

# The Extent of Parents' Awareness Towards Absence Seizures Among Children in Al Baha Region, Saudi Arabia

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## Abstract

**Introduction:** Absence seizure (AS) is a brief transient change in consciousness leading to unresponsiveness associated with staring, eye flutter, and characteristic changes in the EEG ( 3-Hz spike-and-slow-wave in typical AS). It is usually short, and lasting for a few seconds but can occur many times per day hence affecting the school performance of the child. Assessing and improving public knowledge plays an important role in controlling the condition.

**Methodology:** This is a cross-sectional, prospective, community-based study that aimed to assess the level of parents' knowledge toward absence seizure. Data was collected through an electronic questionnaire using a convenience sampling technique. The parents' knowledge was categorized as sufficient, medium, and insufficient using a scoring system.

**Results:** Our study showed that knowledge about absence seizure among participants is very poor with 91.5% of the participants having insufficient knowledge about AS.

**Conclusion:** Our study found that knowledge about absence seizure among participants is very poor, especially concerning its causes, clinical manifestations, and diagnosis. This poor awareness may be attributed to the rarity of the condition.

### Keywords:

Absence, seizure, knowledge, awareness

## Introduction

Absence seizure (AS) is characterized by a temporal change in consciousness accompanied by short, repeated staring spells, together with particular EEG changes. Infrequently, it may be associated with automatism or eye flutter (1,2). Episodes typically are multiple, occurring repeatedly during the day, and usually last a few seconds (2–10 s) despite some patients having relatively prolonged episodes (>10 s). Ictal episode description involves sudden cessation of motor activity and blank staring with loss of response, followed by resumption of the previous motor activity as well as visual response (3).

Absence seizures were first discovered and reported in detail by Poupart, while Calmeil was the first who used the terminology “absence” (4). Absence epilepsy accounts for 2%-10% of all cases of epilepsy in children (5). It typically occurs between 4 and 10 years and peaks between 5 and 7 years (6).

Absence seizures are usually categorized into two types, typical and atypical absence seizures depending on clinical presentation and EEG changes (7). Typical absences are short (take seconds) generalized seizures that started and terminated all of a sudden. They consist of two main parts: clinically, the altered consciousness (absence) and the characteristic electroencephalogram (EEG) finding (generalized 3-Hz spike-and-slow-wave) electrical discharges.

Contrary to typical absence, atypical absence seizures almost always coincide with severe symptomatic or idiopathic epilepsies in children with learning disorders who have further types of convulsions like myoclonic, tonic, and atonic seizures. They don't start and end abruptly and are commonly accompanied by changes in muscle tone. Intra-ictal EEG is usually manifested by slow < 2.5 Hz spike and slow wave (8).

Consequences of absence Epilepsy in children include attention deficit, social isolation, and abnormal mood as well as other co-morbidities, especially learning disorders, that usually influence the ability to read. (9-11). These learning disorders usually interfere with writing, reading, mathematics skills, and hence academic achievements (12). In addition, children with epilepsy and their families usually suffer from discrimination and social stigma in a lot of countries worldwide (13).

Common drugs used to treat absence seizures in children and adolescents include ethosuximide, lamotrigine, and valproate (14). Ethosuximide is the drug of choice as first-line monotherapy for typical absence seizures, while sodium valproate is the drug of choice for absence seizures when there is associated generalized tonic-clonic seizure (15).

Although this disorder is common in Saudi Arabia, we didn't find an article that has studied the awareness of absence epilepsy among parents in Saudi Arabia, therefore we carried out this research to measure the level of parents' awareness and knowledge of childhood absence seizures in Albaha region.

## Materials and Methods

This descriptive cross-sectional study was conducted in Albaha region between December 2021 and October 2022. The target population was parents in Albaha area above 18 years old whether a father or a mother. The questionnaire was constructed and standardized according to the study's specific objectives. It consisted of three parts; the first part addressed sociodemographic data. The second part included questions regarding the family history and familiarity with absence epilepsy. The third part assessed the awareness of absence seizures (52 items).

