

KNOWLEDGE AND ATTITUDE TOWARDS EPILEPSY
AMONG UNDERGRADUATE STUDENTS OF A
PRIVATE UNIVERSITY IN KAJANG, MALAYSIA

By

GILBERT H'NG YUNG HAN

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ABSTRACT

BACKGROUND: Epilepsy is one of the oldest conditions in the world, a total of 50 million or 0.5% of the world population suffers from epilepsy. The incidence rate of epilepsy is 49 per 100,000 population. Knowledge and attitude are important to reduce stigma and discriminations towards epilepsy.

OBJECTIVES: The aim of this study is to determine the knowledge and attitude of undergraduate students towards epilepsy in a private university in Kajang, Malaysia.

METHODOLOGY: A cross-sectional, quantitative analytical survey was carried out in a private university in Kajang, Malaysia. A total of 277 undergraduate students currently pursuing a degree course in the selected private university were recruited through quota sampling. Self-administered online questionnaire consisting of 3 sections, socio-demographic data, knowledge towards epilepsy and attitude towards epilepsy was used for data collection. Data obtained was analysed using descriptive and analytical analysis.

FINDINGS: The level of knowledge towards epilepsy among the respondents was relatively high with 41.5% having good knowledge, and only 4% with poor knowledge. The level of attitude towards epilepsy was very positive among the respondents at 92%. Level of knowledge was significantly associated with the faculty of the respondents with a p-value of 0.014. Significant association between the level of attitude with the faculty of the respondents was identified

with p-value of 0.049. Respondents from medical and health sciences field had better level of knowledge and attitude towards epilepsy.

CONCLUSION: The level of knowledge towards epilepsy was relatively high but there was still concerning presence of false beliefs. The level of attitude towards epilepsy among undergraduate students was positive. Health promotion campaign are recommended to increase the awareness and decrease stigma and discrimination towards people with epilepsy.

KEYWORDS: Epilepsy, seizure, knowledge, attitude, university students.

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FACULTY OF MEDICINE AND HEALTH SCIENCES

UNIVERSITI TUNKU ABDUL RAHMAN

Date: 5 October 2020

PERMISSION SHEET

It is hereby certified that GILBERT H'NG YUNG HAN (ID No: 17UMB05239) has completed this research project entitled "KNOWLEDGE AND ATTITUDE TOWARDS EPILEPSY AMONG UNDERGRADUATE STUDENTS OF A PRIVATE UNIVERSITY IN KAJANG, MALAYSIA" under the supervision of Ms. Magesvary Maruthiah (Main Supervisor) and Ms. Thulasy Perumal (Co-supervisor) from the Department of Nursing, Faculty of Medicine and Health Sciences.

I hereby give my permission to the university to upload the softcopy of my final year project/dissertation/thesis* in PDF format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

Yours truly,

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DECLARATION

I hereby declare that the research project is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UTAR or other institutions.

(GILBERT H'NG YUNG HAN)

Date: 5 October 2020

APPROVAL SHEET

This research project entitled “KNOWLEDGE AND ATTITUDE TOWARDS EPILEPSY AMONG UNDERGRADUATE STUDENTS OF A PRIVATE UNIVERSITY IN KAJANG, MALAYSIA” is prepared by GILBERT H’NG YUNG HAN and submitted as partial fulfilment of the requirements for the degree of Bachelor of Nursing (Honours) at Universiti Tunku Abdul Rahman.

Approved by,

(Ms. Magesvary Maruthiah)

Date:

Main Supervisor

Department of Nursing

Faculty of Medicine and Health Sciences

Universiti Tunku Abdul Rahman

(Ms. Thulasy Perumal)

Date:

Co-Supervisor

Department of Nursing

Faculty of Medicine and Health Sciences

Universiti Tunku Abdul Rahman

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CHAPTER 1: INTRODUCTION

1.0 CHAPTER OVERVIEW

This chapter focuses on the study background, problem statement, significance of the study, study objectives, study hypothesis, conceptual and operational definitions.

1.1 BACKGROUND

According to WHO (2019), epilepsy is one of the oldest known conditions in the world as it is documented in a Babylonian tablet on medicine which is stored in the British Museum and is traced to 2000 B.C. The tablet has distinguished records of the different types of seizure which is also known in today's world. However, the emphasis back then was on the supernatural basis and treatments were spiritual. The word epilepsy originated either from French, *épilepsie* or from Greek's late Latin, *epilēpsia* (Jobst, 2015). *Epilēpsia* came from the word epilambanein which means 'seize, attack', and epi means 'upon' and lambanein means 'take hold of' (Oxford Learner's Dictionary 2020, epilepsy entry). In historical times, Hippocrates was the first to give a revolutionary statement that epilepsy was not a spiritual condition but a disorder of the brain (Jaber AL-Zwaini and Adbul-Hameed Majeed Albadri, 2019). Epilepsy was also mentioned during biblical times and even then, it was being described as demon

possession (Matthew 17:14-20). It was only in the 18th and 19th century that epilepsy was seen as a brain disorder (Magiorkinis et al., 2014).

Epilepsy is a chronic, non-communicable brain disease affecting individuals of all ages. (WHO, 2019). Epilepsy affects people of all ages, genders, and races. Epilepsy is characterised as repeated seizures, involving multiple episodes of involuntary body parts or whole-body movements, and followed by a loss of consciousness (Stafstrom and Carmant, 2015). Seizure events emerge whenever unnecessary electrical discharges arise in a group of brain cells. The location of these discharges can be happening in different parts of the brain. The frequency of seizures may vary, and seizures can range from the smallest attention lapses or muscle jerks to serious and prolonged seizure activity (Tian et al., 2018).

It is reported that about 50 million or 0.5% of the world population suffers from epilepsy and 80% of them are from developing countries (Gururaj, Satishchandra and Amudhan, 2015). Epilepsy is considered as the most common neurologic conditions, as it has an estimated incidence rate of about 49 new diagnoses per year per 100,000 population or 5 million people per year (WHO, 2019).

Epilepsy, which is the third leading contributor to the burden of neurological disorders, is found to be the leading causes of disability-adjusted life years (DALYs) (WHO, 2019). The incidence of epilepsy is found to be higher in younger age and older age groups (Acharya and Acharya, 2014).

There were quite a number of famous icons that suffered from epilepsy, among them are, Julius Caesar (Hughes, 2004), Napoleon Bonaparte (Hughes, 2003), Socrates (Muramoto and Englert, 2006), Michelangelo (Gehrke, 2006), and Charles Dickens (Cosnett, 1994). For what it is, epilepsy did not hinder them from achieving who they were.

1.2 PROBLEM STATEMENT

People with epilepsy face a lot of stigmas and discrimination from the public and this is because of inadequate knowledge about epilepsy (Abduelkarem, 2016). A study on public knowledge, awareness, and attitude plays an important role in reducing the stigma and discriminations of epilepsy. Disease prophylaxis, early treatment, and compliance are related to public awareness and understanding of a medical condition. Besides that, people with epilepsy face difficulty in employment, education, socialisation, and the reproductive life (Abduelkarem, 2016).

Research on epilepsy has been carried out previously in Malaysia. It was studied on knowledge, practices, and attitudes of the public towards epilepsy of teachers, students, and patients but there were not many data on other types of populations. The exciting study on knowledge and attitude towards epilepsy was carried out by Lim et al. in 2013. In these 7 years, the knowledge of the public could have changed in due to advancement in technology, easy accessibility, and influx of information on the internet. Therefore, with increased exposure and knowledge, people might have a different attitude towards epilepsy patients. There is limited research being conducted specifically on undergraduate students' knowledge and attitudes towards epilepsy.

Based on personal experience, the researcher has encountered a seizure attack of a housemate with epilepsy. While all the other members of the house were unable to help, the researcher was able to assist the housemate with basic first aid procedures for an epileptic seizure. The seizure attack was a quite horrifying scene to experience and to watch. Without the knowledge on epilepsy, the researcher would have failed to help the housemate. In addition to that, the researcher would have a negative perspective towards the housemate and might possibly discriminate him to a certain extent. After the incident, the researcher got to know from the housemate that he is not revealing his condition because of the stigma and discriminations that he had experienced due to this disease. This incident further reinforces the needs for the general public to have a better understanding on epilepsy so that people with epilepsy will not face

discrimination and stigma. This research would be able to provide good insights on the knowledge and attitude towards epilepsy among the undergraduate community which will then provide valuable data for future researches and references.

1.3 RESEARCH OBJECTIVES

1.3.1 GENERAL OBJECTIVES

This aim of this study is to determine the knowledge and attitude among undergraduate students towards epilepsy of a private university in Kajang, Selangor Darul Ehsan, Malaysia.

1.3.2 SPECIFIC OBJECTIVES

1. To determine the level of knowledge and level of attitude among undergraduate students towards epilepsy.
2. To determine the association between the level of knowledge towards epilepsy with undergraduate students from different faculties.

3. To determine association between the level of attitude towards epilepsy with undergraduate students from different faculties.
4. To determine the association between the level of knowledge among undergraduate students according to their level of study.
5. To determine the association between the level of attitude among undergraduate students according to their level of study.

1.4 RESEARCH QUESTIONS

1. What is the level of knowledge and attitude of undergraduate students towards epilepsy?
2. What is the association between the level of knowledge towards epilepsy and the undergraduate students of different faculties?
3. What is the association between the level of knowledge towards epilepsy and the undergraduate students of different level of studies?

4. What is the association between the level of attitude towards epilepsy and the undergraduate students of different faculties?

5. What is the association between the level of attitude towards epilepsy and the undergraduate students of different level of studies?

1.5 HYPOTHESIS

1.5.1 NULL HYPOTHESIS

H₀1: There will be no significant difference in the level of knowledge towards epilepsy among undergraduate students of different faculty.

H₀2: There will be no significant difference in the level of knowledge towards epilepsy among undergraduate students of different level of study.

H₀3: There will be no significant difference in the level of attitude towards epilepsy among undergraduate students of different faculty.

H₀4: There will be no significant difference in the level of attitude towards epilepsy among undergraduate students of different level of study.

1.5.2 ALTERNATIVE HYPOTHESIS

H_a1: There will be significant difference in the level of knowledge towards epilepsy among undergraduate students of different faculty.

H_a2: There will be significant difference in the level of knowledge towards epilepsy among undergraduate students of different level of study.

H_a3: There will be significant difference in the level of attitude towards epilepsy among undergraduate students of different faculty.

H_a4: There will be significant difference in the level of attitude towards epilepsy among undergraduate students of different level of study.

1.6 CONCEPTUAL AND OPERATIONAL DEFINITION

1.6.1 KNOWLEDGE ON EPILEPSY

Knowledge is the capacity to attain, absorb and apply the information. It is a blend of understanding, experience, discernment, and skill (Yeni, 2018). This study is looking into the knowledge level of people on epilepsy. The questionnaire used will be yes and no questions and the total score on knowledge on epilepsy is 12 and respondents will be defined as having good knowledge level on epilepsy when the score is 9 to 12, defined as moderate knowledge on epilepsy when the score is 5 to 8, and defined as low knowledge on epilepsy when the score is 1 to 4 (Shewangizaw and Teferi, 2015).

1.6.2 ATTITUDE TOWARDS EPILEPSY

Attitude is defined as how one reacts in a way towards a situation (Oronje and Munyasa, 2015). This study is looking into how people react towards people with epilepsy and what is the level of attitude towards this medical condition. The questionnaire used is a 5-point Likert Scale and the total score on attitude towards epilepsy is 70 and the lowest is 14. Respondents will be defined as having a good attitude towards epilepsy when their score is 14 to 42 and defined as a poorer attitude towards epilepsy when their score is 43 to 70 (Shewangizaw and Teferi, 2015).

1.6.3 FIELD OF STUDY: FACULTY

The faculties from the selected private university are the Faculty of Medicine and Health Sciences (FMHS) and the Lee Kong Chian Faculty of Engineering & Science (LKC FES), the Faculty of Accountancy and Management (FAM) and the Faculty of Creative Industries (FCI).

1.6.4 LEVEL OF STUDY

The level of study is the sample population's year of study into his/her degree course. Participants from the year 1, year 2, year 3, and year 4 of their study will be selected.

1.7 SIGNIFICANCE OF THE STUDY

This study aims to determine the knowledge and attitude of undergraduate students towards epilepsy. This study will provide new data on knowledge and attitude towards epilepsy for the population in Malaysia since 2013 (Lim et al., 2013). Identifying the level of knowledge and attitude will be vital in planning of targeted health promotion activities which will lead to decreasing the stigma and discrimination present towards epilepsy. Epilepsy awareness may improve

the quality of life and care for people dealing with epilepsy by eliminating confusion and discrimination in the societies they live in. Knowledge and attitudes of people must be identified prior to the establishment of a proper education program.

The findings of the knowledge and attitude towards epilepsy in this study can potentially assist the government authorities and universities in implementing health promotion campaigns and most importantly people with epilepsy and their family members in creating a more epilepsy-friendly community and also to ensure better handling of epilepsy.

