



Effects of Social Skills Training on Social Interactions of Children with Epilepsy

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Abstract

Background: Children with epilepsy have behavioral and social interactions problems more often than their peers. The purpose of this study was to investigate the effect of social skills training on the social interaction of children with epilepsy.

Objectives: The aim of this study was to examine the influence of social skills training on the social interaction of children with epilepsy

Methods: This was a 1 group quasi-experimental study with pretest and posttest design. Through convenience sampling, 40 children between the ages of 6 and 12 years (mean = 11.8 years, SD = 1.8) with epilepsy were selected from the Iranian epilepsy association from August to December 2014. The social skills rating system scale was used to collect data. Social skills training in 4 sessions' were conducted for the group. Training consisted of 1 session per week. Paired-samples t-test was used for analyzing the pre- and post-results of intervention. The significance level was considered less than 0.05.

Results: The mean score of the social interaction of children with epilepsy was increased after social skills training intervention. This difference between before and after intervention was statistically significant ($P < 0.001$). Therefore, social skills training had a positive influence on the social interaction of children with epilepsy. This positive change was observed in all subscale of social interactions such as cooperation, decisiveness, responsibility, and self-control.

Conclusions: The results showed that social skills training due to increase social interaction could improve the social function and maybe reduce high-risk behaviors in children with epilepsy.

Keywords: Child, Epilepsy, Social Skills Training

1. Background

Epilepsy results in certain views and beliefs that are different from those of the normal people. These views are reinforced through negative experiences regarding affliction with epilepsy and result in high levels of depression and anxiety (1). Uncertainty of epilepsy attacks, the chronic nature of the disease, being labeled and rejection by society result in high levels of anxiety, and depression among children with epilepsy (2). A higher rate of neurological pathology is observed among teenagers with epilepsy and a frequency of 21% to 60% is observed among the children with epilepsy. These are 3 to 6 times more than the normal population and it is considerably more than the mental pathology of other chronic diseases in children. Due to having a negative image of themselves and a sense of uselessness, the children with epilepsy deprive themselves of many effective functioning opportunities and resort to

solitude and desperation instead of trying to solve their problem correctly (3). Children with epilepsy, comparing to normal ones, experience higher levels of major depression, separation anxiety, attention deficit hyperactivity disorder, and generalized anxiety disorder among (4).

Getting along with other people is an important part of life. Examples of social skills include cooperation, assertion, responsibility, self-control, and empathy (compassion). Children and adolescents with epilepsy may find it hard to get along with others, partly because epilepsy may limit some activities (like physical activities) in which children learn rules and establish friendships. Other children may make fun of them. On the other hand, parents may keep them from taking part in some social activities with their peer groups because of fear regarding their seizure attack in the public. Unfortunately, these patterns may end up teaching children to avoid activities or Sociability with

people (5).

There are plenty of strategies and actions that can be taken in the field of children's education. The most important ones are social skills and peer interaction strategies (6). As a prominent researcher and theorist in the field of social skills, Eliot has given the following definition for such skills: social skills are favorable acquired behaviors that enable one to interact with others in an effective way and gain their positive reactions and avoid their negative reactions (7). These skills, which usually seek to develop the socio-emotional skills of the children and enhance their interaction, are usually coupled with emotion management, sympathy skills and problem solving, as well as self-control skills (8).

The related studies suggested many considerable evidences regarding predictive characters of social life of children with epilepsy in childhood and adolescence (4, 9-11). Children with epilepsy, especially complex epilepsy, had lower social skills with regards to their age and more behavioral problems. The consequences of epilepsy disorder, because of its nature and long-term treatment, damage the children's ability to achieve social competence (9). Children with epilepsy comparing with their healthy siblings had lower levels of social skills and self-confidence (10). Lacks of social skills had a negative effect on them and result in various problems such as behavioral disorders and lack of reconciliation in interpersonal relationships. Epilepsy disorder would have been negatively affected on children's growth and coping with the demand of society. Poor social skills of children with epilepsy may be susceptible to those with psychological disorders (11).

