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A review

Education on Transmission Patterns of Parasitic Infections by Nurses

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A B S T R A C T

Introduction: Disease caused by helminth, protozoa, arthropods, and fungi was still a problem in the world. These parasitic diseases were classified as neglected tropical disease. Nurses play a significant role in the education on transmission patterns of helminth infections. However, the role of nurses in the education on transmission patterns of protozoa infections was still not well known and discussed.
Objective: The aim of this article is to review the role of nurses in the education on transmission patterns of para-sitic infection.
Method: Writing a study of this scientific articles is made using the reading method model or literacy, analyzing and tracing various references.
Result: This review found that nursing professional staff has a significant contribution in the education on transmission patterns of parasitic infection.
Conclusion: Every nurse must know how to give the best contribution in each case of parasitic disease, especially helminth, protozoa, arthropods, and fungal infection which is cosmopolite.

INTRODUCTION

Malaria is a health problem in many countries around the world. Three hundred million people are attacked every year and 2-4 million dies. Indonesia is a malaria endemic area, although the implementation and eradication program of malaria has been carried out since 1959, the morbidity rate is still quite high, especially in the eastern part of Indonesia. The transmigration program in which there is a mixture of people who come from areas that are endemic and not endemic for malaria, is one of the factors that causes the prevalence of malaria to become more widespread. In malaria endemic areas, malaria outbreaks are still common. The existence of this extraordinary event caused the incidence rate of malaria to be still high in the area. Malaria is a protozoan disease of the genus Plasmodium which is transmitted by the bite of the female Anopheles mosquito. Malaria can also be transmitted directly through blood transfusions, needles and from pregnant women to their babies. In humans there are 4 species of Plasmodium, namely falciparum, vivax, malariae and ovale (Viqar, 2008)

High-risk groups are family members of people with scabies disease. In a broader sense is another person who lives with the sufferer. A boarding house with a relatively large number of residents makes it an easy location for the transmission of this disease. Nursing homes, prisons are vulnerable locations for transmission. The discovery of just one person suffering from this disease will be an effective source of infection and quickly spread to other residents. Partners in sex are also the people most at risk for contracting it (Sungkar S, 2016)

The increasingly high level of busyness in urban communities has led to the growth of daycare centers, moreover, it is increasingly difficult to find good and trustworthy babysitters. Contact between children while playing together in day care is very possible to be a very effective medium of disease transmission. Managers of daycare centers must be observant in accepting children's deposits from the community, of course, if there is one child who is suspected of having scabies, it should be isolated from other children. Sanitation of home care must also really get serious attention. Patients with incomplete treatment programs can be a very effective source of infection. The health of managers and caregivers in nursing homes and daycare centers must also receive sufficient attention. Handling the residents of the orphanage correctly using hygienic methods and always maintaining good sanitation of the orphanage is an absolute requirement that must be met, so as to prevent caregivers from contracting scabies disease (Sungkar S, 2016).

Although these parasitic species that live in the human body are not species that live on the bodies of animals, it does not mean that parasitic species from animals cannot be transmitted to humans. Regarding the possibility that scabies is a zoonotic disease, community groups who like to keep animals such as dogs should be more careful. Parasitic species from animals will not survive long in the human body because they are not the definitive hosts, but of course the presence of parasites from these animals will still have a health impact even if only for a relatively short time (Sungkar S, 2016).

Taeniasis saginata cases are mostly found in countries where people often consume beef/buffalo meat that is not followed by a perfect cooking method. If the cooking is undercooked, the worm larvae contained in the muscle (meat) have not been killed due to the cooking, so that when they enter the human body, the worm larvae will again find a suitable life atmosphere which will trigger the worms to become active again to grow and develop (Chiodini, 2003)

Taeniasis solium cases are often found in areas where people often consume pork that is not followed by a perfect cooking method. If the cooking is not mature enough, the worm larvae have not been killed, so that when they enter the human body, they will reproduce again. Areas with taboos or prohibitions on consuming pork are certainly not areas where many worm infections are found. The regions of Central and Eastern Indonesia where most of the people like to consume pork are the areas with the highest chance of infection. In addition, the people who live in the area around the pig farm and even the workers in it are a high-risk group that must always be monitored regularly for the possibility of cases of Taeniasis solium (Srisasi, 2004).

Populations with a higher incidence of amoebiasis were found in immigrants from Central and South America as well as from Southeast Asia. Residents of the

southeastern and southwestern United States tend to have higher rates of intestinal parasitic infections. Several studies have shown that 33% of homosexuals have E. histolytica and transmit it orally. It is estimated that worldwide infections range from 3% to 10% (Lynnes, 2000).

