

Review

Knowledge of and attitudes towards epilepsy among teachers: A systematic review

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ABSTRACT

The objective of this study was to systematically review research that has focused on knowledge of and attitudes towards epilepsy among teachers.

Embase, PubMed, PsycINFO, Google Scholar, and Cochrane library databases from 2000 to 2017 were searched. Cross-sectional and interventional studies were included and analyzed for quality. Thematic analysis was used to identify common themes in the results. Fifty-four eligible studies (17,256 total participants in 27 different countries) were identified in the search period including seven studies that focused on assessing attitudes and knowledge before and after an educational intervention. It was not possible to systematically analyze levels of knowledge and nature of attitudes because of the wide variety of mostly bespoke study specific instruments used. Few studies employed valid and reliable instruments. Thematic analysis revealed three main themes in the results: 1.) deficits in knowledge and negative attitudes were pervasive across all studies; 2.) teachers often had a negative attitude towards participation of children with epilepsy in physical activities/sport; and 3.) teachers often expressed limited knowledge of seizure management/emergency procedures. There was a lower level of knowledge and more negative attitudes among teachers towards epilepsy compared with other conditions. All studies focusing on interventions showed that at least some aspects of knowledge and attitudes improved as a result of teacher participation in an educational intervention, but study quality was universally rated as low. A higher level of education and experience of teaching a child with epilepsy was significantly associated with greater knowledge in a number of studies. Additionally, having experience of teaching a child with epilepsy and greater assessed knowledge of epilepsy were associated with more positive attitudes. The wide range of methods used makes it difficult to generalize regarding level of attitudes and knowledge among teachers towards epilepsy. Nevertheless, all studies indicate that there are some deficits in knowledge of and negative attitudes towards epilepsy among teachers. It would appear that knowledge and attitudes can be improved by educational interventions. Future research should focus on developing psychometrically sound assessment instruments that can be used globally and on identifying the most effective ways of delivering efficacious educational initiatives employing robust study designs.

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1. Introduction

Population-based studies of long-term outcome in childhood epilepsy indicate that the condition is associated with significant adverse outcomes compared with the healthy population across a range of domains including education and employment [1,2]. In addition to seizures, children with epilepsy are at increased risk of learning and behavioral difficulties compared with children without epilepsy and children with other chronic medical conditions [3,4]. Additionally, the

condition is often associated with significant stigma, which can result in significant impairments in quality of life [5] and mental health difficulties [6]. Stigma and social discrimination are often the most difficult aspects of having epilepsy for individuals with epilepsy, especially in resource-poor settings [7].

School-related difficulties, as evidenced by receipt of special educational services, are common in children with epilepsy [8]. Cognitive, behavioral, motor, and academic difficulties are often associated with the condition [9,10]. These additional difficulties often have a greater impact on quality of life than the epileptic seizures [11] and contribute most to the economic cost of the condition [12]. However, the difficulties are often unrecognized despite having a very significant impact on school performance [9].

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A number of studies have highlighted a significant gap in teachers' knowledge of epilepsy and highlighted the presence of negative attitudes [13]. From a list of seven medical conditions, teachers reported lowest familiarity with epilepsy [14]. Teachers including those who were teaching a child with epilepsy at the time are often not aware of the high risk of learning difficulties in individuals with epilepsy [14], and in many cases, parents are likely to be the main providers of information to teachers of children with epilepsy [14]. Studies have also highlighted teachers' concerns about emergency procedures for students with epilepsy, apprehension in responding to seizures, a lack of resources and knowledge for meeting the needs of a child experiencing a prolonged convulsive seizure, and a fear of liability [15].

Given the potential wide-ranging impact of epilepsy on a child's education, it is important to understand the levels of knowledge among teachers as well as their attitudes towards epilepsy. The aim of this paper was to systematically review studies that have focused on levels of knowledge and attitudes towards epilepsy among teachers. Studies that focus on interventions to improve knowledge and attitudes are also reviewed. Additionally, the review focuses on factors significantly associated with knowledge and attitudes.

2. Methods

The Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) guidelines [16] were followed in order to undertake the systematic review of the literature and to present the results. A literature search was conducted on 15th January 2018. The electronic databases PubMed, Cochrane CENTRAL, Embase, ERIC, PsycINFO, and Google Scholar were searched using different combinations of the following keywords: teachers, knowledge, attitudes, epilepsy, and perception between the period 1st January 2000 to 31st December 2017. The combinations searched are in Supplement 1. Inclusion criteria were at least some teachers (this included teachers in training) in the sample, a focus on either attitudes towards or knowledge of epilepsy or both, and should be published in English. Studies could be cross-sectional or interventional, i.e., studies which assessed attitudes and knowledge before and after an educational intervention. Papers were excluded if a clearly defined measure of attitudes/knowledge was not found or the participants did not include teachers. A data extraction form was developed (see Supplement 2), which focused on extracting the main study characteristics and results. Data were independently extracted by two reviewers (CJ and CR), with any differences being resolved by consensus. The review was registered at https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=91026.