A better world for people with epilepsy would be made possible with the public having higher knowledge and attitude towards epilepsy.

1.8 SUMMARY

In conclusion, the knowledge and attitude towards epilepsy are studied in a few countries. The knowledge and attitude towards epilepsy are identified in these studies. The researcher is focusing on this study to increase awareness of

epilepsy among undergraduate students in Malaysia. The experience of the researcher towards epilepsy has encouraged the researcher to conduct in depth study in this area. The researcher hypothesised that there will not be correlation between the knowledge and attitude towards epilepsy with the faculty and level of study. Data obtained can be used to enhance epilepsy education thus improving early treatment and medication compliance of epileptics. The analysis of the epidemiology and current knowledge and attitudes towards epileptics has contributed to the identification of the research study gaps. The objectives and the research questions will layout a proper guideline for the research to be more systematic. Chapter 2 will further analyse on the necessity of this study, findings of similar studies and the flow of literature search to support the aim.

CHAPTER 2: LITERATURE REVIEW

2.0 CHAPTER OVERVIEW

In this chapter, an appraisal of the existing literature on knowledge, attitudes towards epilepsy among university students from different levels in their education which was conducted previously. The review will include the search strategies and conceptual framework of this study.

2.1 SEARCH STRATEGY

In this research study, a few resource databases such as Google Scholar, Clinical Key, PubMed, Science Direct, Scopus and the UTAR Library OPAC was used to gather research journal articles. But the main databases used were Google Scholar, OPAC and Science Direct. A total of 57,616 journal articles was obtained for review. The BOOLEAN method was applied using the keywords with AND, OR, and NOT to refine the article search results. Parentheses (“”) was used together with the keywords , knowledge or understanding, attitudes or perceptions or opinions or thoughts or feelings or beliefs, epilepsy or seizures or epileptic, and university students or college students or undergraduate students or tertiary student to narrow down the search. Research journal articles obtained were filtered by removing unrelated and duplicate journals and with only articles of the English language. Only research articles from the years 2013 to 2020 was accepted with the exception for research articles studied in Malaysia. As a result,

a total of 44 research journal articles was selected. Diagram 2.1 shows the search strategy flowchart.

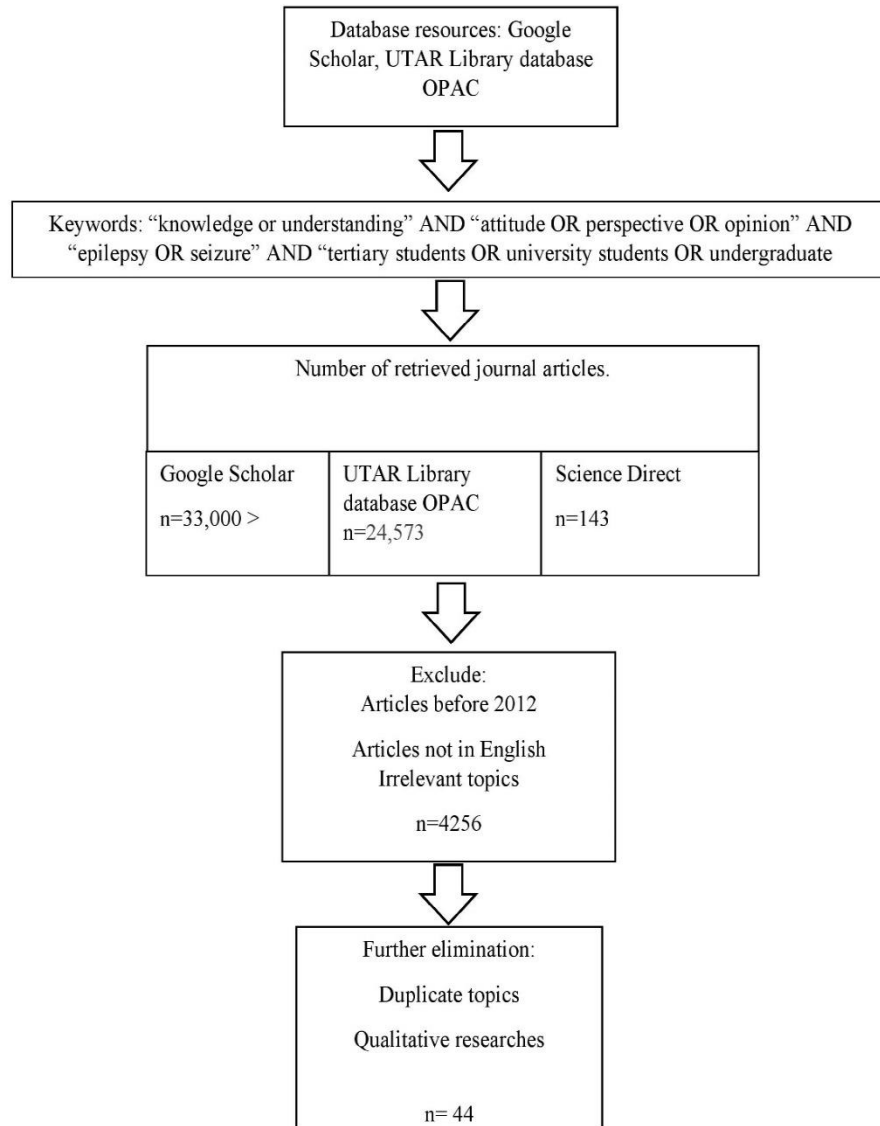


Diagram 2.1: Search strategy flowchart.

2.2 REVIEW OF LITERATURE

In this literature review, discussion of the reviewed research articles regarding the prevalence and incidence of epilepsy, epilepsy knowledge level, epilepsy attitude level, and sociodemographic factors associated with epilepsy knowledge and attitude such as field of education and level of study.

2.2.1 PREVALENCE AND INCIDENCE OF EPILEPSY

Research on prevalence and incidence of epilepsy was being widely studied especially in low- and middle-income countries. 80% of the epilepsy cases around the globe were in third world countries because the incidence of risk factors was higher, thus resulting in a double burden of these low-income countries compared to high-income countries (Newton and Garcia, 2012). This was supported by another research that found that yearly prevalence, lifetime prevalence and incidence rate of epilepsy was higher in low to middle-income countries (Fiest et al., 2016).

The prevalence of epilepsy was also found to be not affected by age group or gender or knowledge level (Fiest et al., 2016). Epilepsy of unknown aetiology and epilepsy associated with generalized seizures had the highest level of prevalence (Wagner et al., 2015).

In a systematic review and meta-analysis article by Fiest et al. (2016), where 222 studies with 197 on the prevalence and 48 on the incidence of epilepsy were reviewed found that active epilepsy has a prevalence of 6.38 per 1,000 persons and the prevalence of lifetime epilepsy is 7.60 per 1,000 persons. The article also states the incidence of epilepsy is 6.14 per 1,000 persons per year. In another systematic review and meta-analysis article in mainland China from 1990 to 2015 by Song et al. (2017), the prevalence of lifetime epilepsy has seen a whopping 259% increase from 1.99 per 1,000 persons to 7.15 per 1,000 persons. But the researcher states that this high increase was probably due to a better data collection method throughout the years. In another cross-sectional study based in the rural northeast of South Africa, the crude incidence of epilepsy was 17.4 per 100,000 people per year (Wagner et al., 2015).

2.2.2 EPILEPSY KNOWLEDGE LEVEL

Epilepsy, being one of the oldest diseases in the world, was found that the public had poor knowledge of the disease (WHO, 2019). The knowledge level towards epilepsy was found to be low on many studies conducted on this condition worldwide. The public often associates epilepsy with inaccurate and false beliefs (Bain et al., 2013). According to a cross-sectional comparative descriptive study which was conducted in 13 community pharmacies with 219 respondents in Turkey, 69.1% of the participants had no knowledge on the cause of epilepsy and their main source of epilepsy knowledge was from peers and the internet (Macit et al., 2018). In another study, majority of the respondents with

previously published questionnaires on high school students in Austria found that they had no knowledge on epilepsy and its first aid management and only around 25% medical-related questions were correctly answered (Simon, Gesslbauer and Fink, 2016).

In a cross-sectional survey, caregivers of people with epilepsy in Thailand were also found to have inadequate knowledge of epilepsy (Saengsuwan et al., 2013). In a cross-sectional descriptive survey by Karimi and Heidari (2015), 305 teachers from 25 public schools randomly participated in the research and all the respondents believed that placing objects in the mouth during an epileptic seizure can prevent tongue injuries.

A survey carried out in Nepal based on self-structured questionnaire found that the knowledge level of epilepsy was low because the probability of the public to personally come in contact with someone with epilepsy was very low (Thapa et al., 2017). This statement was supported by another study in Thailand where 83 caregivers responded that knowing someone with epilepsy or had seen an epileptic seizure before affects knowledge on epilepsy (Saengsuwan et al., 2013). A cross-sectional and descriptive study using a semi-structured validated questionnaire concluded that a higher level of knowledge towards epilepsy was found to be higher on people who witnessed seizures (Ezeala-Adikaibe et al., 2014; Kiyak and Dayapoglu, 2017).

2.2.3 EPILEPSY ATTITUDE LEVEL

The lack of knowledge and attitude together with misconceptions and myths were contributors to the increase of stigma and discrimination of people with epilepsy (Abduelkarem, 2016). In a cross-sectional survey study in Egypt and Saudi Arabia by Abo El Matty Shahbo, Bharathi and Daoala (2014), it states that negative attitudes towards epilepsy were significantly related to misunderstanding and the culture of a population.

Based on a study by Kartal and Akyıldız (2016) which was conducted on 500 randomly selected adults, people in Turkey had a negative attitude (63.2%) towards epilepsy regarding marriage, either marrying or allowing children to marry a person with epilepsy. Another cross-sectional descriptive study in Nigeria also found that most respondents would not permit their children to play or work with people with epilepsy and felt that people with epilepsy should not have children (Ezeala-Adikaibe et al., 2014). As doctors strongly advise people with epilepsy against driving as it is dangerous, studies in Turkey had also found that the respondents do not agree with people with epilepsy driving on the road (Macit et al., 2018; Kartal and Akyıldız, 2016).

Respondents in a study by Macit et al. (2018) had a lower attitude (70.3%) towards males with epilepsy in joining the military but feels good (90%) that people with epilepsy were participating in sports (Macit et al., 2018). Majority of the respondents in a study were against discrimination of people with epilepsy

but were unwilling to stay or live with them and most of the respondents were unwilling to assist a person with epilepsy during a seizure attack (Kiwauka and Anyango Olyet, 2018). Zeleke et al. (2018) had found in his study that higher educational status had 3.5 times better attitude towards epilepsy compared to those who were illiterate. A study in Thailand states that people with less personal contact with epilepsy had poorer attitudes towards epilepsy (Saengsuwan et al., 2013)

2.2.4 SOCIODEMOGRAPHIC FACTORS

Knowledge of epilepsy was associated with the level of education but not with sex, age or marital status (Saengsuwan et al., 2013). Another study had also found a significant negative correlation between knowledge and age ($p= 0.003$) (Thapa et al., 2017).

2.2.4.1 FIELD OF EDUCATION

Health-care professionals are considered as a career in the science field. In Nigeria, knowledge on epilepsy was high among people of similar science field and almost all medical student was found to have heard about epilepsy (Ekeh and Ekrikpo, 2019). This study also states that although medical students had studied and therefore had knowledge on epilepsy, prior to their medical studies, their knowledge and perception of this condition was only made known to them

through beliefs of the society in general. In this study, clinical and preclinical students were compared, the knowledge and attitude were better among clinical students and most of the difference in knowledge was due to cultural beliefs.

In a study in Brazil by Vancini et al. (2012), physical educators, nutritionists and physiotherapists were found to have a lower level of knowledge regarding epilepsy as compared to doctors, nurses, and psychologists because of lack of formal education and they had less probability of being in contact with a patient with epilepsy.

2.2.4.2 LEVEL OF STUDY

A higher level of education had a positive relation in reducing misconceptions and negative attitudes (Alaqeel et al., 2015). Another statistics analysis by a study found that among literates, high school and university graduates had higher knowledge towards epilepsy (Kiyak and Dayapoglu, 2017). This finding was also supported by the findings of studies by Zeleke et al. (2018) and by Shewangizaw and Teferi (2015) in Ethiopia that states secondary and college level educated people had better knowledge and attitude compared to illiterates. Regarding attitudes, Abo El Matty Shahbo, Bharathi and Daoala (2014) found that population with a university education were more likely to have a positive attitude (37.9%) towards people with epilepsy. High school students were found to have a much better attitude in this disease (Simon, Gesslbauer and Fink,

2016). In a study to determine the knowledge and attitude towards people with epilepsy, it was found that people with a higher score in Epilepsy Knowledge Questionnaire (EKQ) was significantly related to higher education level ($p < 0.01$) (Lim et al., 2013).

However, a study by Ezeala-Adikaibe et al. (2014) found no significant differences in the attitude score of respondents with different educational level. Macit et al. (2018) also found that there was no significant difference ($p > 0.05$) between healthcare professionals of higher and lower educational level.