Therefore, a child with poor necessary social skills will have difficulty with joining social groups, finding friends, and socializing with their relatives. So, their feeling of isolation and loneliness can damage their communicative effort in turn and social and behavioral problems threaten their normal growth and development (12). Thus, teaching appropriate social skills and providing opportunities and experiences, enhancing social interactions will help children with chronic disease such as epilepsy, practice and utilize social strategies and skills in all real life situations and environments (13). Teaching social skills to children with epilepsy can create a sense of competence, effectiveness, self-belief, planning, as well as purposeful and appropriate behavior. As a matter of fact, it will enhance their capabilities and improve their social skills and also help create a healthy society. The purpose of the present study was to examine the influence of social skills training on the social interaction of children with epilepsy.

2. Objectives

The purpose of the present study was to evaluate the effect of social skills training on the social interaction of children with epilepsy.

3. Patients and Methods

3.1. Study Design and Setting

This one group quasi-experimental with pre- and post-test study was conducted from August to December 2014, in the Iranian epilepsy association. The subjects were selected by convenience sampling. The sample size included 40 children with epilepsy. Inclusion criteria included: diagnosis of epilepsy and idiopathic epileptic syndrome established according to the clinician neurologist diagnostic examination, age 6 - 12 years, with a regular school attendance and living in Hamadan city. Exclusion criteria were a positive history of mental retardation, psychiatric disorders, and chronic physical diseases of child as well as a positive family history of any diagnostic psychiatric disorders in parents and sibling.

The sample size in this study was calculated according to the Rahmati et al. (2010) study (13).

$$n = \frac{(Z_{1-\frac{\alpha}{2}} + Z_{1-\beta})^2 S^2}{d^2} \quad (1)$$

$$n = \frac{(1.96 + 0.84)^2 5^2}{(2.25)^2} \quad (2)$$

3.2. Instruments

In this study, 2 questionnaires included demographic and social skills rating system (SSRS) were used to collect data. Demographic questionnaire included children's personal variables such as age, gender, birth order, education, and parents personal variables such as age, gender, educational degree, marital status, occupation, history of mental illness, history of psychiatric medication use or any other diseases. Social skills rating system was used for assessing social skills of children with epilepsy. The social skills rating system (Gresham and Elliot 1990) is a norm-referenced assessment tool that focuses on social skills and problem behaviors in pre-school, elementary, and secondary students (14). The SSRS consists of 3 forms for students, parents, and teachers (15). The SSRS focuses on the following measurement areas: (1) social skills (2) problem behaviors and (3) academic competence (in the teacher report form). Each questionnaire contains 34 to 57 items on a 3-point scale (0 = never, 1 = sometimes, 2 = very often) that assess the individual's social behavior. We used the parent form.

The parent form asks the parent or caregiver to rate the behavior of the child to describe the individual's typical behavior.

The Social Skills scale has 5 subscales: cooperation, assertion, responsibility, empathy, and self-control. The sum of the subscales yield "behavior levels" that indicate the descriptive frequency of a particular behavior. All subscale scores can be summed to provide standard scores and percentile ranks based on the normative sample.

Since its release, there is much of the published evidence of suitable reliability and validity for the SSRS has focused primarily on the teacher and parent report forms (16, 17). Internal consistency yielded average coefficient alpha reliabilities of 0.90 for the Social Skills scale. Test-retest reliability for parent scores of the elementary-aged was 0.80 on the Social Skills scale (16).

Reliability of the parent form of the questionnaire were assessed in Iranian children and Cronbach's alpha $\alpha = 0.87$ showed appropriate internal consistency of the social skills rating system (18, 19). Questionnaires were completed as self-report by one of the parents.

3.3. Data Collection and Intervention Methods

First, the time and place of classes were organized with the participants. The educational program was composed of 4 sessions and each session would last for 1 hour. Before the first session, parents learned about educational interventions and methods of completing questionnaires. They were then asked to complete the questionnaires before and 1 month after intervention.

