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## Childhood Age Epilepsy and Family

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### 1. Introduction

Epilepsy is a common neurological disorder in childhood. It is the most widely seen chronic neurological disease in the terms of childhood and affects both the child himself and the family because of its psychological and social results. Parents of children with epilepsy, like parents of children with many other chronic conditions, are faced with a constant feeling of uncertainty about their child's condition. Although the negative effect of epilepsy on patient's psychosocial well-being has been increasingly documented in the last decade, the influence of the condition on the family has attracted much less interest. Studies indicate that epilepsy may cause high levels of psychosocial difficulties for all family members, including stigmatization, stress, psychiatric morbidity, marital problems, poor self esteem and restriction of social activities. For this reason, in case any one of the family members undergoes epilepsy, it should not be focused on just patient's problems considering the other family members can affect this situation, preventive strategies that might protect all family members' psychology should be developed. In this part, reviews the present state of family research, examining the influence of childhood epilepsy on the psychological and social well-being of family members.

### 2. What is a chronic disease?

Chronic diseases are slowly progressing medical cases, causing permanent deficiency, caused by more than one risk factor, lasting at least three months or more, requiring a long term care and nursery and affecting the life quality of a person ( Ben-Shlomo & Kuh, 2001, Kuh & Smith, 2005, Gamborg et al., 2011). Of the diseases included in chronic disease definition are heart diseases, such as chronic coroner heart diseases and cardiac insufficiency, hypertension, diabetes, chronic lung diseases and asthma, chronic kidney diseases, depression, epilepsy, cancer and osteoporosis. These diseases take the first place in death reasons in both all developed and developing countries (Wang et al., 2011). In 2005, WHO re-emphasised the importance of chronic (non-communicable) diseases as a neglected global health issue. Chronic diseases—mainly cardiovascular disease, cancer, chronic respiratory diseases, and diabetes—were estimated to cause more than 60% (35 million) of all deaths in 2005; more than 80% of these deaths occurred in low-income and middle-income countries. 50 % of the deaths are at the age 70 or under (Abegunde et al.,2007). The last reports in the USA indicate that half of the adult community (nearly 130 million) has one or more chronic diseases. 83 % of health expenses are done on chronic diseases (Highlights, National Health Expenditures 2002& 2003). Chronic diseases not only take the

first place in the list of death reasons all over the world but also they have the highest rate on health expenses. Chronic conditions such as cardiovascular diseases, cancer, diabetes, arthritis and respiratory diseases are major killers in the U.S. and a major source of illness, hospitalization, health care costs and long-term disability. 60- 80 % of health expenses are done for the diagnosis and treatment of these diseases. Especially, the treatment of hypertension, diabetes and cancer is a big financial burden for a society (Projected Population of the United States, by Age and Sex: 2000 to 2050, Flegal et al., 2001)

## **2.1 Childhood chronic diseases**

In all societies all over the world infants are valuable individuals cared and educated as adults of the future and the needs of whom are tried to be fulfilled. The preparations for the new individual in the family start with the beginning of pregnancy period. Although traditions vary in different societies, the common point is the care to the mother. The needs of child increases and differs from the moment it is born. Children can get chronic diseases by birth or later (Er, 2006). The idea that childhood is important for adult health is not new in epidemiology or public health but was the prevailing model of health in the first half of the 20th century (Kuh & Davey, 1993, Davey et al., 2001). Unlike a child with a temporary sickness, the child with a chronic illness must cope with knowing that the disease is here to stay and may even get worse. Almost all these children initially refuse to believe they are ill, and later feel guilt and anger. The young child, unable to understand why the sickness has occurred, may assume it is a punishment for being "bad" (Collins, 2002). Some of the children who have a chronic disease may never be as healthy as they were before they were diagnosed with this illness. 10-15 % of children under 16 years of age affected by chronic, long-term conditions. Children with chronic physical disorders have twice the risk of psychosocial maladjustment compared with healthy children. This "second handicap" poses a significant mental health problem. Much of the research reviewed represents replication of what is already known and important areas of enquiry have been neglected. Investigators are urged to work towards the further identification of high risk characteristics and to apply these to the development and evaluation of new preventive and therapeutic approaches for these children and their families. (Pless & Nolan, 1991) Most children and adolescents with chronic diseases have symptoms that can be acute, which means they start suddenly and last a short period of time. Some youth with chronic diseases may go into remission, or not have symptoms for some time. Chronic childhood diseases are various; anomalies by birth, heart diseases by birth, epilepsy, chronic kidney insufficiency, cancer types, hemophilia, diabetes, cystic fibrosis and asthma are common infancy diseases (Newacheck, 1989). Infancy period diseases are defined as infancy period chronic health problems if they affect infants' daily activities more than 12 months, require to spend much time at home or in a hospital and if their treatment and medical expenses are much (Perrin et al., 1993). Life expectancy and life of quality have been increased with recent studies in childhood chronic diseases ( Grootenhuis et al., 2007).