The questionnaire was reviewed and revised by the research committee. Thereafter, we conducted a pilot study on 15 participants who were excluded from the results. We carried out this pilot study to assess the applicability and reliability of the questionnaire; the reliability coefficient (Cronbach's Alpha) of the questionnaire was 0.933.

The sample size was estimated using the website (Sample Size Calculator) at a 95% level of confidence and a 5% margin of error. Al-Baha area population is approximately 400,000.

Then the questionnaire was translated into Arabic, designed on Google Forms, and distributed to the target population electronically. Informed consent was included as a first must-step before proceeding to the rest of the questionnaire, so informed consent was taken from all participants who filled out the questionnaire.

A scoring system was applied to assess the level of awareness of each participant; 1 point was given for each correct answer, and 0 points for an incorrect answer with a total of 52 items for assessment of awareness. The minimum participant's score was 6 points and the maximum was 42 points with a mean score of 21 points. The participants were grouped into 3 categories according to their awareness score:

- Insufficient awareness (< 32points, > 60%)
- Moderate awareness (32-41 points, 60-79%)
- Sufficient awareness (≥ 42 points, ≤ 80%)

### Analytical Methods:

After finishing the collection of the data, it was entered into SPSS, and the variables were coded then the data was analyzed using the IBM SPSS statistics version 28. Frequency and percentages were used to describe the sociodemographic characteristics and items of awareness. The association between the awareness and sociodemographic variables was evaluated using the T-test and ANOVA test. Data were considered to be statistically significant when the P-value ≤ 0.05.

### Ethical considerations

- Ethical approval of the study proposal was granted by the ethical committee of the Faculty of Medicine, Albaha University.
- Informed consent was taken to obtain participants' acceptance.
- The privacy of the participants was ensured, and they were reassured that their data will be used only for research legally and ethically.

## Results

We received 386 responses; all participants filled out the questionnaire completely. The majority of the participants (85.5%) were female, and Saudi nationality 374 (96.9%). Most of the participants belong to the age group 36-45 years (40.9%), 158 (40.9%) were from Albaha, and the remaining 59.1 % were from the other provinces of Albaha region. The sociodemographic features of the participants are shown in Table 1.

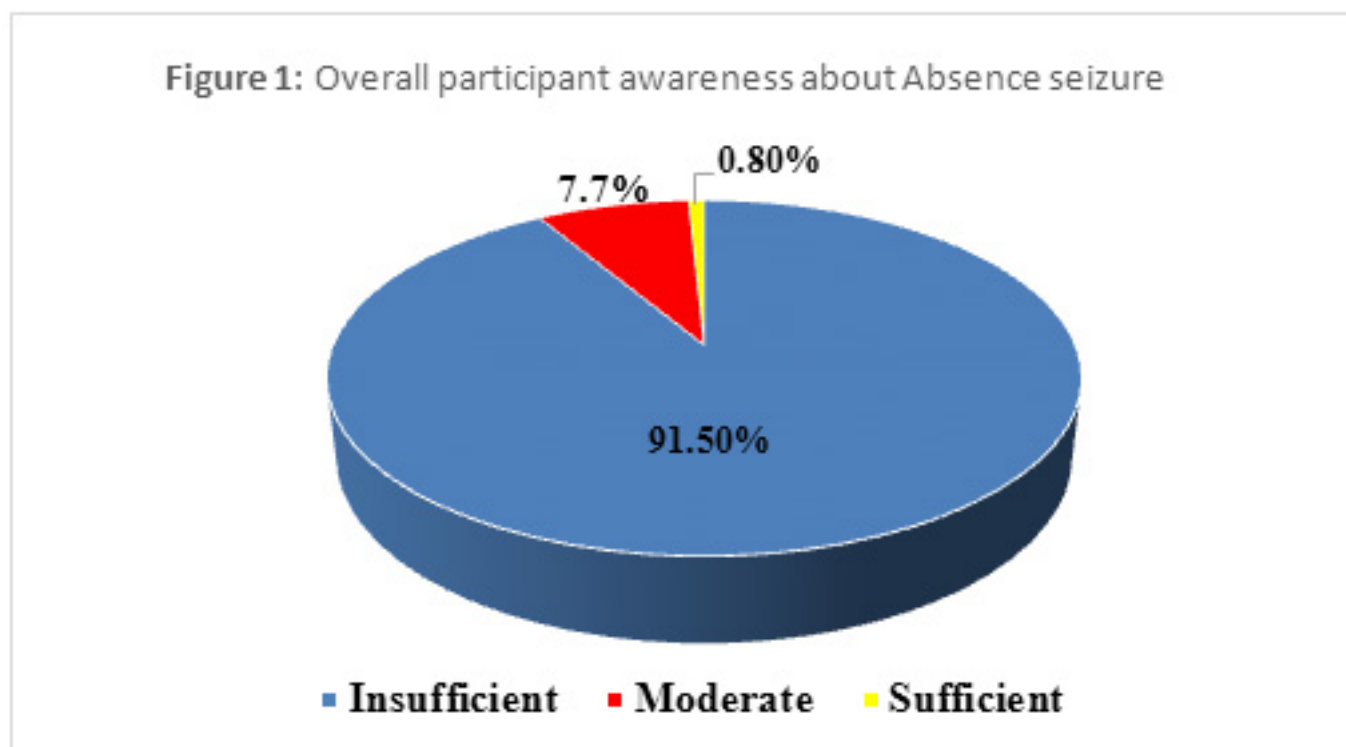
**Table 1: Sociodemographic characteristics (n=386).**

