


The Importance of Health Education in the Prevention of Myiasis

Zohreh Karimiankakolaki 

Department of Health, Faculty of Medical Sciences, Shahrekord Branch, Islamic Azad University, Shahrekord, Iran

ARTICLE INFO

Letter to the Editor

Article History:

Received: 05 May 2024

Revised: 13 May 2024

Accepted: 15 May 2024

ABSTRACT

*Corresponding Author:

Zohreh Karimiankakolaki

Email:

zohrehkarimian@gmail.com

Tel: +98 9132366910

Citation: Karimiankakolaki Z. The Importance of Health Education in the Prevention of Myiasis. Journal of Social Behavior and Community Health (JSBCH). 2024; 8(1): 1225-1227.

Keywords

Myiasis, sheep fly, health, education

Myiasis is a disease that is caused by the invasion of the eggs and larvae of some families of dipterans to the living or dead organs and tissues of the host (Babamahmoudi et al., 2012, Delwar et al., 2021, Francesconi and Lupi, 2012, Jarvis-Bardy et al., 2015, Jallow et al., 2024). This disease is usually seen in domestic animals such as goats, sheep, and cows, and it is seen in humans to a lesser extent than animals. Due to the climatic conditions of Iran, there are different types of myiasis (Calvopina et al., 2020). From the clinical point of view, myiasis is divided into eye, ear, nose, genital, oral, digestive, and skin types based on the affected organ or organ (Salimi et al., 2010). In a review study that examined the state of human myiasis in the world from 1997 to 2017, 464 cases of myiasis were reported from 79 countries, 208, 150, and 52 cases were reported from America, Asia, and Africa, respectively (Bernhardt et al., 2019). The number of species reported as the cause of the disease was 42 species (Bernhardt et al., 2019, Singh and Banerjee, 2022). In the study of

Alizadeh et al. in 2014, the total number of myiasis cases reported in Iran from 1975 to the end of 2012 was 77 from 16 provinces of the country, 62% of which were related to Fars province (Alizadeh et al., 2014). According to the clinical features, it was found that most of the myiasis cases (62%) were of the oral myiasis type. According to the surveys, the age group of 21 to 40 years included the largest number of myiasis reports, with 80.5% of men and 19.5% of women (Alizadeh et al., 2014). This disease is common between animals and humans, and this type of fly may enter their throats due to the contact of humans with animals. Human myiasis in the eye causes edema; Swelling becomes runny and itchy, and in the throat, there is inflammation of the pharynx and vocal cords, problems in breathing and speaking, burning, persistent and bothersome coughs, and runny nose (Salimi et al., 2010, Samimi et al., 2017, Salmanzadeh et al., 2018). Akbari et al showed that due to background knowledge of the involved people in exposure to oral myiasis agents, conducting some preventive measures based on improving their knowledge, attitude, and practices could be useful for reducing the risk of the disease

Copyright: © 2024 The Author(s); Published by Journal of Social Behavior and Community Health. This is an open-access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

in the area (Akbari et al., 2021). Various studies have mentioned the role of health education and protective measures in preventing people from contracting common diseases between animals and humans, such as brucellosis, Crimean Congo fever, etc (Jalilian et al., 2022, Oruogi et al., 2012). Calvopina et al showed that regarding myiasis, improved education and awareness among populations living in, visitors to, and health personnel working in high-risk regions, is required for improved epidemiological surveillance, prevention, and correct diagnosis and treatment (Calvopina et al., 2020).

Following health guidelines reduces the likelihood of myiasis and can prevent dangerous events (Sherman et al., 2005).

Due to the proximity of humans and livestock in rural areas, the risk of developing this disease has increased in developed and developing countries, including Iran. This issue shows the importance of controlling and improving knowledge and awareness about myiasis-producing flies and mosquitoes. Therefore, due to the importance of this disease, it is necessary to prepare appropriate educational programs and make them available to the audience to make people, especially those working in the field of animal and human health, aware of this disease and its complications.

- To control the damage caused by myiasis, it is necessary to pay attention to the people at risk.

- Provide preventive educational interventions based on health education patterns to recognize the disease and protective measures for the target group.

- Considering that this disease threatens human health in addition to animal health, necessary measures should be taken to deal with and fight against the vector.

