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SNAKE BITE RESCUE TRAINING: AN EFFORT TO IMPROVE INJURY MANAGEMENT SKILLS IN MENYUNYUR VILLAGE, GRABAGAN DISTRICT, TUBAN REGENCY

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ABSTRACT

Background: Snake bites are an emergency issue frequently occurring in rural areas, particularly in forested environments, and can lead to serious injuries, disabilities, and even death. High mortality rates from snake bites are often due to a lack of knowledge and skills in handling these incidents. Method: A Snake Bite Rescue training was conducted over 7 days in Desa Menyunyur, Kecamatan Grabagan, Kabupaten Tuban. This training involved 10 local farmers and consisted of three main phases: initial data assessment, intensive training, and final evaluation. The training methods included lectures, demonstrations, and simulations of snake bite management. Result: The training results showed a significant improvement in participants' knowledge and skills in managing snake bites, as well as an increased awareness of preventive measures. Conclusion: This training is expected to contribute to a reduction in serious injuries and deaths from snake bites and to enhance the safety of farmers in the area.

1. INTRODUCTION

Snake bites are considered environmental emergencies related to the environment, occupation, and season, occurring frequently around the world, particularly in rural areas with significant forest coverage (Abdullahi et al., 2022). A snake bite can result in serious injuries, including wounds, disabilities, and even death. An injury is defined as damage to the body's structure or function caused by physical or chemical pressure. Snake bite injuries carry the risk of causing disabilities and fatalities, making awareness of snake bites crucial, whether from accidentally stepping on a snake or unintentionally entering its habitat (Rahman et al., 2010). There are over 3,500 snake species worldwide, with approximately 17% of them being venomous, causing an annual death toll between 20,000 and 125,000. Additionally, thousands of people suffer from chronic disabilities such as amputations and blindness. The incidence of snake bites varies greatly across different geographical regions, but accurate estimates are difficult to obtain due to inadequate documentation by healthcare practitioners and facilities, lack of case collection by central health authorities, and insufficient formal documentation among traditional healers (Musah et al., 2019).

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Snakes are categorized into venomous and non-venomous. Venomous snakes have a pair of fangs in the upper jaw used to inject venom into the prey subcutaneously or intramuscularly (Pucca et al., 2020). Snake venom is a complex mixture, primarily composed of proteins, with enzymatic activity and toxic effects that depend on the species, size of the snake, gender, age, and the mechanical efficiency of the bite (Ulia & Monica, 2022).

The effects of snake venom can be either local (around the bite area) or systemic, depending on the severity of the bite and the effects produced. Farmers are at high risk of snake bites because they work in environments that are natural habitats for snakes, particularly in areas with dense vegetation (Casewell et al., 2020). The signs and symptoms of a snake bite vary depending on the species of snake and the amount of venom injected. These can include fang marks, local pain, local bleeding, bruising, swelling, blistering, local infection, and tissue necrosis, especially from bites by snakes from the Viperidae family (Mehta & Sashindran, 2002).

Snake bites are more common in tropical regions and areas where the majority of the population are farmers (Jarwani et al., 2013). Many people are bitten by snakes due to accidental contact or attacks. It is estimated that around 45,000 snake bites occur annually in the United States, especially during the summer, with approximately 8,000 people being bitten by venomous snakes (Rahman et al., 2010). Snakebite envenomation is more common in South and Southeast Asia (2 million cases per year), sub-Saharan Africa (420,000), and Latin America (150,000). These regions also report high mortality rates from snakebites (100,000, 32,000, and 5,000 deaths, respectively), likely due to poor access to medical care. Delays in diagnosis and treatment can worsen the prognosis. The World Health Organization (WHO) recognized snakebite as a neglected tropical disease in 2017 and called for a global coordinated effort to reduce mortality and disability (Ralph et al., 2022).

In Indonesia, in 2017, there were 135,000 snakebite cases annually, with a mortality rate of 4.8% due to improper treatment (Cindy et al., 2020). An initial survey conducted by researchers on July 23, 2024, in Desa Menyunyur, Kecamatan Grabagan, Kabupaten Tuban, revealed that out of 10 interviewed villagers, 8 (80%) were unaware of first aid for snake bites, while 2 (20%) were aware but did not follow correct procedures.

The high mortality rate from snake bites is due to several factors, one of which is the lack of knowledge and skills in managing snake bite injuries (Alqahtani et al., 2022). Early management of snake bite injuries is crucial to prevent fatal outcomes. However, many people still lack knowledge about proper treatment and often resort to makeshift methods, such as tying a tourniquet or cutting the bite area (Ryandini, 2020). If not promptly treated, a snake bite can lead to physical disabilities. To prevent death from a snake bite, it is crucial to have proper knowledge of first aid procedures. (Ralph et al., 2022). Knowledge can be improved through health education, including training programs. (Faqih & Ferianto, 2021). Good knowledge can help reduce the number of deaths caused by snake bites. Unfortunately, many people still lack knowledge about proper first aid, making it necessary to enhance understanding through snake bite rescue training (Mahmood et al., 2019). The principles of snake bite management include preventing the absorption and spread of venom, neutralizing the venom, and treating potential complications. Snake bite rescue training is expected to improve the community's ability to manage snake bite victims, thereby reducing the incidence of disability or death from snake bites (Awaludin & Ramdani, 2024).