METHOD

Drafting a study of this scientific articles is made using the reading method model or literacy, analyzing and tracing various references which include: text books, Journals (last 4 years), e-learning, and e-books. Scientific articles in this study has been arranged according to topics that refer to related sources focuses on the education of transmission pattern in parasitic disease.

RESULT

Malaria

In Indonesia, malaria is spread all over the island with different degrees of endemicity and can occur in areas with an altitude of up to 1800 meters above sea level. The malaria morbidity rate in Java and Bali in 1983 ranged from 1-2 per 1000 population, while outside Java-Bali it was ten times higher. The most common species were Plasmodium falciparum and Plasmodium vivax. Plasmodium malariae is sometimes found in eastern Indonesia. Plasmodium ovale has been found in Papua and East Nusa Tenggara. Data from 2000 states that almost 57% of our country is endemic for malaria, mostly islands outside Java. Meanwhile, the 2007 data is relatively similar to the previous years. Almost all regions of the archipelago are also still endemic for malaria, both at low, medium and high levels of endemism (Chiodini, 2003).

Fascioliasis

Prevention of this worm infection can be done by not eating raw vegetables. In addition, efforts to eradicate Fascioliasis in farm animals can be carried out while still paying attention to the cleanliness of the cage and the cage should not be near a pond or ditch. Observation of the presence of snails around pens and livestock grazing areas is important. Snails around the cage should be destroyed to break the life cycle of *Fasciola hepatica*. (Viqar, 2008)

Trichomoniasis

The habit of having free sex can actually trigger the emergence of Trichomoniasis, so that infection prevention efforts are more focused on human behavior. Only having sex with a legal husband or wife is one alternative to prevent this infection. By only having sex with a legitimate partner is expected to suppress the spread of transmission of this parasitic infection. In women commercial sex workers, should always be checked periodically to find out the infection early and immediately take treatment if there are symptoms and signs of infection. Thus, it is hoped that it can reduce the spread of the parasite in men who have contact with it. Men who like to have sex with women commercial sex workers should always use protection (condoms) when having sex. However, wisely we will be able to prevent the transmission of this disease to each of us if we always adhere to the teachings of our respective religions, because there is no single religion that encourages its people to have free sex (Yamaguchi, 2000).

Sarcoptes scabiei

The most basic prevention of transmission is to avoid direct skin-to-skin contact with people with scabies. Complete treatment is recommended for groups of people who are very likely to have direct contact with sufferers, namely people who live together in a residential house for a long time. Treatment of patients and other family members should be carried out simultaneously to prevent re-infection

by this parasite (Trasia, 2020).

Toxoplasmosis

Toxoplasmosis is a threat to the fetus in the womb, the damage and even death of the fetus caused by this parasitic infection cannot be cured. This serious impact underlies that infection prevention measures, especially in pregnant women, are very important. Actually, toxoplasmosis is not a big danger if normal precautions are always taken. This preventive action can be done in various ways but must always be sustainable. Given that goats are one of the animals that can carry this parasite, we should avoid consuming raw goat's milk, raw meat, undercooked meat or less than perfect heating. Cook meat at a minimum of 66oC or frozen at -20oC. We also have to pay attention to hygienic behavior, we should wear gloves when handling raw meat, when working with soil or sand that may be contaminated with cat feces or wash our hands properly after that (Haksohusodo, 2002).

Amebiasis

The distribution of infection with *Entamoeba histolytica* and other rhizopoda class parasites is cosmopolitan and especially in the tropics. The prevalence in the United States in 1961 was estimated at 3% to 7%. Data from the CDC (Center Disease Control) from the results of examination of specimens in public health laboratories in the United States shows a prevalence of (E. histolytica) which is less than 2%, except in six states, namely: 2% - 3% in California, Texas, Illinois, and Pennsylvania; 4 % - 9 % in Oklahoma and New York city; and 8% in Arizona. It is also estimated that for every case of invasive disease, at least 10 to 20 patients will expel an infective cyst. (Lynnes, 2000)

Enterobiasis

The mode of transmission of *Enterobiasis vermicularis* can be in three ways:

1. Transmission from the patient's own hand to the mouth (auto infection) or other people after handling objects contaminated with infective eggs, for example bedding or undergarments of the patient.
2. Through breathing by sucking in air contaminated with eggs infective.
3. Transmission by retroinfection, namely transmission that occurs in patients itself, because the larvae that hatch in the perianal area migrate back to the patient's intestine and grow into adult worms (Wahyuning, 2009)

DISCUSSION

The vector of malaria in Indonesia is the Anopheles mosquito. Anopheles can be called a malaria vector in an area, if the Anopheles species in the area concerned has been proven positive for containing sporozoites in its salivary glands. In a certain area, if there is a malaria vector from one species of the Anopheles mosquito, it is not necessarily in other areas that it is also capable of transmitting malaria. Anopheles mosquitoes can be said to be malaria vectors if they meet certain requirements, namely:

