Drug Compliance In Epileptic Children In Sulaymani Governate

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ABSTRACT:

BACKGROUND:

Compliance behavior depends on the specific clinical situation, the nature of the illness, and the treatment program.

OBJECTIVE:

Determine the rate of drug compliance in families caring for a child or adolescent with epilepsy and to describe some associated factors.

METHODS:

Two hundred patients with epilepsy under 18 years of age, who were attending the pediatric clinic for a twelve month period (August 2007-August 2008) and their families, were interviewed.

RESULTS:

Drug compliance was satisfactory in 123(62.5%) and was poor in 77(37.5%) of the patients according to their self or parental report. Age of the patient, gender, residence, etiology of epilepsy, and monotherapy versus polytherapy did not significantly influence the drug compliance but duration of the disease, parental education, family size and positive family history of epilepsy were more significantly associated with drug non compliance.

CONCLUSION:

In this study, drug compliance was satisfactory in 62.5% of the patients. There was a significant association between drug non compliance and socioeconomic status (large family size, family history of epilepsy, low parental education)

KEY WORDS: epilepsy, children, compliance and drug.

INTRODUCTION:

Epilepsy is one of the most prevalent chronic childhood illnesses (4/1000 children worldwide) and is associated with significantly increased risk for psychiatric disorder, scholastic problems and family distress[1]. Treatment consists of anticonvulsants medications, psycho education, and lifestyle modification, which proves to be effective for most children with epilepsy. Treatment compliance is very important for the management of epilepsy[2,3], yet the subject has not been fully investigated. In pediatric population, satisfaction with medical care and expressed intention to follow the treatment programmers are associated with greater adherence to treatment regimes[4,5]. However, parental worry about the child's health and behavioral restrictions placed on the child have been found to be negatively associated with adherence[5,6]. Concern with the problem of non compliance has a lengthy history. In 200 BC, Hippocrates advices physicians to consider non compliance as possible explanation for patient's failure to recover when atypically effective treatment had been use[7]. The reasons for non compliance may include discomfort resulting from treatment, expense of treatment ,decisions based on personal judgment about the effectiveness of the proposed treatment , maladaptive coping styles (e.g, denial of illness), or mental disorders[8]. Patients self –report of medication intake is often used, although misperception and underreporting or over reporting can alter results [9]. Local studies that investigate the problem of non compliance among epileptic children in Iraq are rare. Therefore investigating the magnitude of the problem and the factors associated with non compliance is essential in designing an appropriate health education strategy and having a plan to reduce the impact of the problem. The aim of this study was to determine the rate of drug compliance in families caring for a child or adolescents with epilepsy according to their self-report of medication usage and to describe some factors that affect drug compliance.

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PATIENTS AND METHODS:

Two hundred patients with epilepsy under 18 years of age who were attending the pediatric clinic of Sulaymani hospital from August 2007-August 2008 and their families were interviewed in this study. The data collected by means of interview with the parents and / or patients .The data consisted of items on the following topics: compliance for medication taking according to their self or parental report, the subjective reason for non compliance(including irregular taking , errors of dosage and partial or total omission) , sex ,age, duration of disease , treatment regimen , associated illness (cerebral palsy and /or mental retardation), family history of epilepsy, family size, educational level of parents and living place. Drug compliance was considered as satisfactory if the patient took the medication in correct dosage, regularly and as planned for him / her either by his / her own or given by the parents based on their yes/no response to the questions about the above–mentioned items.

Frequencies and description statistics were computed. The connections between the above-mentioned factors to drug compliance were analyzed by chi-square test. P values< 0.05 were considered as significant.

RESULTS:

A total of 200 patients with epilepsy were included in the study. Tables 1 summarize the characteristics of patients. This table shows that there were 117 males and 87 females,53 patients were < 6 years of age, 97 between 6-12 years, and 50 patients were above 12 years of age. The duration of the disease was < 1 years in 90 patients,1-3 year in 45 and > 3 year in 65 patients. Seventy one of patients were living in rural aveas, 154 of the patient's mothers and 134 of the fathers were of low education (<=prmny school) and 128 patients were from large family size (>5 persons). Family history of epilepsy was present in 30 cases, idiopathic epilepsy in 180 cases, associated illness in 85 cases and 149 patients were treated with one antiepileptic drug.

Table 1: Patients characteristics (n=200).