Item	Variables	N (%)
Gender	Male	56 (14.5%)
	Female	330 (85.5%)
Nationality	Saudi	374 (96.9%)
	Non-Saudi	12 (3.1%)
Age (Years)	18-25	49 (12.7%)
	26-35	51 (13.2%)
	36-45	158 (40.9%)
	64-55	121 (31.3%)
	More than 55 years	7 (1.8%)
Region	Albaha	158 (40.9%)
	Baljurashi	27 (7.0%)
	Al-Qara	89 (23.1%)
	Al Mandaq	26 (6.7%)
	Beni Hassan	6 (1.6%)
	Al Aqiq	5 (1.3%)
	Al Mikhwah	4 (1.0%)
	Qilwah	1 (0.3%)
	Ghamed Alzenad	4 (1.0%)
	Others	66 (17.1%)
Fathers Education level	Not educated	18 (4.7%)
	Primary school	27 (7.0%)
	Middle school	27 (7.0%)
	High school	92 (23.8%)
	College / University	198 (51.3%)
	Higher studies	24 (6.2%)
Mothers Education level	Not educated	44 (11.4%)
	Primary school	16 (4.1%)
	Middle school	11 (2.8%)
	High school	58 (15.0%)
	College / University	239 (61.9%)
	Higher studies	18 (4.7%)

We found that only 30.8% of the participants had heard about absence seizures while 69.2 % were not familiar with this condition. 4.9 % of the participants had a child with epilepsy, whereas 13.7% had a relative's child suffering from epilepsy.

As for the participants' sources of information about epilepsy, 25.3 % reported that they knew a child with an absence seizure, followed by social media (21.5%), TV (15.9%), online medical websites (15%), books (12%), and an educational campaign (10.3%).

The overall assessment of awareness of absence seizure revealed that there was very poor parent awareness with the vast majority of the participants (91.5%) having insufficient awareness regarding AS and only 1% having sufficient knowledge about this condition Figure 1.



More than half of the participants (54.7%) stated that absence seizures are a special type of epilepsy in children, and 56.2% reported that absence seizures may affect what the child does (daily activity), such as playing, eating, studying, and others. And 74.6% thought the child suffering from absence seizures needs to be supervised or under observation during daily activity. Most of the participants 94.8% reported that the child has a loss of consciousness during absence seizures whereas 56.2% knew that the child suddenly stops perceiving his surroundings during the seizure.