### **2.1.1 Childhood chronic disease and child**

*How is a child's life affected by a chronic disease?*

Different chronic diseases affect children differently. Regression can be observed in some children who have infancy chronic disease. On the other hand behavior disorders can be seen in children during a chronic disease or other serious diseases, the treatments of which last so long. They get psychological, developmental and environmental problems with the

disease (Prug & Eckhardt, 2000, Erdoğan & Karaman, 2008 ). The level of the effects of a chronic disease to an infant depends on the time when the disease erected, whether it dates back to the birth, whether the disease is genetic and how old the infant is. It is known that chronic diseases have effects on infants' psychological developments. Chronic disease can cause different effects on different infants (Hergenrather & Rabinowitz, 1991, Sean, 2002, Wise, 2007). Chronic diseases typically affect children's lives in negative ways. If a child has a chronic disease, some problems might include: Discomfort or loss of energy, restriction of activities, disruption of his life due to medical treatment, isolation from family and friends feeling self-conscious, embarrassed, or stigmatized if his disease makes him different from other people. The children who have chronic diseases are at more risk than those who lead healthy lives in terms of having behavioral disorders (Rodenburg et al., 2006). A chronic disease is not only effective on infancy development but also has negative effects on academic development of a child. Some school children who have chronic diseases may have lack of attendance to school due to their treatment periods (Bruzzese et al.,2009). Therefore one of the most important problems for children who have chronic diseases is the difficulty in gaining their independences, caused by their parents and doctors. Parents always tend to protect their chronic diseased children and doctors may also contribute this overprotection by emphasizing restrictions.

### **2.1.2 Childhood chronic disease and family**

Life expectancy and life quality in infancy period diseases is increased according to the studies in recent medical disciplines. Diseased child and the family are exposed to psychosocial effects caused by the disease more with the increasing life expectancy (Wise, 2007, Erdogan & Kahraman, 2008). Childhood chronic illness influences not only the child with the illness but it also the family. A chronic disease of a child is a traumatic situation for a family. Families who learn that their children have a chronic disease have similar phases. The first phase is astonishment and refusal. The child and the family who learned the diagnosis encounter with a case which they have never known before and which requires a long term struggle. The family may think the diagnosis is wrong; also they may act as if they could not understand the disease and its seriousness. The first phase is to accept and recognize the disease, and this will both affect both the treatment and process of the disease. The second phase is 'anger and indignation'. The anger seen in this phase is mostly reflected to the treatment team. This phase is followed by another one, 'feeling guilty'. It is the phase in which some questions such as 'Why us? Why is our child?' are frequently asked. Some families may perceive the disease as a punishment for them. This is clearer if the disease is genetic based. The acceptance of the disease is expected at the end of all these phases. This acceptance will affect the permanence and efficiency of the disease positively. Child and the family may remain in one of these phases or they may go back to the previous phase. The reaction given by each family to live a chronic diseased child and the intensity of this reaction may vary (Santacroce, 2003, Er, 2006). The extent to which the illness influences the child and family varies according to factors such as the age of the child, the child's adaptation level and ability, interaction between child-mother-father, family balance, seriousness of the illness, pain, medication, and limitations and length of the illness. Numerous researches have shown that child illness can negatively affect parents and siblings. There are differences in mother and father roles in the families who have a sick child (Riddle, 1989, Knafel & Zoeller, 2000 ). Mostly mothers undertake the job of nursery of