Characteristics		Number
Age (year)	<6 6-12 >12	53 97 50
Sex	male female	117 83
Duration of disease(year)	< 1 1-3 >3	90 45 65
Residence	urban ruler	129 71
Mothers education	<= primary school > primary school	154 46
Fathers education	<= primary school > primary school	134 66
Family size	<= 5 persons > 5 persons	72 128
Family history of epilepsy	Yes No	30 170
Etiology of epilepsy	idiopathic Symptomatic	180 20
Associated illness	Yes No	85 115
Number of drugs	1 => 2	149 51

Table 2 shows the compliance status with medication in relation to patients medical history. Drug compliance was satisfactory in 123(62.5%) and was poor in 77(37.5%)

Of the patients. Age of the patients, sex , areas of residence , etiology of epilepsy, associated illness, and monotherapy versus polytherapy were not significantly associated with drug compliance (p values > 0.05) but duration of epilepsy, parental education , family history of epilepsy and family size , were more significantly associated with drug non compliance (p values <0.05)

Table 2 : Compliance status with medications in relation to patients medical history

Medical history		Satisfactory compliance(n=123) No.	%	Poor compliance(n=77) No	%	p-value
Age(year)	<6	28	22.7	25	32.5	
	6-12	62	50.4	35	45.5	NS
	>12	33	26.9	17	22	
Sex	male	71	57.7	46	59.8	NS
	female	52	42.3	31	40.2	
Duration of disease(year)	<1	62	50.4	28	36.4	
	1-3	30	24.3	15	19.5	S
	>3	31	25.3	34	44.1	
Residence	urban	78	63.4	51	66.2	NS
	ruler	45	36.6	26	33.8	
Mothers education	<= primary school	80	65	74	96	S
	> primary school	43	35	3	4	
Fathers education	<= primary school	72	50.6	62	80.5	S
	> primary school	51	40.4	15	19.5	
Family size	<= 5 persons	54	43.9	18	23.4	S
	> 5 persons	69	56.1	59	76.6	
Family history of epilepsy	Yes	11	9	19	24.6	S
	No	112	91	58	75.4	
Etiology of epilepsy	idiopathic	116	94.3	74	96	NS
	symptomatic	7	5.7	3	4	
Associated illness	Yes	54	43.9	31	40.2	NS
	No	69	56.1	46	59.8	
Number of drugs	1	87	70.7	62	80.5	NS
	=>2	36	29.3	15	19.5	

S= significant (p<0.05) NS= not significant (p>0.05)

The reasons for drug non compliance are shown in table 3.Forgetting to give medications, busy parents, complex medications schedules and side effects of drugs were the main reasons as mentioned by the parents.

Table 3: Reasons for drug non compliance (n=77)

Reason	Number	Percentage(%)
Forgetting to give medication	25	32.5
Busy parents	19	24.6
Complex medication schedules	15	19.5
Side effect of drugs	12	15.6
Seek non medical alternative treatment	6	7.8

DISCUSSION:

Compliance, also known as adherence, poses difficult issues for all clinicians and special problems for those involved in the treatment of childhood epilepsy [10].In this study, drug compliance was satisfactory in 62.5% and was poor in 37.5% of the patients with epilepsy. Reports from primary care centers in the

U.S.A quote non compliance rates between 5% and 30% [11] . The problem of non compliance of patients suffering from chronic diseases and especially epilepsy is universal with different rates. In Japan. investigators found that only 42% [12], could adhere to the follow-up appointment, in South Africa , epileptics and asthmatics non compliance rate was found to be 63% [13], in Netherlands, a study showed that 93% of the patients were adherent to the treatment protocol[14]. Possible explanation for variation between reports includes the population of patients being studied and the clinic being attended. Our report showed that the age of patient did not significantly influence the drug compliance which is in agreement with other studies[15,16]It is a common belief that adolescents with epilepsy show good compliance with their medication because a neglect of medical treatment may cause epileptic seizures. However Chandra et al, found that adolescents with epilepsy showed poor compliance[17] and in two other studies one-third of the adolescent with epilepsy showed poor compliance[18,19].The study also showed that gender was not an influential risk factor for drug compliance which is similar to other studies[10,15,16]. In contrast to other results [3,5,10,15] , our study showed that there was a significant association. Between drug non compliance and the duration of epilepsy. This finding can be partially explained by the fact that the major proportion of the sample is composed by subjects with low education. But equally important could be the problem of lack of health education and doctor-patient communication difficulties. Similar to other reports [3,15], our study showed that patients living in urban versus rural areas did not significantly influence the compliance. Regarding the parental educational level, our study showed that there was a significant association between drug non compliance and low parental education which is in contrast with other studies [3,10,15,16]. These differences might be due to variation in social level in different communities. The study also showed that patients from large family size had a significant effect on poor compliance which is in agreement with other finding [15]. The study showed that a patient with positive family history of epilepsy was associated with drug non compliance which is similar to other reports [15]. These finding signify the role of parents in caring for children with epilepsy. Similar to other results [10,15], our study showed that the etiology of epilepsy and also the associated illness did not significantly associated with drug compliance. In this study, monotherapy versus polytherapy did not significantly influence the drug compliance. In contrast, being on monotherapy was described as a strong predictor of non compliance in the research done by Buck et al[3]. Our study showed that the reasons for drug non compliance as mentioned by the parents were forget fullness, busy parents, complex medication schedules and side effect of drug which is in agreement with other studies [10,16,20,21].

CONCLUSION:

1. The compliance rate with medications was reasonable, but a considerable proportion of patients were non compliant.
2. There was a significant association between drug non compliance and sociodemographic characteristics.

   We suggest further prospective studies, investigating treatment compliance to be carried out in children with epilepsy and include analysis of antiepileptic drug levels to assess treatment adherence.

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