Behavioural Problems & Expressed Emotions in Epileptic Adult

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Abstract

Purpose: *Adults with epilepsy have high rates of behavior problems. The purpose was to describe presence of behavioural problems in adults with epilepsy and role of perceived expressed emotion.*

Methods: *Caregiver's ratings of the behavioural problems were collected with the help of scale used to assess the presence of behavioural problems in 30 male and females adult. Presence of expressed emotion was calculated with the help of expressed emotion with the help of Mean and Standard Deviation*

Results: *On average, male participant had higher behavioural problems during the course of epilepsy. Female participant manifested less number of behaviour problems when compared with male.*

Conclusions: *Seizures significantly predicted behaviour problems in the course of a seizure condition, even when patients were on regular medicine. Both seizures and expressed emotions along with behaviour problems are risk factor & comments that seizures per se may not disrupt behaviour but role of expressed emotion should not be underestimated.*

Key Words: Epilepsy, Behavioural Problems, Expressed emotions

Introduction:

Seizures are symptoms caused by abnormal discharges from neurons in the central nervous system. Based on the description of the episode and the results of an electroencephalogram (EEG), seizures are classified as generalized or partial and the majority of sufferers live in developing countries (Jallon, 1997).Behavioral disorders are common in people with epilepsy and intellectual disability. The epilepsies are one of the most common serious brain disorders, can occur at all ages, and have many possible presentations and causes. Although incidence in childhood has fallen over the past three decades in developed countries, this reduction is matched by an increase in elderly people (Duncun, 2006). Recent community studies of epilepsy in the intellectual disability population have suggested prevalence between 26% and 40% (McGrother et al., 2006), and it is widely accepted that even higher rates of epilepsy are found in

individuals with more severe intellectual disability (Bowley & Kerr, 2000). Cognitive and behavioural impairments have been observed as a consequence even of single seizures. In individuals with high seizure frequency, such impairments may accumulate and have a much greater impact on daily life than hitherto suspected. In addition, the risk of behavioural impairments is increased for some seizure types, such as secondary generalized seizures. Moreover, for all epilepsy types, increased risk is associated with persistent or poorly controlled seizures (Aldenkamp, 2005).

Behavior problems such as aggression, stereotypy, self-injurious behavior, and other disruptive behavior are commonly observed among adults with intellectual disabilities (ID), autism spectrum disorders (ASD), and epilepsy residing at state-run facilities (smith, matson, 2010).

Extensive literature shows that epilepsy is associated with multiple psychosocial problems along with behavioural one. Behavior problems such as aggression, property destruction, stereotypy, self-injurious behavior, and other disruptive behavior are commonly observed with intellectual disabilities (ID), autism spectrum disorders (ASD), and epilepsy.

Expressed emotions

In a 12-month follow-up study, (60%) relatives were rated as showing a high degree of EE along with high EOI to be associated with a significantly higher seizure frequency than that recorded for the patients living in low-EE households. The impact of particular components of the family emotional climate on the clinical course and psychological adjustment of patients with epilepsy may be crucial factor while overcoming the negative impact of expressed emotion (Bressi et al, 2007).

Absolute seizure frequency, as well as presence or absence of seizures was also found to vary with the EE score. Fathers may exhibit high EE by critical comments, mothers by emotional over involvement. (Jadresic & Brown, 2000). Hostility was evident in more high-EE epilepsy than high-EE NES relatives, irrespective of etiology, caregivers for people with seizure disorders may find it hard to adjust to the difficulties these disorders create (Stanhope, 2003).

Parents were found to be less optimistic about their epileptic child's future achievements. These findings were linked with greater restrictiveness on the parents' part, and the epileptic child's lower self-esteem and academic achievement (Long & Moore, 2006).

Epileptic patient perceive more significantly more emotional over involvement and trend for more hostility towards them then towards other family member as controls was noticed. High level of criticism and, to a lesser extent, hostility shows association with behavioural deviance and strongest links are between maternal criticism and maternal rated antisocial and overactive behavior in epileptic sample (Hodes, 1999).