the sick child and fathers have an assisting role. It is more difficult for the families in which both father and mother work. Studies indicate that parents (especially mothers) who have a sick child are under more stress and have higher anxiety level than those who do not have a sick child. (Melnyk, 1994, Esdaile et al., 2003, Hasting, 2003, Macias et al., 2003). Some psychiatric problems such as somatic complaints, depression and anxiety disorder are more frequently observed on mothers who have a chronic diseased child than those who do not have a chronic diseased child (Glidden & Schoolcraft, 2003). Various factors such as economic conditions, educational level, jobs, marital adjustment and social security of parents, the type and the severity of the chronic disease, the age of the child and much requirement for medical help (for example; epileptic seizure) affect parents to accept the chronic diseased child, to perceive the disease and to cope with stress (Goldberg et al., 1990, Hanson & Hanline, 1994). To cope with decreasing life quality and increased level of anxiety, families should seek professional support and become informed about their child's illness and treatment options. There is widespread recognition that the presence of a chronic childhood illness can be a source of increased stress and distress among family members, which can lead to disruptions in intrafamilial relationships and family structure (Rausch, 2002, Cieurzo, 2002, Fritts, 2004, Herzer, 2010). Despite the detail that is provided on the potential negative outcomes of children and families who have chronic illnesses, most of these families show admirable resilience. Most children adjust to their illnesses within one year and most families achieve healthy stable functioning with accommodations for the illness. The challenge of adjusting to a chronic illness can provide an excellent opportunity for a child or adolescent to master crucial skills, such as emotion regulation and problem-solving (Le Blanc et al., 2003). Childhood researchers have consistently demonstrated that family functioning is a powerful determinant of overall quality of life and well-being in youth with chronic medical conditions (Herzer et al., 2011).

### 3. Childhood epilepsy

Epilepsy is one of the most common serious neurological disorders in childhood. Childhood epilepsy is among the most prevalent and important neurological conditions in the recent years (Ronen et al., 2003, Jonsson & Eeg-Olofsson, 2011). Population based studies report prevalence rates of 3.6 to 4.2 per 1000 for children in developed countries (Sidenvall et al., 1996, Beilmann et al., 1999) and approximately double these rates in developing countries (Sridharan & Murthy, 1999, Nicoletti et al., 1999, Christianson et al., 2000, Duggan, 2010, Malik et al., 2011). It is defined as more than one unprovoked seizure and is essentially a clinical diagnosis based on an eye witness account of the attacks. When a child or adolescent presents with their first seizure, a detailed history should be sought for other seizure types that may not have previously been appreciated. An electroencephalogram (EEG) provides supporting evidence for diagnosis of a specific epilepsy syndrome; if a routine EEG is normal, a sleep deprived study should be considered. In individuals with focal epilepsy not classified as idiopathic partial epilepsy, magnetic resonance imaging (MRI) should be performed (Carney, 2005).

#### Classification of the epilepsies

The International League Against Epilepsy (ILAE) classifies epilepsy syndromes as:

- idiopathic - epilepsy develops in an otherwise normal child, and symptomatic - epilepsy occurs in the setting of a known or suspected abnormality of the central



nervous system. For example, a child with developmental delay has symptomatic epilepsy, as does an individual with hippocampal sclerosis.

The epilepsies are further subdivided into:

- generalised - seizures arise from both hemispheres simultaneously, and partial (or focal) epilepsy - which begins in one part of the brain and may secondarily generalise (Carney, 2005).