1. His contact with humans is relatively large (likes to bite humans).
2. Is a species that is always dominant.
3. Members of the population generally live long enough, so that allows the development and growth of Plasmodium up to become sporozoites.
4. Elsewhere proved as a vector. (Srisasi, 2004)

Bedding and clothing worn and all equipment that comes into contact with the patient's skin should be separated from 3 days before the start of treatment and washed with hot water. If it cannot be washed immediately, it is best to put the clothes in a tightly closed plastic bag until it is time to wash them. This scabies

parasite can only survive for 2-3 days when outside the human body. The drug used for this parasite is called scabicida. Scabicides can only be purchased with a doctor's prescription. This drug can be in the form of a lotion or cream that is used by applying it to the part where the parasite is suspected. The use of this drug must pay attention to the rules of use listed on the packaging to avoid negative effects for the patient. Given the symptoms of scabies disease is a hypersensitivity reaction to the presence of the parasite and its feces, itching may still be felt several weeks after treatment. If after 2-4 weeks after treatment there are still symptoms of itching, it is recommended to re-treat so that all parasites and their eggs can be completely killed (Sungkar S, 2016).

Cat keepers should pay more attention to personal hygiene and the home environment, including food and drink sanitation for the family. Always use gloves when handling cats is a good preventive measure. The risk of spending becomes a consequence when we decide to keep a cat. In order to prevent infection in domestic cats, it is best to provide cooked or ready-to-eat food for our cats, either in the form of wet food or dry food. Provide a litter box (a litter box where the cat litters), and change it every day. Try not to have mice in your home environment to prevent cats from hunting for mice. If possible teach cats not to hunt mice and other small mammals by changing their diet. Toxoplasma can be found anywhere, so the safest step for us is to always wash our hands with soap after handling animals, soil, raw meat and others that have the possibility of being contaminated with parasites. Always maintaining the sanitation of our food and home environment and behaving hygienically is the most appropriate anticipation to prevent toxoplasmosis. For families of productive age, it is advisable to do a TORCH (Toxoplasma Rubella Cytomegalovirus Herpesvirus) test before planning to have children so that infection does not occur during pregnancy (Haksohusodo, 2002).

Enterobiasis can cause pruritus ani which is caused by gravid female worms that migrate to the anal and vaginal areas, so sufferers feel itchy and scratch and cause sores around the anus. This situation often occurs at night until the patient is disturbed by sleep and becomes weak. Symptoms of enterobiasis include weight loss and insomnia, but it is quite difficult to prove a causal relationship with pinworms (Wahyuningtyas, 2009).

CONCLUSION

The results of the implementation of EBN in the form of consistent hot compress therapy are very influential in reducing pain intensity in hepatoma patients. Based on this research, which was carried out by evidence-based nursing with the selection of the hot compress method, it can affect clients diagnosed with chronic pain as happened in the case of hepatoma. The compress can cause a decrease in muscle tension, dilation of blood vessels so that the pain that arises will subside. The results of this study can be used as a reference in dealing with clients with chronic pain in nursing practice.

REFERENCES

1. Viqar Zaman. Ng Mah-Lee, Mary. (2008) Atlas of Medical Parasitology. 4th edition. Elsevier – Graha Ilmu. Singapore-Yogyakarta, 2008
2. Chiodini P.L, Moody A.H, Manser D.W, (2003) Medical Helminthology and Protozoology, 4 th ed. London : Churchill Livingstone.

3. Srisasi Gandahusada, Herry D, Wita Pribadi.(2004) Parasitologi Kedokteran. Edisi ketiga : Jakarta. FKUI.
4. Yamaguchi, Tomio. Alih Bahasa Lesmana Padma sutra, R makimian, Monika Jukiani Y. (2000) Atlas Berwarna Parasitologi Klinik. EGC.
5. Sungkar S. (2016) Skabies: Etiologi, patogenesis, pengobatan, pemberantasan dan pencegahan. Jakarta: Balai Penerbit FK UI.
6. Trasia, R. (2021). Scabies in Indonesia: Epidemiology and Prevention. *Insights In Public Health Journal, 1*(2), 30-38. doi:10.20884/1.iphj.2020.1.2.3071
7. Haksohusodo,S. (2002) Infeksi Torch. Edisi pertama. Penerbit Medika. FK UGM. Yogyakarta.
8. Lynnes S Garcia David A Bruckner. (1996) Alih Bahasa Dr. Robby Makimian Ms. Diagnostic Parasitologi Kedokteran: EGC.
9. Wahyuningtias T, Nurlaila A, Siswoyo, Sumanto D, (2009) Efisiensi dan Efektifitas Pemeriksaan Infeksi Cacing Kremi Menggunakan Plastik Mika dan Selotif, Laporan hasil penelitian.