Because of the heterogeneity of the methods used, it was not possible to systematically review/analyze levels of knowledge or nature of attitudes among teachers. Given this, it was decided to conduct a qualitative analysis using thematic analysis [17] to identify themes in the results regarding levels of knowledge and nature of attitudes among teachers. Thematic analysis is a method of identifying and subsequently analyzing and reporting patterns or themes within data. The process of thematic analysis involved the two raters (CR and CJ) familiarizing themselves with the results in all studies. The results sections in all papers were read through in their entirety by both researchers. At this stage, both researchers took notes to hint at possible themes. The results sections of each paper were then blindly rated by both researchers using the generated themes on three separate occasions. After each occasion, the raters met to discuss discrepancies, i.e., lack of agreement regarding where a response should go in terms of themes, and agreement was reached before the next coding. The final coding was performed unblinded by both researchers together in order to facilitate agreement on themes, and it is this final assignment of themes that is reported on in the current paper.

In reporting of the results in the intervention studies, the term “significant” is used to denote associations between variables that were statistically significant at the $p < 0.05$ level.

2.1. Study quality

All intervention studies were assessed for quality using the Effective Public Health Practice Project (EPHPP) quality-rating tool (http://www.ephpp.ca/PDF/Quality%20Assessment%20Tool_2010_2.pdf accessed 3rd May 2018). This measure includes six questions focusing on selection bias, study design, confounders, blinding, data collection methods, and withdrawals and dropouts. Ratings on the six questions are used to derive a global rating classified as “strong” (no weak ratings), “moderate” (one weak rating), or “weak” (two or more weak ratings), and these are reported on in the current study.

Study quality for the cross-sectional studies was based on two questions from the EPHPP focusing on selection bias and data collection methods. On each of these two questions, a study was rated as “strong”, “moderate”, or “weak”. Each study was given a rating for both these questions.

Study quality for all studies was rated together by CJ and CR.

3. Results

Fig. 1 shows the search process. Fifty-five studies that met eligibility criteria were identified, and data were subsequently extracted from

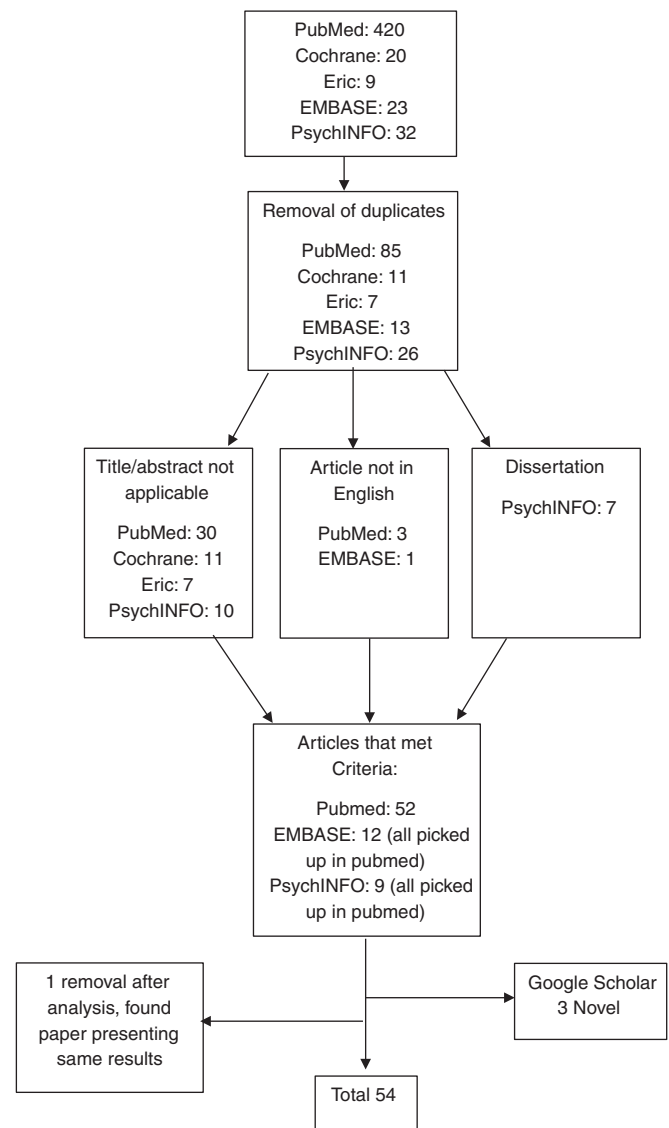


Fig. 1. Search process of the systematic review of knowledge of and attitudes towards epilepsy among teachers.

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