Social skills training have been widely used as interventions with children and adolescents in order for them to attain social competence. Social skills training programs are designed to teach pro-social skills and social adjustment. Social skills training programs are designed to allow an individual to attain 3 goals: (a) development of positive interpersonal relationships, (b) ability to cope with expectations of various social situations, and (c) execution of effective communication in social situations. Contents that most contemporary approaches have been divided into 4 approaches: (a) the social skills approach, (b) the social problem-solving approach, (c) the social perspective taking, and (d) the self-control training (20).

The sessions in the present study were focused on the following issues:

First session was orientation. The children and their parents introduced them and shared their experiences. Necessary information regarding epilepsy and its influence of epilepsy on lifestyle of children and their family were provide based on their needs. Then, volunteer children and parents explained one of his/her social experience with someone else such as their sister, brother,

friends, peers, or relatives. Therefore the current social skills approach of them was tested.

In the second session, social skills approach and the effects on life and the social problem-solving approach were taught. For example, friendly relationships, selecting a good friend, fulfill their expectations, keeping their relationships, what to expecting from their friends, and so on.

Third session was the social perspective taking, such as cooperation in the family, among a group of peers and their friends. For this purpose, cooperation was defined and the good points of cooperating with other people were explained. Then, the children were asked to draw pictures together or take part in a group playing.

Fourth session was the self-control training, especially in anger and wrath. First the children were asked explain their definition, how they express their anger and ultimately, their using strategies to control their anger. Then, some information was taught about self-control techniques such as deep breathing and using alternative methods to express anger like fisting into pillows. At the end of the sessions, pamphlets and educational booklets about the topics with more details were given to the participants.

3.4. Data Analysis

The data was analyzed using SPSS 16, with descriptive statistics including frequency; mean and standard deviation, Kolmogorov-Smirnov test, and t-test for comparing the mean score before and after intervention. The significance level was considered less than 0.05.

3.5. Ethical Consideration

The study was approved by the ethics committee of Medical Science of Hamadan University (No: 930126503). Written informed consent was obtained from the parents and children. It is also noteworthy that the results of the study were anonymously reported to comply with the ethical criteria.

4. Results

Forty children with epilepsy between the ages of 6 and 12 years were assessed. Of these, 51.7% were male with a mean age of 11.8 ± 1.8 years. The majority of respondents (75%) to the questionnaire were the mothers (Table 1).

The mean score social interactions of children with epilepsy were 45.6 ± 8.2 before and 63.5 ± 7.8 after the intervention. In other words, it showed the mean score social

Table 1. Characteristics of Children with Epilepsy

Variables	Frequency	Percentage
Sex		
Female	17	42.5
Male	34	57.5
Birth order		
1	17	42.5
2	10	25
3	8	20
4 ≥	5	12.5
Education level		
1	5	10
2	5	12.5
3	8	20
4	10	25
5	6	15
6	7	17.5
Parents		
Mother	30	75
Father	10	25
Age, y		
Mean ± SD	11.8 ± 1.8	

interactions increased after social skills training intervention. The differences between mean score social interactions and its domains cooperation, responsibility, and self-control before and after intervention were statistically significant ($P < 0.001$) (Table 2). However, no significant correlation was observed between children's demographic information and social interactions (Table 3).

5. Discussion

Social skills facilitate an individual's communication with other people and are important in order to have socially acceptable behaviors. Acquiring and developing social skills is an important goal of childhood and adolescence. Social skills problems of children and adolescents with epilepsy may be the result of a learning disability and other family difficulties, which may or may not be related to epilepsy. This study was conducted in order to examine the effect of social skills training on the social interactions of 6 to 12 year old children diagnosed with epilepsy. The results indicated a significant increase in social interactions of children with epilepsy due to a 1-month social

skills training program, based on mother evaluation. Parents reported significant progress in overall social behavior, based on the subscales cooperation, decisiveness, responsibility and self-control, in their home.

The actual nature of epilepsy might reduce children unwilling to interact with peers and avoid social situations. This would be responsible for their poor social skills and fail to interact with peers and others (10). Social isolation, poor social adaptation, embarrassment by a seizure, low self-esteem, and academic under-achievement of people with epilepsy might result in a missing support network and fewer friends (21). In their childhood, children with epilepsy are found to exhibit lower social competence than children without epilepsy. Also, children with epilepsy are often found to have very high rates of social problems in adulthood, even if they are neurologically and intellectually within the normal range (22).

