



# Improving the knowledge of epilepsy and reducing epilepsy-related stigma among children using educational video and educational drama—A comparison of the effectiveness of both interventions

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## ABSTRACT

**Purpose:** This study was intended to compare the effectiveness of educational animated video and educational drama in improving the knowledge of epilepsy and reducing epilepsy-related stigma among children aged 9–11 years.

**Method:** The first group of children involved in the study ( $n_1 = 762$ ) watched a video and then completed a questionnaire on epilepsy. The second group ( $n_2 = 400$ ) completed the questionnaire after participating in a drama. Both groups were retested 6 months later by the same questionnaire, which was also completed by a control group ( $n_3 = 180$ ) not subjected to intervention.

**Results:** Both groups subjected to intervention achieved significantly higher scores ( $P < 0.001$ ) than the control group on knowledge of epilepsy and on attitudes towards children with the disease. Educational video was more effective than drama in improving knowledge of epilepsy. On the other hand, there was no significant difference ( $P > 0.05$ ) between the two kinds of intervention regarding attitudes towards children with this disease.

**Conclusion:** The results suggest that both interventions could be used to reduce epilepsy-related stigma in this age group.

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## 1. Introduction

Epilepsy is one of the most common and serious chronic brain disorders of childhood, having multiple social and psychological consequences.<sup>1</sup> About 13,000 children suffer from epilepsy in the Czech Republic.<sup>2</sup> Despite biomedical advances in the diagnosis and treatment of epilepsy, there is still a lack of knowledge with regards to epilepsy and epilepsy-related stigma.<sup>3,4</sup> Stigma can contribute significantly to decreasing the quality of life of children suffering from epilepsy.<sup>5–7</sup> Social attitudes towards children with epilepsy and epilepsy-related stigma are often more damaging than the disease itself.<sup>8</sup> Some authors believe that stigma is more closely associated with social education and diagnosis of epilepsy itself than with the frequency of seizures.<sup>9,10</sup> Social education is conducted during contact between people and is the fundamental driving force in socialization. Stigma may lead to parents and teachers having lower expectations as to the epileptic child's

academic performance which may have a negative impact on the child's self-confidence and motivation to learn.<sup>11,12</sup>

Some studies show that a high level of knowledge about epilepsy correlates directly with a low level of epilepsy-related stigma.<sup>5,13,14</sup> It appears that lowering social stigma may significantly help to improve the quality of life of children and adolescents suffering from epilepsy.<sup>15–18</sup> Stigma may be lowered by various educational programs focused on increasing awareness and knowledge about epilepsy. The effectiveness of various types of educational programs was examined in the past with varying results.<sup>8,14,19–25</sup>

One of the effective ways to reduce disease-related stigma is to utilize educational video. This technique has been tested successfully on diseases such as schizophrenia<sup>26,27</sup> and other psychological disorders.<sup>28,29</sup> Educational videos were successfully used in the field of epilepsy as a tool to improve the knowledge of undergraduate students of psychology and to reduce epilepsy-related stigma in this target group.<sup>30</sup> It has been found that it is usually more difficult to achieve changes in attitudes towards patients with epilepsy than to increase knowledge about the disease.<sup>21,22,25</sup> The improvement of attitudes was achieved, for

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example, in a study<sup>14</sup> in 1955 in which participants were shown a video explaining the nature of epilepsy and the influence of social environment on the quality of life of people suffering from this disease. In the field of health education, attention was given to the use of educational drama as a means to increase the interest of students aged 13–16 years in epilepsy.<sup>31</sup> In 2006, an educational workshop was implemented in Mongolia and it included the use of educational drama and video.<sup>32</sup> Drama as an educational tool appropriate for school-children and youth was also employed in HIV and AIDS education in Uganda.<sup>33</sup>

Children aged 7–12 are an ideal target group for an epilepsy educational program. At this age they are learning to think logically about happenings around them and they are becoming aware of other people's perspectives.<sup>34</sup> Based on this and results from aforementioned studies, this paper deals with the comparison of the effectiveness of educational animated video and educational drama in increasing the level of knowledge in children aged 9–11 about epilepsy and decreasing epilepsy-related stigma.

## 2. Methodology

### 2.1. Procedure

The testing of children was preceded by interviews with school principals who agreed to the research.

