

Introduction

The prognosis of seizure is associated with age, etiology, and duration of the seizure (1,2). International League Against Epilepsy (ILAE) proposed two operational dimensions in 2015 as follows: the time point t_1 (TP- t_1) indicates the time when pharmacological treatment should be initiated; the time point t_2 (TP- t_2) indicates the time when long-term consequences may appear.

Objectives

To perform postgraduate programs, it is important to reveal their knowledge levels. Herein, we aimed to evaluate the knowledge level and attitudes of the physicians regarding the management of acute seizures in pediatric patients.

Materials and Methods

We have obtained the approval of the local ethics committee (date:20/01/2022; no:2021/200). A self-administered questionnaire was written in Turkish with a cover letter, and reviewed by two independent pediatric neurologists and a pediatrician. Afterwards, the questionnaires were distributed electronically to physician WhatsApp groups in Turkey. We aimed to reach physicians who had a high possibility to treat children with acute seizures (practicing in speciality/subspecialities of pediatrics, general medicine, specialites of family medicine, neurology, neurosurgery, anesthesiology and reanimation). The participants were divided into three groups according to the estimated annual number of pediatric patients with acute seizures they treated as follows: i) group-1: ≤ 10 , ii) group-2: 11-50, and iii) group-3: > 50 . Also, the participants were categorized whether they were pediatricians or not. Details regarding the first- and second-line therapy were questioned.

Results

A total of four hundred participants including 234 (58.5%) male, and 166 (41.5%) female physicians responded to the questionnaire. Precisely, 84.5% of the responders were pediatricians who remarked that they had self-confidence (Table 1). Tables II, III and Figure-1 present the rates of answers to the questions. Details about the TP- t_1 for tonic-clonic SE (32.3%) and for focal SE with impaired consciousness (6.8%) were least known. The rates of correct answers to the questions of the maximum number of benzodiazepine administrations in case of ongoing seizures ($p<0.001$), intravenous diazepam dose ($p=0.017$), and diazepam infusion time ($p=0.034$) were significantly higher in group-3 than in the other groups. Also, there was a significant tendency to administer lower doses of levetiracetam ($p=0.003$), and phenytoin ($p>0.001$), and to infuse IV phenytoin for longer periods of time ($p=0.003$) in group-3 than in the other groups (Table-IV). The rates of correct answers to the questions regarding the approach to the patients who presented during the postictal period ($p<0.001$), the TP- t_1 for tonic-clonic SE ($p=0.07$), the maximum number of benzodiazepine administrations in case of ongoing seizures ($p<0.001$), infusion times for diazepam ($p<0.001$), and levetiracetam ($p<0.001$), suitable administration solution for phenytoin ($p=0.043$) were significantly higher among pediatricians than non-pediatricians (Table-V).

Dicussion and Conclusion

The major findings in the current study were as follows; *i*) the details of the TP- t_1 for tonic-clonic SE (32.3%) and focal SE with impaired consciousness (6.8%) were the least known, *ii*) 40.5% of the participants wrongly stated that benzodiazepine should be administered at most three doses in case of ongoing seizures, *iii*) there was a tendency to administer lower doses of levetiracetam, and phenytoin, and use longer infusion time for phenytoin, *iv*) there was a wide distribution in knowledge levels and attitudes between the groups and between pediatricians and non-pediatricians. In conclusion, there is a wide variation in knowledge levels and attitudes among physicians. Organizing education programs focusing on the least known and/or important details for physicians is necessary for the acute management of seizures in pediatric patients.

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mugeayanoglu_05@hotmail.com