BEHAVIOURAL PARTICULARITIES OF PATIENTS WITH DRUG-RESISTANT EPILEPSY: A COMPARATIVE STUDY

PARTICULARITĂȚI COMPORTAMENTALE ALE PACIENȚILOR CU EPILEPSIE FARMACOREZISTENTĂ: UN STUDIU COMPARATIV

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Abstract

This study examines the behavioral particularities of individuals with epilepsy, focusing on aggression, hostility, and shyness in patients with drug-resistant epilepsy compared to those with well-controlled epilepsy. The research sample comprised 102 participants (62 with drug-resistant epilepsy and 40 with well-controlled epilepsy). The results revealed statistically significant differences in the manifestation of aggression, hostility, and shyness between subjects with drug-resistant epilepsy and those with drug-controlled epilepsy. Behaviors such as indirect aggression, nervousness, guilt, distrust, and blame were more common in individuals with drug-resistant epilepsy. High aggression was found only in women with drug-resistant epilepsy, while high hostility was mainly observed in the drug-resistant group. Certain factors, including secondary education, unemployment, living in rural areas, and frequent seizures, were associated with higher aggression and hostility in drug-resistant epilepsy subjects. High shyness was more common in those with drug-resistant epilepsy, especially among those with technical education, unemployment, and long disease duration.

Keywords: **behaviour, drug-resistant epilepsy, well-controlled epilepsy**

Rezumat

Acest studiu analizează particularitățile comportamentale ale persoanelor cu epilepsie, punând accent pe agresivitate, ostilitate și timiditate în cazul celor cu epilepsie farmacorezistentă, comparativ cu cei cu epilepsie controlată medicamentos. Eşantionul de studiu a cuprins 102 persoane diagnosticate cu epilepsie, dintre care 62 cu epilepsie farmacorezistentă și 40 cu epilepsie medicamentos controlată Rezultatele cercetării au relevat diferențe statistic semnificative în manifestarea agresivității, ostilității și timidității între subiecții cu epilepsie farmacorezistentă și cei cu epilepsie medicamentos controlată. Comportamentele precum agresivitatea indirectă, nervozitatea, vinovăția, neîncrederea și timiditatea au fost mai frecvente la persoanele cu epilepsie farmacorezistentă. Agresivitatea ridicată a fost demonstrată numai la femeile cu epilepsie farmacorezistentă, în timp ce ostilitatea ridicată a fost observată în principal la grupul farmacorezistent. Anumiți factori, inclusiv nivelul scăzut de educație, șomajul, traiul în zonele rurale și crizele epileptice frecvente, au fost asociați cu agresivitate și ostilitate mai ridicată la subiecții cu epilepsie farmacorezistentă.

Cuvinte-cheie: **comportament epilepsie farmacorezistentă, epilepsie medicamentos controlată**.

Introduction Epilepsy is a neurological disorder characterized by a persistent predisposition to generate epileptic seizures and is associated with various neurobiological, psychological, and social consequences [3]. Recent international studies on behavioral manifestations in epilepsy have highlighted the presence of alternating behaviors, such as aggressiveness, impulsivity, irritability, as well as passivity, apathy, and shyness [1, 2, 4, 5].

The relationship between aggression and epilepsy is complex and controversial. To date, researchers have not reached definitive conclusions, as the incidence and prevalence of aggressive behavior remain insufficiently quantified. However, studies on epilepsy suggest that certain behavioral traits may be more common in individuals with epilepsy than in the general population. These include emotional lability, irritability, outbursts of aggression and anger, an increased interest in philosophical, moral, and religious issues, excessive writing, a sense of personal destiny, and low libido. Although these traits are not ubiquitous among all individuals with epilepsy, they are more frequently observed in those with epilepsy accompanied by psychiatric comorbidities [1, 2, 5].

In relation to aggression in epilepsy, F. Tudose argues that it manifests episodically through explosive acts, aggressive behavior marked by intense violence, as well as an underlying attitude that shapes most interpersonal relationships [7]. O. Devinsky (1993) suggests that in epilepsy, alternating emotional states, emotional lability, and extreme behaviors are accentuated. Additionally, concerns related to morality, philosophy, and religion may either be absent or exaggerated. On the negative end, epilepsy-specific behavioral changes may include psychosis, depression, paranoia, and personality disorders. In this context, some authors describe an increase in affectivity, while others report a general decrease in emotional responsiveness [2].

