

Knowledge of women issues and epilepsy among doctors in Sudan[☆]

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ABSTRACT

Objective: The objective of this study was to assess the knowledge of doctors in Sudan about women issues related to epilepsy.

Methods: In this cross-sectional study that was conducted in Sudan during the period from October 2017 to December 2017, we used Google forms to collect data from 154 doctors using Knowledge of Women Issues and Epilepsy (KOWIE) II standardized questionnaire.

Results: Our studied group included house officers (n = 34), medical officers (n = 60), registrars (n = 52), and specialists (n = 8). The majority of participants were aware of the role of folic acid in reducing teratogenicity of antiepileptic drugs (AEDs) (89%) and that women with epilepsy (WWE) should not stop taking their AEDs during pregnancy (76.6%). Two-thirds of participants knew that most WWE have healthy children (68.2%) and that enzyme-inducing AEDs may reduce effectiveness of some contraceptives (72.1%). Half of participants were aware of the association between AEDs and osteomalacia (50%), and more than one-third (38.3%) knew that women taking AEDs can safely breastfeed (38.3%). Few of them (20.1%) knew that WWE have a higher incidence of sexual dysfunction compared with women without epilepsy, and only some (15.6%) knew that estrogen has a proconvulsant effect while progesterone has anticonvulsant qualities. The mean score of our participants was 5.53 out of 10 (standard deviation (SD) ± 1.64). Only registrars with the highest mean knowledge (6.15 ± 1.26) were statistically different from the rest of the medical degree groups.

Conclusions: In this small cross-sectional study, Sudanese doctors' knowledge was not satisfactory regarding the majority of questions on KOWIE II. Further education and training are indicated to decrease this knowledge gap and to improve care of WWE.

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1. Introduction

Epilepsy is a heterogeneous clinical condition characterized by recurrent unprovoked seizures. It has no geographical, racial, or gender boundaries [1]; however, there are specific issues that concern women with epilepsy (WWE) and the use of antiepileptic drugs (AEDs) in this population. These issues are due to the effect of epilepsy as well as AEDs on sexual function, contraception, pregnancy, childbirth, fetal abnormalities, and breastfeeding [2–5]. Globally 50% of women and girls with epilepsy are in the reproductive age range [6].

Significant knowledge gaps for both WWE [7] and their healthcare providers, including obstetricians [8] and neurologists [9], about issues

related to WWE are found in the literature. Gaps in knowledge among the two populations are directly related to each other as good knowledge among doctors ensures adequate counseling for WWE minimizing the hazards of epilepsy and AEDs on their sexual and reproductive lives and on their children [10]. The American Epilepsy Foundation conducted a study on 3535 healthcare providers and concluded that WWE are not receiving adequate counseling [3]. As such, tackling knowledge gaps in both of these populations is crucial in improving the quality of healthcare for WWE.

With the unavailability of neurologists in Sudan [11] and their unequal distribution because they are more often located in the capital (Khartoum), a large number of patients with epilepsy are treated by doctors from other specialties and medical degrees, including medical officers. Even house officers may handle WWE in terms of counseling and advice.

Internationally, the subject of doctors' knowledge about women issues and epilepsy has been tackled by researchers [7–9,12–15]. However, no research has been conducted locally in Sudan or regionally in Africa.

[☆] Statistical analysis conducted by Dr. Awab K. Elnaeim, MBBS, University of Medical Sciences and Technology, and Daoud Research Group.

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Table 1
Demographic data of our participants.

	Number (N = 154)
Gender	
Male	102 (67%)
Female	50 (33%)
Age	
Mean age	28.3 years
Standard deviation	5.937 years
Medical degree	
House officer	34 (22%)
Medical officer	60 (39%)
Registrar	52 (34%)
Specialist	8 (5%)

2. Methods

This is a cross-sectional study that was conducted in Sudan during the period from October 2017 to December 2017. We used the “Knowledge of Women Issues and Epilepsy (KOWIE II)” questionnaire. This is a standardized questionnaire developed by Long and Montouris to assess healthcare professionals’ knowledge regarding certain WWE-related issues. It includes questions about the effect of seizures and AEDs on oral contraception, bone health, sexual function, hormones, pregnancy, and breastfeeding [12]. Long et al. established the validity and reliability of the questionnaire in a separate paper [16]. We contacted the corresponding author and obtained her permission to use the questionnaire in this study. We used Google forms to collect data. Google forms is a tool that allows data collection via a personalized survey. The information is collected and automatically connected to a spreadsheet from which it can be imported to analysis software programs. This method was utilized in efforts to increase the number of study participants. We distributed the questionnaire on the internet by posting it on social media groups that are specific to healthcare providers. All of our participants identified themselves as doctors. We collected data from 154 participants in Sudan, and then we analyzed the data using IBM SPSS statistics version 25. We created a scoring system that gives 0 to the incorrect response (including the response “Do not know”) and 1 to the correct response. The maximum score was 10, and the minimum was 0.

