

Reactions of Non-Neurological Physicians to Witnessed Seizures

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ABSTRACT

Overview: Epilepsy awareness has always been a critical topic, as it affects over 50 million individuals worldwide according to the WHO. The role of physicians in the healthcare system is crucial, and it is especially important for non-neurological doctors to be aware of how to manage acutely seizing patients. Improving the awareness and education of medical professionals will have a positive impact on the management outcomes of patients experiencing acute seizures, thereby enhancing patient safety.

Methods: A cross-sectional analysis was conducted in Saudi Arabia, who participated in a survey distributed to non-neurological physicians. Additionally, an electronic questionnaire was administered via social media platforms. The study aimed to assess the level of awareness concerning witnessed seizures in prehospital settings during the period from May 2020 to August 2020

Results: Total of 111 physicians participated in the survey, 70% being male, and the majority aged between 30 and 39 years. The most commonly chosen response by participants was to place the patient on their side, representing around 73% of the participants. Regarding the correct response, which is to call an ambulance and place the patient on their side without choosing any other answers, 32.4% of participants selected this option. The most common incorrect action chosen in the survey was putting a hard object in the patient's mouth, selected by 21.6% of participants.

Conclusion: Raising awareness among medical professionals is crucial for comprehensive epilepsy care. Despite some areas of better knowledge in comparison to general public, the overall awareness still inadequate, affecting optimal patient safety. Continuous medical education and improved access to guidelines and resources are recommended to enhance physician awareness and management of epilepsy.

INTRODUCTION

Raising awareness about epilepsy has always been important, given its status as one of the most prevalent neurological disorders, impacting over 50 million individuals worldwide. In Saudi Arabia specifically, its prevalence is estimated at 6.54 per 1000 people [1][2].

Non-neurologist physicians play a vital role in epilepsy care, from identification of symptoms, patient referral, and collaborative management of treatment in conjunction with neurologists. Their awareness of epilepsy not only ensures timely and accurate diagnosis but also helps dispel myths and misconceptions surrounding the disorder [3].

Unfortunately, studies have shown that non-neurologist physicians often lack sufficient knowledge about epilepsy, leading to delays in diagnosis and suboptimal treatment [4].

In emergency situations, the actions taken by witnesses play a paramount role in determining the outcomes and overall prognosis. This holds particularly true in cases of epilepsy, where prompt and appropriate responses can significantly impact the well-being and safety of the affected individual.

The objective of this study is to evaluate the emergency response practices of non-neurologist physicians, with a specific focus on

identifying prevalent incorrect actions taken by these professionals. The goal is to enhance the outcomes in such critical situations.

METHOD

A cross-sectional analysis was conducted by an electronic questionnaire administered via social media platforms. The study aimed to assess the level of awareness concerning witnessed seizures by non-neurologist physicians in prehospital settings during the period from May 2020 to August 2020

The data collection included participant demographics, knowledge about epilepsy, professional background, general conception about the correct measures to follow and finally expectation regard average time of a seizure attack (Table 1). No personal data that can identify the participants was required in this survey.

The correct answer was defined as choosing the answer of “putting the patient on their side” with or without choosing the answer “calling the ambulance” without picking any of the other wrong answers (e.g., spray water over the patient’s face, put a hard object in the patient’s mouth, try to hold the patient’s tongue to prevent tongue swallowing or holding the patient tight and try preventing him from seizing).

Exclusion criteria was elimination of non-physician and neurologist responses.

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Statistical analysis using "IBM SPSS statistics ver. 20.0" was applied to evaluate and test the hypothesis. Simple/cross tabulation frequency tables and percentages. Chi square test was used to test and describe the relation between two categorized variables. The level $P < 0.05$ was used as the cut-off value for significance.

Ethical approval was obtained from the Research Ethics Committee of the University of Jeddah.

Table 1. The survey given to participants

Question	Response
Your age group	• 19 – 29
	• 30 – 39
	• 40 – 49
	• Above 50
	• Yes
Do you work at medical field?	• No
Nature of your medical role?	• Physician
	• Non- physician
What is your specialty?	• (open end question)
	• Spray water over the patient's face
Which of the following actions do you think is helpful when trying to help a seizure patient outside the hospital environment (you can choose more than one answer)	• put a hard object in patient's mouth like piece of fabric
	• Try to hold the patient tongue to prevent it from swallowing
	• Hold the patients tight and try to prevent them from seizing
	• Put the patient on his/her sides
	• Call the ambulance
How long do you think most epileptic convulsion last?	• Less than two minutes
	• Between 2 to 5 minutes
	• Between 5 to 10 minutes
	• More than 10 minutes

RESULTS

In this study, 111 physicians participated, with 70% being male, and the majority aged between 30 and 39 years.

The most commonly chosen response by participants was to place the patient on their side, with 81 responses, representing around 73% of the total, followed by calling an ambulance, chosen by 55% of participants (Figure 1).

Regarding the correct response, which is to call an ambulance and place the patient on their side without choosing any other answers, 32.4% of participants selected this option.

The most common incorrect action chosen in the survey was putting a hard object in the patient's mouth, selected by 21.6% of participants, followed by holding the patient's tongue, which was chosen by 10% (Table 1).

Detailed look to the responses at the table.

