IMPACT OF FAMILY MEDICAL HISTORY ON DRUG CONSUMPTION ONSET AND SCHIZOPHRENIA ONSET

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Abstract: The purpose of this paper is to present the impact of family medical history on drug use onset and the onset of schizophrenia as a result of a cohort, descriptive study, compared with retrospective elements and to correlate them with literature data. Materials and methods: They were included in the study 60 patients of the Am Waldsee Clinic in Rieden, Germany, diagnosed with schizophrenia and addiction, and 67 patients with schizophrenia without addiction, hospitalized in the psychiatric ward of the "Gavril Curteanu" Municipal Hospital in Oradea. For each patient, a study record was drawn up that included besides demographics, family history data on drug use, onset, treatment and evolution of schizophrenia. Results and conclusions: It has been noted that the largest age of onset of drug use is recorded in subjects who did not have a family history illicit drugs addiction (15.50 years) and lowest in subjects with a family history of addiction. Regardless of the degree of kinship, mental disorders were significantly more common in drug users as compared to those not taking drugs. Compared to the drug users group, the mean age of onset of schizophrenia was higher in patients without addiction, both in those with a family history of mental disorders and in those without medical history. The younger the age of drug use the earlier the onset of schizophrenia.

INTRODUCTION

Initially, the drug was considered a raw material for the preparation of medicines, later on it was considered a natural or synthetic product capable of pathologically modifying consumer's behavior and generating addiction.(1)

Some ethiopatogenic assumptions on genetic and environmental factors or the role of the toxic substances in the production of psychotic (pharmacophyhotic) states allow a better understanding of diseases of "dual diagnosis", arising from the comorbid association between schizophrenia and toxics use.

Licit and illicit pharmacological drug abuse affects nearly 50% of all schizophrenics.(2,3,4)

Drugs include substances according to the legal regime:(5,6,7) illicit, prohibited drugs (8) and socially acceptable, legal, lawful drugs, whose production and use are controlled (alcohol, nicotine, caffeine) and medicines.(9,10)

Evidence suggests that gene-environment interaction mechanisms are likely to underlie the association between psychosis and cannabis use. In this respect, changes in several genes, rather than a single genetic polymorphism, along with other environmental factors (e.g, stress) may interact with cannabis to increase the risk of triggering psychosis.(11)

Cannabis use may trigger psychotic episodes in the short term, even in mentally healthy persons. Those more prone to schizophrenia and psychotic symptoms are the young people who smoke marijuana than those who never tried this drug.(12)

Along with revealing the genes involved in the etiology of schizophrenia, there has been reactivated the interest in the association between addictive disorder and schizophrenia.

Genetic composition has been recognized in numerous studies. Environmental factors also play a part in the development of schizophrenia. Viral infections and perinatal conditions like malnutrition have been recognized as risk factors.(13)

Researchers have known for long that schizophrenia has a family component and the disease is present in 1% in the general population, but its prevalence increases to 10% when the disease is present in both parents (10), if they are raised by schizophrenic parents.

Researchers assume that more than 100 different genes are involved in the pathogenesis of schizophrenia, but these genes do not cause the disease by themselves. These are divided into common and rare genetic variants (e.g. "zinc fingers" protein gene, Neuregulin I, Dysbindin I, major histocompatilbily complex (MHC), DISCI.

PURPOSE

The main objective of the study is to determine the impact of positive family history on the onset of drug use and schizophrenia.

MATERIALS AND METHODS

The clinical research was conducted on two groups of patients with schizophrenia hospitalized in the period 2011-2014:

A group of 60 patients with schizophrenia and drug abusers after the stage of withdrawal were hospitalized in the Am Waldsee Clinic in Rieden, Germany.

A group of 67 patients with schizophrenia without addiction were hospitalized in the psychiatric ward of the "Gavril Curteanu" Municipal Hospital in Oradea.

It is a cohort descriptive study compared to retrospective elements, aiming at the relation between clinical and sociodemographic characteristics.

For each patient, a record of study has been drawn up

that included, besides demographics, family history data on drug use, onset, treatment and evolution of schizophrenia.

RESULTS AND DISCUSSIONS

Table no. 1. Characteristics of the study groups

	Study group	Control group
Gender (female/male)	36.67%/63.33%	47.76%/52.24%
Mean age	25.90±5.74 years old	36.37±6.82 years old
Environment (urban/rural)	65.0%/35.0%	64.18%/35.82%

Both in the study group and in the control group, there were predominantly men, the mean age was 25.9 years in the study group and 36.37 years in control group. Most of the subjects were from urban areas in both the study group and the control group.

