

KNOWLEDGE, ATTITUDE AND PRACTICE TOWARD EPILEPSY
AMONG MOTHER WITH EPILEPSY CHILDREN IN PEDIATRIC
CLINIC, HOSPITAL UNIVERSITI SAINS MALAYSIA

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KNOWLEDGE, ATTITUDE AND PRACTICE TOWARD EPILEPSY
AMONG MOTHER WITH EPILEPSY CHILDREN IN PEDIATRIC
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by

NUR SHAFIEQA BINTI MANSOR

Dissertation submitted in partial fulfillment of
the requirements for the degree of
Bachelor in Nursing with Honours

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CERTIFICATE

This is to certify that dissertation entitled “Knowledge, attitude, and practice toward epilepsy among mothers with epilepsy children in pediatric clinic, Universiti Sains Malaysia” is the bona fide record of research work done by Nur Shafieqa Binti Mansor during the period October 2023 to July 2024 under my supervision. I have read this dissertation and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation to be submitted in partial fulfillment of the requirements for the degree of Bachelor in Nursing with Honours.

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DECLARATION

I hereby declare that this dissertation is the result of my own investigation, except where otherwise stated and duly acknowledge. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at Universiti Sains Malaysia or other institutions. I grant Universiti Sains Malaysia the right to use the dissertation for teaching, research and promoting purpose.



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NUR SHAFIEQA BINTI MANSOR

Date: 8th August 2024

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**PENGETAHUAN, SIKAP, DAN PENGETAHUAN TERHADAP
EPILEPSI DALAM KALANGAN IBU YANG MEMPUYAI ANAK
YANG MENGHIDAP EPILEPSI DI KLINIK PEDIATRIC,
HOSPITAL UNIVERSITI SAINS MALAYSIA**

ABSTRAK

Epilepsi adalah penyakit otak kronik tidak berjangkit yang menjejaskan sekitar 50 juta orang di seluruh dunia (WHO, 2023). Pengetahuan, sikap, dan amalan ibu-ibu mengenai epilepsi adalah penting untuk pengurusan yang berkesan terhadap keadaan ini, mengurangkan stigma, memberikan sokongan emosi, dan memastikan kesejahteraan keseluruhan anak-anak dengan epilepsi. Objektif kajian ini adalah untuk menentukan pengetahuan, sikap, dan amalan terhadap epilepsi dalam kalangan ibu-ibu yang mempunyai anak-anak epilepsi di klinik pediatrik, Hospital Universiti Sains Malaysia. Selain itu, kajian ini juga menyelidiki hubungan antara pengetahuan dan faktor sosiodemografi (tahap pendidikan) terhadap epilepsi dalam kalangan ibu-ibu yang mempunyai anak-anak epilepsi di klinik pediatrik, Hospital Universiti Sains Malaysia. Reka bentuk kajian keratan rentas telah digunakan dan 135 ibu terlibat dalam penyelidikan ini. Data dikumpulkan menggunakan soal selidik salinan keras yang diedarkan kepada responden. Statistik deskriptif digunakan untuk menerangkan responden dan mengenal pasti tahap pengetahuan, sikap, dan amalan terhadap epilepsi dalam kalangan ibu-ibu yang mempunyai anak-anak epilepsi di klinik pediatrik, Hospital Universiti Sains Malaysia. Ujian Chi-kuasa dua Pearson digunakan untuk menguji hubungan antara pengetahuan dan faktor sosiodemografi terpilih (tahap pendidikan) terhadap epilepsi dalam kalangan ibu-ibu yang mempunyai anak-anak epilepsi di klinik pediatrik, Hospital Universiti Sains Malaysia. Penemuan kajian mendedahkan bahawa kebanyakan ibu (56.5%) mempunyai pengetahuan yang baik tentang epilepsi, (84.4%) sikap keseluruhan mereka adalah neutral, dan (60.0%) amalan mereka semasa serangan terakhir adalah baik. Hasil kajian juga menunjukkan tiada hubungan antara

pengetahuan dan tahap pendidikan dalam kalangan ibu-ibu yang mempunyai anak-anak epilepsi di klinik pediatrik, Hospital Universiti Sains Malaysia, di mana ($p > 0.05$). Walaupun kebanyakan ibu mempunyai pengetahuan dan amalan yang baik, namun, sikap mereka terhadap epilepsi perlu diperbaiki untuk meningkatkan penjagaan dan sokongan kepada anak-anak mereka.