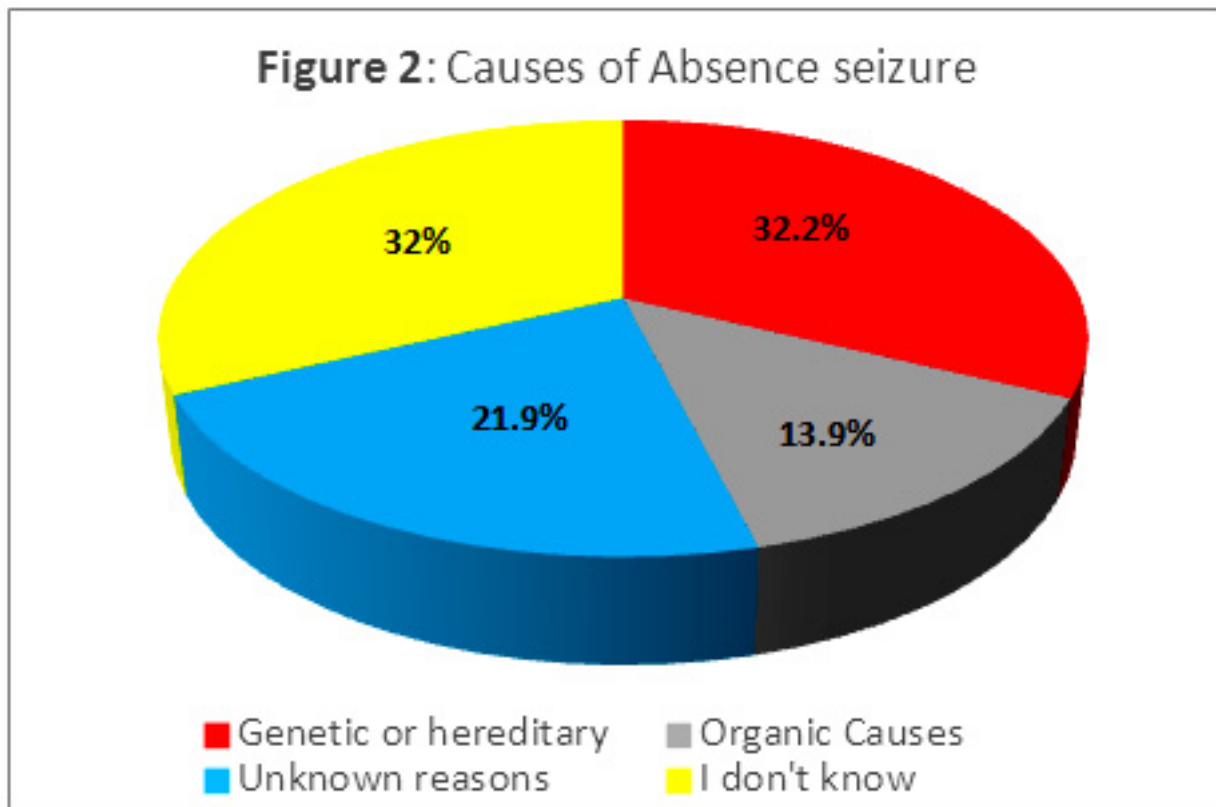
The majority of participants weren't aware of the following: duration of the episodes (81.3%), age of occurrence (81.1%), and being common in females (92.2%). About half of the participants 46.1% believed that parents or observers may mistakenly understand the symptoms as just daydreaming or inattention. Regarding types of absence seizures, 39.9% knew there is more than one type.

The percentages of participants who were able to identify the signs and symptoms of an absence seizure were as follows 36.5% (for Eyelid fluttering), 42.2% (for Lips biting), 45.9% (for Involuntary movements in all parts of the body), 50.8% (for Staring for a while) to 64.5% (for Involuntary movement in one or both hands). Table 2.

