

ESTABLISHING ANTI-LEPTOSPIRA CADRES SUPPLIED BY PERSUASIVE COMMUNICATION, CLEAN & HEALTHY BEHAVIOR KITS, AND POCKET BOOKS FOR PREVENTING LEPTOSPIROSIS

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Abstrak: *Leptospirosis merupakan penyakit infeksi tropis yang menyebabkan kematian. Terdapat 51% kasus Leptospirosis di Surakarta. Angka kejadian leptospirosis di kota ini dan sekitarnya masih tergolong tinggi. Tujuan dari penyuluhan ini adalah untuk meningkatkan pengetahuan masyarakat mengenai Pola Hidup Bersih dan Sehat (PHBS) sebagai upaya pencegahan penyebaran leptospirosis serta untuk mengetahui faktor resiko dari leptospirosis. Hasil pre-test dan post-test kepada peserta penyuluhan diuji dengan Paired Sample Test. Berdasarkan analisis diperoleh perubahan yang signifikan ditunjukkan dengan nilai signifikansi (2-tailed) pada kuesioner pengetahuan tentang leptospirosis adalah 0,000 yang menunjukkan perbedaan yang signifikan. Hal ini menunjukkan materi tentang leptospirosis dapat dipahami dengan baik oleh peserta. Berdasarkan angket kepuasan yang diisi oleh seluruh peserta, didapatkan hasil dengan kategori memuaskan. Selain itu, peserta penyuluhan juga aktif berbagi pengetahuan tentang upaya mencegah penyebaran leptospirosis kepada masyarakat lain.*

Kata Kunci: Faktor resiko, leptospirosis, pencegahan, penyebaran

Abstract: *Leptospirosis is a tropical infectious disease that causes death. There were 51% of Leptospirosis cases in Surakarta. The incidence of leptospirosis in this city and its surroundings is still relatively high. The purpose of this counseling is to increase public knowledge about the Clean and Healthy Lifestyle (PHBS) as an effort to prevent the spread of leptospirosis and to determine the risk factors for leptospirosis. This extension method is by giving pre-test and post-test questions to the extension participants, then the results of these scores are tested by using the Paired Sample Test. Changes as indicated by the significance value (2-tailed) on the knowledge questionnaire about leptospirosis was 0.000 which showed a significant difference. From this outreach activity, it was concluded that the material about leptospirosis could be well understood by looking at the increase in scores on the pre-test and post-test. From the satisfaction questionnaire filled out by all participants, the results obtained in the satisfactory category. In addition, the counseling participants were also active in sharing knowledge about efforts to prevent the spread of leptospirosis to other communities.*

Keywords: Risk factors, leptospirosis, prevention, spread.

Introduction

Leptospirosis is caused by infection with a pathogenic bacteria called Leptospira, transmitted from animals to humans (zoonosis). Transmission can occur directly due to direct

contact between humans (as hosts) with infected animal urine or tissues and indirectly due to contact between humans and water, soil, or plants contaminated with urine from animals infected with *Leptospira*. These bacteria enter humans usually through wounded skin, especially around the feet, and/or mucous membranes on the eyelids, nose, and mucous (Ramdhani in Prihantoro, 2021; Arum, 2017).

Leptospirosis is a tropical infectious disease that causes death. Found one million cases in the world, causing 58,900 deaths each year. Indonesia is a tropical country where the incidence and mortality of leptospirosis cases are pretty high. Leptospirosis in Indonesia is spread among others in the provinces of West Java, Central Java, Lampung, Special Region of Yogyakarta (DIY ~Ind.), South Sumatra, Bengkulu, Riau, West Sumatra, North Sumatra, Bali, West Nusa Tenggara, South Sulawesi, North Sulawesi, East Kalimantan, and West Kalimantan. Based on data from the Ministry of Health in 2017, Central Java province has the highest number of cases each year; in 2016, there was an increase of 164 cases and 30 deaths (CFR 18.29%). According to data on the distribution of Leptospirosis cases based on place of residence in 2015-2018, there were 51% of Leptospirosis cases in Surakarta. The incidence of leptospirosis in this city and its surroundings is still relatively high. In 2017, 39 cases were found, including suspected and probable. (Suprapto, et al., 2020; Sofiyani, et al., 2018)

The occurrence of leptospirosis is caused by interactions between humans, reservoir animals, and the environment. Several studies have stated that many cases of leptospirosis occur in areas with unhealthy environmental sanitation conditions. Environmental factors supporting pathogenic *Leptospira* development are high humidity, low salinity, environmental sanitation, poor waste management, and lots of puddle. In addition to physical environmental factors, the socio-cultural environment is also reported to be related to the incidence of leptospirosis, such as residential density, education level, type of work, level of knowledge, attitudes, and community behavior in preventing leptospirosis (Pujiyanti et al., 2018). Improper waste disposal facilities can result in the presence of garbage around the house associated with the incidence of leptospirosis. For this reason, waste disposal facilities must be made good enough to be helpful without causing adverse effects that cause disease (Auliya, 2014).