KNOWLEDGE, ATTITUDE AND PRACTICE TOWARD EPILEPSY AMONG MOTHER WITH EPILEPSY CHILDREN IN PEDIATRIC CLINIC, HOSPITAL UNIVERSITI SAINS MALAYSIA

ABSTRACT

Epilepsy is a chronic non-communicable disease of the brain that affects around 50 million people worldwide (WHO, 2023). The knowledge, attitude, and practice of mothers regarding epilepsy are crucial for the effective management of the condition, reducing stigma, providing emotional support, and ensuring the overall well-being of children with epilepsy. Objective of this study aims to determine the knowledge, attitude and practice toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia. Besides that, this study also investigates the association between knowledge and sociodemographic factors (education level) toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia. A cross-sectional study design was used, and 135 mothers participated in this research. The data was collected using a hard copy questionnaire distributed to the respondents. Descriptive statistics were used to describe the respondent and identify the level of knowledge, attitude, and practice toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia. Pearson Chi-square were used to test association between knowledge and sociodemographic factors (education level) toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia. The findings of the study revealed that most mothers (56.5%) have good knowledge about epilepsy, their overall attitude (84.4%) was neutral, and their practices (60.0%) during the last seizure were good. The results also showed no association between knowledge and educational level among mothers of children with epilepsy at the pediatric clinic, Hospital Universiti Sains Malaysia , where ($p > 0.05$).

Although most of the mother has good knowledge and practice, however, their attitude toward epilepsy needs to be improved to enhance the care and support of their children.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Chapter one gives an idea on the background of the study that the research was conducted. In this chapter, the researcher has explained a problem statement, research objective, research questions and hypothesis details. In addition, the researcher has also listed the conceptual and operational definitions, and the significance of the study.

1.2 Background of the Study

Epilepsy is a chronic non-communicable disease of the brain that affects around 50 million people worldwide (WHO, 2023). According to World Health Organization, approximately 5 million individuals globally receive an epilepsy diagnosis annually, in high-income nations, the annual incidence of epilepsy diagnoses is estimated at 49 per 100,000 people, while in low- and middle-income countries, this rate can surge to as much as 139 per 100,000 people (WHO, 2023). Epilepsy is a disorder of the brain characterized by a continue predisposition to generate epileptic seizures, normally leading to neurobiological, cognitive, psychological and social consequences (Vancini et al., 2012). It is also characterized by recurrent seizures, which are a brief episode of involuntary movement that may involve a part of the body (partial) or the entire body (generalized) and are sometimes accompanied by loss of consciousness and control of bowel or bladder (WHO, 2023). Epilepsy has become one of the most frequent neurological disorders. Epilepsy can impact people of all ages, genders, races, socioeconomic backgrounds, and geography (Adamu et al., 2023). Epilepsy stands as the most prevalent serious neurological disorder in childhood, with prevalence estimates ranging from 0.5% to 1.0%

among all children from birth to 16 years of age (Aaberg et al., 2017). Each year, 200,000 new cases of epilepsy are diagnosed, and 45,000 children younger than 15 years of age are affected. The incidence is highest in those younger than age two and those older than age 65 (Goldenberg, 2010).

Epilepsy syndromes are primarily categorized according to their etiology and seizure manifestations. The causes of epilepsy are divided into structural, genetic, infectious, metabolic, immune, and unknown such as brain damage from prenatal or perinatal causes, congenital abnormalities, head injury, infection of the brain or brain tumor (WHO, 2023). According to the International League Against Epilepsy (ILAE) epilepsy is classified into four main types of in this revised classification which are focal, generalized, combined generalized and focal, and unknown (Specchio et al., 2022). An epilepsy syndrome is called idiopathic if it is of genetic origin and the affected individuals are otherwise neurologically normal and is called symptomatic if it has documented cause, and presumed symptomatic if an underlying cause seems probable but has not been definitively identified (Hahn, 2014). Based on World Health Organization, people experiencing epilepsy tend to have temporary symptoms such as loss of awareness or consciousness, and disturbances of movement, sensation (including vision, hearing, and taste), mood, or other cognitive functions (WHO, 2023). Since childhood epilepsy encompasses a wide range of clinical presentations, and there are numerous other medical conditions that can resemble the symptoms of epilepsy. The diagnosis of epilepsy primarily relies on the patient's clinical history and the observation of seizure events. The electroencephalogram (EEG) plays a crucial role in identifying the specific seizure type and epilepsy syndrome, which in turn assists in providing an accurate prognosis.

1.3 Problem Statement

Based on the previous study showed that the prevalence of children with epilepsy increasing (Kolahi et al., 2017). The cumulative incident was 0.45% at the age 5 and 0.66% at age of 10 years (Aaberg et al., 2017). Therefore, Nationwide Norwegian registry study result about approximately 80% of children diagnosed with epilepsy also had at least one comorbid disorder (Aaberg et al., 2016). Parents play a vital role in managing their children's condition by actively engaging in treatment decisions and collaborating as valued team partners alongside a diverse group of healthcare providers (Tschamper et al., 2022).