Written consent from parents was also required before their children could take part in the study. Proportion of the parents who provided written consent was as high as 95%. The research itself was carried out in collaboration with classroom teachers who had been familiarized with the rules for testing children. The study was conducted in a total of 80 classes in 20 randomly selected primary schools in several cities in the Czech Republic. Both intervention groups and the control group were from different schools in order to avoid the contamination effects but the general characteristics of all 3 groups were very similar (see Section 2.3).

### 2.2. Materials

#### 2.2.1. Questionnaire

The questionnaire was intentionally chosen to contain a low number of questions, making it appropriate for respondents of such a young age. The goal was to not allow a lengthy completion of the questionnaire to overshadow the experience of watching the educational video or participating in the drama. A total of 7 questions was therefore viewed as optimal.<sup>35</sup> The questionnaire was prepared by a panel of child neurologists with extensive experience in the field of epilepsy-related educational activities for young children. In the process of development of the questionnaire, they used their long-term experiences with typical misconceptions Czech children in the targeted age group have regarding epilepsy. Questions 1–3 and 6–7 were general knowledge questions related to epilepsy, while questions 4–5 were about the attitudes towards children suffering from this disease. Each question had 3 possible responses of which one was correct (in questions concerning knowledge about epilepsy) or suitable in terms of reducing stigma associated with epilepsy (in questions concerning attitudes towards epilepsy). The questionnaire was first tested for understandability in the targeted age group. The questionnaire with the marked correct or suitable responses is attached in full.

#### 2.2.2. Educational video

The original version of the approximately 20-min long animated video was called *Turen der Gik I Fisk* (Adventures While Fishing) and was produced in Filmoforsyningen Film Studio with the support of the Danish company GlaxoWellcome. The animated

film was subsequently translated into other languages and used in Norway, Sweden, Finland, Iceland and Australia. Copyright was granted in the Czech Republic to a particular group and later to EpiStop Civic Association. The central theme of the video is a story in which children embark on a fishing trip in a boat during which one of them has an epileptic seizure. The film depicts 3 different types of epileptic seizures: tonic–clonic seizures, absence seizures and partial (focal) seizures. The film also contains basic information about first aid for an epileptic seizure and epilepsy treatment. The main emphasis of the video, however, is that children with epilepsy can experience the same happiness in life as their peers who do not have epilepsy. The film contains a variety of animated images, which makes it more attractive for young children.

### 2.2.3. Educational drama

The education drama was developed in collaboration with experts from the Department of Drama in Education of the Theatre Faculty in Prague. The drama theory which explains how to create a drama that involves the audience and results in beneficial changes in its attitudes, was used in the development of the drama. The educational drama was conducted by a work group which worked closely with 18 university educated and specially trained teachers of drama education who were already teaching drama at schools and other educational institutions in various cities in the Czech Republic. The educational drama was implemented in such a way as to maximize the involvement of children. In order to preserve the format of the educational video, the central theme of the drama was a story called *Island Adventure* which the teacher told the class. The story was about a group of children who went by boat to an island in the middle of a lake. On the island, one of the children had an epileptic seizure. A crucial part of the lesson was that the children replayed the story on the island including imitating the types of epileptic seizures in the educational video. In the discussion following the drama, children communicated their feelings. Part of the discussion included a detailed examination of what had really happened on the island. Children were allowed to invite an expert (doctor) into the game who would answer their questions about epilepsy and its health and social aspects. The implementation of interactive drama is described in detail in Ref.36.

### 2.3. Respondents

The basic characteristics of the sample group of respondents are shown in Table 1. All 3 groups of respondents which took part in the research are comparable in terms of age and gender. The research was conducted in the 4th and 5th grades of primary school corresponding to the age of 9–11 years. Respondents did not suffer from epilepsy and had not received any training in dealing with epilepsy. They also had no classmates with the disease because classes in which some of the children suffered from epilepsy were excluded from the study. Individual differences in knowledge about this disease were not systematically investigated. However, due to the high number and comparable

**Table 1**  
Basic groups characteristics.

Characteristic	Group 1: video	Group 2: drama	Group 3: control
No. of respondents	762	400	180
Gender			
Male	404 (53%)	201 (50.2%)	96 (53.3%)
Female	358 (47%)	199 (49.8%)	84 (46.7%)
Primary School Grade			
4. (Age 9–10 years)	387 (50.8%)	208 (52%)	96 (53.3%)
5. (Age 10–11 years)	375 (49.2%)	192 (48%)	84 (46.7%)

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