The results of the present research were comparable with the other studies conducted with children with chronic diseases and with dissimilar length of social skills training courses (23-28). The parents rated enhancement in social interactions of children with epilepsy by teaching social skills to them. In other words, the children with epilepsy, by participation in the social skills training programs could learn and practice appropriate social interventions and acceptable behaviors, as their parents reported. Through the group social skills training, children were allowed to watch other children's behavior of same condition and same age group. Accordingly, they were taught about the meaning, necessity, and consecutive positive feeling of pro-social behavior. In the present study, participants had a chance to work together to solve interpersonal problems or shared information, which increased good peer relations under professional direction and supervision.

Effect of receiving support in the same age group facilitated the maintenance of improved social behaviors (26). So, including the continuing social skills training programs in the routine caring of children with epilepsy can enhance the social interactions of them with peers and generalize into different settings such as school, playground, and home. This study also supports the idea that children with epilepsy must be treated through a multi-dimension approach and that medication therapy and medicine follow up alone cannot meet all the needs of them.

Although this study has reached its aims, there were some limitations. First, because of the time limit, this research was only conducted on a small size of the population. Therefore, to generalize the results for larger groups, we suggest repeating the study that involved more participants at different ages. Second, convenient sampling

Table 2. Social Skills Rating System of Children with Epilepsy Before and After Social Skills Training^a

Subscales	Pre Intervention	Post Intervention	t	P Value
Cooperation	9.38 ± 2.6	13.7 ± 2.1	10.44	< 0.0001
Assertion	12.2 ± 2.7	15.9 ± 3.4	6.26	< 0.0001
Responsibility	13.4 ± 3.2	17.6 ± 4.3	4.82	< 0.001
Self-control	10.5 ± 2.7	16.1 ± 2.3	12.70	< 0.0001
Total	45.6 ± 8.2	63.5 ± 7.8	14.97	< 0.0001

^aValues are expressed as mean (SD).

Table 3. Relationship Between Social Skills and Demographic Characteristics of Children with Epilepsy

Social Skills	No. (%)	Mean ± SD	P Value
Sex			
Female	17 (42.4)	61.3 ± 6.9	0.1 (Not Significant)
Male	34 (57.5)	65.8 ± 8.3	
Birth order			
1	17 (42.5)	62.3 ± 6.6	
2	10 (25)	63.8 ± 7.3	0.1 (Not Significant)
3	8 (20)	60.1 ± 4.7	
4 ≥	5 (12.5)	65.8 ± 6.3	
Education level			
1	5 (10)	64.5 ± 3.9	
2	5 (12.5)	63.8 ± 5.3	0.6 (Not Significant)
3	8 (20)	63.3 ± 4.9	
4	10 (25)	61.4 ± 8.3	
5	6 (15)	60.3 ± 6.9	
6	7 (17.5)	59.8 ± 8.3	

was used to collect data, thus the sample may not be represented of the actual population. Finally, the study is limited in 4 session's intervention in 1-month. Ideally, a longer intervention period maybe would have delivered more clarity evaluation on the effect of the social skills and interactions intervention.

5.1. Conclusion

Epilepsy is the most common of all neurological disorders in children. Often the educational, social, and psychological impacts of epilepsy can be more detrimental than the condition itself. Through social skills group training, a significant improvement was observed in social interactions in children with epilepsy by parents reporting. Therefore, it is essential to establish an ongoing partnership between children with epilepsy and their educators, family

members, and or health care providers. It perhaps helps to plan for management of predictable emotional or behavioral problems.

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Footnotes

Authors' Contribution: Farshid Shamsaei and Roghieh Zolfagharjo designed the study. Fatemeh Cheraghi conducted the statistical analysis and drafted the manuscript. Gholamreza Zamani contributed in designing the study, research development and drafting the manuscript. All authors read and approved the final manuscript and agreed to be accountable for all aspects of the work.

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