As everyone knows, parents, especially mothers, are the closest people in every child's life since they know everything about their children, and they have been taking care of their children for such a long time. No one knows the children very well besides a mother. In managing children with epilepsy, special care needs to be taken in every aspect compared to a normal child. Therefore, mothers' knowledge of epilepsy is associated with attitudes towards epilepsy and a predictor of mothers' practices, when an epilepsy occurs (Elafros, Sakubita-Simasiku, et al., 2013). Lack of knowledge among a mother with a child who has epilepsy can potentially lead to negative outcomes in terms of poor safety, medication management, lifestyle, and emotional and psychological impact. Despite the heightened awareness in the medical field about pediatric epilepsy and improved accessibility to healthcare facilities, the management of children with epilepsy is still significantly influenced by the knowledge, attitudes, and practices of parents (Sinha et al., 2023). A good knowledge among mothers with epilepsy children will direct influences on the attitude and practice of the mothers, thus resulting in a good outcome and prevent any complication that may effects on both family and children with epilepsy. Therefore, after the issues mentioned above, this study is very important to

determine the level of knowledge, attitudes, and practices among mothers with epilepsy children.

1.4 Research Question

1. What is the level of knowledge toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia?
2. What is the level of attitude toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia?
3. What is the level of practice toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia?
4. Is there any association between knowledge and sociodemographic factors (education level) toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia?

1.5 Research Objective

1.5.1 General Objective

To determine the level of knowledge, attitude, and practice toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia.

1.5.2 Specific Objective

1. To identify the level of knowledge toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia.
2. To identify the level of attitude toward epilepsy among mothers with epilepsy children in

pediatric clinic, Hospital Universiti Sains Malaysia.

3. To identify the level of practice toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia.
4. To identify the association between sociodemographic factors (educational level) toward epilepsy mothers among with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia.

1.6 Research Hypothesis

1.6.1 Null Hypothesis

H₀: There is no significant association between knowledge and sociodemographic factors (educational level) toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia.

1.6.2 Alternative Hypothesis

H_A: There is a significant association between knowledge and sociodemographic factor (educational level) toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia.

1.7 Conceptual and Operational Definitions

Table 1.1 Conceptual and Operational Definitions

Terms	Conceptual Definition	Operational Definition
Knowledge	Knowledge is defined as a familiarity, awareness, or an understanding of someone or something such as facts, information, descriptions, or skills, which required through experience or education by perceiving, discovering, or learning (Librarianship Studies, 2017)	In this study, it refers to the knowledge among mothers with epilepsy child that focus on general knowledge, etiology, symptoms of epilepsy, and mother's source of information (Kolahi et al., 2017).
Attitude	An attitude is a mental and neutral state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related (Madrigano, 2008).	In the study, it refers to the attitude among mothers with epilepsy that focus on regarding their attitudes towards epilepsy (Kolahi et al., 2017).
Practice	Practice is defined as phenomena or process which occur in the individual when act is repeated; it may refer to a certain kind of consciousness; it may mean the act	In the study, it refers to practice among mothers with epilepsy child that focus on practice at time of last seizure and non-

	<p>of repeating when repetition is accompanied by gain in efficiency, or it may mean mere repetition whether or not accompanied by improvement (APA PsycNet, 2023).</p>	<p>medical action to treat epilepsy (Kolahi et al., 2017)</p>
Epilepsy	<p>Epilepsy is a chronic noncommunicable disease of the brain that affects around 50 million people worldwide. It is characterized by recurrent seizures, which are brief episodes of involuntary movement that may involve a part of the body (partial) or the entire body (generalized) and are sometimes accompanied by loss of consciousness and control of bowel or bladder function (WHO, 2023)</p>	<p>In this study, it refers to epilepsy in children and focus on epileptic children who seek for treatment in pediatric clinic in Hospital Sains Malaysia.</p>
Mother	<p>Mother is defined as a woman who has borne a child; woman as she is related to her child or children and a woman who raises a child (Webster's New World College Dictionary, 2023)</p>	<p>In this study, it refers to mother who has a child with epilepsy.</p>

<p>Children</p>	<p>Children is defined as a person between puberty or full of growth and a son or daughter; offspring considered with regard to parents (Child Definition & Meaning Dictionary.com, 2023).In term of the Convention on the Rights of the Child (CRC), it is means “every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier” (Singh et al., 2019).</p>	<p>In in study, it refers to child that had diagnosed with epilepsy seeking treatment at the pediatric clinic, Hospital Universiti Sains Malaysia</p>
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1.8 Significance of the Study

The findings from this study will determine the level of knowledge, attitude, and practice toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia. Therefore, this study will be able to provide a database of the level of knowledge, attitude, and practice toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia. Moreover, this study will also be able to contribute awareness and health education as well for mothers with epilepsy child since it is very crucial in ensuring the wellbeing and safety of both children and family. With the good knowledge, positive attitude, effectiveness of the practice, it is hoped that the mothers become well- equipped to manage their epilepsy child effectively and able to provide good quality of life for the children.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter will present a review of the literature related to knowledge, attitude, and practice toward epilepsy among mothers with epilepsy children in pediatric clinic, Hospital Universiti Sains Malaysia. It also will describe the instrument and theoretical framework chosen for this study which is Health Belief Model (HBM) that will be guiding this study.