Symptoms of leptospirosis include fever, frontal headache, muscle aches, nausea, vomiting, and photophobia, all of which can be suspected of leptospirosis. Physical examination finds, fever, bradycardia, muscle tenderness, hepatomegaly, and others (Rampengan, 2016).

The risk of humans becoming infected depends on exposure to the risk factors. Some humans have a high risk of exposure to leptospirosis because of their work, the environment they live in, or their lifestyle. The main occupational groups at risk are farmers or plantation workers, pet shop workers, ranchers, cleaners, waterways, slaughterhouse workers, meat processors, and the military. Other groups with a high risk of being infected with leptospirosis are natural disasters such as floods, and an increase in the number of people doing recreational water sports (Sitohang et al., 2017)

Given this incident, one of the efforts to prevent the spread of leptospirosis is by providing health counseling/education related to leptospirosis, as well as Clean and Healthy Lifestyle (PHBS) behavior in the community.

Metode

The following are the steps for counseling the village community (*PKMD ~Ind.*):

1. Conducting pre-test questions regarding knowledge about leptospirosis disease.
2. Conducting offline counseling in which the material was explained regarding preventive measures against leptospirosis, PHBS to prevent the spread of leptospirosis, and persuasive communication to motivate residents to implement PHBS.
3. Conducting Q&A and discussion between participants and material providers.
4. Conducting post-test regarding knowledge about leptospirosis disease.
5. Distributing PHBS kits to participants.
6. Monitoring participants via WhatsApp group on the distribution of pocketbooks about leptospirosis to promote knowledge about PHBS efforts to families and the people in Pucang Sawit of Jebres of Surakarta in the context of selecting anti-leptospira cadres.

Result

The PKMD activities in the Pucang Sawit of Jebres of Surakarta were said to be successful, with 85% of invited participants attending. The analysis results of the pre-test and post-test values using SPSS with the Paired Sample Test experienced significant changes, indicated by the significance value (2-tailed) on the knowledge questionnaire about leptospirosis, which was 0.000, indicating a significant difference.

The data on post-test and pre-test values were tested with SPSS using the paired sample test. The results showed a significant difference in the pre-test scores compared to the post-test values, as presented in the following table for the knowledge questionnaire about leptospirosis.

In the "Paired Samples Statistics" table, the descriptive statistics was in the form of the mean and standard deviation of the pre-test and post-test. The pre-test average was 70.59, with a standard deviation of 12.4540. In the post-test, the average was 85.294, with a standard deviation of 11.8876. The paired t-test can be seen in the "Paired Samples Test" table, and it can be seen from the mean value of the difference between the pre-test and post-test, which was 14.7059 with a standard deviation of 9.0951. This difference was tested by paired t-test yielding p-values, seen in the "Sig (2-tailed)" column. The value of $p = 0.000$ (0.0001) was obtained. It can be concluded that there was a significant difference between the results of the pre-test and the post-test.

Discussion

The participants were also asked to fill out questionnaires apart from the pre-test and post-test. Based on the recap results of the Satisfaction Questionnaire conducted, the average value was 4.31, which can be said to be good. Suppose it is categorized based on the value categorization of the organizational counseling scale in Pucang Sawit of Jebres of Surakarta. In that case, it can be categorized as Satisfying. During the event, the participants' enthusiasm

when participating in the counseling activities was very high, seen during the material presentation session. The participants seemed to pay attention and even took notes or took pictures of the material presented. During the Q&A session between the participants and the presenters, the participants were active and critical in giving and answering the questions. They wanted to know more about the material presented.



(a)



(b)

Gambar 1a. Education 6 step to wash hand; 1b. Distribution of PHBS kit

Provision of knowledge about leptospirosis, PHBS, as well as persuasive communication as an effort to motivate residents to implement PHBS, is still very much needed, considering that there are still cases of leptospirosis that have occurred in Surakarta, including in Jebres, and the lack of public awareness in implementing PHBS. In comparison, clean and healthy living behavior is the primary key to preventing the spread of leptospirosis. People with good knowledge about leptospirosis will also have good attitudes toward preventing leptospirosis and have clean and healthy living habits (Widjajanti, 2019 in Isni et al., 2020).