Most researchers argue that behavioral problems in epilepsy should be analyzed through a multifactorial model that considers factors such as the type of seizures, morphological brain aspects, interictal epileptic activity, drug treatment, psychiatric comorbidities, and individual capacity reserves. Therefore, behavioral issues in epilepsy may arise from various factors, including: a) epilepsy itself, b) the effect of antiepileptic medication on behavior, c) structural brain damage or disturbances in the neural circuits responsible for emotions, and d) a combination of these factors.

The aim of this research is to identify the behavioral particularities of individuals with drug-resistant epilepsy.

Research objectives: (1) to identify the behavioral particularities of individuals with drug-resistant epilepsy compared to those with drug-controlled epilepsy, (2) to compare the behavioral profiles of individuals with drug-resistant epilepsy to those with well-controlled epilepsy, (3) to highlight particularities related to aetiology of epilepsy, gender, education, professional status, marital status, living environment, disease duration and frequency of epileptic seizures.

The study sample: The research was conducted at the Institute of Emergency Medicine, National Epileptology Centre. The study subjects consisted of individuals diagnosed with epilepsy, aged between 18 and 62 years, selected based on a confirmed diagnosis of "drug-resistant epilepsy" or "well-controlled epilepsy," as determined by board-certified epileptologists. The study sample included 102 individuals diagnosed with epilepsy, of whom 62 with drug-resistant epilepsy and 40 with well-controlled epilepsy. Subjects with dementia or severe cognitive impairments were excluded from the study. The general characteristics of the experimental subjects are presented in Table 1.

Table 1.

Presentation of general data of experimental subjects

General dates		Drug-resistant		Well-controlled	
		Number	*%*	*Number*	*%*
1. Number	Total subject -102	62	62	40	38
2. Gender	Men	30	48	20	50
	Women	32	52	20	50
3.Age (years)	18-19	2	3	1	3
	20-29	18	29	16	40
	30-39	23	37	13	33
	40-49	15	24	7	18
	50-59	2	3	3	8
	60-69	2	3	0	0
4. Education	Secondary education	29	47	10	25
	Professional technical studies	18	29	6	15
	Higher education	15	24	24	60
5. Professional status	Employed	17	27	32	80
	Unemployed	43	69	6	15
	Pensioner	1	2	0	0
	Student	1	2	2	5
6.Marital status	Married	23	37	14	35
	Single	29	47	24	60
	Divorced	10	16	2	5
7. Living environment	Urban	33	53	21	53
	Rural	29	47	19	48
8. Disease duration (years)	0-9	3	5	15	38
	10-19	24	39	15	38
	20-29	26	42	6	15
	30-39	5	8	3	8
	40-49	3	5	1	3
	50-59	1	2	0	0
9. Etiology of epilepsy	Structural	43	69	25	63
	Unknown	13	21	12	30
	Genetic	6	10	3	8
10. Frequency of seizures	1 – 10/month	43	69	-	-
	11 – 20/month	5	8	-	-
	More than 20/month	14	23	-	-

Materials and methods:

- *Empirical methods*: 1) Buss-Durkee Hostility Inventory (BDHI); 2) Cheek-Buss Shyness Scale (RCBS).

- *Statistical analysis*: analysis of frequencies and percentage values, comparison of means by descriptive statistics, difference of means by independent T-test, determination of Pearson correlation coefficients.

Results and discussions ***Findings on Aggression and Hostility Indices in Individuals Diagnosed with Epilepsy***

An analysis of the data regarding global indicators of aggressiveness and hostility reveals that normal aggressiveness was observed in 26% of all subjects, with 21% in the well-controlled epilepsy group and 30% in the drug-resistant epilepsy group. Low aggressiveness was recorded in 73% of the subjects, with 79% in the well controlled epilepsy group and 68% in the drug-resistant group. Notably, high high levels of aggressiveness was exclusively found in the drug-resistant epilepsy group (2%). The results are illustrated in Figure 1