2.2 Epilepsy in children

2.2.1 Prevalence of epilepsy in children

According to the International League Against Epilepsy (ILAE), epilepsy is a disease of the brain causing at least two unprovoked or reflex seizures occurring more than 24 hours apart or after one seizure if risks of occurrence are high (Fisher et al., 2014). Epilepsy can manifest at any stage of life, but it is most frequently identified in children and individuals aged 65 and older (Health, 2014). Approximately 0.5% of children experience epilepsy during their childhood and in the industrialized nations, there is an average of approximately 50 new cases of epilepsy per 100,000 children annually and about 25% of children were newly diagnosed with epilepsy (Hahn, 2014). The prevalence of epilepsy in children is twice as high as in adults, with a rate of seven in 1000 among children (Kolahi et al., 2017).

According to Centers for Disease Control and Prevention, the number of individuals living with epilepsy in the United States, including both adults and children, is on the rise, with a minimum of 3.4 million people affected by the disorder, and the number of children with epilepsy increased from 450,000 in 2007 to 470,000 in 2015 (Zack & Kobau, 2017). In both of these USA studies, epilepsy was found to be more common in children from

families with income below the US federal poverty level (Camfield & Camfield, 2015). In low- and middle income countries (LMICs), the highest incidence of epilepsy is observed in children, possibly due to the underreporting of the condition in older individuals and the demographic composition of the country (Beghi, 2020).

2.2.2 Age of children with epilepsy

Studies on the incidence of epilepsy in children typically focus on cases of new-onset epilepsy occurring before the age of 16 (Camfield & Camfield, 2015). In children, the incidence of epilepsy is highest in the first year of life and declines to adult levels by the end of 10 years of age (Beghi, 2020). Age of onset was significantly correlated with etiology in children with epilepsy. About 28% of the children were structural or metabolic, which predominated when seizures started before 12 months of age, and 22% were presumed genetic, most likely associated with older age at onset (Wirrell et al., 2011). Epidemiological studies often report age-specific incidence rates for children with epilepsy onset up to five years of age - termed here as children with early-onset epilepsy (CWEOE; onset before the fifth birthday (< 60 months)), but there are few population-based studies that have focused on the epidemiology of CWEOE and only limited data exist (Hunter et al., 2020).

Based on a study of epilepsy according to the age at onset in Spain, it was found that the most prevalent etiology in children with early onset was symptomatic (67.09% of children with onset before 1 year and 61.39% of children with onset at age 1-3 years). Idiopathic epilepsy predominated in children with onset between 6 and 10 years of age (43.75%), and cryptogenic in children with onset between 3 and 6 years of age (43.10%) (Ochoa-Gómez et al., 2017). Thus, epilepsy is age-dependent, it is very important to get know the characteristics of different epilepsy types in each group for identifying and

managing epilepsy effectively, minimizing the need for unnecessary diagnostic tests, commencing appropriate antiepileptic treatment, and providing families of children with epilepsy a reliable prognosis.

2.2.3 Morbidity and Mortality of epilepsy in children

Childhood epilepsy is associated with significant morbidities due to underlying brain diseases and the risk of epileptic seizure (Jennum et al., 2017). Based on nationwide Norwegian registry study, approximately 80% of children diagnosed with epilepsy also had at least one comorbid disorder and children with epilepsy exhibited a higher prevalence of various types of disorders, with 55% experiencing additional medical disorders, 41% having neurologic disorders, and 43% having developmental and psychiatric disorders (Aaberg et al., 2016). Neurodevelopmental and psychiatric comorbidities, including conditions such as intellectual disability (ID), attention-deficit hyperactivity disorder (ADHD), autism spectrum disorder (ASD), behavioral disorders, and emotional disorders, have been identified in over 40% of children with epilepsy and these comorbidities can significantly influence their education, quality of life (QOL), and have long term effects on their adult lives (Reilly et al., 2014). Furthermore, epilepsy compromises the quality of life of patients including daily duties through emotional and cognitive development to self-image and relationships with other people (Rozensztrauch & Kołtuniuk, 2022).

According to World Health Organization 2023, epilepsy accounts over 0.5% of the worldwide disease burden, as measured by a composite index that factors in both years of life lost due to premature death and years lived with compromised health. Mortality rates in people with epilepsy are 2 to 4 times higher in overall and 5-10 times higher in pediatric epilepsy (Nickels et al., 2013). Individuals with epilepsy experience elevated

mortality rates due to various factors, including the progression of their underlying condition, seizure related accidents, suicide, status epilepticus, aspiration during seizures, and sudden unexplained death in epilepsy (Ficker, 2000). A published cohort of children with epilepsy that was conducted in Tunku University Hospital Finland, (including both prevalent and incident cases) reported an overall mortality rate of 6.9 deaths per 1,000 person-years (Shinnar, 2010). A study about deaths in children with epilepsy also conducted in United Kingdom, it was found that a total of 46 deaths in children with epilepsy were notified to the study (Sidebotham et al., 2015). However, improvement in the diagnosis, treatment, and management of children with epilepsy have the potential to reduce the preventable deaths, including sudden unexpected death in epilepsy, as well as reduce healthcare resource utilization, and address cognitive, emotional, and behavioral challenges (Myland et al., 2019).

