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ORIGINAL

REMOTE DIAGNOSIS AND IMPLEMENTATION EFFECT OF FAMILY FOLLOW-UP EDUCATION AFTER EPILEPSY IN SCHOOL-AGED ATHLETIC CHILDREN

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ABSTRACT

Objective: To examine the effect of family follow-up education on anxiety and depression, quality of life, and self-efficacy for rational medication use in school-aged athletic children with epilepsy after discharge. **Methods:** A total of 100 school-age athletic children with epilepsy who were admitted to the Defiantly improved compared with the control group, the anxiety and depression were significantly improved, and the quality of life was significantly improved (P<0.05). **Conclusion:** Family follow-up education for school-age athletic children with epilepsy after discharge from the hospital can significantly improve their rational medication self-efficacy, improve their anxiety and depression, and enhance their quality of life.

KEYWORDS: school-age epilepsy; family follow-up education; effect evaluation

1. INTRODUCTION

Epilepsy is a chronic disease and has become the second most common disease of the nervous system. At present, there are more than 5 million athletic children with epilepsy in China, and the prevalence of epilepsy among people aged 0-9 and 10-19 in China is 2.21‰ and 3.23‰, respectively (Gu et al., 2013; Henstridge, Hyman, & Spires-Jones, 2019). Epilepsy needs to be treated through regular follow-up and continuous drug supply. The number of epilepsy patients who need long-term use of antiepileptic drugs in China has exceeded 10 million. If the drug is suddenly stopped, it may cause recurrent epileptic seizures or even status epilepticus. For school-age athletic children, self-

concepts become more complex, enriched, and abstract, and they are more susceptible to disease disturbances, especially the stigma and social exclusion caused by epileptic seizures and prolonged disease duration (Martin, 2016; Wang, Zhong, Qiao, & Ma, 2020). Huge psychological pressure can lead to various negative emotions such as anxiety and depression in athletic children, which brings great difficulties to home care of athletic children with epilepsy after discharge from hospital. Family follow-up education is a form of continuous nursing. Through continuous tracking and guidance of home care for athletic children with epilepsy after discharge from hospital, it can intervene in the physiological and psychological states of athletic children with epilepsy, so as to ensure continuous treatment effects in the home process to ensure the quality of life of athletic children with epilepsy and their families (Gao, Burney, Callahan, Purnell, & Hendrie, 2019; Gill, Freshman, Blender, & Ravina, 2008).

2 Research Objects and methods

2.1 Research objects

Using the convenience sampling method, 100 school-age athletic children with epilepsy admitted to the Department of Neurology, Anhui Children's Hospital from April 2021 to December 2021 were selected as the research objects, and divided into the experimental group and the control group with 50 cases in each. Inclusion criteria: ① Meet the 2014 International League Against Epilepsy (ILAE) classification and definition criteria for epilepsy; ② Age 6-14 years old; ③ Oral antiepileptic drug treatment; ④ Athletic Children with clear consciousness and no communication barriers.

Exclusion criteria: ① Athletic Children with mental retardation or other neurological diseases; ② Athletic Children with severe heart, liver and kidney diseases. ③A major stressful event occurred in the family in the past 3 months. This study has been reviewed by the hospital ethics committee, and the patient's caregivers gave informed consent and signed the informed consent form. There was no significant difference in general data between the two groups (P>0.05), and they were comparable, see Table 1.

Table 1 Basic information of the two groups of children

ITEM	EXPERIMENTAL GROUP	CONTROL GROUP	X2/T	P VALUE
Gender and masculinity	32	28	0.6667	0.414
Gender and women	18	22		
Average age (years)	10.42	10.20	0.333	0.741
Disease duration (years)	5.23	5.52	0.343	0.733
The total number of drug types (pieces)	1.80	1.52	1.208	0.233
Academic performance	2.77	3.04	0.823	0.414
Family's financial situation	3.00	2.84	1.186	0.241

2.2 Research Method

2.2.1 Intervention methods

Control group: routine health education and discharge guidance were implemented, and regular telephone follow-up was conducted after discharge to understand the Athletic children's home conditions.