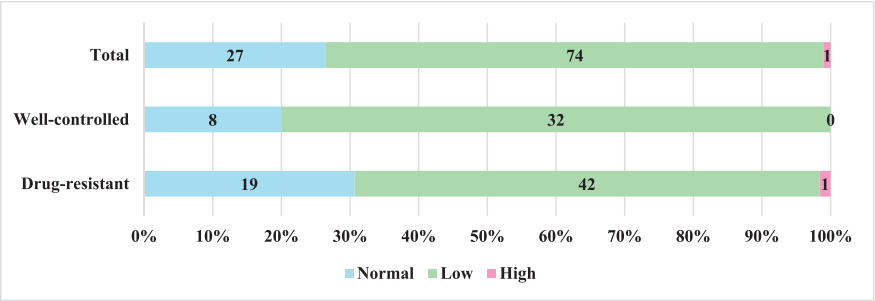

Figure 1. Distribution of subjects according to the presence of aggressiveness (%)

The analysis indicates that high hostility was recorded in 41% of all subjects, with 10% in the controlled epilepsy group and 60% in the drug-resistant epilepsy group. Normal hostility was observed in 59% of all subjects, with 90% in the controlled epilepsy group and 40% in the drug-resistant group. The data are presented in Figure 2.

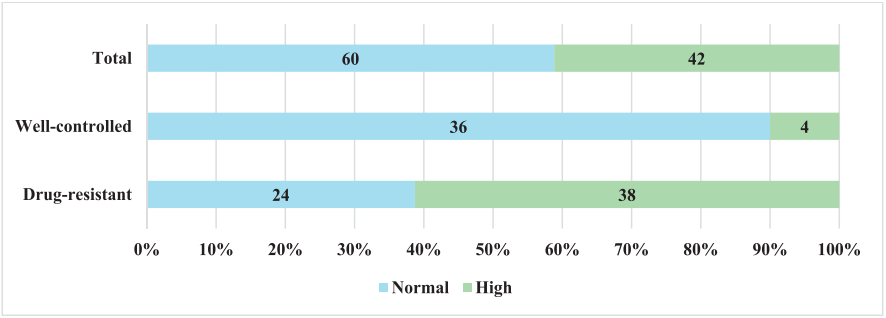

Figure 2. Distribution of subjects according to the presence of hostility (%)

According to Table 2, the data show that the mean aggressiveness score for subjects with well controlled epilepsy (m = 12.63, ab.st = 4.55) is lower than that for subjects with drug-resistant epilepsy (m = 15.23, ab.st = 5.27), with a difference of 2.6. The *t-test* value for aggressiveness is t = 2.6, with a probability of error p = 0.012. This indicates that there are significant differences in aggressiveness between subjects with well controlled epilepsy and those with drug-resistant epilepsy.

The difference between the mean hostility index for subjects with well controlled epilepsy (m=8.18 ab.st=1.96) and those with drug-resistant epilepsy (m=11.44 ab.st=2.53) is 3.26. The *t-test* value obtained for hostility is t=7.3, with probability of error p=0.01. This indicates significant differences in hostility between subjects with well controlled epilepsy and those with drug-resistant epilepsy (Table 2).

Table 2.

Results according to general indices of aggressiveness and hostility in the Buss-Durkee Inventory

General indices	***Epilepsy Types***	*media*	*ab.st.*	*t*	*p*
Aggressiveness	Drug-resistant epilepsy	15,23	5,265	2,566	,012
	Well-controlled epilepsy	12,63	4,550	2,648	,010
Hostility	Drug-resistant epilepsy	11,44	2,533	6,912	,000
	Well-controlled epilepsy	8,18	1,960	7,301	,001

In the continuation of the research, we analyzed the data obtained through the lens of the 8 factors of aggression according to the Buss-Durkee Hostility Inventory: physical aggression, indirect aggression, irritability, resentment, negativism, suspiciousness, verbal aggression, and guilt. Based on the results, we can conclude that manifestations of indirect aggression (p = 0.00), nervousness (p = 0.005), resentment (p = 0.00), suspiciousness (p = 0.00), and guilt (p = 0.001), as well as overall aggressiveness and hostility, are more pronounced in subjects with drug-resistant epilepsy than in those with well-controlled epilepsy. However, for physical aggression (p = 0.092), negativism (p = 0.06), and verbal aggression (p = 0.13), the manifestations were not significantly more pronounced in subjects with drug-resistant epilepsy compared to those with well-controlled epilepsy. Therefore, in the case of these disorders, the hypothesis is confirmed.