2.3 THEORETICAL FRAMEWORK

This study will be guided by the Knowledge-Attitude-Practice (KAP) Model developed by Schwartz in 1976. This KAP model was based on the social psychological cognitive–affective–behaviour theory (Schwartz 1976). The model describes that all 3 cores are interrelated, the knowledge on epilepsy will directly affect the attitude towards epilepsy and which will then affect the practice towards epilepsy. In this research, the knowledge and attitude towards epilepsy will be the dependent variable and the socio-demographics will be the independent variables.

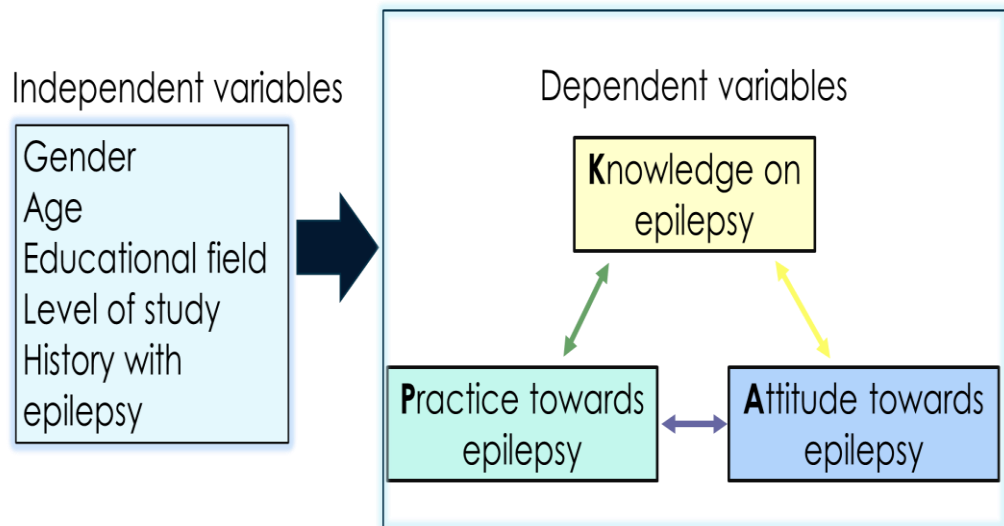


Diagram 2.2: Knowledge-Attitude-Practice Model (Schwartz, 1976)

The independent variable of this research study was the selected socio-demographic data which is, the field of education and level of study. The dependent variable of this study was the knowledge and attitude towards epilepsy of undergraduate students in a private university. This model will help this study to identify the knowledge and attitude towards epilepsy of undergraduate students in a private university based on the field of education and level of study of the sample population.

2.4 SUMMARY

In conclusion, the search strategies have assisted in the selection of research articles and it was found that there were many studies being done on this related topic. Knowledge levels towards epilepsy were found to be related to the attitudes towards epilepsy. Research on attitudes towards epilepsy had interesting results. There was a lack of research in the field of education and there were some contrasting results obtained on the level of study by different researchers. Besides, the KAP model will be serving as a guideline for this research study. Chapter 3 will be analysing the research methodology used.

CHAPTER 3: METHODOLOGY

3.0 CHAPTER OVERVIEW

This chapter provide details regarding the research design, study settings, variables, and sampling technique, size, and criteria applied in this study. The research instruments, content validity and reliability, ethical considerations and consents were also highlighted. Besides that, the data collection procedures and data analysis layout were also discussed.

3.1 RESEARCH DESIGN

The research design for this study was a cross-sectional quantitative, survey research study. Survey study was chosen as a design because it was found to be cost-effective as it provided maximum accuracy at the lowest possible cost, more reliable data compared to qualitative methods, had a higher generalisability and was more time-effective (Polit and Beck, 2017). A survey can be obtained through personal approach or electronically and allows a larger scale of information collection in a short span of time (Privitera, 2014). A cross-sectional design was chosen because it was suitable to describe the relationship between two variables at a point of time (Polit and Beck, 2017).

3.1.1 STUDY SETTING

This research study was conducted in a private university in Sungai Long, Kajang, Selangor Darul Ehsan, Malaysia. The selected private university was instituted on the 13th of August 2002 and Sungai Long Campus was commenced on the 1st of June 2015. The university has a total of nine faculties providing affordable tertiary education with an estimated total of 24,000 students and a graduate employability rate of 95 to 97% within 6 months of graduation (UTAR, 2019). The selected private university has four faculties in their Sungai Long campus which are, Faculty of Accountancy and Management (FAM), Faculty of Medicine and Health Science (FMHS), Faculty of Creative Industries (FCI), and Lee Kong Chian Faculty of Engineering and Science (LKC FES). The Global Positioning System (GPS) coordinates of the Sungai Long Campus is 3.0402° N, 101.7945° E. The figure 3.1 shows the location of the campus. This study setting was selected due to the availability of the target population and the accessible population.

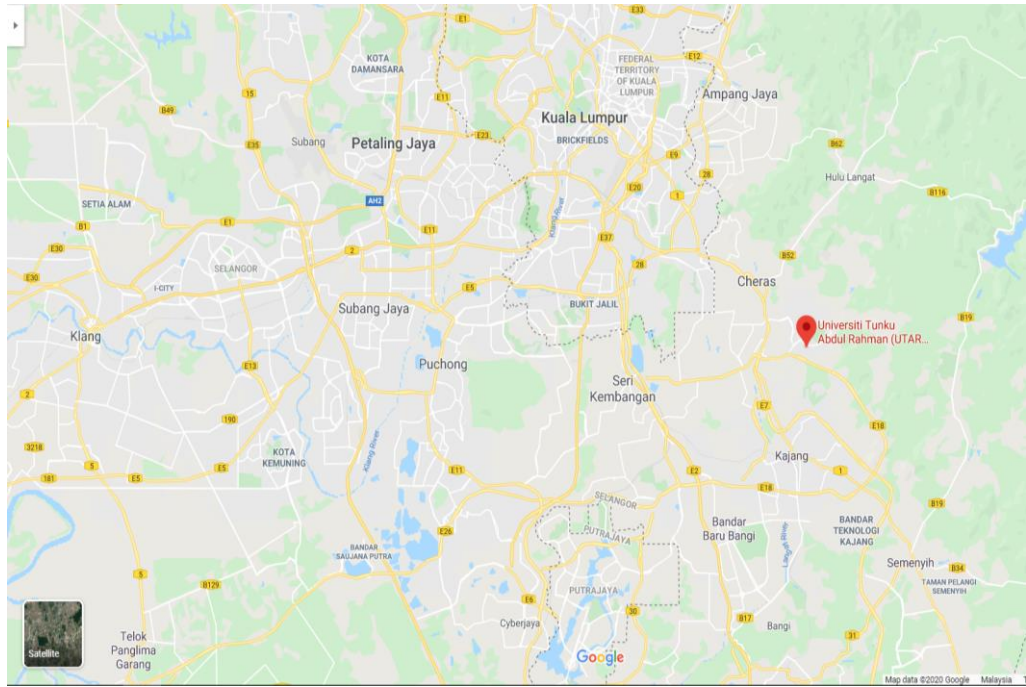


Figure 3.1: Map of UTAR Sungai Long Campus

3.1.2 POPULATION

3.1.2.1 TARGET POPULATION

The target population of this research study was the undergraduate students currently pursuing a degree in the selected private university.

3.1.2.2 ACCESSIBLE POPULATION

The accessible population of this research study was the undergraduate students currently pursuing a degree in the selected private university aged 18 and above.

3.2 VARIABLES

3.2.1 INDEPENDENT VARIABLE

The independent variable is the presumed cause of and influence towards the dependent variable (Polit and Beck, 2017). Socio-demography of undergraduate students were the gender, age, ethnicity, faculty, and level of study. These sociodemographic data were selected as an independent variable because this could have a potential effect on the knowledge and attitude towards epilepsy.

3.2.2 DEPENDENT VARIABLE

The dependent variable is the outcome or characteristic the researcher is interested in explaining (Polit and Beck, 2017). The dependent variable in this study was the knowledge and attitude towards epilepsy.

3.3 SAMPLING

3.3.1 SAMPLE

The sample population of this research study was the undergraduate students currently pursuing a degree in the selected private university aged 18 and above.

3.3.2 SAMPLING TECHNIQUE

This research used quota technique to select the participants. Quota sampling is a non-probability sampling that collects data from a population the researcher chooses according to specific traits or qualities (Polit and Beck, 2017). In this study, quotas were created based on the different faculties. This sampling method allows a better representation of a population. This sampling method is also highly affordable and easy to apply especially for researches conducted in a short time span (Dudovskiy, 2019).

3.3.3 SAMPLE SIZE

A formula by Krejcie and Morgan, 1970 was applied in this research as this formula was suitable for determining the sample size for categorical types of data. Two previous studies were utilised to derive the final sample size as the most closely related study in Malaysia was only done on attitude. In this study, the researcher was looking into knowledge as well, therefore the need to calculate another similar study which includes the knowledge part.

The formula is:

$$S = \frac{X^2NP(1 - P)}{d^2(N - 1) + X^2P(1 - P)}$$

S = sample size

N = given population size =8772

P = prevalence from previous studies = 0.825 (Lim et al., 2013)

d = degree of accuracy = 0.05

$X^2=3.841$ for the 0.95 confidence level

By applying the prevalence from previous studies on attitude towards among secondary and tertiary students in Malaysia by Lim et al., (2013), 82.5% (0.825) into the formula,

$$S = \frac{(3.841)(8772)(0.825) (1 - 0.825)}{(0.05)^2(8772 - 1) + (3.841)(0.825)(1 - 0.825)}$$

$$N = 216.371$$

$$N = 217$$

$$N = 217 + 0.2(217)$$

$$N = 260.4$$

$$N = 260$$

The sample size calculated was 217. 20% (0.2) of the total number was included in the sample size as a compensation for the attrition rate. Thus, the final calculated sample size was 260.

By applying the prevalence from a previous study on knowledge of epilepsy, attitude towards epilepsy and perception of epilepsy among university students in Yemen by Al-Eryani et al., (2015), 84.5% (0.845) into the formula,

$$S = \frac{(3.841)(8772)(0.845) (1 - 0.845)}{(0.05)^2(8772 - 1) + (3.841)(0.845)(1 - 0.845)}$$

$$N = 196.739$$

$$N = 197$$

$$N = 197 + 0.2(197)$$

$$N = 236.4$$

$$N = 237$$

The sample size calculated was 197. 20% (0.2) of the total number was included in the sample size as a compensation for the attrition rate. Thus, the calculate final sample size was 237 and this was the suggested number of samples to be recruited for this study.

The final concluded sample size for this research was decided to be 260 based on the 2 calculation because a larger number of sample size is preferred to a smaller sample size.

Table 3.1: Quota sampling faculty distribution

Faculty	Total number of students	Percentage of whole campus	Participants needed
FMHS	643	7%	18
LKC FES	2477	28%	73
FAM	1287	15%	39
FCI	4336	50%	130
TOTAL	8743		260

Table 3.1 shows the distribution of the quota sampling that the researcher created with the total number of students in the selected private university and the total number of students in each faculty. As result, 18 participants were needed to be acquired from FMHS, 73 participants were needed to be acquired from LKC FES, 39 participants were needed to be acquired from FAM, and 130 participants were needed to be acquired from FCI.

3.3.4 SAMPLING CRITERIA

3.3.4.1 INCLUSION CRITERIA

The inclusion criteria in this research study were the undergraduate students currently pursuing a degree in the selected university aged 18 and above.

3.3.4.2 EXCLUSION CRITERIA

The exclusion criteria in this research study were the foundation or postgraduate students, samples aged below 18 as they were unable to provide consent by themselves, and participants who rejected participation.

3.4 RESEARCH INSTRUMENT

This research study adapted the Knowledge, Belief and Practice (KBP) questionnaire from a study in Nepal (Thapa et al., 2017). This questionnaire had been conducted and was found to have positive results but only the knowledge parts of the questionnaire were being adapted into this research. The researcher had received approval to use this questionnaire by the author and the letter can be referred to at APPENDIX B.

This research study also used the Public's Attitude Towards Epilepsy (PATE) scale to identify the attitude of students in a private university in Kajang, Malaysia towards epilepsy. The PATE scale was selected because previous studies (Lim et al., 2013) that had been conducted in Malaysia had been using the same scale and had found the scale to be a reliable and valid scale in assessing public attitudes toward epilepsy. The reliability of this questionnaire had been

tested with Cronbach alpha value for the scale at 0.816 (within the acceptable range, 0.7-0.9) (Lim et al., 2013). The PATE scale used a 5-point Likert scale with 1 being strongly disagree, 2 being disagree, 3 being neutral, 4 being agree and 5 being strongly agree. The PATE scale consisted of 14 items and was separated into 2 domains, personal and general domain. This questionnaire can be self-administered. The researcher had obtained permission from the author to use this questionnaire (Refer APPENDIX C).