2.2.4 Treatment of epilepsy

Epilepsy is one of the most common serious neurological disorders and is prevalent in 0.5% of UK children (Myland et al., 2019). Epilepsy is a treatable condition, with up to 80% entering prolonged periods of seizure remission and up to 50% continuing to be seizure-free after treatment discontinuation (Sillanpää & Schmidt, 2006). Anti-epileptic medications (AEDs) have become the initial treatment choice for almost all patients with multiple seizures. Antiepileptic drugs (AEDs) are medications that reduce the frequency or intensity of seizures in individuals with epilepsy (Bromfield et al., 2023).

The main objectives of AEDs treatment are to evade the adverse effects associated with long treatment, to aid patients in maintaining or restoring their usual psychosocial and vocational activities, and maintaining a normal lifestyle (Goldenberg, 2010). These medications are designed to manage the symptoms of epilepsy rather than addressing the root cause of the condition. The choice to initiate AED therapy should stem from a well-informed assessment of several factors, including the probability of seizure recurrence, the impact of ongoing seizures on patients, and the advantages and potential adverse effects associated with the selected pharmaceutical treatment (Goldenberg, 2010). The older and most commonly used medications in the treatment of childhood epilepsy are sodium valproate and carbamazepine. Phenytoin and phenobarbitone, previously drugs that mostly used for most seizure types no longer considered to be first, second, or third-line drugs due to their unsatisfactory long-term safety profile (Appleton & Cross, 2012).

2.3 Knowledge toward epilepsy among mothers with epilepsy children

Knowledge is a crucial component when it comes to taking care of children with epilepsy. Comprehensive knowledge of a disease involves possessing sufficient and relevant information about its clinical manifestations, treatment options, and potential

outcomes (Eseigbe et al., 2015). A mother's knowledge about epilepsy is essential for her child's safety, well-being, and overall quality of life thus empowers her to make informed decisions, provide appropriate care, and advocate for her child's needs, ultimately ensuring the best possible outcomes for the child. Since epilepsy is characterized by recurrent seizures, children with epilepsy need to seek treatment from time to time by a healthcare professional and mothers play an important role in managing their epilepsy child. Furthermore, epilepsy is also one of the chronic disorders and needs long-term treatment.

According to a study to assess parent's knowledge of epilepsy in their children at Pediatric Clinic in Universiti Kebangsaan Malaysia, a total of 45 parents (90%) were unaware of their children's type of epilepsy, twenty-five parents (50%) responded to underlying cause of epilepsy as 'don't know'. One of the remaining who responded positively, 32% (8/25) attributed it to brain disease, 8% (2/25) to birth defects and 12% (3/25) to fever. An epileptic attack was seen as a convulsive episode by 78% (39/50) parents and 4% (2/50) of parents thought that it was a period of loss of consciousness and 2% (1/50) stated that it was change of behavior (Norzila et al., 1997).

The knowledge toward epilepsy among children also was assessed in Abha City, Kingdom of Saudi Arabia show that all the included parents rated the word epilepsy as common for them. Most of the subjects knows that epilepsy can be treated (84.3%), 90.9% knew that epilepsy is associated with hereditary and all of them correctly knew that epilepsy is not a contagious disease as well as 52.5% recognized that epilepsy can be caused by trauma or stroke. Furthermore, only 37.5 % had good knowledge about not considering epilepsy as mental or psychiatric disease and only 21.1% knew that epilepsy could be treated by surgery. Thus, the knowledge of most of the respondent was adequate which is about 68.2% (Hussamaldin Tariq A, 2018).

According to a study conducted in Mofid Children's hospital in Tehran, Iran, it was found that the level of knowledge of 69.2% mothers was good, 27.7% fair, and 3.1% poor. Approximately 90% of mothers were informed that epilepsy is categorized as a neurological condition, while 60% were aware that it is distinct from psychiatric disorders (Kolahi et al., 2017). Based on the study was carried out at Smouha Health Insurance Child Mental Health in Alexandria, Egypt to assess level of mother's knowledge about childhood epilepsy, it was found that the majority of mothers (80.5%) had unsatisfactory knowledge, while none of them showed highly satisfactory knowledge. The majority of items displayed the highest percentages in an inaccurate manner (Ibrahim & Shata, 2017). However, based on the data from the previous study, the level of mother's knowledge and understanding toward epilepsy still need to be improved.

2.4 Attitude toward epilepsy among mothers with epilepsy children

The attitude of a mother toward an epilepsy child refers to the mother's overall perspective, beliefs, feelings, and behaviors regarding her child who has epilepsy. It involved how the mothers perceive and interact with their sick child and alert about their health condition which significantly affects the overall child's wellbeing and the management of epilepsy. A positive attitude shown by the mothers can adversely be beneficial for the child's development which can lead to good quality of life and reduce the negative stigmatization toward the child with epilepsy. Parental attitudes appear to be significantly linked to epilepsy-related challenges in children, influencing factors such as the duration and severity of seizures and this could potentially impact the behavioral and psychological well-being of the children (Hussamaldin Tariq A, 2018).