Experimental group: On the basis of the control group, a family follow-up education program was implemented. The specific program is as follows:

(1) The child's responsible nurse, bed doctor, 1 pediatric neurology specialist (attending physician and above), 2 pediatric neurology specialist nurses (supervisor nurse), and 1 psychotherapist will form a family follow-up visit Education group.

(2) When the child is discharged from the hospital, the parent of the child and all members of the education team will establish a WeChat group, which is an exclusive group for the child’s family follow-up education.

At the same time, inform the child and parents that the group will regularly publish some Home care knowledge of epilepsy, if you have any questions during the home care process, you can ask them in the group at any time, and a special person is responsible for answering: specialist nurses are responsible for answering the content about home care, and specialist physicians are responsible for answering questions about the diagnosis and treatment of the disease, Psychotherapists are responsible for counseling and intervening in the mental state of Athletic children.

(3) The specialist nurses of the follow-up team will conduct telephone follow-up visits to the Athletic children and their parents on time every month. During the telephone calls, the nurses will inform the Athletic children of some contents that need to be paid attention to during the process of staying at home, such as attention to diet, rest, study and exercise. If any problem is found in the child, it will be recorded.

After discussion with the follow-up group, a solution will be formulated and then communicated with the child or the parent. For Athletic children with negative emotions, the psychotherapist of the group will be arranged to Communicate with the Athletic children individually in the form of video, and make an appointment with the Athletic children and their parents to go to the ward for a sand play treatment at the next review, and once again channel the negative emotions of the Athletic children through interviews and sand play games, and the psychotherapist will continue to pay attention to the psychological status of the child, and adjust the psychological intervention plan through the implementation of the evaluation.

2.3 Evaluation indicators

2.3.1 Athletic Children's Anxiety Mood Disorder Scale (The Screen for Child Anxiety related Emotional Disorders，SCARED)

Su Linyan et al developed the screening table in 2002. The Chinese norm of this scale is used to assess anxiety disorders in Athletic children. The scale has 41 items, divided into somatic (Wang Kai, Su Linyan, & Zhu Yan et al., 2002). factors: phobia/panic, generalized anxiety, separation anxiety, social phobia, and school phobia. A three-point scale of 0 to 2 (0 does not have this problem; 1 sometimes has; 2 often) is used to evaluate the mood in the past 3 months, with higher scores indicating higher levels of anxiety.

2.3.2 Depression Self-Rating Scale for Athletic Children, DSRSC)

Using the self-rating scale developed by Su Linyan et al. The Chinese norm of this scale for assessing depressive disorders in children. The scale has a total of 18 items, also using A three-point scale of 0 to 2 (0 does not have this problem; 1 is sometimes present; 2 is often present) is used to assess the mood of the past week, with higher scores indicating higher levels of depressive disorder (Wang Kai et al., 2002).

2.3.3 Quality of Life Inventory for Athletic Children Measurement Models, PedsQL)

Using the measurement table by Lu Yiyun et al in Chinese athletic children. It has achieved good reliability and validity in the research of chronic disease and can be used to assess the quality of life of Athletic children with chronic diseases. scale contains 23 items, divided into four areas (Lu Yiyun, Lin Yudeng, & Hao Yuantao et al., 2008). Among them, physiological function contains 8 items, emotional function contains 5 items, social function contains 5 items, role (school performance) function contains 5 items each. The item uses five grades from 0 to 4 to evaluate the frequency of a certain event in the last month, and the corresponding changes are made when scoring. Converted to 100-0 points, the higher the score, the better the quality of life.

