



GENERAL PRACTITIONERS AND THEIR PERCEPTION OF EPILEPSY CARE IN THE MECCA REGION OF SAUDI ARABIA

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ABSTRACT

Introduction: Epilepsy is one of the most common chronic neurological diseases. Patients with epilepsy (PWEs) require long-term treatment and follow up. Since the majority of PWEs are well controlled on medication, general practitioners (Gps), as primary care physicians, play major roles in their treatment and follow up. The aim of this study is to assess the knowledge and management of GPs toward epilepsy in the Mecca region of Saudi Arabia.

Method: This is a cross-sectional questionnaires based study conducted in the Mecca region.

Results: A total of 51 physicians completed the questionnaire. The vast majority of GPs had witnessed a seizure at some stage in their professional career (92%), with only 8% of our responders never having witnessed one. The majority of GPs did not feel comfortable working up, managing, or initiating treatment for epilepsy patients (59%, 75%, 78%, respectively). A significantly large amount of GPs (65%) felt comfortable in following up stable PWEs. The most common Counseling by Gps were the importance of medication compliance (90%), avoidance of stress (82%), the importance of sleep (73%), and medication side effects (75%). In contrast, only 53% provided counseling on driving.

Conclusion: Increasing the education of GPs to enable them to branch out into different areas of PWE management is required

KEYWORDS : Epilepsy, General Practitioner, Knowledge

INTRODUCTION

Epilepsy is one of the most common chronic neurological diseases, with a prevalence of 6.54/1000 in the population of Saudi Arabia (1). Patients with epilepsy (PWEs) require long-term treatment and follow up. Drug resistant epilepsy (DRE) is defined by the International League Against Epilepsy (ILAE) Task Force as failure to tolerate adequate trials appropriately chosen and incorporating antiepileptic drug (AED) schedules (whether as monotherapies or in combination) to achieve sustained seizure freedom (2). The prevalence of DRE is 30% with an incidence of 15% (3). Patients with DRE require frequent evaluation and follow up by specialized epilepsy services. Since the majority of PWEs are well controlled on medication, general practitioners (GPs), as primary care physicians, play major roles in their treatment and follow up.

GPs play a leading role in the care of PWEs as they are often the first physicians to encounter patients with early or new onset epilepsy. Their role is to initiate the work up, refer patients to specialized services, follow up stable patients, and identify when stable patients need to be reevaluated by specialized services. They can provide important counseling to the PWE. Since PWEs may also develop other medical conditions and thus require other medical therapies, GPs play a major role in their treatments. GPs should possess essential knowledge about first seizure evaluation, epilepsy, and epilepsy medications in order to be able to follow up their patients.

A study from the United Kingdom showed that PWEs prefer to receive their treatment from the GP, despite the initial assessment of GP knowledge about epilepsy care being found to be suboptimal (4). Further studies in Europe, South America, and Australia identified gaps in GP knowledge regarding epilepsy care (5-7), and a recent follow-up study in the United Kingdom showed improvements in GP attitude to epilepsy. However, there remain substantial areas for improvement relating to GPs knowledge and management of epilepsy, and these studies have highlighted the need for formal training on epilepsy managements (8).

In Saudi Arabia, only a few centers specialize in epilepsy services, as health care in the country is moving toward the cluster system. This means that individual health clusters will be linked with a number of different hospitals and GPs, serving patients within a catchment area. Patients can be assessed and treated at any of the centers included in the

clusters. Stable and chronic patients will be followed up in the primary care centers. Since the majority of PWEs are well controlled by medication, they can be followed up by their GP. The aim of this study is to assess the knowledge and management of GPs toward epilepsy in the Mecca region of Saudi Arabia.

METHOD

This is a cross-sectional study conducted in the Mecca region and employing the use of questionnaires. Ethical approval was obtained from Umm Al-Qura University's ethics and research committee. A 22-item questionnaire was developed and reviewed by two independent neurologists and two independent family physicians. The electronic self-administered questionnaire came with a cover letter explaining the purpose of the study in English, and it was distributed electronically to GPs in the Mecca region. The data collected included demographic information on the GP (years of experience and educational level, classification by Saudi Council for Health Specialties (SCHS), type of practice), as well as their knowledge of epilepsy work up, treatment, and counseling.

The data were collected on an excel sheet, and for each response the frequency and percentage were calculated.