Acknowledgment

We are grateful to all the people who helped us in conducting this research.

Conflict of interest

The authors declared no conflict of interest.

Funding

Not applicable.

Ethical considerations

All ethical considerations have been observed.

Code of ethics

Not applicable.

Authors' contribution

Z. K., was involved in writing and approved the final version of the manuscript.

References

- Akbari, M., Akbarzadeh, K., Rafinejad, J., Hanafi-Bojd, A. A., Sheikhi, S. et al. (2021). Knowledge, attitude, and practices on human myiasis with spatial modeling of human risk of exposure to *Oestrus ovis* among shepherds/people in Ilam province, southwest of Iran. *Advancements in Life Sciences*, 8, 406-411.
- Alizadeh, M., Mowlavi, G., Kargar, F., Nateghpour, M., Akbarzadeh, K. et al. (2014). A review of myiasis in Iran and a new nosocomial case from Tehran, Iran. *Journal of arthropod-borne diseases*, 8, 124.
- Babamahmoudi, F., Rafinejad, J. & Enayati, A. (2012). Nasal myiasis due to *Lucilia sericata* (Meigen, 1826) from Iran: a case report. *Trop Biomed*, 29, 175-9.
- Bernhardt, V., Finkelmeier, F., Verhoff, M. A. & Amendt, J. (2019). Myiasis in humans—a global case report evaluation and literature analysis. *Parasitology research*, 118, 389-397.
- Calvopina, M., Ortiz-Prado, E., Castañeda, B., Cueva, I., Rodriguez-Hidalgo, R. et al. 2020. Human myiasis in Ecuador. *PLoS neglected tropical diseases*, 14, e0007858.
- Delwar, A., Mazumder, J., Rashid, M., Mustafa, M. & Swamy, K. (2021). Nasal myiasis: A neglect state. *Medical & Clinical Research*, 6, 377-381.
- Francesconi, F. & Lupi, O. (2012). Myiasis. *Clinical microbiology reviews*, 25, 79-105.
- Jalilian, M., Mansori, S. & Aivazi, A. A. (2022). The effect of educational intervention on preventive behaviors of Crimean-Congo fever in

- rural women of Malekshahi County. *Journal title*, 5, 0-0.
- Jallow, B. J., Gassara, G., Bajinka, O., Luo, Y., Liu, M., et al. (2024). Human myiasis in Sub-Saharan Africa: A systematic review. *PLOS Neglected Tropical Diseases*, 18, e0012027.
- Jervis-Bardy, J., Fitzpatrick, N., Masood, A., Crossland, G. & Patel, H. (2015). Myiasis of the ear: a review with entomological aspects for the otolaryngologist. *Annals of Otolaryngology & Laryngology*, 124, 345-350.
- Oruogi, M., Bayt Asghari, A., Charkazi, A. & Jvaheri, J. (2012). Survey on effect of health education intervention on reduction of brucellosis incidence in rural areas of Khomein based on PRECED framework. *Journal of Health*, 3, 50-58.
- Salimi, M., Goodarzi, D., Karimfar, M. H. & Edalat, H. (2010). Human urogenital myiasis caused by *Lucilia sericata* (Diptera: Calliphoridae) and *Wohlfahrtia magnifica* (Diptera: Sarcophagidae) in Markazi province of Iran. *Iranian Journal of Arthropod-Borne Diseases*, 4, 72.
- Salmanzadeh, S., Rahdar, M., Maraghi, S. & Maniavi, F. (2018). Nasal myiasis: a case report. *Iranian Journal of Public Health*, 47, 1419.
- Samimi, A. S., Karimi Afshar, M. & Jaferi, M. (2017). Oral cavity myiasis caused by *Sarcophaga haemorrhoidalis* in sheep (clinical report). *Veterinary Research & Biological Products*, 30, 136-141.
- Sherman, R. A., Roselle, G., Bills, C., Danko, L. H. & Eldridge, N. (2005). Healthcare-associated myiasis: prevention and intervention. *Infection Control & Hospital Epidemiology*, 26, 828-832.
- Singh, A. & Banerjee, T. (2022). Myiasis. *Textbook of Parasitic Zoonoses*. Springer.