรงจะไม่ป่วยเป็นโรคเลปโตสไปโรซิส	2.93	1.24	2.70	1.20	0.66	0.518
2.คนที่มีบาดแผลที่ขาหรือเท้า หากเดินย่ำน้ำ มีโอกาสติดโรคเลปโตสไปโรซิสได้มากกว่าคนที่ไม่มีบาดแผล	3.96	0.94	4.41	1.18	1.80	0.083
3.คนที่เคยป่วยเป็นโรคเลปโตสไปโรซิสมีโอกาสเป็นโรคเลปโตสไปโรซิสได้อีก	3.85	0.82	3.96	0.85	0.50	0.621
4.คนที่สวมรองเท้าบู๊ททำนามีโอกาสเป็นโรคเลปโตสไปโรซิสน้อย	3.70	0.78	4.26	0.76	2.85	0.008
5.คนที่ป่วยเป็นโรคเลปโตสไปโรซิสส่วนใหญ่จะเป็นชาวไร่ชาวนา	3.96	1.02	4.59	0.69	2.77	0.010
6.ถ้ารอบๆบ้านมีน้ำขังจะทำให้คนในบ้านมีโอกาสเป็นโรคเลปโตสไปโรซิสได้	3.78	0.97	4.33	0.68	2.36	0.026
7.ชายมีโอกาสป่วยเป็นโรคเลปโตสไปโรซิสมากกว่าหญิง	3.52	1.05	3.58	1.03	1.14	0.265
8.ถ้าน้ำท่วมนานๆประชาชนทั่วไปจะมีโอกาสเป็นโรคเลปโตสไปโรซิสมากขึ้น	3.41	1.12	4.33	0.73	3.70	0.001
9.การที่สวมเสื้อผ้ามิดชิดช่วยป้องกันไม่ให้เป็นโรคเลปโตสไปโรซิสได้	2.44	1.19	3.93	1.11	4.60	<0.001
10.หากที่บ้านหรือที่ทุ่งนามีหนูอยู่ชุกชุมจะทำให้มีโอกาสเป็นโรคเลปโตสไปโรซิสได้มากขึ้น	3.59	0.69	4.41	0.57	5.38	<0.001
11.หมู่บ้านเรามีโอกาสเป็นโรคเลปโตสไปโรซิสได้น้อยเพราะไม่เคยมีใครเป็นมาก่อน	3.70	1.23	2.63	1.27	2.88	0.008
12.หมู่บ้านเราอยู่ในเขตอำเภอเมือง จึงมีโอกาสเป็นโรคเลปโตสไปโรซิสได้น้อยกว่าหมู่บ้านรอบนอก	2.51	1.18	3.41	1.08	3.45	0.002

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ตารางที่ 14 เปรียบเทียบการรับรู้ความรุนแรงของโรคเลปโตสไปโรซิสก่อนทดลองและหลังทดลองของแกนนำชุมชน

ข้อคำถาม	ก่อนทดลอง		หลังทดลอง		t-value	p-value
	$\bar{\chi}$	SD.	$\bar{\chi}$	SD.		
1.คนที่ป่วยเป็นโรคเลปโตสไปโรซิสและมีไข้สูงติดต่อกันหลายวัน	3.89	1.09	4.37	0.88	-1.72	0.097
2. คนที่ป่วยเป็นโรคเลปโตสไปโรซิสหลายวันจะทำให้ตับวาย ไตวายได้	3.96	0.81	3.96	0.97	0.00	1.000
3. คนที่ป่วยเป็นโรคเลปโตสไปโรซิส ถ้าเป็นอีกจะมีอาการรุนแรงกว่าครั้งก่อน	3.26	1.20	2.70	1.06	-1.77	0.087
4.คนที่ป่วยเป็นโรคเลปโตสไปโรซิสถ้ารักษาไม่ทันทำให้เสียชีวิตได้	4.22	0.64	4.55	0.64	1.88	0.071
5.คนที่ป่วยเป็นโรคเลปโตสไปโรซิสหลายวันต้องเข้าโรงพยาบาลทำให้เสียค่าใช้จ่ายมาก	3.89	1.42	3.93	1.03	0.09	0.925
6.คนที่มีอาการไข้สูงหลายวันต้องรีบไปพบแพทย์	4.44	0.58	4.45	0.57	0.00	1.000
7.โรคเลปโตสไปโรซิสไม่ต้องรักษาก็สามารถหายเองได้	1.44	0.51	2.33	0.92	4.74	<0.001
8.คนที่เป็นโรคเลปโตสไปโรซิสและมีอาการปวดกล้ามเนื้อเมื่อหายแล้วต้องพักฟื้นทำงานหนักไม่ได้	3.00	1.39	2.81	1.07	.-0.68	0.503
9.โรคเลปโตสไปโรซิสรักษาได้ง่าย โดยซื้อยาฆ่าเชื้อหรือยาปฏิชีวนะมาทานเองก็ได้	2.22	1.22	2.15	0.66	-0.25	0.802
10.คนที่เป็นโรคเลปโตสไปโรซิส ถ้าไม่มีอาการรุนแรงก็ปล่อยให้หายเองได้	1.67	0.88	4.40	0.57	-11.90	<0.001
11.คนที่เป็นโรคเลปโตสไปโรซิสถ้าปล่อยไว้จนมีไข้สูง ปวดกล้ามเนื้อและตาแดง จะรักษาให้หายได้ยาก	4.04	1.22	2.63	1.27	3.91	0.001
12.เนื่องจากโรคเลปโตสไปโรซิสในระยะเริ่มแรก สามารถรักษาให้หายได้ การป้องกันจึงมีความสำคัญน้อยกว่าการรักษา	3.15	1.61	2.51	1.18	1.79	0.084

