



Global Journal of Medicine and Public Health

www.gjmedph.org

Knowledge of women's issues in epilepsy: A survey of residents at a tertiary hospital in Calabar, Niger Delta Region of Nigeria

Oparah Sidney Kelechi¹, Njoku Charles², Williams Uduak¹

¹ Neurology unit, Department of medicine, ² Department of Obstetrics & Gynaecology, University of Calabar Teaching Hospital, Calabar

ABSTRACT

Background: Reports reveal deficiencies in the knowledge of women related issues in epilepsy, among health care professionals, with consequent inadequate health education and poor health care delivery to this set of patients. **Aim:** To assess the knowledge of women's issues in epilepsy among residents at the University of Calabar Teaching Hospital, Nigeria. **Method:** Seventy two consenting residents from the Internal medicine, Family Medicine and Obstetrics & Gynecology departments of the hospital, were requested to complete the KOWIE II questionnaire designed to assess knowledge of women's issues in epilepsy. **Results:** One fifth of the respondents knew about the effects of sex hormones on seizures. Two fifths knew of the higher incidence of sexual dysfunction among women with epilepsy, the undesirable effects of anti-epileptic drugs (AEDs) on bone health, and the best choice of anti-epileptic drug in pregnancy. Two thirds knew of reduction in contraceptive efficacy by some AEDs, and the need to administer vitamin K to neonates of women on AEDs. Four fifths knew that women on AEDs should be given folic acid, and that majority of women with epilepsy have healthy children. Half of the respondents knew that women on AEDs can safely breast feed. The overall mean KOWIE II score was 56.7%. **Conclusion:** The Residents were poorly informed about the issues affecting women with epilepsy. There is need for continuing medical education efforts to bridge the gap in knowledge.

KEY WORDS: knowledge, women's issues in epilepsy, Physicians, Calabar, Nigeria

Corresponding Author: :- Dr. Oparah, Sidney K., P.O. Box 3587, Calabar,

E-mail: sidkele@yahoo.com

Funding: None

Conflict of interest: None

Introduction: Due to the physiological variations conferred by gender, female patients diagnosed with epilepsy are faced with peculiar health challenges. These include the effects of female hormonal changes on seizures, side effects of anticonvulsant use in pregnancy, breast feeding, contraception, and the effects of the epilepsy status on sexual functioning.

Studies have demonstrated deficiency in the level of awareness of women's issues and epilepsy among health care professionals (McAuley and Long 2009, Long and Montouris 2005). This trend translates to inadequate patient health education, poor awareness of their health situation (Long et al 2001, Crawford and Hudson 2003), and inadequate clinical

interventions for women diagnosed with epilepsy, leading to overall poor health care delivery to this sub - population of patients.

Tools have been devised to evaluate the knowledge of women issues in epilepsy (Long et al 2005, Long 2002, Morell et al 2000). One of such instruments is the Knowledge Of Women Issues and Epilepsy (KOWIE) II questionnaire designed by researchers at the Ohio state university, USA (Long 2002). The KOWIE II questionnaire has been successfully employed by some researchers in Africa (Sunmonu et al 2010).

There is no previous study evaluating knowledge of

women related issues among health care providers in clinical training centers, in the Niger delta region of Nigeria. In our study, we carried out a survey among physicians undergoing specialty training (residents) at the University of Calabar Teaching Hospital, in Nigeria. The aim of the study was to assess the knowledge of women related issues in epilepsy among the residents in the hospital.

Subjects And Method:

Calabar is the capital city of Cross River state, located in the oil rich Niger delta region of Nigeria; a

resource poor sub Saharan African nation (Omideyi 2007). The 2006 national census in Nigeria puts the population of Calabar at 371,022 persons, comprising of 186,607 males and 184,415 females (National Population Commission 2006). There are various health institutions rendering various levels of health care in the city. The University of Calabar Teaching Hospital is the only tertiary hospital in the state, and receives referrals from the entire Cross River state and neighbouring Akwa Ibom state. The hospital also receives patients from the neighbouring republics of Cameroon and Equatorial Guinea.

