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Self-esteem in adolescents with epilepsy: Psychosocial and seizure-related correlates

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ABSTRACT

Purpose: This study evaluated self-esteem in adolescents with epilepsy and its association with psychosocial and disease-related variables.
Methods: This was a cross-sectional study with patients enrolled between January and June 2010. Culture-Free Self-Esteem Inventory for Children (CFSEI-2) was administered to 140 children with epilepsy and 50 children with asthma, aged 10–18 years attending mainstream schools.
Results: Adolescents with epilepsy had a significantly lower overall self-esteem score when compared with those with asthma, 17 ± 5.21 versus 19.4 ± 3.83, respectively ($P = 0.005$). Thirty-one (22.1%) children with epilepsy compared with 4 (8.3%) with asthma had overall self-esteem score below the cutoff ($P = 0.034$). There was a significant correlation between overall self-esteem score and duration of epilepsy, Hospital Anxiety and Depression Scale (HADS) anxiety score, HADS depression score, and Strengths and Weaknesses of ADHD symptoms and Normal-Behaviors (SWAN) rating combined score. The impact of various correlates on individual domains was not identical. Independent factors associated with low overall self-esteem were HADS depression score (OR: 1.62; 95% CI: 1.2, 2.2; $P = 0.002$), duration of epilepsy (OR: 1.4; 95% CI: 1.04, 1.88; $P = 0.024$), and father employment status economically inactive (OR: 11.9; 95% CI: 1.07, 125; $P = 0.044$). Seizure-free ≥12 months was a favorable factor that was less likely to be associated with low self-esteem (OR: 0.14; 95% CI: 0.02, 0.81; $P = 0.028$).
Conclusion: Self-esteem was compromised in adolescents with epilepsy. A significant correlation between self-esteem and psychological comorbidities was demonstrated. Enhancing social support and education programs may improve the self-esteem and, ultimately, the lives of adolescents living with epilepsy.

1. Introduction

Self-esteem refers to the perception the individual has of his or her self-worth. A person with high self-esteem is an individual with self-respect, who considers himself/herself to be of worth, is proud of his/her achievements, and can minimize the effects of stress. A positive self-esteem is a human need and has been found to be the most important factor contributing to psychosocial wellbeing [1]. Self-esteem has been described as being made up of several components, including general, social, and personal self-esteem [2]. Throughout childhood, self-esteem changes in response to maturation and environmental challenges. Adolescence is a life stage characterized by intense emotional and physical transformation. In individuals with chronic illness, adolescence may be a particularly vulnerable period [3]. Teens with high self-esteem may be more resilient to challenges from a chronic disease, be more compliant with therapies, and exhibit better adjustment [4]. Epilepsy during adolescence may significantly affect social development and maturation as a result of stigmatization, impaired independence, social function, academic achievement, and sense of helplessness [5,6]. Studies examining self-esteem in adolescents with epilepsy have been limited. A review suggested that self-esteem in adolescents may not be compromised; however, the conclusion is based on eight studies of modest methodological adequacy [7].

Because of the pervasive effects of epilepsy, unpredictability, and physical manifestations of seizures, it is reasonable to hypothesize that the self-esteem may be more compromised in adolescents with epilepsy than in those with other non-neurological chronic diseases. Asthma is one of the most common chronic childhood illnesses. According to Austin and Huberty, children with epilepsy and asthma related the feelings they had about themselves to their feelings about their chronic conditions [4]. Self-esteem may be related to many factors, including social environment, education, and past experience with illness. The aim of this study was to evaluate self-esteem in adolescents with epilepsy and compare them with those with asthma. Within the group with epilepsy, we sought to evaluate self-esteem in relation to psychosocial and disease-related variables.

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2. Methods

This was a cross-sectional study with patients enrolled between January and June 2010. The study was approved by a regional hospital ethic committee. Written informed consent was obtained from all participants. Patients aged 10–18 years attending neurology out-patient clinics in Tuen Mun Hospital were recruited. Inclusion criteria were diagnosis of epilepsy whether or not treated with antiepileptic drugs and literate in Chinese. Patients who had experienced a seizure within the previous 24 h, attending schools with special needs, with progressive structural brain abnormalities such as malignancy or neurodegenerative diseases, who had surgery in the past 4 weeks, or who had nonepileptic seizures were excluded. Adolescents, aged 10–18 years, with asthma attending mainstream schools were recruited in our respiratory clinic for comparison.

Self-esteem was measured using the Culture-Free Self-Esteem Inventory for Children (CFSEI-2) [8]. It is a reliable tool in the measurement of self-esteem among children. The CFSEI-2 is a self-reported inventory that has been validated and applied in the local population [9,10]. It contains 30 items including a lie subset that indicates defensiveness. Each item is scored as 0 or 1 except for the 5 items that make up the lie subset, with the total score ranging from 0 (low self-esteem) to 25 (high self-esteem). The domains of CFSEI-2 consist of the following: (1) general self-esteem refers to an individual's overall perceptions of his/her worth, (2) social self-esteem refers to an individual's perceptions of the quality of their relationships with peers, (3) academic self-esteem refers to an individual's perceptions of their ability to succeed academically, and (4) parent-related self-esteem refers to an individual's perceptions of their status at home including their subjective perceptions of how their parents view them.