Manifestation of aggression and hostility by gender aspect. We observed that in subjects with drug-resistant epilepsy, the level of aggressiveness reached the normal index in 38% of women and 23% of men. Low aggressiveness was present in 59% of women compared to 77% of men, while high aggressiveness was found in 3% of women and 0% of men. In contrast, among subjects with well-controlled epilepsy, the normal aggressiveness index was reached by 10% of women and 30% of men. Low aggressiveness was found in 90% of women compared to 70% of men, and high aggressiveness was not observed. Regarding the hostility index, results within the normal range were recorded in 43% of men and 34% of women, while high hostility was present in 57% of men and 66% of women. These findings suggest that women with drug-resistant epilepsy exhibit lower levels of aggressiveness than men, but are more hostile in comparison. In subjects with well-controlled epilepsy, results within the normal range were found in 95% of men and 85% of women, while high hostility was present in 5% of males versus 15% of females.

Manifestation of aggression and hostility by age. We observed that high levels of aggressiveness were exclusively present in 7% of drug-resistant subjects aged 40-49 years. In contrast, the hostility index in subjects with well-controlled epilepsy peaked at 15% in the 30-39 age group. Additionally, the highest hostility values (100%) were recorded in drug-resistant subjects aged 18-19 and 50-59 years.

Manifestation of aggression and hostility by educational level. We found that

among subjects with drug-resistant epilepsy, those with higher education exhibited the lowest level of aggressiveness (87%), compared to subjects with secondary education (62%) and those with technical education (61%). A similar trend was observed among subjects with well controlled epilepsy: 92% of those with higher education, 70% with secondary education, and 50% with technical education exhibited low aggressiveness. Hostility was more pronounced among subjects with secondary education (72%), followed by those with higher education (53%) and vocational/technical education (50%). A similar pattern was observed in the controlled epilepsy group: 8% of those with higher education, 20% with secondary education, and 0% with vocational/technical education exhibited hostility. Thus, we can conclude that subjects with higher education are the least aggressive and hostile. Analyzing the total sample, significant differences were found between subjects with secondary education, technical education, and higher education in terms of aggressiveness ($F = 7.19$, $p = 0.001$), with the highest mean aggressiveness found in subjects with technical education. Similar trends were observed for hostility ($F = 5.83$, $p = 0.004$), with the highest mean hostility found in subjects with technical education.

Manifestation of aggression and hostility by professional status. In the drug-resistant epilepsy group, the lowest level of aggressiveness was found in employed subjects (76%), compared to non-employed subjects (65%). In contrast, in the well-controlled epilepsy group, non-employed subjects exhibited the lowest level of aggressiveness (100%), compared to employed subjects (75%). The hostility index was higher in non-employed drug-resistant subjects (63%) compared to employed subjects (59%), and also higher in non-employed controlled subjects (17%) compared to employed subjects (9%).

Manifestation of aggression and hostility by marital status. The drug-resistant group exhibited the highest level of aggression among divorced subjects (10%), while divorced subjects in the controlled group showed low levels of aggression (100%). The hostility index was highest in divorced drug-resistant subjects (80%), followed by married (62%) and single (52%) subjects. In the controlled group, only 17% of married subjects showed high hostility, while both single and divorced subjects exhibited no high hostility values (0%). Analyzing the total sample of subjects, significant differences were observed between married, divorced, and single subjects regarding aggressiveness ($F = 3.63$, $p = 0.03$), with the highest mean found in divorced subjects ($m = 17.50$, $ab.st = 6.97$). A similar trend was observed for hostility ($F = 4.07$, $p = 0.02$), with the highest mean found in divorced subjects ($m = 11.92$, $ab.st = 3.12$).

Manifestation of aggression and hostility by living environment. High levels of aggressiveness were observed only in rural drug-resistant subjects (3%), while high levels of hostility were found in 66% of rural subjects and 58% of urban subjects. Among subjects with well-controlled epilepsy, high hostility was present in 16% of rural subjects and 5% of urban subjects.

Manifestation of aggression and hostility according to epilepsy aetiology. We observe that low aggressiveness is found in drug-resistant subjects with genetic epilepsy (100%), followed by those with structural epilepsy (72%) and unknown epilepsy (38%). High aggressiveness is present exclusively in drug-resistant subjects with structural epilepsy (2%). A similar trend is observed in subjects with controlled epilepsy: 100% of those with genetic epilepsy, 72% with structural epilepsy, and 92% with unknown epilepsy exhibit low aggressiveness. However, the hostility index shows a different trend. In drug-resistant subjects, high hostility is

seen in 67% of those with structural epilepsy, 62% with unknown epilepsy, and 17% with genetic epilepsy. In subjects with well-controlled epilepsy, the trend is reversed: high hostility is observed in 33% of those with genetic epilepsy, 12% with structural epilepsy, and 0% with unknown epilepsy. Analyzing the total sample of subjects, we found no significant differences in aggressiveness and hostility between the different aetiological groups.