2.3.4 Self-Efficacy for Appropriate Medication Use Scale (SEAMS)

This scale was developed by Risser in 2007 based on self-efficacy theory and was Chineseized in 2015 (Risser, Jacobson, & Kripalani, 2007). The scale includes self-efficacy in uncertain situations (5 items) and self-efficacy in difficult situations (8 items), with 13 items in 2 dimensions, on a 3-point Likert scale, ranging from 1 to 3 points on a scale from unconfident to very confident. The total score ranges from 13 to 39, and the higher the score, the higher the patient's self-efficacy in adhering to rational medication use. The Cronbach's a coefficient of the scale was 0.915, and the fold-half reliability was 0.889.

2.4 Timing of evaluation

All scales were evaluated 1 day before and 3 months after discharge.

2.5 Statistical methods

SPSS software was used for statistical analysis of the data, measurement data were expressed as mean; count data was tested by chi-square test, and $P<0.05$ was considered to be statistically significant.

3. Results

3.1 Comparison of anxiety and depression scores between the two groups of children with epilepsy before and after intervention

It can be seen from Table 2 that the anxiety and depression scores of the two groups of athletic children after the intervention were lower than those before the intervention, but the anxiety and depression scores of the athletic children in the experimental group after the intervention were in somatization/panic, generalized anxiety, separation anxiety, and social fear.

Compared with the control group, the total scores of anxieties and depression were significantly improved, and the difference was statistically significant ($P<0.05$).

Table 2 Comparison of anxiety and depression scores between the two groups of children with epilepsy before and after intervention

IMPACT FACTOR	EXPERIMENTAL GROUP		CONTROL GROUP		F	P
	Before experiment	After experiment	Before experiment	After experiment		
somatization/panic	3.73	2.69	4.92	4.08	2.875	0.040
generalized anxiety	5.27	2.81	3.76	3.64	3.936	0.011
separation anxiety	4.88	2.35	4.00	3.64	3.774	0.013
social anxiety	5.42	2.73	4.48	4.80	3.973	0.010
school fear	1.31	1.31	1.48	13.36	0.121	0.947
Anxiety Total Score	20.62	11.88	18.64	17.52	4.924	0.030
Depression total score	9.92	7.15	10.16	8.84	2.129	0.102

3.2 Comparison of quality-of-life scores between two groups of athletic children with epilepsy before and after intervention

From Table 3, it can be seen that the scores of all dimensions of quality of life and the total score of the two groups of athletic children with epilepsy increased after the intervention, while the emotional function and social function of the experimental group were significantly improved after the intervention compared with the control group, and the difference was statistically significant. (P<0.05).

Table 3 Comparison of quality-of-life scores of children with epilepsy before and after intervention in the two groups

IMPACT FACTOR	EXPERIMENTAL GROUP		CONTROL GROUP		F	P
	Before intervention	After intervention	Before intervention	After intervention		
Physiological function	76.90	81.73	77.00	77.60	0.468	0.705
Emotional function	75.24	84.38	74.13	80.25	3.040	0.033
Social function	71.15	77.31	63.89	68.60	2.992	0.035
Role function	71.15	77.69	75.20	81.40	1.019	0.388
Total score	73.79	80.81	72.74	77.39	1.953	0.126

3.3 Comparison of rational medication self-efficacy in athletic children with epilepsy before and after the intervention in both groups

On the Rational Medication Self-Efficacy Scale, those who scored 39 were considered to have high medication self-efficacy. Before the intervention, the proportion of athletic children with high medication self-efficacy was 36% and 52% in the experimental and control groups, respectively. After the intervention, the experimental group was compliant with medication. The sex was significantly higher than before the intervention, and the difference was statistically significant (P<0.05), as shown in Table 4.