Epilepsy can be observed at any age. However, it is frequently seen at early ages. Most epileptic patients have their first epilepsy seizure before age 20. Epilepsy affects 3-5 % of people during their developmental periods (Baum et al., 2007). Epilepsy is characterized by its episodic and chronic nature. The seizures usually produce brief periods of disruption, which include phenomena such as loss of consciousness, bodily distortion, injuries, unusual and often frightening psychological experiences as well as urinary and bowel incontinence. The unpredictability of seizure recurrence is a constant threat to the patient with epilepsy and his or her family. Apart from the episodic seizures, there are many other ever-present factors - social, psychological, behavioral, educational, cultural and so forth - which affect the lives of children with epilepsy- their families and their close social networks. These factors vary considerably from one person to the next, but have a significant impact on the daily quality of life in every affected individual (Ronen et al., 2003). Epilepsy is a complex neurological condition with many possible co-morbid features. Learning Disorders (LD) are more common in children with epilepsy than in the general population. LD are defined as disorders that interfere with academic performance or with daily activities that require reading, writing or mathematical skills in subjects with a normal intelligence quotient (IQ). The prevalence of LD in the general population has been found to be 2-10%, and reading disorders are the most frequent subtype. As a consequence, the risk of cognitive impairment in children with epilepsy is high (Pavlou & Gkampeta, 2011). Thus in addition to the need to address the etiology and treatment of seizures it has become increasingly recognized that professionals should attend to the impact of seizure disorders on the lives and well-being of children as they perceive the issues themselves. Many childhood epilepsy syndromes are readily treated and have an excellent prognosis. Accurate and early diagnosis may ameliorate the psychosocial impact of these disorders on children and their families.

### 3.1 Psychological effects of epilepsy on children

Psychological and social factors investigated as potential influences on the behavior of children with epilepsy are reviewed. The majority of studies have occurred since the mid 1980s, when Hermann and Whitman (1986) brought attention to the lack of research in this area and noted that a number of psychosocial variables had the potential to explain the development of psychopathology in persons with epilepsy. In pediatric epilepsy, these variables are related to aspects of the family environment, which have been found to influence the development of behavior problems in general population children (Cummings et al., 2000, Austin, 2004, Noeker et al., 2005). Epidemiological studies over the past 30 years have shown that behavioral disturbances are up to 4.8 times higher in children with epilepsy than in general population children (Davies et al., 2003, Austin & Caplan, 2007). It is now well accepted that as a group children with epilepsy have high rates of behavioral disturbance (Rodenburg et al., 2005) and psychiatric diagnoses (Ott et al., 2001; Caplan et al., 2004). In general, children with epilepsy display more attention problems and internalizing problems (withdrawal, somatic complaints, anxiety, and depression symptoms) than they

