

Snakebite in Nepal : Neglected Public Health Challenge

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The most neglected tropical health problem, especially for people who reside in rural tropic is snakebite. Due to misreporting or under reporting, global burden of the snakebite is not clearly known. However, 5 million people are estimated to be bitten every year causing about 125 thousands deaths and 400 thousand disabilities and the South Asia is one of the most affected regions in the world.¹ Death due to snakebite is equivalent to one fifth of the malaria deaths and half of that due to HIV/AIDS in India.²⁻⁴ Estimated over 3000 human deaths annually occurs in the region due to poisonous snakebite. In Nepal, snakebites are reported from all parts of the country but the mortality due to poisonous snakebite is a remarkable problem in Terai region. Only Elapidae (Cobra, Kraits and coral snake) and Viperidae (pit vipers) are the poisonous snakes available in Nepal from low land (Terai) to as high as 3200 meter in mid mountains of the country.⁵ It is estimated that annual snake bites reaches up to 1162 per 100 thousand population and out of it, 604 per 100 thousand are reported with signs of envenoming with 162 per 100 thousand deaths.⁶ The snake bites mostly occur in rural Terai among farmers - most impoverished inhabitants of the rural areas in the tropical developing countries, thereby, as there is no prompt transport and treatment available, most of the victims die on the way to hospital and victims who reach to hospital, are also in late stage, therefore, difficult to save the life. In Nepal, most of the rural communities in the Terai region are neither connected to the highway nor access to public transport including ambulance. Therefore, most of the victims of the snakebites die because of the transport delay. One study carried in the eastern part of the Nepal concluded that the case fatality rate reduced from 10.5 percent to 0.5 percent after a simple intervention of motorcycle volunteer program and community awareness that increased the access to prompt treatment.⁷ On the other hand, there are traditional belief and healing practices that most of the community people believe in. So, people first rush to traditional healers while there is snakebite that also results delay in seeking treatment.

Snakebites, occurring after midnight and by kraits as it is usually painless, is directly associated with increased case fatality. Moreover, in case of peripheral part of the Nepal, more than 2/3rd of the health workers are paramedics and not trained adequately on snakebites management. Therefore, health workers, working at the periphery, are unable to identify the signs of envenoming on time and provide treatment as promptly as needed. Generally, clinical signs and symptoms of envenoming can be detected within one hour of the bite but health workers could not recognize on time and victims lose their golden time to reach onto appropriate place. However, Nepal Army has already been providing the treatment for poisonous snakebites from their service delivery outlets throughout the country.

Despite the heavy public health burden of the snakebite, this is not even considered as neglected tropical diseases or health problems by World Health Organization. Snakebite largely affects the adolescent and young adults (10-30 years)² residing in the poorest and most rural locations of the world. They could not raise the voice and attract the global attention. On the other hand, immediate immunotherapy (inoculation of anti-venom) is the only specific treatment for poisonous envenoming. Anti-venom is a special product for special venom. There is a huge difference on species of the snakes so as the venom. So far, Nepal is importing the anti-venom from India, which is effective for cobra and common kraits but not very effective for especial Kraits bites on central and western Terai. Generally, every country has its own product, that's why they are effective to species of the country. But, Nepal does not have its own product. On the other hand, animal rights groups in India has raised the issue that India can not export the anti-snake venom to any other country. As it is the fact that during the production of anti-snake venom, horse like animals are used and they ultimately die. This is a serious violation of the animal rights. Therefore, there is high resistance from animal rights groups. This will seriously affect the

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Nepal and as a result, Nepal will have no more stocks of anti-snake venom. If this happens, then, death toll due to poisonous snakebites will be sharply raised.⁸ This will be a constraint on the health rights, protected by the constitution of Nepal. Nepal should begin to produce anti-snake venom without delay and confusions; likewise, snakebite envenoming should be an integral part health management information system.⁹ Health workforce capacity on snakebite management should be further strengthened through pre-service and on the job training courses. Universal access to anti snake venom remains unanswered at times.

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