A study was conducted at Smouha Health Insurance Child Mental Health in Alexandria, Egypt to assess the attitude among mother toward their epilepsy children and

it was found that the majority of mothers (91.9%) agreed that they could observe their children all the time to ensure their child's safety. A majority of mothers, about (66.6%), believed that they should avoid discussing their illness with their children and about (54.2%) of mothers expressed disagreement about allowing their children to participate in household chores, and (52.3%) of them acknowledged that they did not treat their child as normal child, while about 1.9% admitted to actively rejecting their child, while the rest displayed overprotective behavior. A minority of mothers, specifically 42.9%, believed that they should restrict their children from engaging in hobbies or sports to ensure safety and in contrast, only 1.9% of mothers admitted to concealing their child's illness from everyone, while the majority (75.3%) did not conceal it at all (Ibrahim & Shata, 2017).

According to study that conducted in Abha City, Kingdom of Saudi Arabia, it shown that most of the respondents shows positive attitude toward the ability of the epileptic child to live and learn equally in the society (93.6%). Moreover, (68.6%) of respondents concurred that epilepsy does not significantly impact daily activities, while (57.5%) indicated that the intelligence of individuals with epilepsy remains unaffected. Furthermore, all participants expressed a positive attitude towards not viewing individuals with epilepsy as obstacles in society (Hussamaldin Tariq A, 2018). A study also conducted in University Malaya Medical Centre, Kuala Lumpur to assess attitude among Malaysian parents of children with epilepsy found that the majority of the parents had positive to very positive attitude which is (85.9%) and found that a large proportion (86%) of parents had positive attitudes toward their epilepsy child (Yi et al., 2019).

Based on study conducted in Iran to assess the attitude among mothers with epilepsy child, it shown that mother's attitude toward children with epilepsy were mainly positive. Among the mothers who answered questions on this subject, the majority did not experience shame regarding their children's illness, and about (98.5%) of mothers

were open to sharing information about their children's condition with others. Mothers that participated in this study experienced reduced stigma associated with epilepsy, which differs from another study where approximately one-fifth of mothers reported feeling stigmatized due to their children's epilepsy (Kolahi et al., 2017). The latter study suggested that increased education and better knowledge about epilepsy could potentially reduce stigma levels (Elafros, Sakubita-simasiku, et al., 2013).

2.5 Practice toward epilepsy among mothers with epilepsy children

The practice of a mother can encompass a wide range of responsibilities and activities related to caring for her children and family. The practice of a mother also refers to the specific actions and responsibilities a mother undertakes when her child is unwell or dealing with a medical condition. Managing a child with epilepsy involves a range of activities and decisions that are focused on the child's health and well-being. Delay or inappropriate management of acute seizures may have serious hazardous consequences with subsequent brain damages or even death (Elsakka et al., 2021).

According to study in Egypt, regarding the practice during the acute seizure attack and home management, it shown that more than half (66.8%) of parents with epilepsy children showed poor score percentage, (26.5%) showed fair score percentage, and only (6.7%) showed good percentage (Elsakka et al., 2021). A study also conducted in Abha City, Saudi Arabia, it found that more than half of participants would call the ambulance for convulsing child (51.6%), most of them would follow up with doctor (82.7%) and about (84.8%) will act normally with relatives or epileptic persons. This study also includes the practice of the mother when experiencing the child suffering from convulsion and the reaction toward the epileptic child, thus the practice score was adequate among (72.5%) of the parents (Hussamaldin Tariq A, 2018).

Based on a study in Sudan to assess the practice of caregiver of epilepsy children, it

shown among 107 caregivers, about 78 (72.9%) had witnessed generalized tonic-clonic seizures of their children. It also showed the frequency of the caregiver's first aid measures used during generalized tonic-clonic seizures. Slightly less than half of these caregivers, specifically (39.7%), repositioned their child onto one side during a seizure and about 37.2% of caregivers acknowledged that they sprinkled water over the child during a seizure (El-amin et al., 2021). In contrast, most of the parents (71.5) in study from Jordan, knew the lateral positioning is recommended when a child is seizing. Furthermore, this study also reflects that most caregivers have a high chance of mishandling children with epilepsy in emergency situations. Thus, it indicates the importance of healthcare professionals prioritizing the education of caregivers regarding essential first aid procedures.

Another study in Iran to assess practices among mothers of with epilepsy children, the result showed that among 206 mothers, about 170 (82.5) had witnessed the generalized seizures of their children. However, nearly one-third of them attempted to physically restrain their children during a seizure, which can potentially become life-threatening to the children. This study also highlights the frequency of mother's first aid used at the last seizure. Based on this study, the practice score of 19.3% of mothers was very good, 57.8% good, and 22.9% and no mothers had poor levels of practice. The majority of mothers was about (79.2%) had taken their children to the hospital after experiencing seizure.