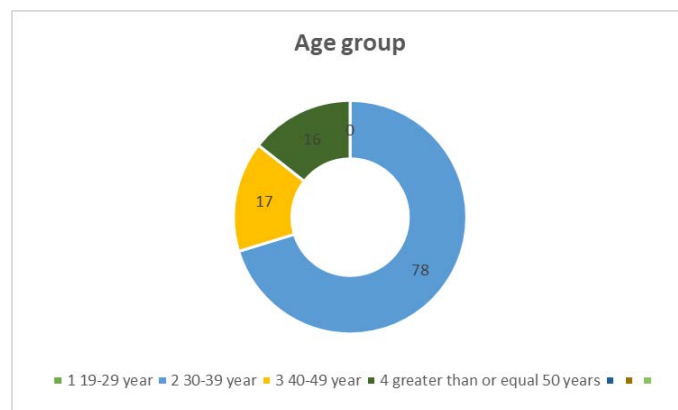


Figure 1. Age group distribution among participants

Table 2. Responses of participants regarding their actions

Response	Yes	No
Spray water over the patient's face	2	109
Put a hard object in the patient's mouth (piece of fabric)	24	87
Try to hold the patient's tongue to prevent tongue swallowing	11	100
Holding the patient tight and try preventing him from seizing	4	107
Put the patient over his/her side	81	30
Call the ambulance	61	50

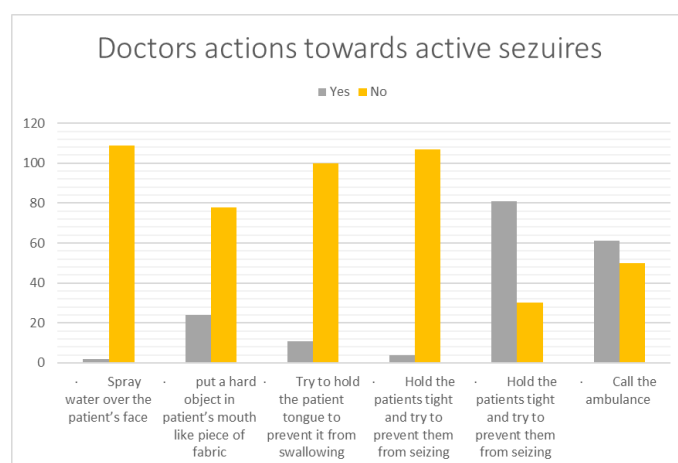


Figure 2. Doctor's actions

In addition to actions taken during active seizures, monitoring the duration of the episode is a key component of the evaluation. When asked about their expectation of the duration of the majority of seizures, 71 physicians thought it's less than two minutes, while 33 believed it's between 2 and 5 minutes. More details are available in the diagram (Figure 2 & Figure 3).

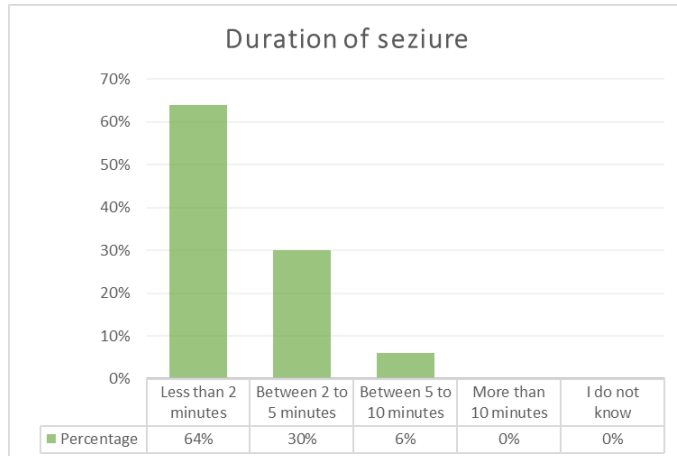


Figure 3. Participant Responses Concerning Seizure Duration.

DISCUSSION

Raising awareness about epilepsy has been a significant topic due to the nature of the disease and the surrounding misconceptions and myths. Physicians play a crucial role in public awareness as important members of the community.[5]

While it is understandable that physicians tend to focus more on their specialties, their actions in emergency situations should be considered, especially in small institutes. In this study, 32% of the physicians chose the correct actions for actively seizing patients without any other considerably wrong action, compared to other studies directed toward the general public's actions, where only 30% chose the correct actions.[5][6]

From a numerical standpoint, health professionals are expected to be more aware of the correct approach to such emergencies. Conversely, wrong actions were markedly less chosen by the doctors compared to the general public.[7]

The data gathered in our study corroborate the findings of another study held in Brazil, highlighting the importance of providing educational resources about epilepsy. [8]

Another study demonstrated that 37.7% of relatives of epilepsy patients chose the wrong actions, highlighting a significant difference in favor of the doctors.

The majority of participants, 64%, correctly predicted the expected timing of most seizures, reflecting an acceptable level of knowledge. Accurate prediction of seizure timing can positively influence management and, consequently, improve outcomes.

Continuous medical education plays a significant role among health professionals in enhancing their knowledge and keeping them updated with the latest management in practices. [10] This could be particularly beneficial for improving the understanding of the acute care of actively seizing patients.

CONCLUSION

Raising awareness among medical professionals is crucial, especially considering the significant role played by non-neurological specialties in the healthcare system. Whether in acute settings or through direct collaboration with neurology teams for co-management, these specialties are vital in ensuring comprehensive care for patients with epilepsy.

Although there are specific areas where knowledge is better than that of the general public, the overall level of awareness remains inadequate. This deficit delays the achievement of the ultimate goal of ensuring optimal patient safety.

Achieving this awareness can be facilitated through continuous medical education programs, which have been recommended to improve physician awareness and management of epilepsy. Additionally, improved access to resources, such as guidelines and educational materials, can further support non-neurologist physicians in providing better care for patients with epilepsy.

Availability of Data and Materials: The data are available, and all relevant materials and methods used in this research can be requested from the corresponding author.

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