**Table 2: participants' awareness regarding symptoms and signs of AS (n=386)**

Item	Correct answer N (%)	Incorrect answer N (%)
<b>Signs &amp; symptoms:</b>		
Staring for a while	196 (50.8 %)	190 (49.2%)
Lips biting	163 (42.2 %)	223 (57.8%)
Eyelid fluttering	141 (36.5%)	245 (63.5%)
Involuntary movement in one or both hands	249 (64.5%)	137 (35.5%)
Headache	305 (79.0 %)	81 (21.0%)
Involuntary movements in all parts of the body	177 (45.9%)	209 (54.1%)
Dizziness	260 (67.4%)	126 (32.6%)
Rubbing fingers	342 (88.6%)	44 (11.4%)
Expressionless face	81 (21.05%)	305 (79.0%)
Nausea and vomiting	331 (85.8%)	55 (14.2%)
High temperature	333 (86.3%)	53 (13.7%)

Regarding the causes of absence seizures, the participants attributed AS due to genetic or hereditary (32.2%), unknown reasons (Idiopathic) (21.9%), and organic causes (13.9%), and 32% stated that they don't know the cause Figure 2.



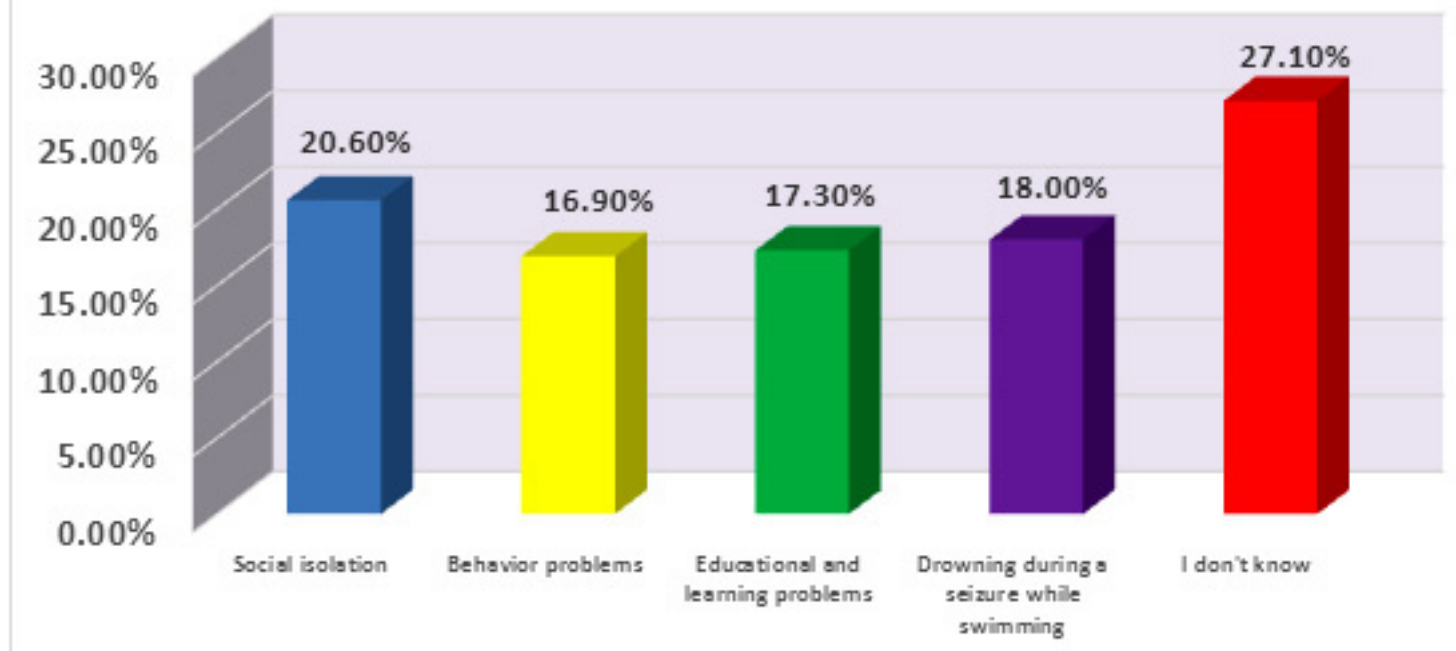
Only 8.5% believed that the first evidence that a child has absence seizures is when he often starts having trouble at school.