Sample and Methods

The sample for the present study was consisted of 30 patients (15 males and 15 females) diagnosed with epilepsy who were attending the Neurology OPD of the Institute of Human Behavior and Allied sciences, Delhi.

Inclusion Criteria:

- Patients aged above 9 years and up to 40 years
- Must be living with at least one family member
- Patients who give the informed & written consent

Exclusion Criteria:

- Another chronic physical disorder, developmental delay, placement in classes for the mentally handicapped, or seizures precipitated by an acute event (e.g., intracranial infection, metabolic derangement, or recent head injury).
- Any co-morbid major psychiatric/ neurological illness.
- Patients with mental retardation.

Measuring instruments:

The participants were assessed with the following tools:

- Socio-demographic and clinical data sheet
- Family Over involvement and Criticism Scale
- Behavioral Problem Rating Scale

We followed up 30 adult males and females with seizures over a 6 month period. In the beginning of the procedure written consent form all the participant were taken and purpose of the assessment was discussed with the patient as well as with the parents of the participants. The children were between ages 4 and 19 years at enrolment life.

Statistical analyses

Data analyses were carried out by using the SPSS (10.0). Mean and SD for socio-demographic details and expressed emotions along with $\chi 2$ tests were used to compare categorical variables. Percentage of behavioural problem among adult with epilepsy were calculated. Number of behavioural problem among epileptic adult were calculated with high and low expressed emotions.

Results

Sample Characteristics

Table 1 demonstrates two groups of epileptic patients consisting of males and females. Overall total 30 eligible adult agreed to participate and provided data. The entire participant provided the complete data. The analytical sample comprised 15 male and 15 female 50% males and same percentage for females, mean age for male 26.1 years, s.d.= 9.45 and 31.7 years for females and s.d.= 8.68, (Table 1).

Among the 30 participant age ranged from 9 years to 40 years, most had completed 7.5 years as the highest education level among males and 3.9 years among females.

Table 1 Socio-demographical characteristics of the groups of epileptic adults and their mean & standard deviation

Groups	Males (n=15)		Female (n=15)	
Variables	Mean	SD	Mean	SD
Age (in years)	26.1	9.45	31.7	8.68
Education(in years)	7.5	2.35	3.9	2.93

Expressed Emotions of Male and Females

In the analytical sample the mean and standard deviation of emotional over involvement for the group of adult males was 2.94 and 0.38 respectively on the other hand the mean and standard deviation on perceived criticism was 2.75 and 0.22 respectively. The mean and standard deviation of emotional over involvement for the group of adult females was 3.32 and 0.53 respectively on the other hand the mean and standard deviation on perceived criticism was 2.65 and 0.44 respectively (Table 2).

Table 2 Mean and standard deviation and t-value between two variables of expressed emotion of males and females

Groups	Male (n=15)		Female (n=15)			
Expressed emotion	M	SD	M	SD	T value	Sig.
Emotional over involvement	2.94	.38	3.32	.53	.012	NS
Perceived criticism	2.75	.22	2.85	.44	.36	NS

NS= Not Significant

Table: 3 show the behavioral problems shown by male and females. There were ten domains of behavioral problems. Table indicates that 80% of the males demonstrated violent and destructive form of behavioral problem where as 33% males manifested temper and tantrums as minimally performed behavioral problem. None of the males' participants showed fear related behavioral problems.

For the group of females 40% showed violent and destructive behavioral along with temper and tantrums where as .66% manifested Misbehavior with others as minimally performed behavioral problem. None of the females was reported of having of self- injurious behaviors and antisocial behavior as behavioral problem.

Table 3: Behavioural problems shown by the epileptic adult

Behavioural Problems	No. of males (n=15)	%	No. of female (n=15)	%	X^2
Violent and Destructive Behavior	12	80.0	6	40	2
Temper and Tantrums	5	33.3	6	40	.09
Misbehaviors with others	9	60.0	2	13.3	3.2
Self- injurious Behaviors	5	33.3	0	0.00	3.2
Repetitive Behaviors	10	66.6	3	20	2.6
Odd Behaviors	9	60.0	0	0.00	7**
Hyperactivity	10	66.6	4	26.6	1.78
Rebellious Behaviors	10	66.6	4	26.6	1.78

Anti-social Behaviors	6	40.0	0	0.00	4*
Fears	0	0.0	1	.66	0

High and low expressed emotions for the category of emotional over involvement were assessed (table 4). There were 10 participants in the group of high emotional over involvement and altogether 5 participants in the group of low scores on emotional over involvement. In the category of high and low scores on emotional over involvement (n=15) all the participant showed behavioral problems except one that is fears.