Manifestation of aggression and hostility according to the duration of epilepsy. The data show that the level of aggressiveness varies with the duration of the illness. In the 0-9 years age range, 67% of subjects exhibited low aggressiveness; in the 10-19 years range, 50%; in the 20-29 years range, 81%; and in the 30-39 years range, 80%. High aggressiveness was observed in only 4% of subjects in the 20-29 years range. Regarding hostility, high levels were seen in 33% of subjects in the 0-9 years range, 67% in the 10-19 years range, 62% in the 20-29 years range, and 80% in the 30-39 years range. We conclude that both hostile and aggressive behaviors tend to become more pronounced as the disease progresses over time. In subjects with well-controlled epilepsy, low levels of aggression gradually increased from 80% to 100% for those with a disease duration of 0-39 years. High hostility was only present in subjects with disease durations of 10-19 years (13%) and 20-29 years (17%).

Manifestation of aggression and hostility in dependence of seizure frequency. It was observed that low aggressiveness was more evident in subjects with 11-20 seizures per month (80%), followed by those with more than 20 seizures per month (71%) and those with 1-10 seizures per month (65%). A similar trend was seen for high hostility: 80% in subjects with 11-20 seizures per month, 64% in those with more than 20 seizures per month, and 58% in subjects with fewer than 10 seizures per month. Subjects with well-controlled epilepsy generally experience seizures rarely or not at all.

Research results on shyness of people diagnosed with epilepsy According to the obtained results, mild shyness was present in 31% of subjects (38% in the well-controlled group and 27% in the drug-resistant group). Moderate shyness was found in 59% of subjects (60% in the well-controlled group and 58% in the drug-resistant group). High shyness was observed in 10% of subjects (3% in the well controlled group and 15% in the drug-resistant group). The data are reflected in Figure 3.

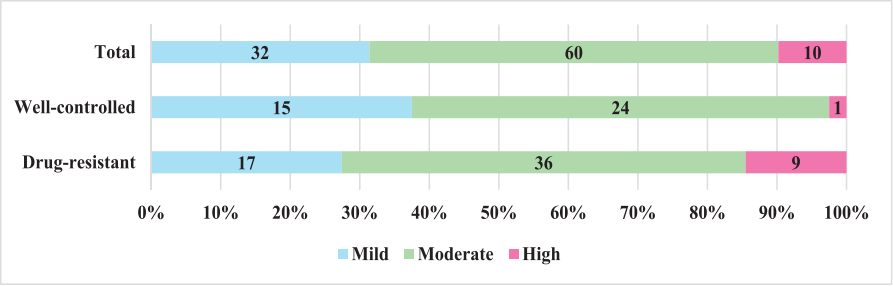

Figure 3. Distribution of subjects according to the presence of shyness (%)

According to the results of the Cheek-Buss Shyness Scale, significant differences were found between the level of shyness in subjects with drug-resistant epilepsy and those with well-controlled epilepsy ($t = 3.04$, $p = 0.003$). Specifically, the difference between the mean values was 5.03 units (mean value for drug-resistant subjects: m = 36.68, ab.st = 9.33, compared to well-controlled subjects: m = 31.65,

ab.st = 7.31). Thus, we can conclude that drug-resistant epilepsy is associated with increased insecurity, shyness, and lack of self-confidence.

Manifestations of shyness by gender. We observe that both men and women with drug-resistant epilepsy exhibit similar tendencies regarding shyness. Specifically, mild shyness is present in 27% of males and 28% of females, moderate shyness is observed in 60% of males and 56% of females, and high shyness is present in 13% of males and 16% of females. In subjects with well-controlled epilepsy, mild shyness is found in 40% of males and 35% of females, moderate shyness is found in 60% of both males and females, and high shyness is observed in 0% of males and 5% of females. Furthermore, analyzing the total sample of subjects, the *t-test* value for shyness (t = 0.294) with a probability of error (p = 0.769) indicates that there are no significant differences between the levels of shyness in male and female subjects.