RESULTS

A total of 51 physicians completed the questionnaire (91 males and 34 females). Table 1 shows the demographic data of our responders. Forty-three of our responders (84%) practiced at the primary health facilities, 17 (33%) were classified as consultants by the SCHS, and 28 (55%) were board certified. The major source of information about epilepsy care was the GP's medical school (47%), followed by postgraduate training (33%). The vast majority of GPs had witnessed a seizure at some stage in their professional career (92%), with only 8% of our responders never having witnessed one.

Table 1. Responders' Demographic Data

Age	27-61
Gender	
Male	17 (33%)
Female	34 (77%)
Years of Experience	
<5 years	21 (41%)
5-10 years	11 (21.6%)
>10 years	18 (35.3%)

Academic Degree	
Graduate	15 (29%)
Board	28 (55%)
Master's	4 (8%)
Doctorial	4 (8%)
SCHS Classification	
Resident	28 (55%)
Assistant Consultant	6 (12%)
Consultant	17 (33%)
Type of Practice	
Primary Health Care	43 (84%)
Private	3 (6%)
Hospital Based	5 (10%)
Source of Information about Epilepsy	
Medical School	24 (47%)
Postgraduate Training	17 (33%)
Private Reading	9 (18%)
Conferences	1 (2%)
Time of First Witnessed Seizure	
Medical School	18 (35%)
Internship	5 (10%)
Postgraduate Training	7 (14%)
Practice	13 (25%)
Never Witnessed	8 (16%)

The majority (69%) of our responders had never administered emergency seizure medications, although 51% had access to such medications.

The majority of GPs did not feel comfortable working up, managing, or initiating treatment for epilepsy patients (59%, 75%, 78%, respectively). Most of them (88%) had access to neurological referral, yet the timings of such referrals varied between GPs (Table 2). A significantly large amount of GPs (65%) felt comfortable in following up stable PWEs. Nine out of the 18 responders who did not feel confident following up PWEs felt that such patients should be followed up by a neurologist, while eight felt that they lacked the knowledge to follow these patients up and one was unable to offer this service because of hospital policy.

Table 2. GP and Epilepsy Management

Access to emergency seizure treatment	
Yes	26 (51%)
No	25 (49%)
Ever administered emergency seizure medication	
Yes	16 (31%)
No	35 (69%)
Comfortable with epilepsy management	
Yes	13 (25%)
No	38 (75%)
Comfortable with work up of epilepsy patient	
Yes	21 (41%)
No	30 (59%)
Ever initiated treatment	
Yes	11 (22%)
No	40 (78%)
Access to neurology referral	
Yes	45 (88%)
No	6 (12%)
Timing of referral	
Immediately	16 (32%)
After work up	0 (0%)
If seizure is uncontrolled	18 (35%)
Patient request	17 (33%)
Confident providing patient follow up	
Yes	33 (65%)
No	18 (25%)

Appropriate physician for PWE follow up	
Neurologist	40 (78%)
Epilepsy specialist	7 (14%)
Neurosurgeon	0 (0%)
Internal medicine physician	0 (0%)
Family physician	0 (0%)
Psychiatrist	4 (8%)
Reason for lack of confidence	
Lack of knowledge	8 (16%)
Difficult patient	3 (6%)
Should be followed by neurology	9 (18%)
Hospital policy	1 (2%)

Table 3 shows the work up and management of epilepsy patients. Complete blood count (CBC), electrolytes, and blood glucose were the most frequent investigations ordered by responders when evaluating a patient with new onset seizures. Electroencephalograms (EEG) were requested by 36 responders (70.6%), while only 11 responders initiated AED to patients. Older generation AEDs were the most frequently initiated medications (e.g., phenytoin (16%), carbamazepine (14%), and phenobarbitone (8%)).

Table 3. Investigations and Medications used by GPs for PWEs

Investigations for epilepsy	
CBC	46 (90%)
Electrolytes including Calcium	46 (90%)
Glucose	49 (96%)
EEG	36 (71%)
Ct brain	27 (53%)
MRI brain	9 (18%)
ECG	14 (27%)
Skull X ray	5 (10%)
Toxic screen	22 (43%)
Genetic test	6 (12%)
Medications given to patients	
Phenytoin	8 (16%)
Phenobarbitone	4 (8%)
Carbamazepine	7 (14%)
Sodium Valproate	2 (4%)
Lamotrigine	0 (0%)
Levetiracetam	2 (4%)
Topiramate	0 (0%)

Table 4 shows the most frequent topics of advice given to the PWEs by GPs. The most common were the importance of medication compliance (90%), avoidance of stress (82%), the importance of sleep (73%), and medication side effects (75%). In contrast, only 53% provided counseling on driving.