do externalizing problems such as acting out and conduct problems (Ott et al., 2001; Caplan et al., 2004). A recent meta-analysis of findings from 46 studies contrasted behavior problems in children with epilepsy to control groups, siblings, and children with other chronic childhood conditions (Rodenburg et al., 2005). There is no evidence of psychiatric disorders and/or specific personality traits associated with epilepsy at childhood and adolescence ages (Otero 2009). Embarrassment, inhibition, desperation, behaviors based on fear and dependence are usually observed on epileptic children. Anxiety and social regression are also seen frequently. Long term clinical observation studies indicate that epileptic children are at more risk being unemployed, failing school, isolating socially, depending their families economically and having a less marriage rate than those who are healthier (Dunn, 2003, Spangenberg & Lalkhen, 2006, Kerimoglu et al., 2010). Despite the high prevalence of LD with childhood epilepsy, a healthy family and school environment can help reduce its impact on the patient's quality of life (Pavlou & Gkampeta, 2011). Hoare et al., (2000) stated in their studies in which they compared the life quality of epileptic children and that of diabetic children that epileptic children are more negatively affected by psychosocial development and health problems than diabetic children. Results indicated that attention problems, thought problems, and social problems tended to be specific to children with epilepsy, whereas problems with withdrawal, somatic complaints, anxiety/depression, delinquency and aggression were similar to those found in either their healthy siblings or in children with other chronic physical conditions (Rodenburg et al., 2005). Family members' beliefs and feelings related to epilepsy are relevant because of the stigma commonly associated with epilepsy. On the basis of the model it would be anticipated that more negative attitudes and greater perceived stigma related to the epilepsy would be associated with greater child psychopathology (Rodenburg et al., 2006, Shore et al., 2009). Parents' level of perceived stigma related to their child's epilepsy was associated with more depressed mood and behavior problems in children with chronic epilepsy (Buelow et al., 2006). Moreover, perceptions of felt stigma had a stronger association with depression diagnoses in adolescents with epilepsy than did parent perceptions, family adaptive resources, or family stress. Just as found in adults with epilepsy, there does seem to be an association between depression and epilepsy in children and adolescents. Ettinger et al., (1998) reported elevated scores on the Child Depression Inventory in 26% of a sample of children 7-18 years of age with epilepsy. Adequate monitoring, education targeted at reducing felt stigma, and family intervention programs are needed for early intervention (Adewuya & Ola, 2005). Depression in children and adolescents with epilepsy is a common but often unrecognized disorder. Both epilepsy and depression are characterized by a chronic course and poor long-term psychosocial outcome. Just as found in adults with epilepsy, there does seem to be an association between depression and epilepsy in children and adolescents. Ettinger et al., (1998). reported elevated scores on the Child Depression Inventory in 26% of a sample of children 7-18 years of age with epilepsy. The risk of suicide is even greater in depressed youth with epilepsy than in the general youth population. Educating parents about mood disorders may allow them to be more receptive to psychiatric treatment for their child or themselves. Epidemiological and clinical data on depression in children/adolescents with epilepsy are presented. Seizure-related and general risk factors for the development of depression in youth with epilepsy are reviewed (Plioplys, 2003). Clinicians should consider both neurological and psychosocial factors, including the family system, when treating psychopathology in children with epilepsy (Hodes, 1997, Rodenburg et al., 2005).

### 3.2 Childhood epilepsy and family

This last decade has seen a dramatic increase in the number of research articles which focus on psychosocial aspects of epilepsy, with areas such as patients' quality of life, social support, and psychiatric difficulties increasingly being addressed. The diagnosis of childhood epilepsy brings with it a series of consequences for the family, not least for the parents: the 'loss of a perfect child', and the 'realization that the child might always be different from the other children (Ellis et al., 2000, Ronen, 2003). Diagnosed with epilepsy live in families facing great sorrow. Now nothing will not be the same for them. Many families in this situation of anger, resentment, guilt feelings and thoughts will dominate. Uncertainty of where and how a child will spend the epileptic seizure, as well as for families with children, especially tonic-clonic fit to witness an extremely worrying situation. Families of children with epilepsy suffer significantly more stress than families of children with infrequent seizures or of healthy controls (Ferrari et al., 1989, Thompson & Upton, 1992). As parents search for a cause or explanation for the epilepsy, there may be the attachment of blame in the family leading to a family spiral of blame and guilt. Furthermore, parents may introduce the concept of stigmatization to their child, as they may fear that others may hold negative stigma against their own child (Ellis et al., 2000). Family members' perceptions of epilepsy may be an important factor in adjustment of the family. Indeed, in some cases it may be more important than the severity of the epilepsy (Shore 2002, Lv, 2009).