As regards the diagnosis of the absence seizures, 43% of the participants mentioned that the electroencephalogram (EEG) is important for diagnosis while 30.3% of them assumed that an accurate and careful description of the seizures is also necessary for diagnosis.

More than half of the participants 54.7% reported that treatment with some medications can help to control the attack of absence seizures

Regarding awareness of complications, they were as follows: social isolation (20.6%), drowning during a seizure while swimming (18%), education and learning problems (17.3%), behavior problems (16.9%), while 27% of the participants didn't know the complications Figure 3.



**Figure 3: Complications of Absence seizure**

More than half of the participants (54.7%) thought most children eventually outgrow the condition without complications when they are adherent to proper treatment, and 28.8% reported that the prognosis of most children with absence seizures can be very good, whereas only 16.3% stated that there is no long-term effect on brain development, brain function, or intelligence among most of the cases of absence seizures.

## Discussion

Assessing the level of awareness of absence seizures is of critical importance to raise the awareness of the parents, encourage the parents to seek treatment early, and reduce the disease stigma, and misbeliefs. This, consequently, will reduce the burden of the disease on the family and the child, improve the school performance of students, and the quality of life for both parents and patients.

The parent's awareness towards absence seizures among children is an important factor in assessing the incidence of absence seizures and its outcomes in our society. Overall, parent's attitudes toward children with epilepsy are influenced by the degree of awareness of the condition. Therefore, misconceptions and misinformation should be identified and corrected for good care and management (16).

We found no studies done concerning awareness of absence seizures, but we can compare it to the parents' awareness of epilepsy. In general, the majority of the participants (91.5%) had insufficient awareness regarding absence seizures. This is consistent with a study conducted in Jeddah KSA which showed that KAP was inadequate among 78.2% of parents (17). This is in contrast with a study done in Abha city KSA which showed that the knowledge of most of the respondents was adequate (68.2%) regarding awareness of epilepsy (18).

Our study shows less level of knowledge while it compared with a study conducted in Sululta Woreda, Ethiopia, which showed (59.8%) of the participants had good knowledge (19)

There was no statistically significant association between the participants' knowledge and their level of education (P-value 0.91). It is evident also by finding that 93% of the mothers and 89.6% of fathers with university or higher education had poor knowledge. Furthermore, no significant effects of monthly income on the participants' awareness were noticed in this study (P-Value 0.632).

Our results showed that most of our participants had poor awareness of specific aspects of absence seizure, namely the duration of the episodes (81.3%), age of occurrence (81.1%), and being common in females (92.2%). Results also showed poor awareness about the types of the disease (typical or atypical), and the prognosis but moderate awareness regarding diagnosis, and complications (30.3% and 34.7 respectively). Public awareness of these aspects of the disease is of great importance.

Our study has shown little to average participant' knowledge regarding the causes of absence seizure when compared with the very poor awareness found in a study done by Frank-Briggs et al. in Nigeria which found that the cause of the disorder is not known by the majority (93.93%) of the parents (20). which may delay the diagnosis and the management. In contrast to our results, (88.3 %) of Serbian parents of children with epilepsy were familiar with epilepsy

and some parents correctly answered all questions regarding epilepsy knowledge, unlike ours.

Better awareness was significantly associated with being male (P- value 0.001), being of a young age (P- value 0.001), having a child in the family with epilepsy (P- value = 0.001), having a relative with epilepsy (P- value 0.007), and had previously heard about absence seizures (P- value 0.001). This is shown in Tables 1 and 2.

## Conclusion

Our study showed that there was insufficient knowledge about absence seizure in 91.5% of the participants especially concerning its causes, clinical manifestations, and diagnosis. This poor awareness has a negative impact on people with epilepsy, their families, communities, and the healthcare systems. There is an urgent need to regulate educational campaigns and mass media awareness programs to fill the gaps in community knowledge about this condition.

