



A Review

## The role of nurses in history of the discovery of parasitic diseases in the world

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### A B S T R A C T

**Introduction:** Parasitic disease is still a world health problem. WHO states that parasitic infectious diseases are included in neglected tropical diseases that require large-scale management. Nurses play a major role in the discovery and treatment of parasitic infection patients. However, the role of nurses in the discovery of this parasitic infection is still not well known and discussed.

**Objective:** The aim of this article is to review the role of nurses in history of the discovery parasitic disease in the world.

**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 personnel has a great contribution in the invention and nursery of parasitic disease in every patient in the world.

**Conclusion:** As nurses must know how to give the best contribution in every case of infectious disease, especially parasitic disease which is cosmopolite.

### INTRODUCTION

Nurse comes from the Latin word which means to maintain of care for (Setiawan, 2020; 2021). According to Wardhono (2011), as nurse is a person who has completed nursing professional education, and given the authority to carry out the role function (Firmansyah, 2019). Nursing is a profession that has a defined autonomous function as a nursing professional function. The professional function is to help identify and find the patient's immediate needs. It is the nurse's responsibility to know the patient's needs and help meet them. In his theory about nursing process discipline contains nurse reaction, basic elements, treatment measures and namely patient behavior designed for the good of the patient (Suwignyo, 2013)

Infectious disease is a disease caused by

microorganisms, such as bacteria, viruses, fungi, or parasites and can pass to other healthy people. Some common infectious disease in Indonesia can be prevented through vaccination and patterns clean and healthy life (Kusnanto, 2012)

Infectious disease can be transmitted directly or indirectly. Transmission occurs directly when the germs in a sick person are transferred through the air when sneezing and coughing, through physical contact, for example by kissing and touching, or through contact with body fluids such as urine and blood. People who pass it may not show symptoms and does not look like a sick person, if he is only the carrier disease. Infectious disease can be transmitted or passed from people who are sick to people who are healthy or have not been exposed to the infectious disease (Septiari, 2013)

## OBJECTIVE

The aim of this article is to review the role of nurses in history of the discovery parasitic disease in the world.

## 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 5 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 nurse's efforts to prevent contracting the disease.

## RESULT

From sources and references, the analysis results obtained that nursing professional personnel has a great contribution in the invention and nursery of parasitic disease in every patient in the world.

Table 1. The Role of Nurse in Invention of Parasitic Disease

Year	Name	Parasite
1835	Richard Owen	<i>Trichinella spiralis</i>
1770	Mongin	<i>Loa loa</i>
1875	O'Neill	<i>Onchocerca volvulus</i>
1874	Mc Connell	<i>Clonorchis sinensis</i>
1843	Busk	<i>Fasciolopsis buski</i>
1907	Garrison	<i>Echinostoma ilocanum</i>
1851	Bilharz	<i>Heterophyidae</i>
1602	Plater	<i>Diphyllobothrium latum</i>
1782	Goeze & Leuckart	<i>Taenia saginata</i>
1851	Grasee & Rovell	<i>Hymenolepis nana</i>
1766	Palbes	<i>Echinococcus granulosus</i>
1875	Losch	<i>Entamoeba histolytica</i>
1681	Antoni van Leuwenhoek	<i>Giardia lamblia</i>
1836	Donne	<i>Trichomonas vaginalis</i>
1908	Nicolle & Splendore	<i>Toxoplasma gondii</i>
1911	Alexeieff	<i>Blastocystis hominis</i>
1846	Eichstedt & Sluyter	<i>Malassezia furfur</i>
1890	Sabouraud	<i>Trichophyton, Microsporum</i>

## DISCUSSION

*Necator americanus* and *Ancylostoma duodenale* are named hookworms because in ancient times these worms were found in Europe in mining workers who did not have adequate sanitation facilities. *Enterobius vermicularis* (pinworm, seatworm) has been known for a long time and there have been many researches on its biology, epidemiology and clinical symptoms. (O'lorcain, 2014)

Pork tapeworms are known since Hippocrates, or perhaps since the Prophet Moses, although at that time it could not be distinguished between beef tapeworms and pork tapeworms. Aristophane and Aristotle described the larval stage or cellulose cysticercus on the tongue of wild boar in 1856. They were the nurses who first conducted research on the worm's life cycle and proved that the bubble worms found in pork were the larval stage of *Taenia solium* worms. (Gonzalez, 2015)

At autopsy, Losch found trophozoite stage *E. histolytica* in a large intestinal ulcer, but he did not know the causal relationship between the parasite and the ulcer disorder. Ten years later Walker and Sellard in the Philippines proved experimentally in volunteers that *E. histolytica* is the cause of amebic colitis and *E. coli* is a commensal parasite in the colon. In the following twenty years, *E. dispar* was discovered as an apatogenic parasite (Blessmann, 2016)

The first cases of free-living amoeba infection were found in 1965 in Australia and Florida. In the following ten years, nearly 100 cases of amebic meningitis have been reported worldwide. In 1978 a girl who regularly swam in ancient Roman baths in England died of amebic meningitis. In 1978, in Czechoslovakia, nurses discovered the cause of the swimming pool epidemic, namely the presence of water pockets containing amoebic behind the holes in the pool walls that were protected from the influence of chlorine (Marshall, 2014)