According to Aziz & John (2019), several risk factors can trigger an incident of Leptospirosis, namely:

1. Environmental risk factors based on location include locations with pet ownership, locations with rats around the house, and locations with three or more vegetation types.
2. Environmental risk factors based on environmental characteristics, including settlements, flood area, altitude, rainfall, soil texture, vegetation density index, temperature, and humidity
3. Among other human behavior factors are a history of contact with animals, wound care, low education problems, use of personal protective equipment, bathing or washing in rivers, and history of contact with puddle.

Prevention of leptospirosis by intervening in existing risk factors can be in the form of providing counseling, protecting workers, identifying potentially contaminated soil and water, eradicating rodents (rats), separating infected livestock, immunization of livestock and pets, vaccines, immunization of workers, prophylactic antibiotics, and covering cuts and abrasions with waterproof bandage (Aziz & John, 2019).



(a)

(b)

Gambar 2a. Pocket Book; 2b. Education Poster

The incidence of leptospirosis usually occurs in areas with poor environmental sanitation, inadequate hygiene, and healthy living habits and rats carrying Leptospira bacteria in the environment. Improving poor environmental conditions and increasing PHBS can reduce the risk of leptospirosis (Widjajanti, 2019).

Conclusion

Based on the PKMD activities, the material about leptospirosis can be well understood by representatives of PKK women from each RW in the Pucang Sawit village of Jebres district of Surakarta city by looking at the increase in scores on the pre-test and post-test. The results are obtained in the good or satisfactory category from the satisfaction questionnaire filled out by all participants. In addition, the counseling participants also actively share knowledge about efforts to prevent the spread of leptospirosis to other communities. Hopefully, the counseling participants will be able to teach or socialize with residents regarding PHBS to prevent leptospirosis and be able to apply it in everyday life.

Acknowledgements

For this implementation of PKMD activities in Pucang Sawit village of Jebres district of Surakarta city, researchers would like to thank:

1. Allah SWT for His abundance of gifts and guidance so that this event can be carried out correctly.
2. The head of Pucang Sawit village who has permitted to carry out this counseling activity.
3. The PKK women and the people of Pucang Sawit of Jebres of Surakarta.
4. The institute for research and community service (*LPPM ~Ind.*) of Sekolah Tinggi Kesehatan Nasional Surakarta.
5. All parties who have assisted carry out this PKMD event.

References

Auliya, Rizka. 2014. Hubungan Antara Strata PHBS Tatanan Rumah Tangga dan Sanitasi Rumah Dengan Kejadian Leptospirosis. *Unnes Journal of Public Health*, 3(3): 1-10.

Aziz, Thriq & Jhons Fatriyadi S. 2019. Leptospirosis : Intervensi Faktor Resiko Penularan. *Majority*, 8(1): 232-236.

Isn'i, Khoiriyah. 2020. Edukasi PHBS dan GERMAS Sebagai Upaya Pencegahan Penyakit Leptospirosis di Gedangsari, Gunung Kidul. *Jurnal Pemberdayaan: Publikasi Hasil Pengabdian kepada Masyarakat*, 4(1): 67-72.

Prihantoro, Teguh & Arum S. 2017. Karakteristik dan Kondisi Lingkungan Rumah Penderita Leptospirosis Di Wilayah Kerja Puskesmas Pegandan. *Jurnal of Health Education*, 2(2): 185-191.

Pujiyanti, Aryani., Kusumaningtyas S. N., Wiwik T. 2018. Hubungan Pengetahuan dengan Perilaku Pencegahan Leptospirosis Paska Peningkatan Kasus di Kabupaten Tangerang. *BALABA*, 14(1): 13-22.

Rampengan, Novie H. 2016. Leptospirosis. *Jurnal Biomedik (JBM)*, 8(3): 143-150.

Sitohang, R Vensya., dkk. 2017. Petunjuk Teknis Pengendalian Leptospirosis. Jakarta: Kementerian Kesehatan Republik Indonesia.

Sofiyani, Maya., Ruben D., Bhisma M. 2018. Risk Factors of Leptospirosis in Klaten, Central Java. *Journal of Epidemiology and Public Health*, 3(1): 11-24.

Suprapto, Ivan Aristo, dkk. 2020. Gambaran Kasus Leptospirosis di RSUD Kota Surakarta, 2015-2018. *CDK Journal*, 47(2): 108-111.

Widjajanti, Wening. 2019. Epidemiologi, Diagnosis, dan Pencegahan Leptospirosis. *Journal of Health Epidemiology and Communicable Diseases*, 5(2): 62-68.