In the category of high and low scores on emotional over involvement (n=10), violent and destructive behavior was performed most frequently by maximum number of participant where as in case of other group for low scores on emotional over involvement (n=5), repetitive behaviors, hyperactivity, rebellious behaviors was performed by maximum number of participant.

Table 4 Behavioral problems in epileptic males with high and low perceived emotional over involvement.

Behavioral Problems	**High scores on emotional over involvement (n=10)**	**Low scores on emotional over involvement (n=5)**
Violent and Destructive Behavior	9	4
Temper and Tantrums	4	2
Misbehaviors with others	8	2
Self- injurious Behaviors	3	3
Repetitive Behaviors	5	5
Odd Behaviors	4	4
Hyperactivity	5	5
Rebellious Behaviors	6	5
Anti-social Behaviors	4	2
Fears	0	0

Table 5: Behavioural problems in epileptic females with high and low perceived criticism

Behavioural Problems	**High scores on perceived criticism (n=10)**	**Low scores on perceived criticism (n=5)**
Violent and Destructive Behavior	4	2
Temper and Tantrums	8	1
Misbehaviurs with others	3	0
Self- injurious Behaviors	1	0
Repetitive Behaviors	5	0
Odd Behaviors	0	0
Hyperactivity	6	0
Rebellious Behaviors	4	0
Anti-social Behaviors	0	0
Fears	0	1

In the category of high and low scores on perceived criticism (n=15) all the participant showed behavioral problems. There were 10 participants in the group of high perceived criticism and altogether 5 participants in the group of low scores on perceived criticism. In the category of high scores on perceived criticism (n=10), participant performed behavioral problems but repetitive behavior and fear was performed by none of the participant. In the category of low scores on perceived criticism (n=5), only 3 behavioral problems were performed by participant out of the 10 behavioural problems. including both male and females. Among the few significant effects, it showed that epileptic patient were more likely to perceive high EE and specifically EOI was more common in epileptic population.

Table 6: Behavioural problems in epileptic males with high and low perceived criticism

Behavioural Problems	**High scores on** perceived criticism **(n=8)**	**Low scores on** perceived criticism **(n=7)**
Violent and Destructive Behavior	7	5
Temper and Tantrums	5	0
Misbehaviurs with others	6	3
Self- injurious Behaviors	5	2
Repetitive Behaviors	4	6
Odd Behaviors	5	4
Hyperactivity	7	3
Rebellious Behaviors	7	2
Anti-social Behaviors	3	2
Fears	0	0

High and low expressed emotions for the category of perceived criticism for the group of male was assessed and it was found that for the category of high scores on perceived criticism (n=8) participant (n=7) performed all the behavioral problems except fear. In case of low perceived criticism there were only two behavioral problems not performed by any of the participant.

Discussion:

This exploratory study has compared EE, behavioral problems among epileptic adult including both male and females. Among the few significant effects, it showed that epileptic patient were more likely to perceive high EE and specifically EOI was more common in epileptic population.

Male participant reported more interference in their personal life. They also reported that family doesn't rely on them and on their potential, which makes them belittle. Interfere was involved in their decision-making, judgments, they are not considered of having the ability of any task by their own. As family members sees them not having potential enough to make a start in any task.