Table 1. KOWIE II questionnaire (first part): Facts about epilepsy and women health

Statement	Response		
	T	F	D
“During the menstrual cycle, endogenous oestrogen has been found to be a Proconvulsant, while progesterone has anticonvulsant properties.”	18.1%	6.9%	75.0%
“Women with epilepsy have a higher incidence of sexual dysfunction Compared to women without epilepsy.”	43.1%	25.0%	31.9%
“Enzyme inducing anti-epilepsy drugs may reduce the effectiveness of Various contraceptives.”	69.4%	2.8%	27.8%
“Some anti-epilepsy drugs are associated with osteomalacia (reduced bone mass).”	43.1%	4.2%	52.8%

T = true; F = false; D = don't know

Table 2. KOWIE II questionnaire (second part): Facts about pregnancy and epilepsy

Statement	Response		
	T	F	D
“The best anti-epilepsy drug during pregnancy is one that is most appropriate for the patient's seizure type and/ or syndrome.”	40.3%	38.9%	20.8%
“Women with epilepsy should stop taking their anti-epilepsy drugs when they become pregnant.”	9.7%	73.6%	16.7%
“Taking folic acid before and during pregnancy may reduce teratogenesis In children born to women with epilepsy taking anti-epilepsy drugs.”	83.3%	6.9%	9.7%
“Vitamin K may reduce the risk of newborn haemorrhagic disorder Associated with anti-epilepsy drugs.”	63.9%	6.9%	29.2%
“The majority of women with epilepsy have healthy children.”	81.9%	2.8%	15.3%
“Most women taking anti-epilepsy drugs can safely breast feed.”	50.0%	20.8%	29.2%

T = true; F = false; D = don't know

In this cross sectional study, resident physicians at the teaching hospital were requested to complete the KOWIE II questionnaire. The KOWIE II questionnaire is a ten item instrument used to assess the knowledge of women related issues in epilepsy among health care professionals. The questionnaire has two parts; the first part assesses knowledge of

facts about epilepsy and women health, whereas the second part deals with facts about pregnancy and epilepsy (Long et al 2005, Long 2002).

The survey was limited to residents in the departments involved in the management of women with epilepsy, who presented at the hospital of study.

These departments include; Obstetrics and Gynaecology, Internal Medicine and Family Medicine departments. The survey spanned a period of 3 months, from February to April 2012.

The consenting residents were required to respond true, false or don't know to the statements constituting the KOWIE II questionnaire. The participants completed the questionnaire forms during their break periods, between 8.am to 3 pm, while on non emergency duty at the hospital. To compute the KOWIE II score, a score of 10% was awarded for the correct response to each of the ten items and 0% for an incorrect response, giving rise to minimum and maximum total scores of 0% and 100% respectively.

Data was analyzed using Epi Info version 3.5.3 statistical package. Mean and standard deviation were employed to describe continuous variables, and simple proportions used for categorical data. P value < 0.05 was considered significant. Relevant tables were used to illustrate the results.

Results:

Seventy two respondents participated in the survey comprising of 56 (77.8%) males and 16 (22.2%) females. The mean age of the respondents was 31.4 ± 5.05 years, with a range of 24 to 49 years. Thirty eight (52.8%), 15 (20.8%) and 19 (26.4%) of the respondents were in the departments of Internal Medicine, Family Medicine and Obstetrics & Gynaecology respectively. The mean duration of practice was 3.9 ± 3.56 years, with a range of one to 20 years. Sixty six (91.7%) of the respondents had been in practice for a decade or less, whereas six (8.3%) has been for more than a decade. Sixty seven (93.1%) of the respondents had no prior training in women's issues in epilepsy, whereas five (6.9%) had prior training on the subject.