Manifestations of shyness by age. In drug-resistant subjects, high shyness is predominantly present in those aged 20-49 years (13-17%). In subjects with well-controlled epilepsy, high shyness is most prevalent in the 40-49 years age range (14%).

Manifestations of shyness by educational level. In drug-resistant subjects, high shyness is most prevalent among those with technical education (33%), followed by 7% in subjects with secondary and higher education. In subjects with well-controlled epilepsy, high shyness is observed exclusively in those with secondary education (10%). Analyzing the total sample of subjects, we found that subjects with secondary education tend to be shyer (m = 37.65, ab.st = 8.66) compared to subjects with higher education (m = 31.88, ab.st = 7.45). The student t-test reveals significant differences (t = 3.17, p = 0.05).

Manifestations of shyness by professional status. Among drug-resistant subjects, 19% of non-employed individuals exhibit high shyness, compared to only 6% of employed subjects. For the well-controlled subjects, 17% of non-employed individuals show high shyness. Based on these observations, we hypothesize that shyness may influence the ability to seek and engage in employment. Analyzing the total sample of subjects, we found that the mean value for employed subjects is 31.96 (ab.st = 6.81), while for non-employed subjects, the mean value is 37.56 (ab.st = 9.95). The student t-test indicates significant differences between these two groups (t = -3.33, p = 0.001).

Manifestations of shyness by marital status. A high level of shyness is observed in drug-resistant subjects, with 26% of single individuals, 10% of divorced individuals, and 7% of married individuals exhibiting high shyness. In subjects with well-controlled epilepsy, high shyness is found in only 4% of married individuals. Analyzing the total sample of subjects, no significant differences by marital status were found (t = 1.09, p = 0.34).

Manifestations of shyness according to living environment. We observe that high shyness in subjects with drug-resistant epilepsy is present at similar rates in both urban (15%) and rural (14%) subjects. In contrast, in subjects with well-controlled epilepsy, high shyness is found exclusively in 5% of rural subjects.

Manifestations of shyness according to the aetiology of epilepsy. We observe that high shyness in subjects with drug-resistant epilepsy is most prominent in those with unknown epilepsy (23%), followed by those with genetic epilepsy (17%) and those with structural epilepsy (12%). In subjects with well-controlled epilepsy, high shyness is found exclusively in 8% of individuals with unknown epilepsy. Upon analyzing the total sample of subjects, no significant differences were found (t = 1.27, p = 0.29). Based on these findings, we hypothesize that individuals with un-

known epilepsy may be more self-aware of their condition compared to those with structural epilepsy. The latter group may display specific behaviors linked to organic brain changes, which depend on the location of structural lesions and the epileptogenic focus. Notably, this includes frontal lobe behavior, characterized by disinhibition, as well as moriatic behavior.

Manifestations of shyness according to the duration of epilepsy. In subjects with drug-resistant epilepsy, we observe that as the duration of the illness increases, the level of shyness also increases. Specifically, high shyness is absent in subjects with 0-9 years of epilepsy duration, increases to 13% in the 10-19 years range, to 15% in the 20-29 years range, and rises to 40% in the 30-39 years range. In contrast, in subjects with well-controlled epilepsy, high shyness is present only in those with an epilepsy duration of 30-39 years. Thus, we find that as the disease progresses over time, the level of shyness tends to increase. We hypothesize that factors such as the fear of going out, the embarrassment of having a seizure in public, and anxiety-depressive states contribute to the heightened shyness observed in subjects with drug-resistant epilepsy.

Manifestations of shyness in dependence of seizure frequency. We find that shyness correlates with the frequency of seizures. Specifically, high shyness is present in 29% of subjects with drug-resistant epilepsy who experience more than 20 seizures per month, in 20% of those with 1-20 seizures per month, and in 9% of those with 1-10 seizures per month. In subjects with well-controlled epilepsy, seizures are either rare or absent.