Table 4 Comparison of rational medication self-efficacy of children with epilepsy before and after intervention in both groups

	TEST GROUP	CONTROL GROUP
Before intervention	18（36%）	26（52%）
After intervention	40（80%）	28（56%）
X2	9.433	0.810
P	0.002	0.777

4. Discussion

Epilepsy, also known as "sheep horn wind" and "sheep epilepsy", due to the society's lack of understanding of epilepsy, there is also a deep misunderstanding of epilepsy patients, discrimination and resistance to epilepsy patients, and epilepsy patients will also suffer from it (Bautista, 2017; Prussien et al., 2018). They are reluctant to participate in various social and group activities, and it is difficult to integrate into group life. However, school-age athletic children are in an important period of growth, development and cultural learning, and are more likely to have psychological problems than adults. Studies have shown that the family's economic status, discrimination experience, the ability of parents and caregivers to cope with the disease, and the pressure and burden during the care process of school-age athletic children with epilepsy are all influencing factors of negative emotions in athletic children with epilepsy (Chen, Huang, & Xu, 2020; Li et al., 2019; Roozbehkia et al., 2017). Family follow-up education provides real-time attention to athletic children with epilepsy through professional medical staff, answers the athletic children's concerns, understands the changes in the child's state, evaluates the child's psychological condition, and intervenes by professional psychotherapists, so as to make school-age epilepsy athletic Children can calmly face all kinds of difficulties in life and learning, and ease their emotions in time. The results of this study show that through family follow-up intervention in school-age athletic children with epilepsy, somatization/panic, generalized anxiety, separation anxiety, social anxiety, anxiety and total anxiety The scores of depression were significantly lower than those before the intervention, and the difference was statistically significant (Cramm et al., 2021; Lee et al., 2021; Mochizuki et al., 2021). In terms of athletic children's quality of life, it mainly involves physiological function, emotional function, social function and role function. The results of this study show that through family follow-up education, athletic children's emotional function and social function have been significantly improved after intervention. , This may be due to the onset of the disease, the athletic children's attention, thinking ability and memory may be impaired to varying degrees, and they are prone to learning difficulties, making them lose their confidence in learning (Garrod, Paul, & Wedzicha, 2002; Tome, Obreza, & Časar, 2020). In addition, many parents are reluctant to inform others that their athletic children have a history of epilepsy, which makes athletic children feel ashamed, often leads to self-isolation, does not like to socialize with others, does not like to participate in group activities, and has low social adaptability; Athletic Children with epilepsy may also be overprotected and restricted by their parents, which increases the risk of emotional anxiety and depression (Shen et al., 2020). Family follow-up education pays special attention to the psychological state of athletic children with epilepsy. Through psychological intervention, it can ease the negative emotions of athletic children with epilepsy and enable them to correct Facing the society, facing the peers, and facing the school, so that they can gradually integrate into the society. Therefore, through

family follow-up education, school-age athletic children with epilepsy have significantly improved their social and emotional functions (Contin et al., 2019; Larson, Schneider, & Simuni, 2021). Medication compliance is the key to ensuring the continuity of treatment, and the positive intervention of school-age athletic children with epilepsy through family follow-up education enables athletic children with epilepsy to correctly face the disease, face life and study, and establish confidence in overcoming the disease, thereby improving the quality of life. The medication adherence of athletic children with epilepsy. This study shows that after family follow-up education intervention, the medication adherence of school-age athletic children with epilepsy is significantly improved (Lehmann, Baghestan, Børdahl, Muller Irgens, & Rasmussen, 2019).

5. Conclusion

This experiment shows that health education and intervention guidance for school-age athletic children with epilepsy through family follow-up education after discharge can effectively improve the negative emotions of school-age athletic children, so that they can gradually improve their self-care ability in home care, and improve the It can improve the emotional coping ability of athletic children with epilepsy, so as to improve the adverse psychological state of athletic children with epilepsy, improve their compliance with medication, and ensure the continuity of epilepsy treatment, thereby improving the curative effect and the quality of life of athletic children with epilepsy and their families. Due to the small sample size this time, underrepresented, in future experiments, the sample size can be increased to more objectively reflect the state of school-age athletic children with epilepsy, and to better serve athletic children with epilepsy.

Data Availability

The experimental data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declared that they have no conflicts of interest regarding this work.

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