The questionnaire developed for this study has 3 sections, A, B, and C. Section A consisted of 6 questions on the sociodemographic data of the respondent. This information for section A will be self-reported by the participants which consists questions on gender, age, ethnicity, faculty, year of study and history of epilepsy (Refer APPENDIX D). Section B consisted of 12 questions on knowledge towards epilepsy which was based on the KBP questionnaire and requires participants to mark yes or no (Refer APPENDIX D). Section C was based on the PATE scale which consisted of 14 questions regarding the attitude towards epilepsy. This section used the 5-point Likert scale with 1 being strongly disagree, 2 being disagree, 3 being neutral, 4 being agree and 5 being strongly agree.

3.4.1 VALIDITY AND RELIABILITY

Validity and reliability are important and fundamental for evaluation of a research measurement tool (Mohajan and Haradhan., 2017). According to Heale and Twycross (2020), validity is whether something is accurately measured, and reliability is the accuracy of the tool. The Knowledge, Belief and Practice questionnaire had been found to have positive results. The pilot study conducted also tested the validity and reliability of this questionnaire. Previous studies had been conducted to determine the validity and reliability of the PATE scale. The PATE scale was a validated and accurate tool that had been proven to be able to be administered through a web-based questionnaire to assess attitudes towards epilepsy in a homogeneous population. The Cronbach Alpha value from the previous author was 0.816, and was found reliable (Lim et al., 2013).

The validity of both questionnaires had been assessed by an internal and external departmental expert prior to the pilot study for any modifications. After minimal grammatical modifications were made, pilot study was conducted and the Cronbach Alpha value for the PATE scale was 0.929 which was very reliable.

3.4.2 PILOT STUDY

A pilot study was conducted on the 7th of August to 14th of August 2020. This pilot was conducted on 10% of the sample population size to test the reliability of the questionnaires selected for this sample population and to select the best tools to analyse the results. A total of 26 participants were recruited through quota sampling and their data were collected and their data will be excluded from the actual study. Distributions of the questionnaires were made through the online platform. Questionnaire were found to be appropriate and there were no missing data. Pilot study provided a good basis and model for the main study data analysis.

3.5 DATA COLLECTION

In this research study, the data collection was conducted in the selected study settings, the selected private university. Ethical clearance and departmental approval had been obtained from the UTAR ethical board before the data collection process (Refer APPENDIX F). Questionnaire and consent forms were distributed via online. Prior to answering the questionnaires, written consent was obtained from the participants by the researcher to ensure the agreement of participation. After reading the research purpose, participants continued to the self-administered survey questionnaire. The researcher was available online for the data collection procedure to prevent data contamination and to explain and

answer questions by participants to maintain the understanding of the questionnaire questions. After completed questionnaires were submitted, the researcher double-checked to ensure all sections had been properly filled up to ensure a 100% response without inappropriate and missing data.

Collected data underwent data cleaning, data analysis and data interpretation process. A previous similar study in Malaysia by Lim et al. (2013) stated that social desirability could have been affected by the data collection method. The study found out that the online web-based survey had a higher tendency to minimize the effects of social desirability and resulting in a more negative outcome. That study suggested that a paper-and-pencil interview would be more intrusive and might lead to a more positive response tendency. Initially, this research study will be conducted through a paper-and-pencil questionnaire. However, due to the Movement Restriction Order implemented by the Malaysian government in view of the Covid-19 pandemic, the researcher had to conduct an online data distribution and collection.

3.5.1 DATA ANALYSIS

In a quantitative survey, data analysis is the systematic organization and synthesis of the data obtained from the research study. For this research study,

a descriptive statistical analysis was used to analyse the data obtained. The Statistical Package for Social Sciences (SPSS) was employed for analysis purposes.

3.5.1.1 DESCRIPTIVE PHASE

The demographic data were analysed descriptively, and nominal data were presented as frequencies and percentages, while continuous data were presented as means and standard deviations. For section B, the knowledge part, correct answers were scored as 1 and wrong answers were scored as 0. The maximum score for this section was 12 and the lowest score was 0. Scores of 9 and above were defined as a good knowledge level, scores more than 5 up to 8 were defined as a moderate knowledge level, and scores of 4 or lower were defined as a poor knowledge level. For section C, the attitude part, 5 marks were given for Likert scale rating of 5. Likert scale rating of 4,3,2, and 1 were scored as 4, 3, 2, 1, respectively. The total number items in section C was 14 and 5 of them were reversely scored. The maximum point was 70 and the minimum was 14. Scores of 14 to 42 were defined as positive attitude, and scores of 43 to 70 were defined as negative attitude.

3.5.1.2 ANALYTICAL PHASE

During the analysis phase of this study, cross tabulations, Chi-square tests and p-values were used to test the relationship between the independent variables, the faculty and level of study; and the dependent variables, level of knowledge and level of attitude towards epilepsy. The significance p-value used was 0.05 to detect differences.

3.6 ETHICAL CONSIDERATION

3.6.1 APPROVAL SHEETS

Prior to the research study, approvals from the UTAR ethical board and relevant departments were obtained by the researcher. This was to ensure that no conflict of interest was present and that organisational and human rights were protected.

3.6.2 CONSENT INFORMATION

In this research, the participants' consent and personal data protection statement were obtained online, prior to answering the questionnaires. Participants were ensured that anonymity and confidentiality were provided, and that participant had all the rights to withdraw from the study at any point in time. The data

obtained from the participants were stored in an encrypted file with password protection that only the authorized users can access.

3.7 SUMMARY

This chapter focused on the overview of the research design. In conclusion, a cross-sectional quantitative analytical survey study design was used to conduct the project. Undergraduate students currently pursuing a degree in the selected private university was selected as the sample population. A pilot study was conducted to test the feasibility of the study and at the same time identifying potential problems for the main study. The data analysis methods were identified through the pilot study.

CHAPTER 4: DATA ANALYSIS AND RESULT

4.0 CHAPTER OVERVIEW

This chapter shows the results of this study. Data were analysed using the IBM SPSS Statistics 23. The descriptive analysis will cover the demographic data, level of knowledge and level of attitude in frequency, percentage, mean and standard deviation while the inferential analysis for the analytical analysis used Chi-square test with the significance level, p-value set at 0.05.

4.1 DEMOGRAPHIC CHARACTERISTIC OF RESPONDENTS

This study involved, undergraduate students in a private university in Kajang. The demographic data collected are focused on: Gender, age, ethnicity, faculty, year of study and presence of family members with epilepsy. The total number of respondents in this study is 277.

Table 4.1: Distribution of the sociodemographic of sample (N=277)

	Frequency (n)	Percentage (%)	Mean	Standard Deviation
Gender				
Male	145	53.2		
Female	132	47.7		
Age			21.42	1.96
Ethnicity				
Chinese	262	94.9		
Malay	1	0.4		
Indian	11	4.0		
Others	3	1.1		
Faculty				
FMHS	21	7.6		
LKC FES	139	50.2		
FAM	75	27.1		
FCI	42	15.6		

Level of Study		
Year 1	52	18.8
Year 2	84	30.3
Year 3	102	36.8
Year 4	39	14.1
Family members with epilepsy / seizures		
Yes	12	4.3
No	265	95.7

4.1.1 GENDER DISTRIBUTION OF THE RESPONDENTS

The majority (53.2%) of the respondents in this study were males, at 145 respondents and the remaining respondents (n=132 or 47.7%) were females.

4.1.2 AGE DISTRIBUTION OF THE RESPONDENTS

The mean age of the respondents in this study was 21.42 with a standard deviation of 1.96.

4.1.3 ETHNICITY DISTRIBUTION OF THE RESPONDENTS

This study also obtained the ethnicity of the respondents. The majority (94.9%) respondents were Chinese, at 262. 11 (4%) were Indian, 3 (1.1%) were of other ethnicity and only 1(0.4) was Malay.

4.1.4 FACULTY DISTRIBUTION OF THE RESPONDENTS

This study used a quota sampling, and therefore the percentage of the participants per faculty were calculated. All the collected questionnaires were included. The majority (50.2%) were from LKC FES (n=139), 75(27.1) were from FAM, 42(15.6%) were from FCI and 21(7.6%) were from FMHS.

4.1.5 LEVEL OF STUDY DISTRIBUTION OF THE RESPONDENTS

This study obtained the level of study of the respondents to establish a correlation study with the knowledge and attitude towards epilepsy. The majority (36.8%) of the respondents are in their Year 3, n=102, 84(30.3%) were in their Year 2, 52(18.8%) were in their Year 1 and only 39(14.1) were from Year 4.

4.1.6 PRESENCE OF FAMILY MEMBER WITH EPILEPSY DISTRIBUTION OF THE RESPONDENTS

This study also obtained the presence of family members with epilepsy. The majority, 265 (95.7%) of the respondents did not have family members with known epilepsy or seizures. However, there was still 4.3% or 12 of the respondents have family members with known epilepsy or seizures.

4.2 KNOWLEDGE TOWARDS EPILEPSY

4.2.1 DISTRIBUTION OF KNOWLEDGE TOWARDS EPILEPSY QUESTIONS

Table 4.2: Distribution of knowledge questions (N=277)

Items	Correct		Incorrect	
	n	%	n	%
Q1 Is epilepsy a mental disease?	175	63.2	102	36.8
Q2 Is epilepsy a disease of the brain?	239	86.3	38	13.7
Q3 Is epilepsy a hereditary disease?	110	39.7	167	60.3
Q4 Is epilepsy a contagious disease?	238	85.9	39	14.1
Q5 Do you think epilepsy is caused by spiritual beings?	226	81.6	51	18.4
Q6 Do you think alternative therapy is beneficial for epilepsy?	73	26.4	204	73.6
Q7 Do you think epilepsy needs long-term treatment?	258	93.1	19	6.9
Q8 Do you think missing the drugs once in a while is harmful?	163	58.8	114	41.2
Q9 Do you think most of the drugs used in epilepsy treatment cause side effects?	218	78.7	59	21.3
Q10 Do you think epilepsy can be cured medically?	106	38.3	171	61.7
Q11 Do you think visiting religious places helps in curing epilepsy?	188	67.9	89	32.1
Q12 Do you think exorcism helps to drive epilepsy spirits away from the body?	227	81.9	50	18.1

Referring to the table 4.2, most of the questions in the knowledge aspect were answered correctly. 9 questions were scored more than 50% correct, and only question 3, question 6, and question 10 had more incorrect answers. Majority (86.3%) of the respondents understood that epilepsy is a brain disorder, but there is still 60.3% of the respondents believing epilepsy is a hereditary disease. Other concerning misconceptions towards epilepsy among university students were beliefs that epilepsy is a mental illness (36.8%), caused by spiritual beings (18.4%), and a contagious disease (14.1%). Although 38.3% of the respondents do not know that epilepsy cannot be cured completely medically, more than 90% of the respondents know that people with epilepsy needs long term treatments. However, 41.2% do not know that missing epilepsy drugs will be harmful for people with epilepsy and 21.3% do not know that epilepsy medication has side effects. There are still 18.1% of the respondents thinks that exorcism can stop epilepsy and 32.1% thinking visiting religious places will help in curing.

4.2.2 LEVEL OF KNOWLEDGE TOWARDS EPILEPSY

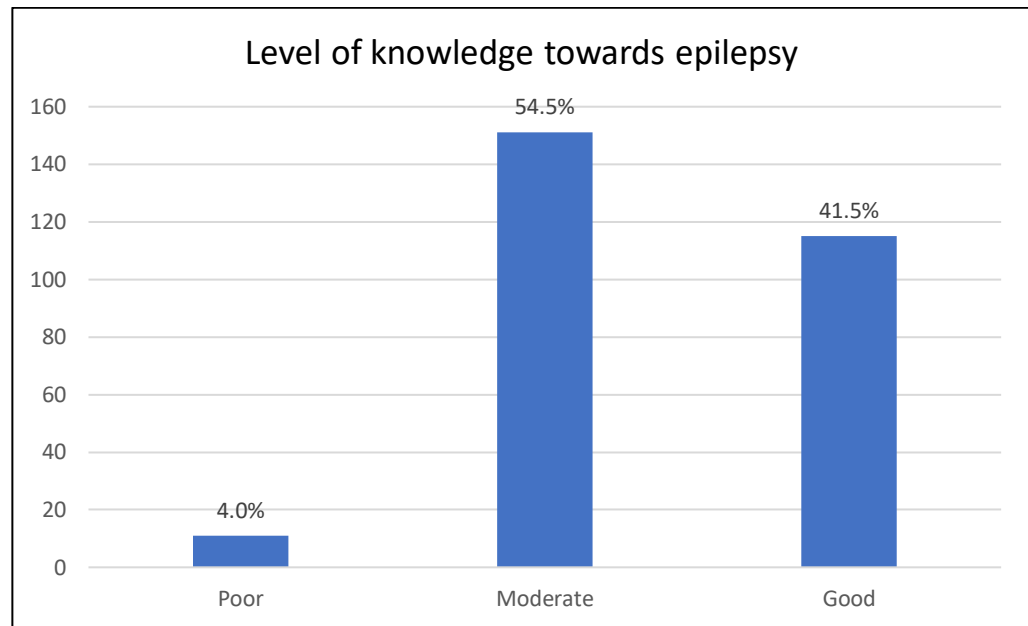


Figure 4.1: Level of Knowledge Towards Epilepsy Bar Chart

The figure 4.1 above depicts the categorical level of knowledge towards epilepsy of the respondents. In this study, it was found that majority of the respondents, n=151 (54.5%) have moderate level of knowledge towards epilepsy. 115 (41.5%) respondents had good level of knowledge towards epilepsy. Only a minority n=11 (4%) of the respondents had poor knowledge towards epilepsy.