Terms used to describe medical workforce in Sudan are defined below:

- House officer: graduate doctors who have partial registration at the Sudanese medical council. They have 4 three-month rotations (internal medicine, general surgery, obstetrics and gynecology, and pediatrics). They work under supervision at training approved hospitals.

- Medical officer: nonspecialized doctors who are fully registered at the Sudanese medical board. They work unsupervised.
- Registrar: doctors undergoing training for medical specialty. They work under supervision at training approved hospitals.
- Specialist: doctors with specialization degree. Ethical approval was granted from Khartoum state ministry of health ethics review committee.

3. Results

Because of the nature of the data collection method, response rate was not calculated.

From a total of 154 participants included in our study, 102 (67.1%) were females, 50 (32.9%) were males, and 2 responses were missing. Mean age of our participants was 28.3 years (standard deviation (SD): ± 5.937) (Table 1). Out of the 154 participants, 34 (22%) were house officers, 60 (39%) were medical officers, 52 (34%) were registrars, and 8 (5%) were specialists (Figs. 1 and 2).

The participants were noted to have varied levels of knowledge ranging from 15.6% (proconvulsant effects of estrogen and anticonvulsant effects of progesterone) to 89% (folic acid reduces teratogenesis). Our findings have been divided into awareness of facts about epilepsy and women health (Table 2) and awareness of pregnancy issues in WWE (Table 3).

Participants’ knowledge mean scores were highest for registrars followed by specialists, medical officers, and house officers (Table 4).

4. Discussion

Several studies [17–19] reported that WWE have insufficient knowledge about their condition and are in need of proper counseling. This can be achieved by improving knowledge among healthcare providers dealing with them. Enhancing awareness about these issues and showing their relevance would result in better care provided to WWE.

Two-thirds (68.2%) of our participants are aware that the majority of WWE have healthy children. This is similar to what was reported from studies done by Long and Montouris [12] (86%) and Bhat et al. [8] (91%), both using “KOWIE II” questionnaire.

The majority of our participants (86.2%) were not aware of the fact that during menstrual cycle, estrogen has been found to be a proconvulsant while progesterone has anticonvulsant properties. This is similar to what was reported by Bhat et al. [8] (60%), Long and Montouris [12] (86%), and Morrell et al. [3] (83%).

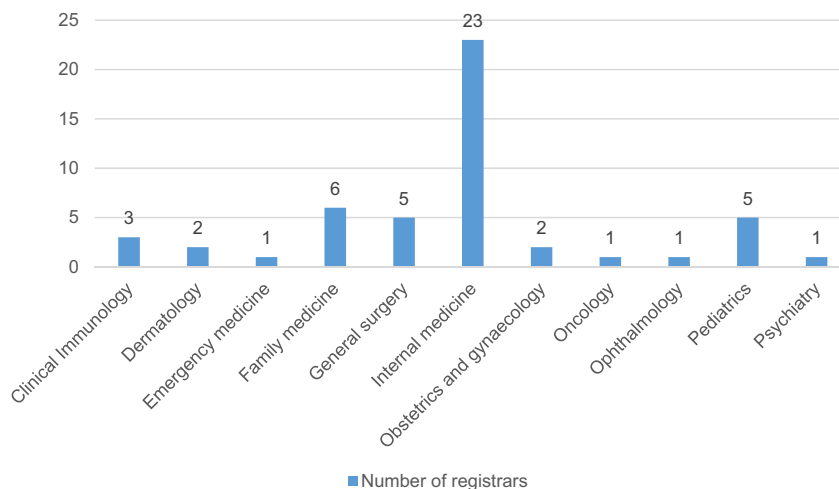


Fig. 1. Distribution of the registrar participants according to medical specialty (expressed by number).

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