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Community service activities involve providing snake bite rescue training to farmers. This initiative is undertaken because many farmers are still unaware of how to manage snake bites. The motivation for this community service stems from previous research indicating that snake bite rescue training significantly impacts the ability to handle snake bites effectively.

2. METHODE

Community service was conducted by providing snake bite rescue training to 10 farmers in Desa Menyunyur, Grabagan District, Tuban Regency. The activity took place over 7 days, from July 23 to July 28, 2024, and included several stages: 1) On July 23, 2024, an initial data assessment was carried out; 2) From July 24 to July 27, 2024, the community service involved intensive training on snake bite rescue; 3) On July 28, 2024, an evaluation was conducted to determine whether the training had a positive impact on the farmers in Desa Menyunyur, Grabagan District, Tuban Regency.

3. RESULTS AND DISCUSSION

Snake Bite Rescue Training was a community service activity conducted over 7 days, from July 23 to July 28, 2024. The purpose of this activity was to enhance the skills of the local community, particularly farmers, in managing snake bite incidents. Given the high potential for snake bites in Desa Menyunyur, there was a need for knowledge and skills in providing appropriate first aid to minimize the risk of severe injury or death due to snake bites. The training was organized in a structured manner, including several key stages: initial assessment, training, and evaluation.

Initial Assessment: On July 23, 2024, the initial data assessment focused on the community's knowledge and preparedness regarding snake bite risks. This assessment involved interviews with village officials, community leaders, and some residents, as well as field observations of the living environment that could be a potential snake habitat. The assessment revealed that most residents, especially farmers, lacked adequate knowledge about first aid for snake bites.

Training: The Snake Bite Rescue training was conducted over four days, from July 24 to July 27, 2024. This training utilized a participatory approach, with residents actively involved. The methods included lectures, demonstrations, and simulations.

Training Content: The training covered: 1) Identification of venomous and non-venomous snakes commonly found in rural areas, particularly in Desa Menyunyur; 2) Signs and symptoms of venomous snake bites, such as fang marks, local swelling, bleeding, and systemic symptoms like nausea, dizziness, or shortness of breath; 3) First aid steps for snake bites, including proper techniques to prevent the spread of venom, such as keeping the affected area still and below heart level; 4) Prevention measures for snake bites, such as wearing protective clothing while working in fields and maintaining a clean environment to avoid attracting snakes.

Each training session included live demonstrations and simulations, where participants practiced snake bite management techniques. Facilitators provided real-life examples of how to handle victims promptly and correctly before obtaining further medical assistance. In simulations, participants used simple, locally available materials, such as cloths, to immobilize the affected area.

Evaluation: On July 28, 2024, an evaluation was conducted to assess the impact of the Snake Bite Rescue training on the participants' knowledge and skills in handling snake bites. Evaluation methods included written tests, observation of repeated simulations, and interviews with participants.

Results: The evaluation showed positive impacts of the training. Most participants were able to correctly understand and practice first aid steps, such as calming the victim, avoiding tourniquets, and seeking medical help promptly. Participants also

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recognized the types of venomous snakes that could pose a threat while working in the fields. Furthermore, there was an increased awareness of the importance of preventive measures, with residents now understanding the need for protective clothing in snake-prone areas.

In conclusion, the Snake Bite Rescue training successfully enhanced the ability of Desa Menyunyur residents to manage snake bite incidents. Participants are now better prepared for emergencies and more aware of preventive measures. The training has also contributed to a long-term reduction in the risk of disability and death due to snake bites in the area.

Figure 4.1 Documentation of Snake Bite Rescue Training Activities

4. CONCLUSION

The community service activity involving the 7-day Snake Bite Rescue training in Desa Menyunyur successfully enhanced the skills and knowledge of the residents in managing snake bites. Through a training method that engaged active participation from the residents, they are now better prepared to handle the frequent risk of snake bites in the village. The positive impact of this training is expected to contribute to a reduction in serious injuries and deaths caused by snake bites, as well as improve the safety and well-being of farmers in Desa Menyunyur, Grabagan District, Tuban Regency.