4.3 ATTITUDE TOWARDS EPILEPSY

4.3.1 DISTRIBUTION OF ATTITUDE TOWARDS EPILEPSY QUESTIONS

Table 4.3: Distribution of Likert-scale answers for attitude towards epilepsy

Items	Likert scale scoring frequency (n) & percentage (%)									
	1	2	3	4	5					
	n	%	n	%	n	%	n	%	n	%
Q1 I feel uncomfortable working with someone who has epilepsy.	48	17.3	62	22.4	132	47.7	29	10.5	6	2.2
Q2 I will advise my family members against marrying someone with epilepsy.	53	19.1	46	16.6	111	40.1	62	22.4	5	1.8
Q3 I would stay away from a friend if I knew he/she had epilepsy.	116	41.9	83	30.0	65	23.5	9	3.2	4	1.4
Q4 People with epilepsy should be isolated from others.	158	57	64	23.1	50	18.1	5	1.8	0	0
Q5 People with epilepsy should not marry.	133	48.8	73	26.4	58	20.9	11	4.0	2	0.7
Q6 People with epilepsy should not participate in social activities.	139	50.2	73	26.4	55	19.9	10	3.6	0	0
Q7 People with epilepsy should not study in college or university.	165	59.6	71	25.6	31	11.2	9	3.2	1	0.4
Q8 People with epilepsy should study in a special school.	60	21.7	38	13.7	99	35.7	67	24.2	13	4.7
Q9 Schools should not place children with epilepsy in regular classrooms.	85	30.7	66	23.8	89	32.1	29	10.5	8	2.9

Table 4.3 shows the data distribution for the 9 questions that were scored normally. Likert scale rating of 5 is strongly agree, 4 is agree, 3 is neutral, 2 is disagree and 1 is strongly disagree. The higher the Likert scale rating, the more negative the attitude. Majority of the items were answered in a positive manner, meaning lower Likert-scale ratings. Referring to table 4.3, items Q1 and Q2 are questions directly related to the participants. For both items, majority of the respondents remained neutral at 47.7% and 40.1% respectively but is generally more positive. Items Q3 to Q9 are questions that require minimal involvement of the participants. Most of these items are positively answered, only item Q8 has 28.9% of the respondents rating 4 and 5.

Table 4.4: Distribution of Likert-scale answers for attitude towards epilepsy (reversely scored).

Items	Likert scale scoring frequency (n) & percentage (%)										
	1	2	3	4	5	n	%	n	%	n	%
Q1 I would marry someone with epilepsy, even though he/she has epilepsy.	16	5.8	48	17.3	127	45.8	57	20.6	29	10.5	
Q2 I would date someone even though he/she has epilepsy.	14	5.1	42	15.2	122	44.0	62	22.4	37	13.4	
Q3 If I am an employer, I would give equal employment opportunities to someone with epilepsy.	4	1.4	10	3.6	82	29.6	93	33.6	88	31.8	
Q4 I will not mind being seen in the company with someone known to have epilepsy.	2	0.7	2	0.7	69	24.9	89	32.1	115	41.5	
Q5 People with epilepsy have the same rights as all people.	2	0.7	1	0.4	38	13.7	47	17.0	189	68.2	

Table 4.4 shows the data distribution for the 5 questions that were scored negatively. Likert scale rating of 5 is strongly agree, 4 is agree, 3 is neutral, 2 is disagree and 1 is strongly disagree. The higher the Likert scale rating, the more positive the attitude. Referring to table 4.4, items Q1 to Q3 are questions directly related to the participants. For these 3 items, the respondents had more positive attitudes. However, Q1 and Q2 had slightly negative attitude at 23.1% and 20.3% respectively. Items Q4 and Q5 of table 4.4 are questions that require minimal involvement of the participants. Both items were answered positively.

4.3.2 LEVEL OF ATTITUDE TOWARDS EPILEPSY

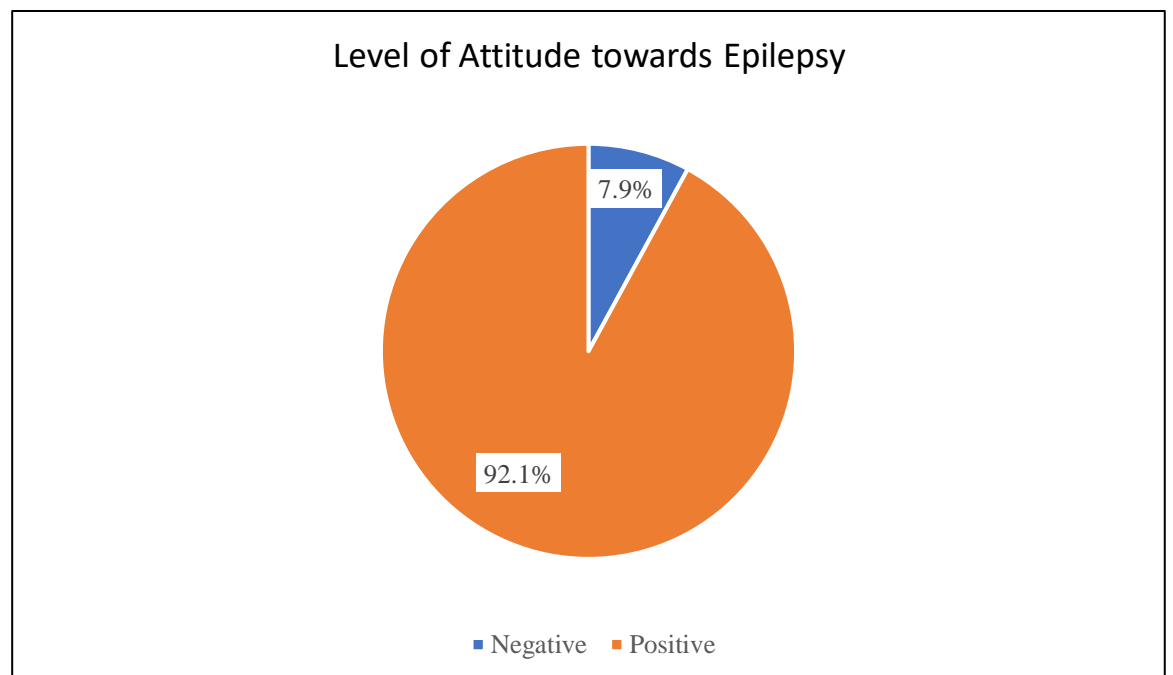


Figure 4.2 Level of Attitude towards Epilepsy Pie Chart

The Figure 4.2 shows the level of attitude towards epilepsy. The majority of the respondents had positive attitude towards epilepsy (n=255 or 92.1%). Only the remaining 21 or 7.9% of the respondents had negative attitude towards epilepsy.

4.4 ANALYTICAL ANALYSIS

4.4.1 RELATIONSHIP BETWEEN THE FACULTY AND THE LEVEL OF KNOWLEDGE TOWARDS EPILEPSY

Table 4.5: Association between the faculty and knowledge towards epilepsy

Faculty	Knowledge Towards Epilepsy Category			χ^2	p-value
	Poor	Moderate	Good		
	n (%)	n (%)	n (%)		
FMHS	0(0)	5(23.8)	16(76.2)	15.867	0.014*
LKC FES	6(4.3)	86(61.9)	47(33.8)		
FAM	2(2.7)	39(52.0)	34(45.3)		
FCI	3(7.1)	21(50.0)	18(42.9)		

*significant level at p-value <0.05

Referring to table 4.5, the Chi-square value is 15.867 and the knowledge towards epilepsy and the faculty was statistically significant with a p-value of 0.014. Therefore, null hypothesis H_0 1 was rejected. There was significant difference in the level of knowledge towards epilepsy among undergraduate students of different faculty. It is also found out that none of the respondents from the FMHS

had poor knowledge towards epilepsy and have the highest percentage of good knowledge towards epilepsy at 76.2%.

4.4.2 RELATIONSHIP BETWEEN THE LEVEL OF STUDY AND THE LEVEL OF KNOWLEDGE TOWARDS EPILEPSY

Table 4.6: Association between the level of study and knowledge towards epilepsy

Level of study	Knowledge Towards Epilepsy			χ^2	p-value
	Category				
	Poor n (%)	Moderate n (%)	Good n (%)		
Year 1	1(1.9)	25(48.1)	26 (50.0)	6.260	0.395
Year 2	3(3.6)	47(56.0)	34(40.5)		
Year 3	6(5.9)	61(59.8)	35(34.3)		
Year 4	1(2.6)	18(46.2)	20(51.3)		

Referring to table 4.6, the Chi-square value is 6.260 and the knowledge towards epilepsy and the year of study was statistically not significant with a p-value of 0.395. Therefore, null hypothesis H_0 2 was failed to reject. There was no significant difference in the level of knowledge towards epilepsy among undergraduate students of different level of study. Respondents from different level of their studies does not affect their knowledge towards epilepsy as the knowledge among the 4 years were rather similar.

4.4.3 RELATIONSHIP BETWEEN THE FACULTIES AND THE LEVEL OF ATTITUDE TOWARDS EPILEPSY.

Table 4.7 Association between the faculties and the attitude towards epilepsy

Faculty	Attitude Towards Epilepsy		χ^2	p-value
	Category			
	Negative n (%)	Positive n (%)		
FMHS	0 (0)	21 (100.0)	7.869	0.049*
LKC FES	12 (8.6)	127 (91.4)		
FAM	3 (4.0)	72 (96.0)		
FCI	7 (16.7)	35 (83.3)		

*significant level at p-value <0.05

Referring to table 4.7, the Chi-square value is 7.869 and the attitude towards epilepsy and the faculty was statistically significant with a p-value of 0.049. Therefore, the null hypothesis H_03 was rejected. There was significant difference in the level of attitude towards epilepsy among undergraduate students of different faculty. 100% of the respondents from the faculty of FMHS had positive attitude towards epilepsy compared to the other faculties

4.4.4 RELATIONSHIP BETWEEN THE LEVEL OF STUDY AND THE ATTITUDE TOWARDS EPILEPSY

Table 4.8 Association between the level of study and the attitude towards epilepsy

Level of study	Attitude Towards Epilepsy		χ^2	p-value
	Category			
	Negative n (%)	Positive n (%)		
Year 1	6 (11.5)	46 (88.5)	5.628	0.131
Year 2	4 (4.8)	80 (95.2)		
Year 3	6 (5.9)	96 (94.1)		
Year 4	6 (15.4)	33 (84.6)		

Referring to table 4.8, the Chi-square value is 5.628 and the attitude towards epilepsy and the year of study is statistically not significant with a p-value of 0.131. Therefore, the null hypothesis H_04 was failed to reject. There was no significant difference in the level of attitude towards epilepsy among undergraduate students of different level of study. Respondents from different level of their studies does not affect their attitude towards epilepsy as the attitude among the 4 years were rather similar.

4.5 SUMMARY

Following the analysing the data, the knowledge level towards epilepsy was identified as good and the attitude towards epilepsy was also found to be profoundly positive which answers the first objective of this study. For the remaining four research objectives, only the faculty of the undergraduates was found to be significantly associated with the level of knowledge and level of attitude towards epilepsy. Chapter 5 will further discuss these findings with support of relevant literatures.

CHAPTER 5: DISCUSSION

5.0 CHAPTER OVERVIEW

In this chapter, the findings of this research project will be analysed and supported with other relevant journal articles. The main research objectives and questions will be discussed in this chapter. Subsequently, analytical statistics are discussed.

5.1 DISCUSSION OF MAJOR FINDINGS

5.1.1 LEVEL OF KNOWLEDGE AND ATTITUDE TOWARDS EPILEPSY

This study showed that the knowledge and attitude towards epilepsy was high among undergraduate student. The knowledge level of this study was similar with the article of the adopted KBP questionnaire (Thapa et al., 2017). The results of this study were consistent with several studies with similar population in Ethiopia, Africa, Turkey, and Malaysia (Zelege et al., 2018; Shewangizaw and Teferi, 2015; Kiyak and Dayapoglu, 2017; Ab Rahman, 2005). The cross-sectional community based Ethiopian study by Zelege et al. (2018), African study by Shewangizaw and Teferi (2015) and Turkish study by Kitak and Dayapoglu (2017) found that those college level and university level educated had high knowledge level towards epilepsy. The Malaysian study by Ab Rahman (2005) was a cross-sectional study on university students. However, both cross-

sectional studies from Turkey and Egypt that had contrasting findings with this study (Macit et al, 2018; Thabit et al., 2018). The Turkish study was a community-based study and the Egyptian study was based on university students.