One fifth of the respondents knew about the effects of sex hormones on seizures. Two fifths knew of the higher incidence of sexual dysfunction among women with epilepsy; the undesirable effects of anti-epileptic drugs (AEDs) on bone health, and that the best anti-epileptic drug is the one that is most appropriate for the seizure type and syndrome. Two thirds knew of reduction in contraceptive efficacy by some anti-epileptic drugs, and the need to administer vitamin K to neonates of women on anti-epileptic drugs. Four fifths knew of the need to administer folic acid to women on anti-epileptic drugs, and that majority of women with epilepsy have healthy children. Half of the respondents knew that women on anti-epileptic drugs can safely breast feed (see

tables 1&2). The overall mean KOWIE II score was 56.7 ± 22.3 . The mean KOWIE II scores were 56.3 ± 23.4 , 49.3 ± 23.1 and 63.2 ± 18 for respondents in Internal Medicine, Family Medicine and Obstetrics and Gynaecology departments respectively ($p = 0.1985$).

Discussion:

The poor knowledge of women's issues in epilepsy observed in our study is in keeping with the trend observed in both advanced and developing societies. For instance, surveys conducted in the USA and Cameroun, observed poor level of knowledge among health professionals (Long 2002, Sunmonu et al 2010). The survey by the epilepsy foundation of America concluded that health professionals most likely to be involved in the care of women with epilepsy, have deficient knowledge of the subject (Morell et al 2000).

Among the physicians in our survey, the deficiency is most pronounced in knowledge of the effects of female hormones on seizures, and of the best anti-epilepsy drug to use during pregnancy. The best performance was in knowledge of the need to administer folic acid to pregnant women in order to mitigate the teratogenic effects of anti-convulsants, and that majority of women with epilepsy give birth to healthy children.

There was no difference in the knowledge scores of the participants, regarding their areas of specialty. This observation is contrary to reports of the influence of specialty on the level of knowledge concerning the subject among health professionals.⁸ Perhaps, that the respondents were residents who are still in specialty training, may have influenced this observation. However, respondents from the Obstetrics and Gynaecology department, who deal primarily with women's health, had non-significantly higher mean KOWIE II score. This trend of poor knowledge of women's issues in epilepsy militates against optimal health care delivery to women with epilepsy in our locality. With the deficient knowledge of women related issues in epilepsy, among physicians and other health workers who are responsible for patient education, it is not surprising that studies have shown a high level of ignorance concerning their health status and implications, among women diagnosed with epilepsy (Long et al 2001, Crawford and Hudson 2003).

Deficient knowledge of women related issues in epilepsy, on the part of health care providers, has adverse health and social implications in a society with high prevalence rates of epilepsy, such as

observed in Nigeria (Akinsulore and Adewuya 2010). For instance, many of the participants in our study do not know that some anticonvulsants can reduce the efficacy of hormonal contraceptives (Crawford 2002, Dutton and Foldvary-Schaefer 2008). Unwanted pregnancies as a result of contraceptive failure pose obstacles to proper family planning. The impact of this would be felt more in resource poor settings where increasing population, in the face of limited available resources raise serious concerns. In some countries, such as Nigeria, where abortion is illegal, unwanted pregnancies from contraceptive failure may propel women with epilepsy to seek unsafe abortions with the attendant risks to health and life. Moreover, the risk of contraceptive failure in women taking anti-epileptic drugs limits the options for birth control methods. This lays further demands on the already overburdened limited health care resources as is obtained in Nigeria.

The teratogenic risk of exposure to anti-epileptic drugs during pregnancy poses challenges, especially in resource poor settings, where there is little or no facility for prenatal diagnoses. The opportunity to modify anti-epileptic drug regimen in order to minimize teratogenic risks and possible fetal loss is lost in situations where the health care provider lacks the prerequisite knowledge.

Fluctuations in female hormones may affect seizure control in women diagnosed with epilepsy (Foldvary-Schaefer et al 2004). Thus, achievement of acceptable and sustained treatment goals in such cases will require the awareness and consideration of these factors in the choice of treatment options. The stigmatization and other social implications of inadequate seizure control in females are worrisome. It has been reported that persons with epilepsy have lower rates of marriage than the general population (Jalava and Sillanpaa 1997). The failure to achieve seizure control, due to ignorance on the part of the health care provider, puts women with epilepsy in a disadvantaged position. The consequences are heightened in sub-Saharan African settings with already existing economic and socio cultural practices, which foster gender inequality skewed against the female sex (Ndinga 2012).