*Trichomonas tenax* is a trichomonad species that was first discovered in 1773 by Miller while performing dental calculus cultures. *Trichomonas hominis* was first identified by Davaine in 1854 in human feces. *T.hominis* is found in the large intestine and has been associated with diarrhea problems. Currently, it is also known as *Pentatrichomonas hominis* because in the parasite culture, most of the growing parasites have 5 anterior flagella compared to 4 flagella (Lawrence, 2015)

In 1937 *Toxoplasma gondii* was found in neonates with encephalitis. Although transplacental intrauterine transmission is well known, it was not until 1970 that the parasite's life cycle became clear when it was discovered in cats. After the development of sensitive serological tests by Sabin and Fieldman in 1948, the anti-*T.gondii* substance was found in cosmopolites, especially in areas with hot and humid climates (Espinoza, 2016)

It is suspected that *Blastocystis hominis* was originally apatogenic yeast cells found in the feces of both sick and healthy people. However, in 1991 Zierdt stated that this organism is a protozoan which is classified as a disease-causing sporozoa in humans. (Moghadamm, 2017)

Microsporidia infection cases in humans were reported in 1959, namely in a Japanese man with complaints of headaches, seizures and recurrent fever. On examination of the cerebrospinal fluid found microsporidia genus *Encephalitozoon*. This parasite is found all over the world (Koestler, 2014)

Sabouraud studied dermatophytosis and wrote a book called *Les Teigne* in 1910 which contains all the results of his research on dermatophytosis for 20 years. In 1933 Emmons classified the causes of dermatophytosis into three genera, namely *Trichophyton*, *Microsporum* and *Epidermophyton* (Azam, 2015)

Van Dyke Carter in 1860 called Madura foot disease as mycetoma because the cause of this tumor is a fungus. In his book published

in 1847 with the title "Mycetoma, the fungus disease of India", he describes in detail the history of this disease (Lupi, 2016)

## CONCLUSIONS

From the explanation above, we may conclude that as nurses must know how to give the best contribution in every case of infectious disease, especially parasitic disease which is cosmopolite. Nurses play a big role in handling helminth, protozoa, insect and fungal infection in over the world.

## REFERENCES

1. Andan Firmansyah, Ahid Jahidin, & Nur Isriani Najamuddin. (2019). Efektivitas Penyuluhan Dengan Menggunakan Media Leaflet Dan Video Bahasa Daerah Terhadap Pengetahuan Bahaya Rokok Pada Remaja. *Bina Generasi: Jurnal Kesehatan*, 11(1), 80–86.
2. Azam JS. Dermatophyte growth and degradation of human stratum corneum in vitro (Pathogenesis of Dermatophytosis). *J Med Coll Abbottabad* 2015; 17(4)
3. Blessmann J, Linh PV, Phuong ATN, Hao DT, Myhsok BM, Buss H, Tannich E. Epidemiology of Amebiasis in a region of high incidence of amebic liverabscess in Central Vietnam. *Am J Trop Med Hyg* 2016; 66: 578-83
4. Espinoza La. HIV/AIDS primary care guide Toxoplasmosis. Florida/Caribbean AIDS education and training center, 2016:11-4
5. Gonzalez AE, Gauci CG, Barber D, Gilman RH, Tsang VCW, Garcia HH, et al. Vaccination of pigs to control human neurocysticercosis. *Am J Trop Med Hyg* 2015;72(6):837-9
6. Koestler A. Microsporidia and myxozoa: parasite with polar filaments. In: Schmidt GD, Roberts LS. *Foundations of Parasitology*. 7<sup>th</sup> edition. New York: McGraw Hill; 2014.p181-91
7. Lawrence A, Orihel T. *Atlas of human parasitology*. 4<sup>th</sup> edition. American Society of Clinical Pathology. Hongkong. 2015

8. Lupi O, Tying SK, McGinnis MR. Tropical Dermatology: Fungal Tropical disease. *Journal of the American Academy of Dermatology*. 2016;53(6):939-43
9. Marshall MM, Naumovitz D, Ortega Y, Sterling CR. Waterborne protozoan pathogens. *Clin Microb Rev* 2014;10(1):70-3
10. Moghadamm DD, Ghadirin E, Azami M. Blastocystis hominis and the evaluation of efficacy of metronidazole and trimethoprim/sulfamethoxazole. *Parasitol Res* 2017;96:273-5
11. O'lorcain P, Holland CV. The public health importance of *Ascaris lumbricoides*. *Parasitol* 2014; 121: S51-S71.
12. Setiawan, H., Ariyanto, H., Khaerunnisa, R. N., Firdaus, F. A., & Fitriani, A. (2021). Yoga Improves Quality of Life among Breast Cancer Patients. *Faletehan Health Journal*, 8(01), 1–9. <https://doi.org/10.33746/fhj.v8i01.159>
13. Setiawan, H., Khaerunnisa, R. N., Ariyanto, H., & Firdaus, F. A. (2020). Telenursing meningkatkan kualitas hidup pasien dengan penyakit kronis, 3(2), 95–104.