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**Ethical Approval code:** This study was approved by the ethical committee faculty of medicine Albaha University under the approval code No. : REC/PEA/BU-FM/2021/0110R

**Data and material Availability:** All data associated with this study are present in the paper.

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## References

1. Tekin HG, Karaoğlu P, Edem P. Clinical and Electrophysiological Prognostic Factors of Childhood Absence Epilepsy J *Pediatr Res.* 2021;8(3):320-5.
2. Aguilar-Fabré L, Rodríguez-Valdés RF, Galán-García L, Bosch-Bayard JF, Hernández-Montiel HL, García-García RJ. Electro-clinical relationship and source analysis of absence seizures in childhood. *Revista Mexicana de Neurociencia.* 2022;23(3).
3. Verrotti A, Agostinelli S, Olivieri C, Chiarelli F, Curatolo P. Early-onset pure absence epilepsy: a distinct epileptic syndrome. *Acta Paediatr.* 2011;100(5):647-50.
4. Stefan H, Trinka E. Generalized absence seizures: Where do we stand today? *Zeitschrift für Epileptologie.* 2022;35(1):56-72.
5. Verrotti A, D'Alonzo R, Rinaldi VE, Casciato S, D'Aniello A, Di Gennaro G. Childhood absence epilepsy and benign epilepsy with centro-temporal spikes: a narrative review analysis. *World J Pediatr.* 2017;13(2):106-11.
6. Pearl PL. Epilepsy Syndromes in Childhood. *Child Neurology.* 2018;24(1):186-209.
7. Jain P. Absence Seizures in Children: Usual and the Unusual. *Indian J Pediatr.* 2020;87(12):1047-56.
8. Panayiotopoulos CP. Treatment of Typical Absence Seizures and Related Epileptic Syndromes. *Paediatr Drugs.* 2001;3(5):379-403.
9. McCafferty C, Connelly WM, Celli R, Ngomba RT, Nicoletti F, Crunelli V. Genetic rescue of absence seizures. *CNS Neurosci Ther.* 2018;24(8):745-58.
10. Rosenkrantz S. Attention and Reading Deficits in Children's Absence Epilepsy Harvard Health Policy Review. 2012;13:27-9.
11. Sinclair DB, Unwala H. Absence Epilepsy in Childhood: Electroencephalography (EEG) Does Not Predict Outcome. *Journal of Child Neurology.* 2007;22(7):799-802.
12. Pavlou E, Gkampeta A. Learning disorders in children with epilepsy. *Childs Nerv Syst.* 2011;27(3):373-9.
13. Alhazzani AA, Alqahtani AM, Abouelyazid A, Alqahtani AM, Alqahtani NA, Asiri KM, et al. Public awareness, knowledge, and attitudes toward epilepsy in the Aseer region, Saudi Arabia - A community-based cross-sectional study. *Epilepsy Behav.* 2016;63:63-6.
14. EB P, K M, AG M. Ethosuximide, sodium valproate or lamotrigine for absence seizures in children and adolescents. *The Cochrane Database of Systematic Reviews.* 2003(3).
15. Kessler SK, McGinnis E. A Practical Guide to Treatment of Childhood Absence Epilepsy. *Paediatr Drugs.* 2019;21(1):15-24.
16. Zaini LE, Atteyah DM, Aldisi Wa, Abdulkarim HA, Al-helo RF, Al-hilali HA, et al. Parent's Knowledge and Attitudes towards Children with Epilepsy. *Pediatrics & Therapeutics.* 2013;03(03).
17. Al.Zubaidi MA, Alsudairy NM, Alzubaidi BA. Assessment of Knowledge and Attitude and Practice of Parents towards Epilepsy among Children in Jeddah City. *The Egyptian Journal of Hospital Medicine.* 2017;69(6):2685-9.
18. AASH, M ASY, A AAT, Alqutub, A HT. Assessment of knowledge and Attitude and Practice of Parents towards Epilepsy Abha City. *The Egyptian Journal of Hospital Medicine.* 2018;72(3):4060-3.
19. Teferi J, Shewangizaw Z. Assessment of knowledge, attitude, and practice related to epilepsy: a community-based study. *Neuropsychiatr Dis Treat.* 2015;11:1239-46.
20. Frank-Briggs AI, Alikor EA. Knowledge and attitudes of parents toward children with epilepsy. *Ann Afr Med.* 2011;10(3):238-42.