SHORT COMMUNICATION

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The gold rush for Himalayan Viagra – an overview from Dolpa, Nepal

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Abstract

Cordyceps sinensis is a very rare combination of a caterpillar and a fungus and found at altitudes above 3800m in the Himalayan region. Its medicinal importance is described in ancient Chinese medicine and Tibetan medicine. It is used over 5000 years by doctors in China. It is available in mountainous regions of India, Nepal and Tibet. A number of people from Dolpa and nearby districts of Nepal travels higher mountainous region to collect and sell it as a most important source of cash income. Villagers put their life at risk every year during collection of this caterpillar.

Key words

Caterpillar, *Cordyceps sinensis,* Dolpa, high altitude, Nepal

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Background

Mushrooms are used for edible purpose, medicine, poison from an ancient time [1]. *Cordyceps Sinensis* is an annual Ascomycetes fungus which is closely related to the mushroom (exotic medicinal mushroom). *Cordyceps sinensis* has been described in traditional Chinese medical books and Tibetan medicine from ancient times. The most interesting fact is that, according to the Traditional healers all illnesses can be treated by the *C. sinensis.* The present study was undertaken to collect proper information about this caterpillars, risk factors during its collection and focus on the traditional claims for its uses in Nepal.

About *Cordyceps Sinensis*

Cordyceps Sinensis found in high-altitude Himalayan region (above 3800 m), in cold, grassy, alpine fields. The immature larvae (host) on which cordyceps grows is present around half a feet below the surface of the ground. The fungus is actually a parasite. Initially mushroom originates from an insect larval host and ultimately ends at the club-like cap, including the stipe and stroma. The fruit body is dark brownish black in colour, and the larval body is yellowish to brown color [2, 3]. When the fungus is mature, it mummifies its host. The average weight of cordyceps is about 300-500 mg.

Local peoples calls this caterpillar “Yarsa gumba” or “Yarchagumba”; its Tibetan name [winter (yarsa) and summer (gumba)]. It is also called Keera Jhar (insect herb) by the local Nepalese. This is also known as “winter worm, summer grass,” Due to its pharmacological properties similar to commercially available Viagra, this is also known as “Himalayan Viagra”. Its strong medicinal potential was first observed by local herders, because yaks consumed this caterpillar became strong. People from Dolpa and nearby districts of Nepal collect and sells it to the traders, which finally exported in Hong Kong and other countries.

Folk practitioners recommends the use of “Yarsha gumba” along with milk, local made alcohol (Chang), hot water and herbs, which is believed to boost sexual power and to treat a number of diseases including cancer. Some studies from western and central region of Nepal support this fact [4-6].

Figure 1 - Yarchagumba

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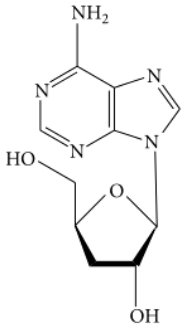

Figure 2 – Cordycepin: chemical structure

Chemical composition and physiological role

A number of bioactive compounds has been derived from the caterpillar namely cordycepin, polysaccharides, ergosterol, mannitol, and adenosine [7, 8].

A number of research studies have proved diverse biological activities of *C. Sinensis.* improving physical performance & endurance of the body, sharpens the memory, boosts immunity, relieves stress, and improves appetite. It has also effects on blood pressure, lipid profile, arthritis, anti-aging hepatic function, anti cancer *etc*.

The ideal time for its collection ranges from 3rd week of May to 3rd week of July. Villagers from Dolpa, Darchula. Rukum. Jumla districts use to go higher mountainous region to collect the Yarsa gumba. In Dolpa the VDC (village development committee) for collecting yarchagumba are Dho, Shahartar, Lahun, Phoksundo, Tripurakot, Majhphal. Yarsha is very costly in the international market. At present the cost of Yarsa varies 13 to 27 lac Nepali rupees when exported to Hong kong and the price increases thereafter. It is also sold to China and Singapore. In 2012, a pound of best quality caterpillar costs around $50,000 in the international market.

Risk factors during collection.

As *C. Sinensis* is found in high altitude, villagers walk through the dangerous mountain trails to reach there. The road is narrow and highly risky for landslide. People walks for 2-3 days to reach there. Extreme cold, raining, snowfall during May-June worsen the condition. A number of people die due to excessive cold. Apart from this, high altitude sickness is the most common one. Photophobia is a general problem amongst these caterpillar hunters just after snowfall. Avalanche sometimes causes great disaster that usually seen there. Around 9 years back avalanche caused death of many people in tang tungelekh in Dolpa district, Nepal. Falling from sloppy hill also a contributory factor for death. Situation worsens due to falling stone, which injures many people. A number of people go there along with the family and sometimes infants die due to excessive cold.

Figure 3 – collection of Yarchagumba from mountain slope

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Conclusion

Medicinal value of *C. Sinensis's* is very promising, but human experimentation and clinical trial is required. The areas of collection is risky so commercial cultivation of this caterpillar may help the villagers financially.

Competing interests

None declared.

Author's contribution

Roka R & Goel S took part in the manuscript writing, revision and correction of the manuscript. Final manuscript is accepted by both authors.

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