Although this study identified undergraduate students had relatively good knowledge towards epilepsy, but there were still concerning issues as this study found that there were still misconceptions regarding epilepsy. Surprisingly, some respondents believe that epilepsy was caused by spiritual beings (18.4%) can be cured through exorcism (18.1%) and visiting religious places (32.1%). This finding was supported by articles in Egypt, Ghana, and Malaysia that also found that their respondents had similar false beliefs (Thabit et al., 2018; Adjei et al., 2013; Ab Rahman, 2005). Besides that, there were also 14.1% of the undergraduates believing that epilepsy is contagious, and this statement was similar with a study in Germany that found 10% of their respondents believes this (Pauschek et al., 2016). These false beliefs will lead to stigmatization and discrimination towards people with epilepsy and interventions must be taken to address this issue.

This study identified that the attitude towards epilepsy was overwhelmingly positive (92%) among the undergraduate students. This finding was similar with the findings of the study in which the PATE scale was adopted (Lim et al., 2013). This finding was significantly higher than similar studies on similar populations

in Ethiopia, Austria and Saudi Arabia which found to have positive attitude (Zelege et al. 2018; Simon, Gesslbauer & Fink, 2016; Shabo et al, 2014). The Ethiopian, Austrian and Saudi Arabian studies were all cross-sectional and community based. In contrast, cross-sectional studies in Yemen and Libya have found negative attitude towards epilepsy among university student (Al-Eryani et al., 2015; Alhagamhmad and Shembesh, 2018). The high level of attitude towards epilepsy could be due to the multiracial community in Malaysia that has led to a higher tolerance level among Malaysians. the knowledge towards epilepsy must improve before the attitude towards epilepsy can improve.

5.1.2 LEVEL OF KNOWLEDGE TOWARDS EPILEPSY AND FACULTIES

A Chi-square analysis proved that there was a statistical significance association between the level of knowledge towards epilepsy and the undergraduates of different faculties with the p-value of 0.014.

Fascinatingly, this study illustrated that undergraduates from the FMHS had good knowledge towards epilepsy. Similarly, this findings were similar in the cross-sectional comparison study on university students in Jordan and the cross-sectional study on medical students in Nigeria that found that respondents related to the health sciences and medical field had better knowledge towards epilepsy (Alhalaiqa et al., 2017; Ekeh and Ekrikpo, 2019). This finding proves that for

people who had undergone training or attended courses related to epilepsy had a higher knowledge level towards epilepsy as evidenced by studies done in Benin and Palestine (Vodougnon et al., 2019; Shawahna and Jaber, 2020). Universities could consider implementing health education programs into other non-health science and medical related degree courses in order to increase awareness and knowledge.

5.1.3 LEVEL OF KNOWLEDGE TOWARDS EPILEPSY AND LEVEL OF STUDY

In this study it was found that there is no significant difference between level of knowledge towards epilepsy and the level of study.

Interestingly, the level of study of the undergraduates did not change the level of knowledge towards epilepsy. Respondents with a higher level of study not necessarily have better knowledge compared to respondents with lower level of study. This finding was contrasting with the study done in Benin where medical students of a higher level of study had higher knowledge level towards epilepsy (Vodougnon et al., 2019). However, this could very well be influence by the field of study of the sample in that study. There has been lacking studies

looking into this level of study aspect, thus the findings of this study can serve as data for future researches.

5.1.4 LEVEL OF ATTITUDE TOWARDS EPILEPSY AND FACULTIES

A Chi-square analysis proved that there was a statistical significance association between the level of attitude towards epilepsy and the undergraduates of different faculties with the p-value of 0.049.

This study found that 100% of the undergraduates from the FMHS had positive attitude towards epilepsy. This finding was also seen in other studies in Jordan and Nigeria that found that respondents related to the medical field had better attitude towards epilepsy (Alhalaiqa et al., 2017; Ekeh and Ekrikpo, 2019).

This finding shows the contribution of health promotion as people who have underwent training or attended courses related to epilepsy had a better attitude towards epilepsy as found by studies done in Benin and Palestine (Vodougnon et al., 2019; Shawahna and Jaber, 2020).

5.1.5 LEVEL OF ATTITUDE TOWARDS EPILEPSY AND LEVEL OF STUDY

In this study it was found that there is no significant difference between level of knowledge towards epilepsy and the level of study.

This finding was similar with a study by Macit et al. (2018) in Turkey that found there were no significant difference between the attitude and healthcare professionals of high and lower educational level. A cross-sectional study on medical residents by Ezeala-Adikaibe et al. (2014) also found no significant difference in these variables. However, there was contrasting findings in an epilepsy awareness campaign evaluation study in Riyadh that found a higher level of education will result in increased attitudes towards epilepsy (Alaqeel et al., 2015).

As expected, the level of study of the undergraduates did not change the level of attitude towards epilepsy. Respondents of year 2 and year 3 had more positive attitudes (95.2% and 94.1%) compared to respondents from year 1 and year 4.

CHAPTER 6: CONCLUSION AND RECOMMENDATION

6.0 STRENGTH AND LIMITATION OF THE STUDY

6.0.1 STRENGTH

This study was the first ever study being done on epilepsy in this selected private university as no relevant articles regarding epilepsy and was related to this university was found. The sampling method used in this study was also more robust compared to other studies that uses convenience sampling. Studies that applies quota sampling method have a better representation of the targeted population (Polit and Beck, 2017).

6.0.2 LIMITATION

This study has a rather small sample size at $n=277$. This reduced the generalisability of the population. The majority (94.9%) of the samples were of the Chinese ethnicity, resulting in the demography of the samples was unable to represent the population as Malaysia is a multi-ethnic country with Chinese ethnic distribution at only 24.6% (Dasm.gov.my, 2020). The COVID-19 worldwide pandemic caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) affected Malaysia in January 2020. Massive spikes in infection cases has led the Malaysian government to implement Movement Control Order (MCO). Hence, this study had to utilise online based

data collection methods. As result, there was an increased risk of response bias towards this study (Polit and Beck, 2017).

6.1 IMPLICATIONS OF STUDY

The findings from this study can be used in future researches and allows understanding of the degree of knowledge and attitude among university students towards epilepsy in Malaysia. Comprehending these will enable tailor-made interventions to increase the knowledge and awareness towards epilepsy. These interventions can be made during a health promotion campaign and program organised by government agencies or universities. Basic first aid on seizure management can be conducted in these health campaigns which will reduce seizure related injuries among people with epilepsy. In regard to nursing, this study reinforces the needs of proper health educations and health campaign activities by nurses. When the knowledge towards epilepsy is increased, the attitude towards epilepsy will also increase. Hence, people with epilepsy will face less stigma and discriminations.

6.2 RECOMMENDATIONS FOR FUTURE RESEARCH

The researcher recommends future researches to increase the sample size and to include other ethnicity to increase generalisability of the population. This study should be conducted on other universities and from other states as different type of university and different states will have different population and cultural background. This study should also be conducted on different communities such as secondary school student, teachers and working adults to obtain a more complete data for comparison and to represent the whole population. Future researchers should consider implementing similar study using a physical data collection procedure to reduce bias and increase truthful responses.

6.3 CONCLUSION

This study identified that the university students have relatively good knowledge level towards epilepsy and their attitude towards epilepsy is highly positive. University students in the medical field of education were found to have higher knowledge and attitude levels compared to other field of education. This shows that having attended lessons regarding epilepsy affects the knowledge and attitude level and universities can consider conducting health campaigns on important health problems to increase knowledge, attitude, and practice. Although having good knowledge level towards epilepsy, there are still worrying

misconceptions towards epilepsy that must be resolved through health campaigns to decrease negative perception towards people with epilepsy.

(9751 words)

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APPENDIX A: CONSENT DECLARATION FORM

Participant Consent Form

KNOWLEDGE AND ATTITUDE TOWARDS EPILEPSY AMONG UNDERGRADUATE STUDENTS IN A PRIVATE UNIVERSITY IN KAJANG, MALAYSIA

- I..... voluntarily agree to participate in this research study.
- I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.
- I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study.
- I understand that participation involves collecting socio-demographic data and other personnel data.
- I understand that I will not benefit directly from participating in this research.
- I understand that all information I provide for this study will be treated confidentially.
- I understand that the data will only be stored until the completion of the study.
- I understand that under freedom of information, I am entitled to access the information I have provided at any time while it is in storage as specified above.

(Signature of participant)


Date

I believe the participant is giving informed consent to participate in this study

(GILBERT H'NG YUNG HAN)

Date

APPENDIX B: RESEARCH TOOL PERMISSION (KBP)

H'NG YUNG HAN GILBERT <gilberthng@1utar.my>

Research Questionnaire (KBP) Permission.

H'NG YUNG HAN GILBERT <gilberthng@1utar.my>
To: drlekhjung@gmail.com
Cc: Magesvary Maruthiah <magesvary@utar.edu.my>, Thulasy a/p Perumal <thulasy@utar.edu.my>
Bcc: gilberthng0129@gmail.com

Sat, Jul 4, 2020 at 3:06 PM

Dear Dr. Lekhjung Thapa,

Good day, my name is Gilbert H'ng Yung Han. I am a final year student currently pursuing Bachelor in Nursing(Honours) at University Tunku Abdul Rahman, Malaysia.

I am writing to ask for written permission to use the Knowledge, Believe, Practices (KBP) survey tool in my research study. The KBP tool is from this following article entitled: Knowledge, Beliefs, and Practices on Epilepsy among High School Students of Central Nepal (<https://doi.org/10.1155/2017/6705807>)
I know the correspondence address should be made to Dr Tirtha but I have yet to receive a reply from him. Therefore I am writing this to you in hopes that perhaps you may be able to give permission.

I am currently doing my research entitled "Knowledge and Attitude towards epilepsy among undergraduate students in a private university in Kajang, Malaysia." My research is being supervised by my lecturers, Ms. Magesvary Maruthiah and Ms. Thulasy Perumal.

I would appreciate receiving a copy of the KBP survey questionnaire form. And if I may ask for your guidance on any specific methods to administer the questionnaire, analyze the results and the scoring of the questionnaire.


I would like to use the KBP tool under the following conditions:

- I will use the KBP tool only for my research study and will not sell or use it for any other purposes.
- I will include a statement of attribution and copyright on all copies of the instrument. (If you have a specific statement of attribution that you would like for me to include, please provide it in your response.)

If these are acceptable terms and conditions, please indicate so by replying to me through e-mail.

Please do not hesitate to contact me or any of my supervisors for more clarifications. Hope to hear from you soon.
Thanking you in advance.

Most sincerely,
Gilbert H'ng
UTAR Nursing Student.
+6017-523 3520

H'NG YUNG HAN GILBERT <gilberthng@1utar.my>

Research Questionnaire (KBP) Permission.

Lekhjung Thapa <drlekhjung@gmail.com>
To: H'NG YUNG HAN GILBERT <gilberthng@1utar.my>
Cc: Magesvary Maruthiah <magesvary@utar.edu.my>, Thulasy a/p Perumal <thulasy@utar.edu.my>


Sat, Jul 4, 2020 at 4:15 PM

Dear Gilbert H'ng

Please feel free to use the tool for your research. I am sure Dr Tirtha will be able to provide you the details you require.
All the best!

Best wishes,
Lekhjung Thapa, MD, DM (Neurology)
Associate Professor of Neurology
Hospital Director
UDM-National Institute of Neurological and Allied Sciences
Kathmandu, Nepal
Founder President, Nepal Stroke Association (NSA)
[Quoted text hidden]

APPENDIX C: RESEARCH TOOL PERMISSION (PATE)

 Gilbert H'ng <gilberthng0129@gmail.com>

Research Questionnaire (PATE) Permission.

Gilbert H'ng <gilberthng0129@gmail.com> Thu, Nov 14, 2019 at 1:46 AM
To: kslimum@gmail.com, kslimum@um.edu.my

Dear Prof. Dr. Lim Kheng Seang

My name is Gilbert H'ng Yung Han. I am a 3rd-year Bachelor in Nursing(Honours) student at University Tunku Abdul Rahman.

I am writing to ask for written permission to use the Public Attitudes Toward Epilepsy (PATE) scale in my research study. I am currently doing my research proposal and my research title will be "Attitude towards epilepsy among university students in a private university in Malaysia." My research is being supervised by my lecturers, Ms. Magesvary Maruthiah and Ms. Thulasy Perumal.

I would appreciate receiving a copy of the PATE scale questionnaire form. And if I may ask for your guidance on any specific methods to administer the questionnaire, analyze the results and the scoring of the questionnaire.


I would like to use your PATE scale under the following conditions:

- I will use the PATE scale only for my research study and will not sell or use it for any other purposes.
- I will include a statement of attribution and copyright on all copies of the instrument. (If you have a specific statement of attribution that you would like for me to include, please provide it in your response.)

At your request, I will send a copy of my completed research study to you upon completion of the study.