Mean score of perceived criticism was low in comparison of EOI in case of male member. Though it was not statistically significant but comparably it was low. In the study male member of the family who were also patient of epilepsy doing jobs and self-employed, large part of their time would spend outside of the house and in that sense they were away form in day time form family environment. They didn't have time to become the center of discussion more

over many of the male member were lone bread earner of their home, were productive, taking care of their family responsibilities which gives them weak chances to get criticized by the family member and caregiver. But this explanation may not be true for those male members, who were staying all the time in the house. Care givers who have shown less expressed emotion do not have inappropriate expectation from their epileptic family member. Care giver/ Parents who had a good knowledge of seizures and treatment and who sought out information about epilepsy had a positive impact on their children's adherence, but surprisingly, parents who had higher expectations about their children's academic achievements showed fewer adherences (Shope 1988). These patients were spending time without doing anything to the family, not contributing anything to help the family's economic issues. Moreover because of their other intolerable habits and behaviors, they were center of discussion in the family, giving frequent chances to the family to criticize them, individual variance possible in this explanation. Expressed emotion does not only exaggerate the lack of confidence among epileptic population but also influence the compliance for medicine. Adherence levels for children and adolescents are highly dependent on the level of support from parent's reports that this support was a strong predictor for adherence in teenagers with epilepsy (Kyngas, 2001). From the first diagnosis of epilepsy, family are encouraged to help by monitoring seizures and medication and are involved in the initial explanation of the importance of adherence (Schachter 1999).

EOI was shown in terms to restriction for going out alone, attending school, perceiving them as weak and ill, perceiving them responsibility properly, asking help form other for them at the time which fills them with informing and lack of self-esteem.

Successful adjustment may partly reflect how patients and relative attempts to cope with the seizure. Studies of other condition show that emotion focused coping strategies such as denial, wishful thinking are typically associated with poor adaptation; whereas problem focused strategies tend to be associated with better adjustment. Upson &Thompson reported that epilepsy patient efforts to find positive aspects of condition and to view it as an opportunity for inner growth. In the study self-blame and wishful thinking were related to poor psychological adjustment. Interwoven with all these factors of expressed emotion is the element of stigma. Stigma can adversely affect the ability or perceived ability of a person to manage their epilepsy in all aspects of self-care (DiIorio et al 2003). The relationship between stigma and management of epilepsy is complex. In the study high stigma levels

were associated with a number of socio-economic variables such as unemployment, low income, and less education DiIorio et al (2003).

EE are related to the psychological wellbeing and coping strategies of the care giver of the patient and this lasts an impact on the patient of epilepsy as well, for instance schizophrenia patient in close contact with relatives high EE are at greater risk of relapse than are those living in a low EE environment. Bressi (2007) reported high level of criticism and hostility in epilepsy relative, whereas Jedressic (1988), Brown & Jedressic (2000) found that high parental EE was associated with high seizure frequency and low seizure frequency was associated with low parental EE in epilepsy patient aged 15-25 years.

Scores of mean of perceived criticism for females was low in comparison of EOI. Though there was no statistically significant difference between EOI and perceived criticism. Scores of females in the study suggest that they try to keep engage themselves in the various household chores sometimes with the help of family member.

Although females were living for most of the time inside the house but keeping themselves engaged in some or the other kind of household chores. Their role as being productive member of the family doing household responsibility to the possible extent is somehow an effort to get establish in the dynamics of family. In some families high EE characterized by criticism and hostility may arise through relatives attributing difficult behavior more to the patient than to the illness, as can occur in families with schizophrenia patient (Brewin, 1991).

Criticism is more related to antisocial behavior, disobeying, abusive language, theft and other behavioral problem. These and other such behavioral problems are not related to the female subject. It can be interpreted female may give less opportunity to criticize them. Because of this reason they might perceive less perceive criticism in comparison to EOI.

Mean of education was quite low in comparison of mean score of age. Males and females mean score of age was almost similar having the difference of 4 point. Both males and females could not achieve higher education. An important cause for this legging behind may be parental emotional involvement perceiving their epileptic family member weak enough to tolerate the burden of studies. Furthermore, children with epilepsy are less successful than their peers without epilepsy at obtaining gainful employment as adults (Dodrill & Clemmons, 1984; Sillanpää, Jalava, Kaleva, & Shinnar, 1998). Although literature has been produced about the cause

of legging behind in academic level with reference of age but this is evident and common in families of epileptic children not sending them for studies under the impression that child can't take the load of mental work but if he /she pursue it can lead toward more frequent attacks of fits and seizures. Seizures have a significant impact on school attendance, and as a result may increase the academic difficulties faced by children with epilepsy. This effect may be especially pronounced in children with symptomatic epilepsy and medically intractable seizures. Children with epilepsy are at greater risk for academic difficulties compared to healthy children and compared to those with many other chronic illnesses of childhood (Austin, Huberty, Huster, & Dunn, 1998; Fowler, Johnson, & Atkinson, 1985; Westbrook, Silver, Coupey, & Shinnar, 1991).