Table 4. Counseling

Driving	27 (53%)
Medication compliance	46 (90%)
Side effects	38 (75%)
Importance of sleep	37 (73%)
Avoidance of stress	42 (82%)
Avoidance of dangerous activities	33 (65%)
Special dietary requirements	14 (27%)
Contraceptive methods	18 (35%)
Genetic factors of epilepsy	18 (35%)
Marriage problems	22 (43%)
Employment problems	23 (45%)

DISCUSSION

Several countries have developed guidelines for the clinical care of PWEs. For example, in 2004 the United Kingdom established their new GP guidelines. Epilepsy is one of the chronic diseases listed in core quality indicators of the quality and outcome framework (9). A further study conducted in the United Kingdom showed an inverse relationship between the proportion of epilepsy-treated seizure-free patients and the

proportion of epilepsy-related emergency hospitalization . In Saudi Arabia, there are no clear guidelines yet for the clinical care of PWEs. In a prior study by Alshammari in 1996, it was found that only 0.05% of epileptic patients were documented in the primary health care centers' registries . This indicates the low level of GP involvement in PWEs' clinical care. This will change as the clinical care system in Saudi Arabia moves toward the cluster system, because GPs will have more involvement in recognizing epilepsy, as well as referring and following up stable patients. Furthermore, PWEs may experience several other medical conditions requiring GP care.

A study published in 1994 showed that epilepsy in Saudi Arabia was one of the most correctly diagnosed neurological diseases by GPs, with an accuracy of 86.3% . In our study, we found that GPs were not confident initiating the work up (59%) or the treatment (78%) for PWEs. Instead, they were more comfortable following up stable patients (65%). Most of our responders reported that follow up of PWEs should be the responsibility of neurologists (50%), while others expressed a concern surrounding their own perceived lack of knowledge (44%). A prior study from Australia revealed that most GPs referred PWEs to neurologists for initial assessment with the clear aim of following them up.

The timings of referral to neurology were variable among the responders, with 32% referring immediately, 35% only referring if seizures were uncontrolled, and 33% only referring at the patient's request. In general, patients with new onset epilepsy should be assessed by a neurologist to establish a clear diagnosis and start appropriate treatment. Once a patient has stabilized, he or she will be transferred back to the GP for further follow up. At this stage, the GP should only refer a patient back to the neurologist if the epilepsy becomes uncontrolled or a new issue arises during treatment, such as a major side effect.

Counseling PWEs is a vital part of their care, and should be provided by all clinical staff who encounter the patients. This study found that counseling topics generally focus on avoiding epilepsy triggers, including medication compliance, the importance of sleep, and the avoidance of stress, and the majority of our responders provided such advice. Another crucial aspect is driving, since in Saudi Arabia, once a patient has had their first seizure, it is recommended that they do not drive. However, only 53% of our responders reported discussing driving issues with PWEs. While rules surrounding driving with epilepsy vary according to different countries, there is no policy of reporting the patient to the Ministry of Transportation (MOT) in Saudi Arabia, and instead driving remains an advisory issue. This is unlike certain other countries, where physicians must report patients to the MOT and their license is suspended. Since GPs in Saudi Arabia do not have this obligation, it is necessary to provide adequate counseling regarding driving to PWEs, and to reiterate this at follow-ups.

Another specific subject of advice that GPs should impart to PWEs is in relation to contraceptive methods, as certain AEDs can interfere with their efficacy. Although contraception is a very common concern amongst PWEs, GP advice on this subject was low (35%). Different socio-cultural issues can also occur, including marriage difficulties, employment problems, and concerns about passing on epilepsy to future generations. These areas were discussed less frequently by GPs with their patients. Yet as such practitioners will be the most likely physicians to encounter stable PWEs, it is necessary to increase their awareness about those problems so that they can be of assistance. Physicians must recognize these problems as they can increase the stigma related to epilepsy and may contribute to the development of various ensuing psychological problems.

CONCLUSION

GPs in the Mecca region did not feel confident investigating or initiating treatment for PWEs. However, the majority of the practitioners did feel confident following up stable patients. Increasing the education of GPs to enable them to branch out into different areas of PWE management is required, with a special emphasis on covering different counseling issues.

Conflicts of interest

The authors disclose no conflicts of interest related to this study.

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