If these are acceptable terms and conditions, please indicate so by replying to me through e-mail.

Most sincerely,
Gilbert H'ng

 Gilbert H'ng <gilberthng0129@gmail.com>

Research Questionnaire (PATE) Permission.

Kheng Seang Lim <kslimum@gmail.com> Sun, Jun 28, 2020 at 9:16 PM
To: Gilbert H'ng <gilberthng0129@gmail.com>
Cc: Jason Chia <chiazhjien@gmail.com>, Magesvary Maruthiah <magesvary@utar.edu.my>, Thulasy a/p Perumal <thulasy@utar.edu.my>

Yes, you can use the scale.

Can I know who your supervisor is?

Regards,
Kheng-Seang

Kheng-Seang LIM
*MBBS (UM), FRCP (UK), PhD (UM), Fellowship in Epilepsy (Melbourne and Cleveland)
Professor and Consultant Neurologist (Epilepsy)
University of Malaya, Malaysia
Past President, Malaysian Society of Neurosciences
Chair, IBE Research Commission
Chair, ILAE-AO Research Task Force
Research Profile: Google Scholar, UMLexpert, Publons, Researchgate
Office WhatsApp: +6011-1135 8398*

APPENDIX D: RESEARCH INSTRUMENT

KNOWLEDGE AND ATTITUDE TOWARDS EPILEPSY AMONG UNDERGRADUATE STUDENTS IN A PRIVATE UNIVERSITY IN KAJANG, MALAYSIA.

This questionnaire consists of 3 sections.

Section A: Socio-demographic data

Section B: Knowledge towards epilepsy

Section C: Attitude towards epilepsy

The participants are required to complete **ALL** sections.

SECTION A: SOCIO-DEMOGRAPHIC DATA

- 1) Gender : Male / Female
- 2) Age : _____
- 3) Ethnicity : Malay / Chinese / Indian / Others
- 4) Faculty : _____
- 5) Year of study : _____
- 6) Presence of the family member(s) : Yes / No | If yes, what is the relationship
with epilepsy or seizures | _____

SECTION B: KNOWLEDGE TOWARDS EPILEPSY


- (1) Is epilepsy a mental disease? Yes() No()
- (2) Is epilepsy a disease of the brain? Yes() No()
- (3) Is epilepsy a hereditary disease? Yes() No()
- (4) Is epilepsy a contagious disease? Yes() No()
- (5) Do you think epilepsy is caused by spiritual beings? Yes() No()
- (6) Do you think alternative therapy is beneficial for epilepsy? Yes() No()
- (7) Do you think epilepsy needs long-term treatment? Yes() No()
- (8) Do you think missing the drugs once in a while is harmful? Yes() No()
- (9) Do you think most of the drugs used in epilepsy treatment cause side effects? Yes() No()
- (10) Do you think epilepsy can be cured medically? Yes() No()
- (11) Do you think visiting religious places helps in curing epilepsy? Yes() No()
- (12) Do you think exorcism helps to drive away epilepsy spirits from the body? Yes() No()

SECTION C: ATTITUDE TOWARDS EPILEPSY

Rate from 1-5. Circle the number. 1 is strongly disagree, 5 is strongly agree, 3 is neutral

- | | | |
|------|--|-------------------|
| (1) | I feel uncomfortable working with someone who has epilepsy. | 1 - 2 - 3 - 4 - 5 |
| (2) | I will advise my family members against marrying someone with epilepsy. | 1 - 2 - 3 - 4 - 5 |
| (3) | I would marry someone with epilepsy, even though he/she has epilepsy. | 1 - 2 - 3 - 4 - 5 |
| (4) | I would date someone even though he/she has epilepsy. | 1 - 2 - 3 - 4 - 5 |
| (5) | If I am an employer, I would give equal employment opportunities to someone with epilepsy. | 1 - 2 - 3 - 4 - 5 |
| (6) | I will not mind being seen in the company with someone known to have epilepsy. | 1 - 2 - 3 - 4 - 5 |
| (7) | I would stay away from a friend if I knew he/she had epilepsy. | 1 - 2 - 3 - 4 - 5 |
| (8) | People with epilepsy have the same rights as all people. | 1 - 2 - 3 - 4 - 5 |
| (9) | People with epilepsy should be isolated from others. | 1 - 2 - 3 - 4 - 5 |
| (10) | People with epilepsy should not marry. | 1 - 2 - 3 - 4 - 5 |
| (11) | People with epilepsy should not participate in social activities. | 1 - 2 - 3 - 4 - 5 |
| (12) | People with epilepsy should not study in college or university. | 1 - 2 - 3 - 4 - 5 |
| (13) | People with epilepsy should study in a special school. | 1 - 2 - 3 - 4 - 5 |
| (14) | Schools should not place children with epilepsy in regular classrooms. | 1 - 2 - 3 - 4 - 5 |

**APPENDIX E: RESEARCH TOOL CONTENT VALIDATION
(INTERNAL & EXTERNAL)**

 Gmail Gilbert H'ng <gilberthng0129@gmail.com>

FYP Tool Validation.

Sheela Devi a/p Sukuru <sheela@utar.edu.my> Mon, Jul 6, 2020 at 1:43 AM
To: Gilbert H'ng <gilberthng0129@gmail.com>
Cc: Magesvary Maruthiah <magesvary@utar.edu.my>, Thulasy a/p Perumal <thulasy@utar.edu.my>

Good Day,


Dear Gilbert, kindly receive my comments in the attached file.

THANK YOU!

Regards,
Ms. Sheela Devi S.

Lecturer
Department of Nursing
Faculty of Medicine & Health Sciences
Universiti Tunku Abdul Rahman

10/5/2020 Universiti Tunku Abdul Rahman Mail - Research Tool Content Validation

 H'NG YUNG HAN GILBERT <gilberthng@1utar.my>

Research Tool Content Validation

Waye Hann Kang <kangwh@utar.edu.my> Tue, Jul 7, 2020 at 8:37 PM
To: H'NG YUNG HAN GILBERT <gilberthng@1utar.my>

Hi Gilbert,

I've looked through your questionnaire and the questions seem appropriate for assessment of knowledge and practice,

Do let me know what else I need to do to validate your questionnaire.

Thanks.

Kang
[Quoted text hidden]
--
*General Physician & Lecturer,
Faculty of Medicine and Health Sciences,
University Tunku Abdul Rahman
Lot PT 21144, Jalan Sungai Long, Bandar Sungai Long,
43000 Kajang, Selangor,
Malaysia*

APPENDIX F: ETHICAL CLEARANCE APPROVAL LETTER



UNIVERSITI TUNKU ABDUL RAHMAN

Wholly Owned by UTAR Education Foundation (Company No. 578227-M)

Re: U/SERC/19/2020

6 February 2020

Ms Liew Siew Fun
Head, Department of Nursing
Faculty of Medicine and Health Sciences
Universiti Tunku Abdul Rahman
Jalan Sungai Long
Bandar Sungai Long
43000 Kajang, Selangor

Dear Ms Liew,

Ethical Approval For Research Project/Protocol

We refer to your application for ethical approval for your students' research project from Bachelor of Nursing (Hons) programme enrolled in course UMNB4024. We are pleased to inform you that the application has been approved under expedited review.

The details of the research projects are as follows:

	Research Title	Student's Name	Supervisor's Name	Approval Validity
1.	Knowledge and Awareness of Basic Life Support Skills Among Non-medical Students in a Private University Kajang, Malaysia: A Survey Study	Achi Blessing Zidyeb	Ms Jagjit Kaur Co-supervisor: Ms Woo Li Fong	6 February 2020 – 5 February 2021
2.	Knowledge and Attitude Towards Epilepsy Among Undergraduate Students in a Private University in Kajang, Malaysia	Gilbert H'ng Yung Han	Ms Magesvary Maruthiah Co-supervisor: Ms Thulasy Perumal	
3.	A Survey on Knowledge, Initiation and Usage of Electronic Cigarette Among Students in a Private University, Kajang	Lee Zhi Han	Ms Shamala Baskaran Co-supervisor: Ms Thavamalar Paramasivam	
4.	A Survey on Students' Knowledge and Consumption Pattern of Bubble Milk Tea in a Private University, Kajang	Lim Zhi Qian	Ms Woo Li Fong Co-supervisor: Ms Jagjit Kaur	
5.	Survey on the Knowledge and Attitudes Towards Cervical Cancer Among Students of a Private University in Kajang	Michelle Chang Siang Jie	Ms Thulasy Perumal Co-supervisor: Ms Magesvary Maruthiah	
6.	A Survey on Suicidal Ideation and Attempt in One Private University, Malaysia	Ng Sin Hooi	Ms Thavamalar Paramasivam Co-supervisor: Ms Shamala Baskaran	
7.	Knowledge and Practice of Self-medication Using Paracetamol Among Students in a Private University	Phoon Wil Son	Ms Sheela Devi Sukuru Co-supervisor: Ms Ng Siow Fam	

Kampar Campus : Jalan Universiti, Bandar Barat, 31900 Kampar, Perak Darul Ridzuan, Malaysia
Tel: (605) 468 8888 Fax: (605) 466 1313
Sungai Long Campus : Jalan Sungai Long, Bandar Sungai Long, Cheras, 43000 Kajang, Selangor Darul Ehsan, Malaysia
Tel: (603) 9086 0288 Fax: (603) 9019 8868
Website: www.utar.edu.my



The conduct of this research is subject to the following:

- (1) The participants' informed consent be obtained prior to the commencement of the research;
- (2) Confidentiality of participants' personal data must be maintained; and
- (3) Compliance with procedures set out in related policies of UTAR such as the UTAR Research Ethics and Code of Conduct, Code of Practice for Research Involving Humans and other related policies/guidelines.

Should the students collect personal data of participants in their studies, please have the participants sign the attached Personal Data Protection Statement for records.

Thank you.

Yours sincerely,



Professor Ts Dr Faidz bin Abd Rahman
Chairman
UTAR Scientific and Ethical Review Committee

c.c Dean, Faculty of Medicine and Health Sciences
Director, Institute of Postgraduate Studies and Research

Kampar Campus : Jalan Universiti, Bandar Barat, 31900 Kampar, Perak Darul Ridzuan, Malaysia
Tel: (605) 468 8888 Fax: (605) 466 1313
Sungai Long Campus : Jalan Sungai Long, Bandar Sungai Long, Cheras, 43000 Kajang, Selangor Darul Ehsan, Malaysia
Tel: (603) 9086 0288 Fax: (603) 9019 8868
Website: www.utar.edu.my



APPENDIX G: PERSONAL DATA PROTECTION STATEMENT

PERSONAL DATA PROTECTION STATEMENT

Please be informed that in accordance with Personal Data Protection Act 2010 ("PDPA") which came into force on 15 November 2013, Universiti Tunku Abdul Rahman ("UTAR") is hereby bound to make notice and require consent in relation to collection, recording, storage, usage and retention of personal information.

Notice:

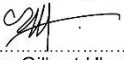
1. The purposes for which your personal data may be used are inclusive but not limited to:-
 - For assessment of any application to UTAR
 - For processing any benefits and services
 - For communication purposes
 - For advertorial and news
 - For general administration and record purposes
 - For enhancing the value of education
 - For educational and related purposes consequential to UTAR
 - For the purpose of our corporate governance
 - For consideration as a guarantor for UTAR staff/ student applying for his/her scholarship/ study loan
2. Your personal data may be transferred and/or disclosed to third party and/or UTAR collaborative partners including but not limited to the respective and appointed outsourcing agents for purpose of fulfilling our obligations to you in respect of the purposes and all such other purposes that are related to the purposes and also in providing integrated services, maintaining and storing records. Your data may be shared when required by laws and when disclosure is necessary to comply with applicable laws.
3. Any personal information retained by UTAR shall be destroyed and/or deleted in accordance with our retention policy applicable for us in the event such information is no longer required.
4. UTAR is committed in ensuring the confidentiality, protection, security and accuracy of your personal information made available to us and it has been our ongoing strict policy to ensure that your personal information is accurate, complete, not misleading and updated. UTAR would also ensure that your personal data shall not be used for political and commercial purposes.

Consent:

1. By submitting this form you hereby authorise and consent to us processing (including disclosing) your personal data and any updates of your information, for the purposes and/or for any other purposes related to the purpose.
2. If you do not consent or subsequently withdraw your consent to the processing and disclosure of your personal data, UTAR will not be able to fulfill our obligations or to contact you or to assist you in respect of the purposes and/or for any other purposes related to the purpose.
3. You may access and update your personal data by writing to us at _____.

Acknowledgment of Notice

- I have been notified by you and that I hereby understood, consented and agreed per UTAR above notice.
- I disagree, my personal data will not be processed.