The severity of the disease, frequent seizures, no responding to drugs, frequent hospitalization and tests increase the anxiety. Socioeconomic conditions and educational level of families, family relations and adjustments, the response given to previous stress experiences and the ways coping with it are leading factors in this challenging period. Therefore, the families who have healthy relations and methods to cope with the difficulties are more successful in treatment process. Epilepsy requires cooperating for a long time with the treatment team since it is a chronic disease. Sympathetic and supporting approaches of the treatment team are vitally important for both the patient and the family. Informing the patient and the family about the treatment of epilepsy increases the treatment adjustment. However, as in all chronic diseases, the patient and the family sometimes can have problems related to the course and the treatment of the disease and the treatment team. Reactions of the families in different socioeconomic classes may differ in such kind of cases even though they change from a society to another one. As well as the usual difficulties of the disease, changing roles and socioeconomic classes after losing social and vocational status may result in different reactions. There are differences between the roles in socioeconomic groups. For instance, mothers in middle class are responsible for obtaining knowledge about the disease and they usually undertake the role of being a moderator between the child and the family and the child and the doctor. On the other hand, mothers in a lower socioeconomic class are under more stress and responsibility. It is argued that epileptic children's mothers have more stress than their father and this is caused by mothers' roles in the society. It is emphasized that in mother's role a mother identifies with her child and she does not perceive her child as an only individual but her extension. It is also stated that there is a quite pervious stint between the emotions of the mother and her child, and the mother perceives the child's experiences as if she had them. The risk of having seizure for an epileptic child is rather stressful for the mother. It is notified that mothers who have epileptic children have psychological problems. Shore et al., (2002) defined the correlation between infancy epilepsy and depression in mothers. The depressions of mothers who have



epileptic child are caused by many factors. Among these, expectations of epileptic children from their families, stigma and the frequency of behavioral disorders of children can be mentioned (Vona et al., 2009, Wagner et al., 2009, Bozkaya et al., 2010). Mothers of children with additional psychiatric problems are found to have higher rates of psychiatric disturbances themselves, although it is impossible to disentangle cause and effect in this subject (Hoare 1984, Terra et al., 2011). Risk for clinical depression is common among mothers of children with new-onset epilepsy. Health care professionals should consider routinely assessing maternal depression during clinic visits for pediatric epilepsy (Ferro et al., 2011). It is known that the mother is primarily responsible for the sick child in the family, but the facilitative role of father to help mother is ignored. Even though there are studies related to the mothers of epileptic children, the psychological features and the emotional process which fathers have not known exactly. Also, there have been studies related to the effects of infancy diseases on parents, but the knowledge about the healthy children who are an important part of the family is restricted. A sick child's siblings are quite sensitive to the sickness. They can have emotions such as depression, feeling guilty, anger, anxiety and social isolation. In a serious sickness period healthy siblings are unhappiest and most emotionally ignored individuals of a family. Emotional needs of healthy siblings can be ignored when all attention is paid to the sick child. In this case, a healthy sibling during this period of loneliness, sadness and feelings of parents of not viable. The parents more concerned with physical health of healthy siblings, the emotional problems of healthy siblings often are not noticed. Children with epilepsy more exhibits psychiatric symptoms than their siblings in sibling researchs. Siblings of children with epilepsy compared with children in the general population, more often developed psychiatric symptoms. Siblings of children with chronic epilepsy also have increased behavioral issues, mostly in externalizing behaviors (Mims, 1997, Baca et al., 2010). The functioning of families of children with chronic disease, the negative effects of the disease status is known. Pressure faced by parents of children with epilepsy can lead to tension in function of marriage. Especially with frequent bouts of uncontrollable epileptic children and their families may be over-protective or restrictive. Mother and father often fall disagreements and may be forced to decide. Epilepsy is the power of the child's parents work and therefore affects the family's economic status. It is an illness with multiple consequences and costs for children, families and society. There are only a few studies published on the cost of childhood epilepsy. Illness, for families work at home requires much more than usual and the family will bring an additional burden. In addition to age, the total cost associated with epilepsy also depends on other factors such as seizure frequency, the moment at which the illness cost is estimated and the local health care system. The chronic illnesses not only have an influence on the physical and psychological development of children, they also impose costs on the family and society. Childhood epilepsy has greater economic costs than those generated by more prevalent, chronic diseases (Argumosa & Herranz, 2004). Families try to cope with a variety of ways children have chronic disease. The disease, how raising children, how with leisure time and family members and relations may be affected. Parents of children with epilepsy, like parents of children with many other chronic conditions, are faced with a constant feeling of uncertainty about their child's condition (Hobdell et al., 2007). This uncertainty can lead to a decreased ability to cope as evidenced by increased stress levels, negative mood states, and impaired family functioning. Because altered coping in the parent may have a profound negative impact on the child's psychosocial adjustment to living with a chronic condition, it is important to identify ways to facilitate positive coping skills in the parent (Duffy, 2011).