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ตารางที่ 15 เปรียบเทียบความคาดหวังในความสามารถของตนเองในการป้องกันและควบคุมโรคเลปโตสไปโรซิส ระหว่างก่อนทดลองและหลังทดลองของแกนนำชุมชน

ข้อคำถาม	ก่อนทดลอง		หลังทดลอง		t-value	p-value
	$\bar{\chi}$	SD.	$\bar{\chi}$	SD.		
1.ท่านสามารถสวมรองเท้าบูท ไปทำนาได้	3.67	0.96	4.07	0.87	-1.739	0.094
2.ท่านไม่ลงแช่น้ำเมื่อเท้าของท่านมีบาดแผล	3.93	0.96	4.29	0.82	1.384	0.174
3.หลังจากเดินลุยน้ำหรือทำงานที่ต้องแช่น้ำเป็นเวลานานๆเมื่อกลับถึงบ้านท่านสามารถล้างเท้า/อาบน้ำทันที	4.22	0.89	4.59	0.50	1.845	0.076
4.ท่านสามารถสวมเสื้อผ้ามิดชิดเวลาไปทำไร่ทำนาเพื่อป้องกันการเกิดบาดแผลที่ขาหรือเท้าได้	3.44	1.19	4.15	1.06	2.702	0.012
5.ถ้าท่านหรือคนในบ้านมีไข้สูง 2-3 วัน ท่านจะไปรับการตรวจรักษาที่โรงพยาบาลได้	3.89	1.05	4.66	0.48	3.606	0.001
6.ท่านสามารถบอกวิธีป้องกันไม่ให้เป็นโรคเลปโตสไปโรซิสแก่สมาชิกในครอบครัวได้	4.41	0.50	4.37	0.83	-0.214	0.832
7.ท่านสามารถให้ความรู้แก่เพื่อนบ้านในเรื่องการป้องกันไม่ให้เป็นโรคเลปโตสไปโรซิสได้	4.19	0.83	4.29	0.82	0.486	0.631
8.หากในบ้านของท่านมีหนูอาศัยอยู่ท่านสามารถกำจัดได้	4.44	0.58	4.41	0.50	-0.296	0.569
9.ท่านทำความสะอาดเก็บกวาดบ้านได้ทุกวัน	4.30	0.67	4.40	0.50	0.681	0.502
10.ท่านสามารถชักชวนคนในชุมชนให้ช่วยกันกำจัดหนูได้ทั้งที่บ้านและในนา.	4.33	0.73	4.30	0.61	-0.214	0.832

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ตารางที่ 16 เปรียบเทียบพฤติกรรมในการป้องกันและควบคุมโรคเลปโตสไปโรซิสก่อนทดลองและหลังทดลองของแกนนำชุมชน

ข้อคำถาม	ก่อนทดลอง		หลังทดลอง		t-value	p-value
	$\bar{\chi}$	SD.	$\bar{\chi}$	SD.		
1.ท่านเดินหรือแช่น้ำเป็นเวลานานๆ	2.22	0.57	2.52	0.51	1.96	0.058
2.ท่านทำงานที่ต้องแช่น้ำโดยไม่ได้สวมรองเท้าบู๊ท	2.33	0.62	2.22	0.57	0.72	0.477
3.ท่านทำงานที่ต้องแช่น้ำหรือเดินย่ำน้ำขังโดยที่มีแผลที่เท้าหรือขา	2.11	0.51	1.88	0.57	1.23	0.227
4.ท่านเคยแช่น้ำนานๆจนเท้าเปื่อย	1.67	0.68	1.25	0.59	2.38	0.025
5.ท่านล้างมือล้างเท้าทุกครั้งหลังจากที่สัมผัสน้ำที่ท่วมขังนานๆ	2.44	0.58	2.81	0.73	2.07	0.048
6.ท่านสวมเสื้อผ้ามิดชิดเพื่อป้องกันการเกิดแผลที่ขา,เท้า	2.15	0.53	2.59	0.79	2.47	0.020
7.ท่านกินยาป้องกันโรคเลปโตสไปโรซิส	1.30	0.61	1.48	0.75	1.04	0.306
8.ท่านซื้อยามากินเองเมื่อมีอาการไข้สูงติดต่อกัน 2-3 วัน	1.67	0.78	1.41	0.63	1.27	0.215
9.ท่านจัดเก็บบ้านเรือนให้สะอาด เพื่อไม่ให้เป็นที่อยู่ของหนู	2.45	0.32	2.95	0.66	0.27	0.050
10.ท่านดักจับหนูในบ้านและบริเวณบ้าน	2.30	0.67	2.83	0.68	1.80	0.043
11.ท่านดักจับหนู/เบื่อหนูในนาหรือสวน	2.11	0.70	2.44	0.75	1.97	0.059
12.ท่านมีส่วนร่วมในการรณรงค์กำจัดหนูของหมู่บ้าน	1.81	0.68	2.77	0.75	4.91	0.000
13.ท่านแสวงหาความรู้เกี่ยวกับโรคเลปโตสไปโรซิสเพิ่มเติม	2.26	0.59	2.63	0.79	2.17	0.039
14.ท่านให้ความรู้เรื่องโรคเลปโตสไปโรซิสกับคนในครอบครัว	2.63	0.63	2.81	0.68	0.89	0.037
15. ท่านให้ความรู้เรื่องโรคเลปโตสไปโรซิสกับเพื่อนบ้าน	1.89	0.93	2.63	0.79	3.63	0.001

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