Name: Gilbert H'ng Yung Han
Date: 5 October 2020

APPENDIX H: GANTT CHART

	2019						2020																																							
	O	N	D	J	F	M	A	M	J	J	A	S	O	C	T	V	C	A	N	U	L	G	E	P	T	C																				
WEEK	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4																		
Proposal writing							Semester break and one semester without research subject.																																							
Proposal presentation																																														
Ethical procedures																																														
Pilot study																																														
Data collection and preparation																																														
Data analysis																																														
Result interpretation																																														
Report writing																																														
Presentation and thesis submission																																														

APPENDIX I: TURNITIN ORIGINALITY REPORT

10/5/2020	Turnitin										
<h2>Turnitin Originality Report</h2> <p>Processed on: 05-Oct-2020 05:09 +08 ID: 1404955745 Word Count: 9751 Submitted: 1</p>											
<p>FYP By Gilbert H'ng</p>	<table border="1"> <tr> <td>Similarity Index</td> <td>13%</td> </tr> </table> <table border="1"> <thead> <tr> <th colspan="2">Similarity by Source</th> </tr> </thead> <tbody> <tr> <td>Internet Sources:</td> <td>8%</td> </tr> <tr> <td>Publications:</td> <td>7%</td> </tr> <tr> <td>Student Papers:</td> <td>7%</td> </tr> </tbody> </table>	Similarity Index	13%	Similarity by Source		Internet Sources:	8%	Publications:	7%	Student Papers:	7%
Similarity Index	13%										
Similarity by Source											
Internet Sources:	8%										
Publications:	7%										
Student Papers:	7%										
<p>1% match () http://studentsrepo.um.edu.my/5642/1/Thesis.Stigma_in_Epilepsy.KS_Lim_2013.final.pdf</p>											
<p>1% match (student papers from 03-Oct-2020) Submitted to Universiti Tunku Abdul Rahman on 2020-10-03</p>											
<p>1% match (publications) Pandian, J.D., "High school students' knowledge, attitude, and practice with respect to epilepsy in Kerala, southern India", <i>Epilepsy and Behavior</i>, 200611</p>											
<p>< 1% match (Internet from 05-Mar-2020) http://eprints.utar.edu.my/3259/1/Ooi_Man_Thing_(BNS)_May_2018_Thesis.pdf</p>											
<p>< 1% match (student papers from 01-Sep-2014) Submitted to Middlesex University on 2014-09-01</p>											
<p>< 1% match (student papers from 20-Jun-2013) Submitted to Universiti Teknologi MARA on 2013-06-20</p>											
<p>< 1% match (student papers from 26-Nov-2019) Submitted to Universiti Tunku Abdul Rahman on 2019-11-26</p>											
<p>< 1% match (student papers from 09-Jun-2017) Submitted to International Islamic University Malaysia on 2017-06-09</p>											
<p>< 1% match (publications) Lekhjung Thapa, Tirtha Raj Bhandari, Shakti Shrestha, Ramesh Sharma Poudel, "Knowledge, Beliefs, and Practices on Epilepsy among High School Students of Central Nepal", <i>Epilepsy Research and Treatment</i>, 2017</p>											
<p>< 1% match (Internet from 03-Mar-2018) https://repository.up.ac.za/bitstream/handle/2263/52354/Zhou_Critical_2016.pdf?seque=</p>											
<p>< 1% match (publications) Lim, Kheng Seang, Michael D. Hills, Wan Yuen Choo, Mee Hoo Wong, Cathie Wu, and Chong Tin Tan. "A web-based survey of attitudes toward epilepsy in secondary and tertiary students in Malaysia, using the Public Attitudes Toward Epilepsy (PATE) scale", <i>Epilepsy & Behavior</i>, 2013.</p>											
<p>< 1% match (publications) Adewale Ashimi, Labaran Aliyu, Muhammad Shittu, Taiwo Amole. "A multicentre study on knowledge and attitude of nurses in northern Nigeria concerning female genital mutilation", <i>The European Journal of Contraception & Reproductive Health Care</i>, 2014</p>											
<p>< 1% match (Internet from 15-Jul-2020) http://docshare.tips/exploring-yoga-as-a-holistic-lifestyle-for-sustainable-human-and-5748f27eb6d87f790b8b5096.html</p>											
<p>< 1% match (publications)</p>											
<p>https://www.turnitin.com/newreport_printview.asp?eq=0&eb=0&esm=0&oid=1404955745&sid=0&n=0&m=2&svr=42&r=56.48075234550014&lan... 1/18</p>											

Zongwei Yue, Chanthia Ma, Kheng-seang Lim, Bo Xiao, Qian Wu, Yi Shu, Zhiping Yue, Yelan Wang, Li Feng. "Validation of the Chinese version of public attitudes toward epilepsy scale in Mainland China". *Epilepsy & Behavior*, 2017

< 1% match (publications)

Roberts, R.M.. "Effectiveness of a first aid information video in reducing epilepsy-related stigma". *Epilepsy and Behavior*, 201008

< 1% match (student papers from 06-Apr-2018)

Submitted to Grand Canyon University on 2018-04-06

< 1% match (student papers from 09-Sep-2017)

Submitted to M.M. International School, Mullana on 2017-09-09

< 1% match (Internet from 05-Oct-2016)

https://en.wikipedia.org/wiki/Universiti_Tunku_Abdul_Rahman

< 1% match (Internet from 27-Jul-2012)

<http://kentuckymathematics.org/research/docs/2010/KCM%20coaching%2008-09.pdf>

< 1% match (Internet from 09-Nov-2012)

<http://repub.eur.nl/res/pub/15984/PhD%20Thesis%20Rotgans.pdf>

< 1% match (publications)

Dorota Talarska, Joanna Stanisławska, Magdalena Strugała, Patrycja Talarska. "Current knowledge about epilepsy and associated psychosocial conditions". *Journal of Epileptology*, 2014

< 1% match (student papers from 15-May-2020)

Submitted to East Allen County Schools on 2020-05-15

< 1% match (publications)

Kubra Yeni, Zeliha Tulek, Omer Faruk Simsek, Nerses Bebek. "Relationships between knowledge, attitudes, stigma, anxiety and depression, and quality of life in epilepsy: A structural equation modeling". *Epilepsy & Behavior*, 2018

< 1% match ()

<http://repository-tnmgrmu.ac.in/3658/>

< 1% match (Internet from 24-Jan-2020)

<https://www.mdpi.com/1996-1073/13/1/60/htm>

< 1% match ()

<http://repository.out.ac.tz/2318/1/DISSERTATION%20-%20MKANIBWA%20NGOBOKA%20-%20FINAL.pdf>

< 1% match ()

<https://www.neliti.com/publications/263215/teachers-perceptions-of-the-relationship-between-learners-discipline-and-interna>

< 1% match (student papers from 12-Oct-2010)

Submitted to Universiti Teknologi Malaysia on 2010-10-12

< 1% match (student papers from 29-Jun-2018)

Submitted to University of Melbourne on 2018-06-29

< 1% match (student papers from 14-Oct-2010)

Submitted to University of Queensland on 2010-10-14

< 1% match (Internet from 01-Oct-2020)

<https://academic.oup.com/cid/article/71/6/1400/5818134>

< 1% match (publications)

Tülin Aktürk, Nermin Tanık, Hikmet Saçmacı, Zhi-Jien Chia, Kheng-Seang Lim. "Validity and reliability of the Turkish version of Public Attitudes Toward Epilepsy scale". *Epilepsy*

& Behavior, 2020

< 1% match (publications)

Zhi Jien Chia, Seilly Yunita Jehosua, Kheng Seang Lim, Herlyani Khosama, Donny Hamdani Hamid, Si Lei Fong, Chong Tin Tan, "Indonesian Public Attitudes Toward Epilepsy (PATE) scale: Translation and psychometric evaluation", *Epilepsy & Behavior*, 2020

< 1% match (student papers from 09-May-2011)

Submitted to University of Malaya on 2011-05-09

< 1% match (Internet from 05-May-2016)

<http://www.ijern.com/journal/2015/May-2015/06.pdf>

< 1% match (Internet from 19-Jun-2017)

<https://www.ukessays.com/essays/physical-education/united-nations-general-assembly-physical-education-essay.php>

< 1% match (publications)

Jiamjit Saengsuwan, Wongsa Laohasiriwong, Suwana Boonyaleeapan, Kittisak Sawanyawisuth, Somsak Tiamkao, "Knowledge, attitudes, and care techniques of caregivers of PWE in northeastern Thailand", *Epilepsy & Behavior*, 2013

< 1% match (Internet from 14-Dec-2018)

<http://eprints.utar.edu.my/2348/1/BA-2016-1308086.pdf>

< 1% match ()

<http://eprints.uwe.ac.uk/20212/>

< 1% match (publications)

Kheng-Seang Lim, Cathie Wu, Wan-Yuen Choo, Chong-Tin Tan, "Development and validation of a public attitudes toward epilepsy (PATE) scale", *Epilepsy & Behavior*, 2012

< 1% match (student papers from 22-May-2020)

Submitted to Universiti Tunku Abdul Rahman on 2020-05-22

< 1% match (student papers from 25-May-2020)

Submitted to Regis College on 2020-05-25

< 1% match (Internet from 26-Nov-2019)

<http://eprints.utar.edu.my/2355/1/BF-2016-1308155.pdf>

< 1% match (student papers from 30-Jun-2018)

Submitted to Grand Canyon University on 2018-06-30

< 1% match (student papers from 14-Jul-2017)

Submitted to International Health Sciences University on 2017-07-14

< 1% match (Internet from 07-May-2020)

<https://complete.bioone.org/journals/Tropical-Conservation-Science/volume-8/issue-2/194008291500800206/Driver-knowledge-and-attitudes-on-animal-vehicle-collisions-in-Northern/10.1177/194008291500800206.full>

< 1% match (student papers from 24-Aug-2017)

Submitted to Postgraduate Institute of Medicine on 2017-08-24

< 1% match (student papers from 18-Apr-2011)

Submitted to National University of Singapore on 2011-04-18

< 1% match (publications)

Chan, Molassiotis, "The relationship between diabetes knowledge and compliance among Chinese with non-insulin dependent diabetes mellitus in Hong Kong", *Journal of Advanced Nursing*, 2001

< 1% match (publications)

[Ioan Humphreys, Paula Lehane, Yamni Nigam. "Could maggot therapy be taught in primary schools?", Journal of Biological Education, 2020](#)

< 1% match (Internet from 16-Mar-2016)
http://eprints.usm.my/23751/1/Thesis_eMBA_%2D_Lim_Soon_Huat_2010.pdf

< 1% match (Internet from 13-May-2020)
<https://bnrc.springeropen.com/articles/10.1186/s42269-018-0011-8>

< 1% match (Internet from 27-Aug-2020)
<https://southampton.ac.uk/courses/mathematics-with-spanish-degree-bsc>

< 1% match (Internet from 26-May-2020)
<https://www.mdpi.com/1424-8220/12/12/17620/htm>

< 1% match (student papers from 06-Jun-2017)
[Submitted to International Islamic University Malaysia on 2017-06-06](#)

< 1% match (Internet from 15-May-2020)
<https://worldwidescience.org/topicpages/r/refractory+epilepsy+systematic.htm>

< 1% match (Internet from 16-Jul-2020)
https://pdxscholar.library.pdx.edu/cgi/viewcontent.cgi?article=2199&context=open_access_etds

< 1% match (Internet from 21-Jul-2020)
http://scholar.sun.ac.za/bitstream/handle/10019.1/6516/theunissen_critical_2011.pdf;sequence=1

< 1% match ()
<http://samj.org.za/index.php/samj/article/view/3114>

< 1% match (Internet from 17-Feb-2015)
<http://heapol.oxfordjournals.org/content/23/3/218.full>

< 1% match (Internet from 29-May-2019)
http://www.psichiatria.it/wp-content/uploads/2013/01/World-Psychiatry_June-2017.pdf

< 1% match (Internet from 22-Jun-2019)
<https://www.defeatdd.org/blog/can-cloned-rotavirus-shell-make-more-effective-vaccine>

< 1% match (publications)
["Innovating Education in Technology-Supported Environments", Springer Science and Business Media LLC, 2020](#)

< 1% match (publications)
["The Grants Register 2019", Springer Science and Business Media LLC, 2019](#)

< 1% match (publications)
[Zewdu Shewangizaw, Jalle Teferi. "Assessment of knowledge, attitude, and practice related to epilepsy: a community-based study", Neuropsychiatric Disease and Treatment, 2015](#)

< 1% match (publications)
[Ke Yang, Chanthia Ma, Yue He, Jing Wang, Zongwei Yue, Bo Xiao, Ding Liu, Li Feng. "Attitudes toward epilepsy among medical staffs in basic-level hospitals from southern China", Epilepsy & Behavior, 2018](#)

< 1% match (publications)
[Jose F. Tellez-Zenteno, Lizbeth Hernandez-Ronquillo, Alyssa Denton. "Understanding the value of meta-analysis in epilepsy. Are we using more than required?", Seizure, 2020](#)

< 1% match (publications)
[Jeyaraj D. Pandian, Deetha Santosh, T. Santosh Kumar, P. Sankara Sarma, Kurupath Radhakrishnan. "High school students' knowledge, attitude, and practice with respect to epilepsy in Kerala, southern India", Epilepsy & Behavior, 2006](#)