The psychological comorbidities that we evaluated were attention-deficit hyperactivity disorder (ADHD), anxiety, and depression using Chinese versions of instruments that have been validated. Strengths and Weaknesses of ADHD symptoms and Normal-Behaviors (SWAN) rating scale was used in the assessment of ADHD; a 19-item questionnaire with a 7-point response ranging from +3 (far below average) to −3 (far above average) for each item was obtained from the parent [11,12]. Symptoms of anxiety and depression were assessed by Hospital Anxiety and Depression Scale (HADS), a self-reported scale that has two subscales, seven questions each for depression and anxiety with a four-point response set [13].

Medical records were reviewed to collect the following information: details of seizure, age of seizure onset, etiologies of epilepsy, current antiepileptic drugs, electroencephalogram (EEG), neuroimaging findings, and seizure outcome. We identified a number of potential sociodemographic and health confounders, these included age, gender, parental education qualification, parental employment status, tenure of accommodation (rented versus self-own), need for Comprehensive Social Security Assistance (CSSA), psychiatric illness of first degree relatives, and other medical comorbidities.

Revised terminology and concepts for organization of seizures and epilepsies based on the report of the ILAE Commission on Classification and Terminology, 2005–2009 were used [14]. Classification of epilepsy was based on seizure descriptions, physical examination, and relevant investigations. Epilepsy was defined as two or more unprovoked seizures more than 24 h apart in a child over 1 month of age. Seizure-free status was defined as no seizure for at least 12 months at time of the self-esteem study.

In order to evaluate sociodemographic and seizure-related variables on self-esteem, children below the CFSEI-2 cutoff were included as cases and compared with those above the cutoff as controls. The cutoff was 11 for overall inventory, 4 for general domain, and 2 for social, academic, and parent-related domains [8]. Data processing and analysis were performed using SPSS version 11. Parametric and nonparametric tests were used to evaluate the effects of a variety of demographic and disease-related factors. Self-esteem scores of children with epilepsy and asthma were compared using Mann–Whitney test. Chi square and Fisher test were used to compare categorical variables. Odds Ratios (OR) and 95% Confidence Intervals (CI) were calculated. Forward Logistic Regression was used for multivariate analysis; values of $P \leq 0.05$ were considered significant.

3. Results

A total of 140 children (71 boys, 69 girls) with epilepsy and 50 children (19 girls, 31 boys) with asthma participated in the study. Cronbach's alpha from the CFSEI-2 was as follows: 0.757 for total self-esteem, 0.617 for general self-esteem, 0.732 for social self-esteem, 0.681 for academic self-esteem, and 0.733 for parental-related self-esteem. The Cronbach's alpha values in the present study supported the reliability of the scale and are consistent with results reported in other studies [15,16].

There was no sociodemographic difference between the two groups (Table 1).

Adolescents with epilepsy, when compared with those with asthma, had lower overall self-esteem scores, 17 ± 5.21 versus 19.4 ± 3.83, respectively ($P = 0.005$). Thirty-one (22.1%) children with epilepsy compared with 4 (8.3%) with asthma had an overall self-esteem score below the cutoff ($P = 0.034$). Overall self-esteem score for our adolescents with epilepsy was 16.03 ± 5.63 in females and 17.99 ± 4.59 in males ($P = 0.05$). In adolescents with epilepsy, 65.7% had focal seizures, and structural/metabolic causes accounted for for the etiology in 24.6%. Ninety-three (66.4%) children were seizure-free for over 12 months, and antiepileptic drugs were discontinued in 35 (25%).

Table 2 lists the correlation between CFSEI-2 scores and different variables in patients with epilepsy. There was a significant negative correlation between overall self-esteem scores and duration of epilepsy, HADS anxiety score, HADS depression score, and ADHD scores. The impact of various correlates on individual domains was not entirely identical. Duration of epilepsy had a significant negative correlation with scores in general, academic domain, and parent-related self-esteem. Younger age at seizure onset was associated with a low score only in the social domain. Number of antiepileptic drugs had a negative correlation with scores in general but not in other components of self-esteem. There was a significant negative association between anxiety score and scores in general, social, and academic domains. Depression score and ADHD combined score had a negative correlation with scores in all 4 components of self-esteem.

Results of univariate analysis of psychosocial and clinical factors related to overall self-esteem score ≤ 11 are shown in Table 3. In the order of strength of association, these were the following: HADS depression score, HADS anxiety score, ADHD combined score, longer duration of epilepsy, polytherapy (antiepileptic drugs ≥ 2), father employment status economically inactive, frequent seizures (weekly or

Table 1
Sociodemographic features of groups with epilepsy and asthma.

	Epilepsy (n = 140)	Asthma (n = 50)	*P* value
Age at examination, years	14.5 ± 2.8	13.6 ± 2.36	NS
Gender, female (%)	48.9	38	NS
Father education qualification, college/university or above (%)	3.5	2.1	NS
Mother education qualification, college/university or above (%)	4.2	6	NS
Father employment status, economically inactive (%)	15	10	NS
Mother employment status, economically inactive (%)	42.2	36	NS
Rented accommodation (%)	42.8	60	NS
Comprehensive Social Security Assistance scheme (%)	20.9	16	NS
Psychiatric illness in first degree relative (%)	5.2	12	NS
Concomitant medical illness (%)	18.5	16	NS
Duration of disease, years	5.6 ± 3.9	5.8 ± 4.2	NS