2.6 Association between knowledge of mother and sociodemographic factors

Educational level

Based on the study in India, the association between level of education with the knowledge about epilepsy and management is significant. Parents who graduated from

university believed that epilepsy is less likely to be a psychiatric illness compared to parents with primary and secondary education. This indicate that the parents' and caregivers' level of education had a significant impact on how well they understood illness in general and how they provide care for their kids (Sinha et al., 2023). A study also conducted in Thailand, there was an association between educational levels and knowledge towards epilepsy. The higher the level of the education, the greater was the tendency to answer more questions regarding knowledge toward epilepsy correctly (Saengsuwan et al., 2013). Study by (Elsakka et al., 2021) show that there is statistically significant association ($\chi^2 = 8.415, P = 0.038$) between the level of education and the knowledge score percentage. University degree is significantly associated with better knowledge and positive correlation between the role of parental education level concerning overall epilepsy knowledge (Elsakka et al., 2021).

2.6 Theoretical and Conceptual Framework of the Study

Health Belief Model (HBM) is a cognitive framework that suggests an individual's behavior can be influenced by their perceptions of health risks and their beliefs regarding their well-being, as well as the anticipated effectiveness and outcomes of specific actions or behaviors (Becker, 1974; Rosenstock, 1974). The HBM aims to predict health related behaviors in terms of certain belief patterns (Rebecca Wolfe Acosta & Wolfe, 2008). This model is divided into three categories which are individual perceptions, modifying factors, and likelihood of action. Individual perception is the main factor that affects the perception of illness and the importance of health to the individual perceived susceptibility and perceived severity of the disease. For modifying factors, it includes the sociodemographic variables (such as age, sex, race, or ethnicity), perceived threat of the disease, and cues to the action. The likelihood action involves perceived benefits of preventive action or perceived barrier to preventive action. Strengths The main strength of the HBM is its use of simplified health-related constructs that make it easy to implement, apply, and test and it has provided a useful theoretical framework for investigating the cognitive determinants of a wide range of behaviors for over three decades (Orji et al., 2012).