In the context of the data presented, we observe that the results of our study align with findings from international research. Studies on drug-resistant epilepsy and behavioral changes consistently highlight psychiatric issues such as depression, anxiety, psychosis, aggression, and irritability, all of which significantly impact the quality of life of individuals with epilepsy [1, 6]. For example, the study by Kwon P-Y and Park S-P (2016) identified that 60% of subjects with epilepsy exhibited moderate levels of irritability. Associated factors included depression, insomnia, anxiety, daytime sleepiness, uncontrolled seizures despite medication, and long epilepsy duration [5]. Previous research has also demonstrated a reciprocal relationship between irritability and depression, indicating that irritability can be a risk factor for both depressive and anxiety disorders. Furthermore, irritability is often an element of depressive disorders in people with epilepsy [6]. Sleep disturbances in these individuals may contribute to emotional instability, manifesting as irritability, aggression, and hostility. Additionally, studies have shown that the longer the duration of epilepsy, the more prominent irritability becomes, often triggered by factors such as poor socioeconomic status, stigmatization, social discrimination, and prolonged exposure to antiepileptic treatments [5].

Furthermore, a recent study by Valente et al. (2016) compared behavior, particularly impulsive traits, in subjects with juvenile myoclonic epilepsy and healthy controls. Their findings revealed that individuals with juvenile myoclonic epilepsy, especially those with drug-resistant seizures, exhibited significantly higher impulsive traits [8].

Conclusions

The statistical data on the behavioral characteristics of individuals with epilepsy revealed statistically significant differences in the manifestation of aggression, hostility, and shyness between subjects with drug-resistant epilepsy and those with well-controlled epilepsy. It was observed that behavioral factors such as indirect aggression, nervousness, guilt, distrust, and blame were significantly more pronounced in subjects with drug-resistant

epilepsy compared to those with well-controlled epilepsy. High levels of aggression were found exclusively in women with drug-resistant epilepsy, while high hostility was predominantly seen in subjects with drug-resistant epilepsy, with only minimal instances in those with well-controlled epilepsy. Both hostile and aggressive behaviors were found to increase with the frequency of epileptic seizures and the duration of the disease.

In conclusion, epilepsy exerts a profound impact on the lives of individuals affected by seizures and their families, imposing various restrictions on personal and social activities and favoring the development of specific behavioral patterns. Antiepileptic treatment, driving restrictions, the need for a regular sleep schedule, and lifestyle modifications - such as limiting alcohol consumption - can contribute to feelings of lost independence. Behavioral challenges are often linked to fear, stress, frustration, and embarrassment related to seizures.

REFERENCES

1. ALPER, Kenneth R.; BARRY, John J.; BALABANOV, Antoaneta J. *Treatment of psychosis, aggression, and irritability in patients with epilepsy*. Epilepsy & Behavior, 2002, 3.5: 13-18. doi:10.1016/s1525-5069(02)00500-5. ISSN 1525-5069.

2. DEVINSKY, Orrin; VAZQUEZ, Blanca. *Behavioral changes associated with epilepsy*. Neurologic clinics, 1993, 11.1: 127-149. doi.org/10.1016/S0733-8619(18)30173-7. ISSN 1557-9875

3. FISHER, Robert S., et al. *ILAE official report: a practical clinical definition of epilepsy.* Epilepsia, 2014, 55.4: 475-482. doi: 10.1111/epi.12550. ISSN 1528-1167.

4. HERMANN, Bruce P., et al. *Neurobehavioural comorbidities of epilepsy: towards a network-based precision taxonomy*. Nature Reviews Neurology, 2021, 17.12: 731-746. doi: 10.1038/s41582-021-00555-z. ISSN. 1759-4766

5. KWON, Oh-Young; PARK, Sung-Pa. *Interictal irritability and associated factors in epilepsy patients*. Seizure, 2016, 42: 38-43. doi:10.1016/j.seizure.2016.09.014. ISSN 1532-2688.

6. MULA, Marco, et al. *Psychiatric comorbidities in people with epilepsy*. Neurology: Clinical Practice, 2021, 11.2: e112-e120. doi: 10.1212/CPJ.0000000000000874. ISSN 2163-0933.

7. TUDOSE, Florin; TUDOSE, Catalina; DOBRONICI, Letitia. *Tratat de Psihopatologie si psihiatrie pentru psihologi*, București. Editura Trei, 2011. ISBN 978-973-707-551-2

8. VALENTE, Kette D., et al. *Delineating behavioral and cognitive phenotypes in juvenile myoclonic epilepsy: are we missing the forest for the trees*?. Epilepsy & Behavior, 2016, 54: 95-99. doi:10.1016/j.yebeh.2015.10.022. ISSN 1525-5069.

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