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6. REFERENCES

Abdullahi, A., Yusuf, N., Debella, A., Eyeberu, A., Deressa, A., Bekele, H., Ketema, I., Abdulahi, I. M., & Weldegebreal, F. (2022). Seasonal variation, treatment outcome, and its associated factors among the snakebite patients in Somali region, Ethiopia. *Frontiers in Public Health*, *10*, 901414. https://doi.org/10.3389/fpubh.2022.901414

Alqahtani, S. S., Banji, D., Banji, O. J. F., Syed, M. H., Syed, N. K., Meraya, A. M., Albarraq, A. A., Thaibah, H. A., Khardali, A., Alhomood, I. A., Mahzari, A. M., & Alshlali, O. M. (2022). Knowledge and Attitude of First-Aid Treatments for Snakebites, and the Perception of Snakes among the Students of Health Sciences at Jazan University, Saudi Arabia. *Healthcare (Basel, Switzerland)*, *10*(11). https://doi.org/10.3390/healthcare10112226

Awaludin, M. D., & Ramdani, M. L. (2024). Pengaruh Edukasi Pertolongan Pertama Snakebite Terhadap Pengetahuan dan Keterampilan Petani di Desa Larangan. *Jurnal Promotif*

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Preventif, *7*(1), 116–122. https://doi.org/10.47650/JPP.V7I1.1187

Casewell, N. R., Jackson, T. N. W., Laustsen, A. H., & Sunagar, K. (2020). Causes and Consequences of Snake Venom Variation. *Trends in Pharmacological Sciences*, *41*(8), 570–581. https://doi.org/10.1016/j.tips.2020.05.006

Cindy, A., Afni, N., Sani, F. N., D3, P., Stikes, K., & Surakarta, K. H. (2020). PERTOLONGAN PERTAMA DAN PENILAIAN KEPARAHAN ENVENOMASI PADA PASIEN GIGITAN ULAR. *Jurnal Kesehatan Kusuma Husada*, 91–98. https://doi.org/10.34035/JK.V11I1.423

Faqih, M. U., & Ferianto, K. (2021). Meningkatkan Perilaku Kesiapsiagaan Bencana Kebakaran Pada Remaja Dengan Pelatihan Budaya Sadar Bencana Terhadap (Di Kelurahan Gedongombo Kecamatan Semanding Kabupaten Tuban). *Journal of Borneo Holistic Health*, *4*(2), 136–146. https://doi.org/10.35334/BORTICALTH.V4I2.2275

Jarwani, B., Jadav, P., & Madaiya, M. (2013). Demographic, epidemiologic and clinical profile of snake bite cases, presented to Emergency Medicine department, Ahmedabad, Gujarat. *Journal of Emergencies, Trauma, and Shock*, *6*(3), 199–202. https://doi.org/10.4103/0974-2700.115343

Mahmood, M. A., Halliday, D., Cumming, R., Thwin, K. T., Myitzu, M., White, J., Alfred, S., Warrell, D. A., Bacon, D., Naing, W., Aung, H., Thein, M. M., Chit, N. N., Serhal, S., Nwe, M. T., Aung, P. P., & Peh, C. A. (2019). Inadequate knowledge about snakebite envenoming symptoms and application of harmful first aid methods in the community in high snakebite incidence areas of Myanmar. *PLoS Neglected Tropical Diseases*, *13*(2), e0007171. https://doi.org/10.1371/journal.pntd.0007171

Mehta, S. R., & Sashindran, V. K. (2002). Clinical Features And Management Of Snake Bite. *Medical Journal, Armed Forces India*, *58*(3), 247–249. https://doi.org/10.1016/S0377-1237(02)80140-X

Musah, Y., Ameade, E. P. K., Attuquayefio, D. K., & Holbech, L. H. (2019). Epidemiology, ecology and human perceptions of snakebites in a savanna community of northern Ghana. *PLoS Neglected Tropical Diseases*, *13*(8), e0007221. https://doi.org/10.1371/journal.pntd.0007221

Pucca, M. B., Knudsen, C., S Oliveira, I., Rimbault, C., A Cerni, F., Wen, F. H., Sachett, J., Sartim, M. A., Laustsen, A. H., & Monteiro, W. M. (2020). Current Knowledge on Snake Dry Bites. *Toxins*, *12*(11). https://doi.org/10.3390/toxins12110668

Rahman, R., Faiz, M. A., Selim, S., Rahman, B., Basher, A., Jones, A., d'Este, C., Hossain, M., Islam, Z., Ahmed, H., & Milton, A. H. (2010). Annual incidence of snake bite in rural bangladesh. *PLoS Neglected Tropical Diseases*, *4*(10), e860. https://doi.org/10.1371/journal.pntd.0000860

Ralph, R., Faiz, M. A., Sharma, S. K., Ribeiro, I., & Chappuis, F. (2022). Managing snakebite. *BMJ (Clinical Research Ed.)*, *376*, e057926. https://doi.org/10.1136/bmj-2020-057926

Ryandini, T. P. (2020). Pengaruh Pelatihan Snake Bite Rescue Terhadap Penanganan Korban Cedera pada Petani Belimbing Madu di Desa Tasikmadu Palang Tuban. *Prosiding Nasional FORIKES*, *2020*(0), 43–47. https://forikes-ejournal.com/index.php/profo/article/view/2020a06

Ulia, A., & Monica, T. (2022). PERTOLONGAN PERTAMA PADA GIGITAN BINATANG BERBISA DI

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DESA KOTO RENAH. *Jurnal Pengabdian Masyarakat Bina Insani Sakti*, *1*(1, Oktober), 9–14. https://jurnal.akperbis.ac.id/index.php/jpmbis/article/view/45

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