

Taeniasis Treatment Training Project

Final Report

scroll down for Eya Township (Phase 1) report, 3 pages, published July 5
Mairi Township (Phase 2) successfully completed in November 2022



Back row, left to right: Dr. Tsea Yangzom, rural doctor trainee; Dr. Wangchen Lorong, rural doctor trainee; Dr. Pema Lhatso, rural doctor trainee; Dr. Duan Mian Chuan, trainer, Muli County CDC; Tashi Lhatso, trainer, Muli County CDC
Front row, left to right: Dr. Yi Troma, rural doctor trainee; Dr. Namkha Dronma, rural doctor trainee; Dr. Li; Dr. Sonam Drimo, rural doctor trainee; Yan Xulei, trainer, Muli County CDC

The Diseases

- **Taeniasis** (*Taenia solium* tapeworm) and **neurocysticercosis** (NCC) are dangerous and highly prevalent parasitic diseases in Muli County, Liangshan Prefecture, Sichuan Province, China (Kham).
- *T. solium* taeniasis is caused by consumption of raw or undercooked, infected pork.
- *T. solium* taeniasis carriers can cause NCC, a brain disease that can cause debilitating symptoms which can be fatal.

The Accomplishments

- **Dr. Li Tiaoying**, Sichuan CDC, Chengdu, is our long-time partner and an expert working on taeniasis/NCC for over 15 years.
- Mairi Township (NW Muli County) is a remote, mountainous, sparsely populated, agricultural area with few roads, 2,945 residents (approx. 95% ethnic Tibetan), and 4 villages.
- In early November, **Dr. Li and her team trained 6 Tibetan rural doctors (4 village doctors & 2 township doctors) in Mairi Township** by following the model developed for Eya Township (scroll down for the details). All of the trainees demonstrated a strong interest in learning how to treat taeniasis. **Dr. Li: "This training was very successful. The villagers are happy to have an effective local taeniasis treatment available to them."**
- Dr. Wangchen Lorong and Dr. Namkha Dronma are responsible for the very remote villages of Geyi and Halang, respectively. Dr. Tsea Yangzom and Dr. Sonam Drimo are responsible for the less remote villages of Qugong and Rilong, respectively.
- Thanks to 25 different compassionate donors, BLSCP raised \$15,277, which covered the total cost of \$15,138 for the training in Eya and Mairi Townships. Sichuan Provincial Finance Department provided \$15,720 for herbal medicines and treatment equipment.



Dr. Wangchen Lorong preparing areca nut extract



**Dr. Tsea Yangzom, communicating with villagers
and serving warm water to a patient**



Mairi Township seat (administrative center)

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Taeniasis Treatment Training Project

Eya Township successfully completed in mid-May 2022



Back row (trainees), left to right: Dr. Liu's husband (Naxi ethnic group), village doctor in Lusi Village; Dr. Phuntsok (Tibetan), village doctor in Ebi & Kawa Villages; township doctor (Han) in Eya Township Clinic; village doctor (Naxi) in Suda Village; village doctor (Tibetan) in Libi Village; township doctor (Han) in Eya Township Clinic
Front row (training team), left to right: Dr. Li; Luo Jian Ying, Muli County CDC; Tashi Lhatso, Muli County CDC



Dr. Liu Qiaolan (Naxi ethnic group),
village doctor in Dacun Village



Dr. Duan Mian Chuan (trainer),
Muli County CDC

The Diseases

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The Accomplishments

- **Dr. Li Tiaoying**, Sichuan CDC, Chengdu, is our long-time partner and an expert working on taeniasis/NCC for over 15 years.
- Eya Township (SW Muli County) is a remote, mountainous, sparsely populated, agricultural area with few roads, 6,007 residents (approx. 50% ethnic Tibetan), and 6 villages.
- In mid-May, **Dr. Li and her team trained 5 village doctors and 3 township doctors in Eya Township** on (1) all aspects of the two diseases, (2) how to identify taeniasis carriers, (3) how to conduct treatment, including preparation of the herbal medicines, and (4) how to record the results of treatment.
- Three of the village doctors have independently performed treatment of taeniasis carriers in local villages. In mid-May, **Dr. Phuntsok treated 53 residents in Ebi and Kawa Villages**. In early July, after the local residents had completed their planting of crops, **Dr. Liu & her husband treated 101 farmers in Dacun Village**. Most patients expelled whole tapeworms with no serious side effects.



Dr. Li teaching how to identify taeniasis carriers



The Training

- The first step is to prepare the areca nut extract on the day before it will be used. After dry areca nut slices are immersed in water for 30 minutes, the tannin is thrown away because it might lead to some gastrointestinal discomforts during treatment. The immersed areca nut slices are then boiled down twice and then simmered for 40 minutes. The first and second decoctions are then mixed. The decoction is kept at room temperature for the next day's use.
- The actual treatment includes three courses, with the amounts calculated according to body weight: (1) peeled raw pumpkin seeds prepared as a smoothie in a high-speed blender, (2) areca nut extract, and (3) a magnesium sulfate solution (a purgative) taken one hour after the areca nut extract. Then the patient drinks 1,000-1,500 ml of warm water.



Chen Xingwang, Sichuan CDC, teaching how to prepare a pumpkin seed smoothie



Dr. Phuntsok preparing areca nut extract



Future Tasks

- Dr. Li will send additional equipment and herbal medicines to Eya Township, as needed.
- Phase 2, September-October 2022: Mairi Township (NW Muli County) is a remote, mountainous, sparsely populated, agricultural area with few roads, 2,830 residents (all ethnic Tibetan), and 4 villages. Training of rural doctors in Mairi Township will be conducted following the Eya model.

The Impacts

- Dr. Li: "The training in Eya Township was even more successful than I expected. It is a milestone for my work. For the first time, we have trained rural doctors to administer taeniasis treatment and thereby create sustainability for this task. Infected local residents will be able to receive timely treatment. This training is a model for future control of taeniasis and NCC."
- Suffering from two dangerous parasitic diseases in Eya and Mairi Townships will be greatly alleviated. Approx. 1,500 (17%) local residents will be treated for tapeworms, including *T. solium*. After receiving the herbal treatment, most of them will be cured and no longer capable of causing NCC in themselves and/or others.
- This innovative, pioneering training can be scaled up in the future from the small geographic area of Eya & Mairi Townships to larger ones in Muli County, elsewhere in China, and in other countries.



Ebi Village



Dacun Village

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