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### RESEARCH ARTICLE

#### AWARENESS ON TAENIASIS AND NEUROCYSTICERCOSIS AMONG HIGHER SECONDARY LEVEL STUDENTS OF CHANDANNATH MUNICIPALITY, JUMLA.

**Lamsal S.**

Associate professor, Department of Community Health Nursing, College of Nursing, B.P.Koirala Institute of Health Sciences, Dharan, Nepal.

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##### **Key words:-**

Knowledge, Practice, Taeniasis,  
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#### **Abstract**

Taenia solium, is becoming an increasing problem in Nepal with high prevalence's of porcine cysticercosis and human taeniasis/cysticercosis detected in epidemiological studies undertaken in different parts of the country. A descriptive cross-sectional study was conducted to assess the knowledge and practice regarding Taeniasis and Neurocysticercosis among the higher secondary school students of Chandannath Municipality. A total of 360 students from government and non-government colleges were taken. The colleges were selected by simple random sampling followed by selection of classes through convenient method. Among the majority of the respondents 233(64.7%) having some information about Taeniasis, only half of the respondents (54.0%) had heard of Neurocysticercosis whereas remaining (46.0%) had not heard of it. Regarding dietary practice, majority of the students (83.0%) were non-vegetarian with one third (33.6%) consuming pork. All of the respondents (100.0%) had toilet at home. It was found that there is need for further improvement in personal hygiene and environmental sanitation practices for prevention of Taeniasis and Neurocysticercosis in the respondents. The finding indicated that there is need for health awareness programme about Taeniasis and Neurocysticercosis in the community.

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#### **Introduction:-**

The pork tapeworm *T. solium* can cause two distinct forms of infection in humans: adult tapeworms in the intestine or larval forms in the tissues (cysticercosis). Humans are the only definitive hosts for *T. solium*; pigs are the usual intermediate hosts, although other animals may harbor the larval forms.<sup>1</sup> *Taenia solium* is the commonest parasitic infection of CNS and an important cause of new-onset seizures and epilepsy in children and adults<sup>2</sup>. Cysticercosis is the cause of epilepsy in up to 50% of Indian patients presenting with partial seizures. It is also a major cause of epilepsy in Bali (Indonesia), Vietnam and possibly China and Nepal.<sup>3</sup> Human activities impact on almost every one of the stages of the lifecycle of the worm as man is responsible for dispersion of the parasite's egg through outdoor defecation and indiscriminate disposal. *T. solium* exists worldwide but is most prevalent in Latin America, sub-Saharan Africa, China, southern and Southeast Asia and Eastern Europe. Cysticercosis occurs in industrialized nations largely as a result of the immigration of infected persons from endemic areas.<sup>3</sup> The zoonotic pork tapeworm, *Taenia solium*, is becoming an increasing problem in Nepal with high prevalence's of porcine cysticercosis and human taeniasis/cysticercosis detected in epidemiological studies undertaken in different parts of the country. Pig

farming and marketing have increased dramatically in the country in recent years due to increased consumer demand for pork as the country's caste system has become relaxed. Several reports of patients with cysticercosis from many countries in Asia such as India, China, Indonesia, Thailand, Korea, Taiwan and Nepal are a clear indicator of the wide prevalence of *Taenia solium* cysticercosis and taeniasis in these and other Asian countries. However, epidemiological data from community based studies are sparse and available only for a few countries in Asia.<sup>4</sup>

### **Material and Method:-**

A descriptive cross-sectional study was conducted to assess the knowledge and practice regarding Taeniasis and Neurocysticercosis among the higher secondary school students of Chandannath Municipality. A total of 360 students were included in the study. Students from government and non- government college were taken from four different colleges selected by simple random sampling. Data was collected using predesigned, pretested and validated performa developed by the investigator. Data was analyzed in SPSS 16.0 and descriptive statistics were used.

### **Results:-**

The study comprised of around half of the students (51.9%) from age group (15-17) years and majority of the respondents (66.1%) were female. Nearly two- third of the respondents were studying in class 11. Three-fifth of the students (60.6%) were from commerce stream. More than one-third (39.4%) of the respondent's fathers were in service whereas more than two- third of the mothers were house-wife. Approximately half of the family (51.9%) included less than 5 members in the family.

Out of 360 respondents 233 (64.7%) had some information about Taeniasis whereas remaining 127 (35.3%) had not heard of Taeniasis.

The study showed that most of the students (54.5%) came to know about Taeniasis through class/course. On the knowledge part three-fifth of them (60.0%) knew that it was transmitted by consuming infected meat and/ or through infected water, vegetables etc. More than two- third (77.0%) respondent believed that Taeniasis and Neurocysticercosis can be treated and the same percentage of respondent said it is very important to conduct meat inspection to prevent the disease condition. Majority of them said stool test is done to diagnose the disease. Majority of the respondents (60.0%) ate vendor food. Almost all of the respondents (98.9%) always washed the vegetables and fruits before consuming raw and majority of them drank boiled water.

Regarding personal hygiene and environmental sanitation practices it revealed that among 360 respondents majority of them washed hands with soap and water before eating (79.2%) and after defecation (99.2%). More than half (52.2%) of the respondents took bath in alternate days. Around half (48.6%) of the respondents grew nails on hands and feet.

### **Discussion:-**

More than half of them (56.2%) said that taeniasis is non- communicable disease. Ninety percent said that animal can be affected by *Taenia solium*. Majority (78.0%) said pig is responsible for transmission of the disease. These finding are similar to the study of Agudelo-Flórez in Colombian pig breeders where cysticercosis is known for the population as a disease of pigs and not human<sup>6</sup>. More than three- fourth of the respondents (77.0%) did not know that Neurocysticercosis can be one of the cause for seizure. The finding is similar to the study in Delhi where none of the subjects knew that Neurocysticercosis is associated with seizure<sup>5</sup>. Only half of the respondents believed that both vegetarian and non-vegetarian can suffer from the disease condition. More than four- fifth of the respondents were non- vegetarian 300 (83.0%). Among them one third of the respondents ate pork. In a study on prevalence of *Taenia* infestation and associated risk factors among the school children of Eastern Nepal, Dr Sah found out that children who were non-vegetarian and who ate pork meat had higher risk of worm infestation than those who were vegetarian.<sup>7</sup>Ninety-six percent people cooked meat for more than 30 min. Only 3% of the non-vegetarian sample ate raw meat. Avoiding raw meat and cooking meat well enough (to greater than 140 degrees F for 5 minutes) will prevent tapeworm infection.<sup>8</sup>And among the pork eaters 78.3% did not identify the measly meat. Most of them (65.8%) boiled the pork meat before cooking and nearly half of them (48.9%) ate the meat fried most of the time. Similarly it is found that 652(96.6%) boil the pork thoroughly while the rest roast or fry it in Enugu State Nigeria. All of the respondents (100.0%) had toilet at their home . In as study done in Zambia it was found that the lack of latrines was one of the risk factors associated with infection, as well as the breeding of pigs in freedom system<sup>6</sup>.

Among 35.6% respondents who had domestic animals at home more than two- third respondents (71.1%) had the distance of the animal shed and house more than 25ft.

The study concluded that there is need for programmes to increase the knowledge of Taeniasis and Neurocysticercosis in the students that will lead to further improvement in personal hygiene and environmental sanitation practices for prevention of Taeniasis and Neurocysticercosis in the society.

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