PERCEPTIONS OF TOXOPLASMOSIS AMONG FEMALE UNIVERSITY STUDENTS

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ABSTRACT: The purpose of this study was to explore the knowledge about Toxoplasmosis among female university students. Total number of participants was 30 female students. More than half of them were Malay 20 (67%), Indian 8 (27%) and Chinese 2 (6%). Half of the study participants (50%) mentioned that Toxoplasmosis causes by parasite. About 75% of the participants mentioned that the cat is the vector of Toxoplasmosis. Sick people, pregnant women, cats' owners and young or older people are the high risk groups of getting Toxoplasmosis. About 24% and 13% of the respondents mentioned that Toxoplasmosis transmitted through direct contact with cat and raw meat consumption, respectively. The majority of students (94%) mentioned that infected pregnant woman might give infection to her baby and harm the mother. Good hand hygiene, cats' hygiene, proper human food management and proper food for cat were the prevention measures mentioned by the participants. Conclusion; this study documented the lowest level of knowledge about the disease, symptoms and how to prevent the diseases except for the cognitive effect and the vector of the Toxoplasmosis.

Keywords: Knowledge, Toxoplasmosis, University Students, Qualitative Study

INTRODUCTION: Toxoplasmosis is one of the important infectious diseases, which causes epidemiological and clinical impacts in humans. The infection is caused by *Toxoplasma gondii*, an obligate intracellular protozoan. Oocysts, which are excreted by recently infected cats in their faces[1,2]. Toxoplasmosis is the most parasitic infection that occurred worldwide up to a third of the world's population[3,4] with higher incidence in tropical areas[5]. Congenital Toxoplasmosis might cause serious consequences of mental retardation, blindness and death[6]. In Malaysia, the sero-prevalence of Toxoplasmosis in the population has been increasing over the years (16% to 30%) from 1985 to 2002[7,8] in pregnant women was 49%. This qualitative study highlights and reports the knowledge about Toxoplasmosis among female university students. Therefore, the purpose of this study was to explore the knowledge about Toxoplasmosis among female university students.

MATERIALS AND METHODS: Semi-structured interviews were conducted with 30 female students from Management & Science University (MSU) in Shah Alam, Selangor. The questions consisted of the socio-demographic factors (age, race, faculty, semester, and place of residence) and ten other questions related to knowledge, attitudes and beliefs toward toxoplasmosis. Questions were reviewed by subject expert. This study was approved by the ethics committee of MSU. The interviews took place between January and March for the academic year 2010. Before interviewing them, the participants were introduced to the study objective and the consent was obtained from all respondents, the interview for each participant took about 30 minutes, data were analyzed manually.

RESULTS: Total number of participants was 30 female students with age ranged from 18 to 25 years. Majority of the students (37%) was in the age group 20 to 21 years. More than half students were Malay 20 (67%), followed by Indian 8 (27%), and Chinese 2 (7%). Most of the students (73%) were from first and second semester involved in this study (Table 1). Regarding the definition of Toxoplasmosis, half of the participants (50%) mentioned that the Toxoplasmosis is caused by parasites and 13% students it is an infection. The

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study showed 50% of the participants knew about the Toxoplasmosis through the internet, 24% from lectures and 13% from veterinary services. About 50% of the participants mentioned that fecal oral, 75% mentioned that cats are the mean vector, while 24% and 13% mentioned that direct contact and raw meat consumption respectively are the mode of the transmission of Toxoplasmosis. Eighty one percent of participants mentioned that the symptoms of Toxoplasmosis are: fever, diarrhea, vomiting and muscle pain. About 94% of students confirmed that the Toxoplasmosis might harm to the pregnant woman and her baby. Students (37%) mentioned that the prevention can be achieved by good hand hygiene.

DISCUSSION: This study showed the lowest level of overall knowledge about the symptoms, transmission and prevention measures of Toxoplasmosis among female university students. The highest level of knowledge in this study was that the Toxoplasmosis might harm the pregnant women and the infected might transmit to the fetus. Some studies have shown that eating undercooked meat during pregnancy is the most important risk factor for Toxoplasmosis[9]. However in this study only 13% of female university students identified raw meat consumption as one of the mode of the transmission of Toxoplasmosis. A similar study showed 15% of eating undercooked meat as the primary risk factor[10]. Jones *et al.*[11] reported that 30% of the pregnant women were aware that *T. gondii* might be found in raw or undercooked meat. This result showed that half of the students knew the Toxoplasmosis is a parasitic disease and others had some misconceptions about the Toxoplasmosis. This is due to the lack of the knowledge among female university students. There are different sources mentioned by the participants such as internet, lecturer and Veterinaries. The population of is study was female university students who always use the internet. Previous reports mentioned there was a low level of knowledge about Toxoplasmosis among pregnant women and they had the knowledge from the magazines and books[10,11].

Despite of the highest number of the participants who knew the correct vector of the Toxoplasmosis, quarter of the participants mentioned that mosquito is the vector for Toxoplasmosis, which was misconception and lack of information regarding Toxoplasmosis. There was 81% of participants mentioned that the symptoms of Toxoplasmosis are: fever, diarrhea, vomiting and muscle pain. Half of student mentioned that fecal oral is the mode for transmission of Toxoplasmosis. There was a relatively low level of knowledge about the role of undercooked meat and other risk factors for *T. gondii* infection. A similar finding was reported among pregnant women indicated a high percentage of women practicing good hygienic measures such as washing their hands after handling raw meat, gardening or changing cat litter[11,12]. In conclusion; this study documented the lowest level of knowledge about the disease, symptoms and how to prevent the diseases except for the cognitive effect and the vector of the Toxoplasmosis.

Table 1 Socio-demographic characteristics of the female university students (n =30)

Variable	Number (%)
Age	
18 – 19	8 (26.7)
20 – 21	11 (36.7)
22 – 23	7 (23.3)
24 – 25	4 (13.3)
Race	
Malay	20 (66.7)
Indian	8 (26.7)
Chinese	2 (6.7)
Semester	
1-2	22 (73.3)
3-4	4 (13.3)
5-6	4 (13.3)

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