Presence of Behavioral Problems among the Epileptic Adult

In the present study assessment of behavioral problems was attempted and it was found that both the groups of males and females shown behavioral problems. Male participant showed more behavioral problems in comparison to females.

One in four male members with epilepsy has significant behavioral problems. Another one in four had emotional problems that are less severe but still disturbing. In general behavioral problems are more troublesome in adult whiles seizure began at an early age this is especially true for males, who are more likely to act out, where as emotional problem of females may be recognized less often (Boer, 2008) . The impact of epilepsy rests not only on the individual patient, but also on the family and indirectly on the community. The burden of epilepsy may be due to the physical hazards of epilepsy resulting from the unpredictability of seizures; the social exclusion as a result of negative attitudes of others toward people with epilepsy; and the stigma, as children with epilepsy may be banned from school, adults may be barred from marriage, and employment is often denied, even when seizures would not render the work unsuitable or unsafe (Boer, 2008).

Epilepsy themselves probably has had some effect on epileptic patient's behavior. But it is far more likely that most of the behavioral problems are related to the way parents, caregivers react. Epileptic participant experience these reactions more then they experience the seizure. Many parents may have felt shocked, overwhelmed by the diagnosis. In the initial stage, parents often are fearful and don't want to believe it. Next they start to feel guilty or angry. Children's attitude was found to mediate the relationship between stigma and self-concept & behavioral problems respectively.

Enhancing a more positive attitude towards having epilepsy might help improve problems with self-concept and behavioral problems (Funderburk, 2007).

Behavioral Problems Shown By Epileptic males Along With High And Low Expressed Emotions (Perceived Criticism)

To see the effect of critical comment by caregiver and other family member on behavioral problems among the epileptic males were divided among high criticism and low criticism and the presence of behavioral problems observed.

High and low expressed emotions for the category of perceived criticism was assessed and it was found that 7 male participant shown violent and destructive behavior with high perceived criticism. Earlier studies also support the present findings where due to the medium to large effect size for comparisons with children from the general population, which indicates that children with epilepsy are at increased risk for psychopathology, including internalizing and externalizing behavior problems (Rodenberg, 2007). Among all the male participant 4 of them shown with high-perceived criticism, temper & tantrums, where as 6 male participant shown misbehavior with other, 4 male participant manifested with self- injurious behavior, whereas 4 male participant expressed repetitive behavior. There were 5 male participant who shown odd behavior, hyperactivity was shown by 7 male participant, along with rebellious behavior for same number of male participant. There were 4 male participant who shown antisocial behavior and on boy shown fear. Negative EE contributed significantly to the development of emotional and behavioral problems in the child, especially internalizing problems such as anxiety and withdrawal (Austin, 2002).

Conclusions

Adult with epilepsy course, due the negative impact of expressed emotion, had an increased risk of behavioral problems: social problems, attention problems, misbehavior with other & family member, odd behavior, self-injurious behavior, repetitive behavior and aggressive behavior. The finding of high over involvement and perceived criticism in the group of adult supports the hypothesis that the critical comment and hostility, over involvement in epileptic patient has an impact on behavioural problems. Female subject were less found to be engaged in antisocial behavior, disobeying, abusive language, theft and other behavioral problem. These and other such behavioral problems are not related to the female subject. Based on our results and the data of other authors, conclusion can be drawn that

co morbidity of epilepsy and behavioral problems exists. Our findings alert clinicians to the possibility of behavioral problems and highlight that attention to behavioral problems is important in clinical management of adult as well as children. Clinicians should consider psychosocial factors, including the family system, family environment along with family when treating psychopathology in adult with epilepsy. However, future studies, especially the longitudinal ones, are needed to evaluate deeper behavioral problems and associated factors in adults and to elucidate the influence of the disease and treatment on them.

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