#### 4. Conclusion

Childhood epilepsy have a significant effect on the patient's own life and all the family. In other words, childhood epilepsy affects both the child himself and the family because of its psychological and social results. Childhood epilepsy might have differences on the points of symptom, cause, medical treatment, strategy, course, restriction in daily activity and long-term effect. However, in all chronic diseases the child and family have the same common effects that cause stress reaction. In the studies, the increasing economical responsibility of the families whose children undergo chronic diseases, parents taking their children to the hospital very often, examination appointments, changing family roles through the disease and the widespread parents' stressors about sentimental adaptation are distinctively described. Still, epilepsy in childhood is different from the other chronic diseases due to the fact that its sudden symptoms and early unpredictable effects are all specific for itself. Epilepsy is the most widely seen neurological disease in the terms of childhood and adolescence and affects both the child himself and the family because of its psychological and social results. When the children get the epilepsy diagnosis, they usually face with many psychological stressors along with the ones about their health. Being different from the other chronic diseases the fact that epileptic attacks might not probably be predicted earlier decreases greatly the epileptic people's perception of controlling their own lives. Studies about the issue make it clear that epileptic children have much more psychological problems than the ones who have other chronic diseases. Epilepsy in the term of childhood can have negative effects on the family. Thus many parents become scattered when their children get the epilepsy diagnosis. The main reason of it is labeling about the situation. Family has to face a lot of problems at the moment when their children get the epilepsy diagnosis. Their typical first reactions are shock, desolation, mourning and depression. The effect of epilepsy in child and the family's daily life is due to some factors. Childhood epilepsy can affect all the family due to the fact that the family demands distinctive changes in using all the sources at present. However, although the parents whose children have epilepsy experience a lot of psychological problems, this situation is mostly neglected. In many studies about epilepsy, despite the fact that the patient's quality of life and relationship with the family are examined, in few ones problems belonging to family members that result from epilepsy are pointed. Clinicians should consider both neurological and psychosocial factors, including the family system, when treating psychopathology in children with epilepsy.

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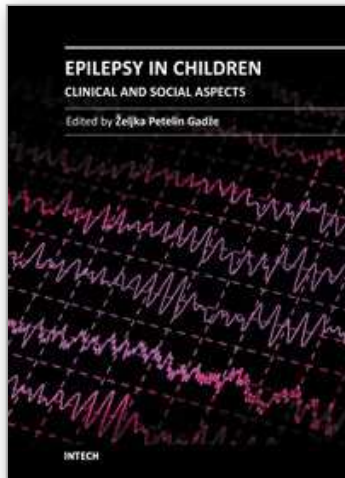


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## **Epilepsy in Children - Clinical and Social Aspects**

Edited by Dr. Zeljka Petelin Gadze

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Epilepsy is a neurological condition that accompanies mankind probably since its inception. About 400 years before Christ, the disease was already known by Hippocrates, who wrote the book "On The Sacred Disease". Classically, epilepsy has been defined as a chronic condition characterized by an enduring propensity to generate seizures, which are paroxysmal occurring episodes of abnormal excessive or synchronous neuronal activity in the brain. Out of all brain disorders, epilepsy is the one that offers a unique opportunity to understand normal brain functions as derived from excessive dysfunction of neuronal circuits, because the symptoms of epileptic seizures are not the result of usual loss of function that accompanies many disease that affect the brain. I am therefore extremely honoured to present this book. The 15 very interesting chapters of the book cover various fields in epileptology – they encompass the etiology and pathogenesis of the disease, clinical presentation with special attention to the epileptic syndromes of childhood, principles of medical management, surgical approaches, as well as social aspects of the disease.

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