The KOWIE II score performance of respondents who reported to have had prior training on the subject was not different from the others. Hence, there is need for proper design and delivery of such professional training programs to achieve effective impact on the target audience.

We conclude that resident physicians involved in the

medical management of women with epilepsy at the University of Calabar Teaching Hospital, located in the Niger delta region of Nigeria, lacked knowledge of the peculiar health issues affecting women with epilepsy. There is need for effective continuing medical education to bridge the gap in knowledge.

Acknowledgement:

We express our gratitude to Ms. Lucretia Long, of the Ohio state University, for granting us the permission to use the KOWIE II questionnaire.

References:

1. Akinsulore A, Adewuya A. Psychosocial aspects of epilepsy in Nigeria: a review. *Afr. J Psychiatry (Johannesbg)* 2010; 13(5): 351 – 6.
2. Crawford P. Interactions between antiepileptic drugs and hormonal contraceptives. *CNS Drugs* 2002; 16(4): 263 – 72.
3. Crawford P, Hudson S. Understanding the information needs of women with epilepsy at different life stages: results of the 'Ideal World' survey. *Seizure* 2003; 12: 502 – 507.
4. Dutton C, Foldvary-Schaefer N. Contraception in women with epilepsy: pharmacokinetic interactions, contraceptive options, and management. *Int. Rev. Neurobiol.* 2008; 83: 113 – 34.
5. Foldvary-Schaefer N, Harden C, Herzog A, Falcone T. Hormones and seizures. *Cleve Clin J. Med* 2004; 71(suppl2): s11- 8.
6. Jalava M, Sillanpaa M. Reproductive activity and offspring health of young adults with childhood onset epilepsy: a controlled study. *Epilepsia* 1997; 38(5): 532 - 540.
7. Long L. An evaluation of knowledge of women's issues in epilepsy: a survey of health care professionals. *Epilepsia* 2002; 43: 233
8. Long L, McAuley J W, Cambier D, Caruso M. An evaluation of knowledge of women's issues in female patients with epilepsy. *Epilepsia* 2001; 42(suppl): 286 – 287.
9. Long L, McAuley J, Shneker B, Moore J L. The validity and reliability of the knowledge of women's issues and epilepsy (KOWIE) questionnaires I and II. *J. Neurosci Nurs* 2005; 37(2): 88 – 91.
10. Long L, Montouris G. Knowledge of Women issues and epilepsy (KOWIE II): a survey of health care professionals. *Epilepsy and Behavior* 2005; 6 (1): 90 -93.
11. McAuley J W, Long L. An evaluation of pharmacists' knowledge of women's issues in epilepsy. *Epilepsy and Behavior* 2009; 14 (1): 243 – 246.
12. Morell M J, Sarto G E, Shafer P O, Borda E A, Herzog A, Callanan M. Health issues for women with

epilepsy: a descriptive survey to assess knowledge and awareness among health care providers. *J. Women`s Health Gen. Based Med.* 2000; 9: 959 – 965.

13. National Population Commission, 2006 population census of the Federal Republic of Nigeria, Abuja. Analytical Report at the National level. April 2009.

14. Ndinga M.A.A. Gender income inequality and development in Africa: Analysis based on Kuznets` inverted u curve. *J. Afr Stud. Dev.* 2012; 4(2): 37 – 50.

15. Omideyi AK. Poverty and development in Nigeria: trailing the MDGs? *African Journal of Infectious Diseases* 2007; 1(1): 3 – 17.

16. Sunmonu T A, Komolafe M A, Afolabi O T, Ogunrin O A, Ogun S A. Women`s issues and epilepsy: a look at Health Care Practitioners. *Nigerian Medical Practitioner* 2010; 57(3): 43 – 47.

Access This Article Online	
Quick Response Code: 	Website: www.gjmedph.org