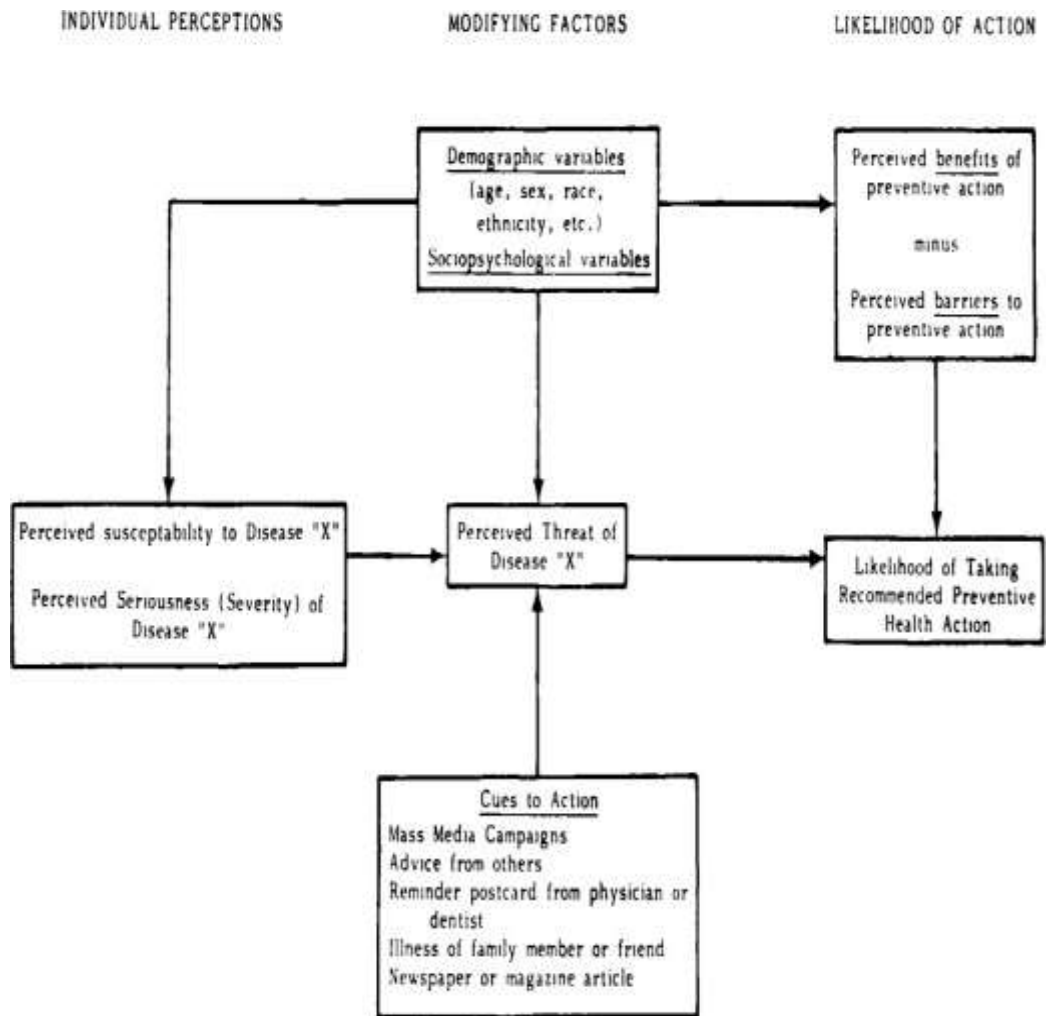


Figure 2.1 Health Belief Model Components and Linkages

The HBM contains several primary concepts that predict the reason people would take an action to prevent, to screen for, or to control illness conditions. The model constructed with perceived susceptibility, perceived severity, perceived benefit, perceived barrier, cues to action, and self-efficacy that focuses on the behavioral changes on individual's belief regarding the disease. The Health Belief Model (HBM) suggests that individuals who perceive the health problem to be serious are likely to be engaged in behaviors which prevent a health problem from occurring aimed at (Tshababa et al., 2020). Based on my study, individuals might consider children with epilepsy a significant health concern due to its impact on their daily social interactions and work responsibilities

and they are compelled to adopt preventive behaviors or actions that either reduce the occurrence of this health issue or lessen its severity. For perceived susceptibility, HBM predicts people perceive to be susceptible to particular health problems may engage in behaviors that may reduce the risk of developing health problems (Tshababa et al., 2020). Regarding to my study, when a family perceives a heightened risk of experiencing epilepsy, they are more likely to adopt behaviors aimed at reducing the chances of developing this health issue. Furthermore, for perceived benefits promote people with epilepsy to be engaged in health seeking behaviors to decrease the risk of health problem. For perceived barriers, an individual living with epilepsy may perceive a certain health condition as menacing and hold the belief that specific actions can effectively mitigate this threat. However, various obstacles may hinder their ability to engage in health-promoting behaviors.

Individual Perception

Modifying Factors

Likelihood of Action

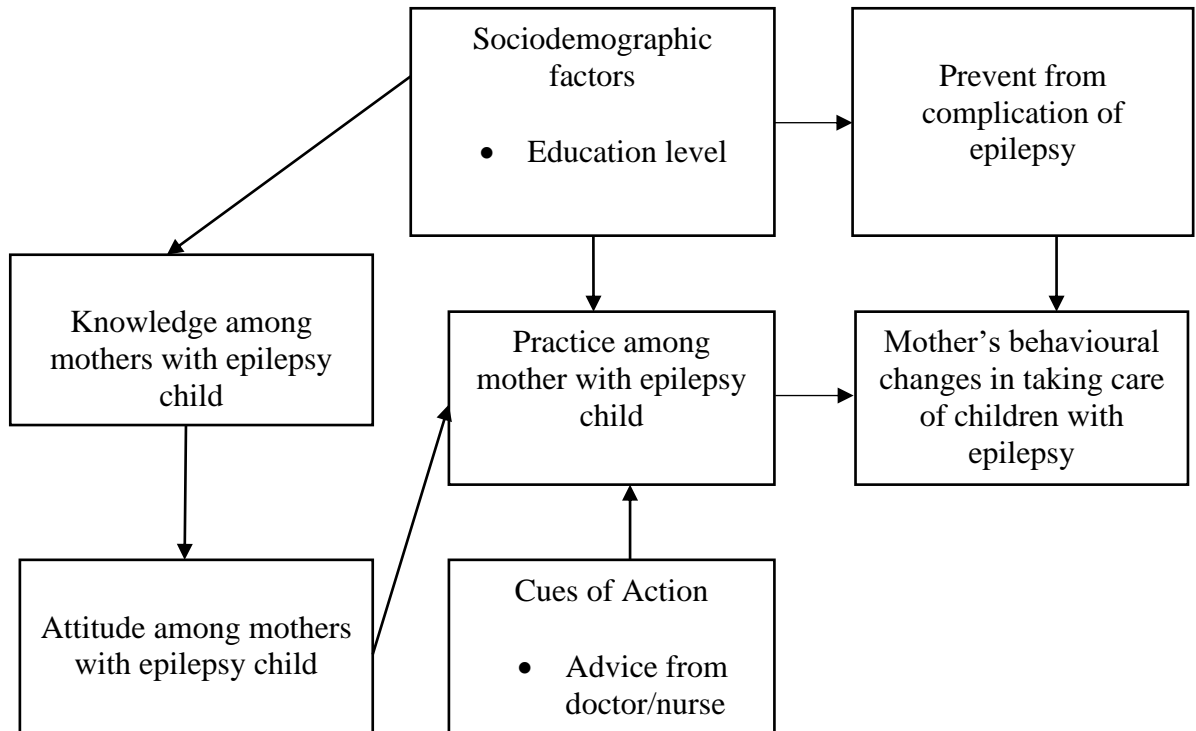


Figure 2.2 Health Belief Model (Adopted from Hochbaum et al, 1950)