Table no. 2. Subjects' distribution according to education level

Education level	Study group		Control group	
	Nr.	%	Nr.	%
Secondary / Vocational education	53	88.33	43	64.18
Graduated	17	28.33	13	19.40
Ungraduated	36	60.00	30	44.78
High-school	6	10.00	20	29.85
University	1	1.67	4	5.97

Most patients had secondary or vocational education, in both the study group (88.33%) and in the control group (64.18%), level of education, which in most cases, has not been completed (60.00% in the study group and 44.78 % in the control group). In the study group, only 10% had completed secondary education and higher education in one case, while in the control group, nearly 30% had high school (29.85%), and approximately 6% had a university degree (5.97%).

Family history of addiction to illicit drugs and/or mental illness was recorded in 78.33% of patients in the study group and at a rate of 31.34% in the control group.

Drug addiction was registered in most relatives of 1-3 degree of the study group patients (55.00%).
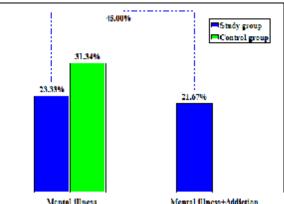
Table no. 3. Distribution of cases according to family history

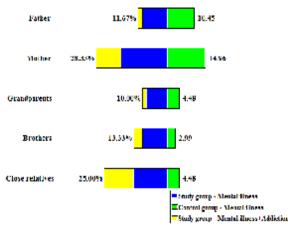|	Study group						Control group	
	Addiction*		Mental disorders		Addiction* + Mental disorders		Mental disorders	
	Nr.	%	Nr.	%	Nr.	%	Nr.	%
Positive family history	20	33.33	14	23.33	13	21.67	21	31.34
Father	19	31.67	6	10.00	1	1.67	7	10.45
Mother	2	3.33	11	18.33	6	10.00	10	14.96
Grand-parents	2	3.33	5	8.33	1	1.67	3	4.48
Siblings	5	8.33	6	10.00	2	3.33	2	2.99
Close relatives	4	6.67	8	13.33	7	11.67	3	4.48

* Illicit drugs addiction

In the control group, mental illness were more common in mothers, but the percentage was slightly higher than in fathers (14.96% vs. 10.45%) (p = 0.206).

Figure no. 1. The distribution of cases by family history – in study group versus control group

In the study group, mental disorders were significantly more common in mothers (28.33% vs 11.67%) (p <0.001). In the control group, mental illness were more common in mothers as well, but the percentage was slightly higher than in fathers (14.96% vs 10.45%) (p = 0.206).

Figure no. 2. Distribution of cases by family history and degree of kinship in study group versus control group

Regardless of the degree of kinship, mental disorders were significantly more common in drug users compared to non drug users (p <0.001), except for fathers (p = 0.690).

Compared to drug users group, the mean age of onset of schizophrenia was higher in patients without addiction, in both those with family history of mental disorsers and in those without positive family history, despite insignificant differences (p> 0.05).

Table no. 4. Mean age of drug use onset according to family history

Family history	Mean age of drug use onset	
	Study group	Control group
Addiction	13.70±1.67 years old	-
Mental disorders	14.50±0.73 years old	20.97±2.65 years old
Addiction+Mental disorders	13.22±1.17 years old	
No family history	15.50±1.38 years old	21.98±2.88 years old

Figure no. 3. Mean age of disease onset according to family history in study group versus control group
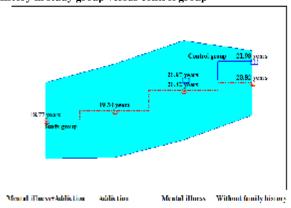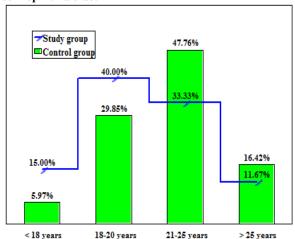

Table no. 5. Distribution of cases according to schizophrenia onset in study group versus control group

Schizophrenia onset	Study group		Control group	
	No.	%	No.	%
< 18 years old	11	15.00	4	5.97
18-20 years old	27	40.00	18	29.85
21-25 years old	18	33.33	33	47.76
> 25 years old	4	11.67	9	16.42
Mean age	19.78±2.65		21.66±2.87	

In the study group, in 55% of subjects, the onset of schizophrenia was below the age of 20. Specialized studies show that 40% of men and 23% of women are diagnosed with schizophrenia before the age of 19 years old.
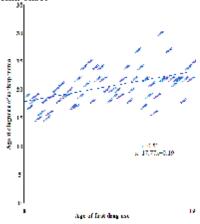
In the control group, the onset of schizophrenia before the age of 20 was recorded in 35.82% of patients and in 77.61%, the onset was between 18-25 years old.

Figure no. 4. Distribution of cases according to schizophrenia onset

In the context of the data obtained, we have established a correlation between the age of onset of drug use and the onset of schizophrenia. The younger the age of drug use the earlier the onset of schizophrenia.

Figure no. 5. Correlation between drug use onset and schizophrenia onset

CONCLUSIONS

Regardless of the degree of kinship, mental disorders were significantly more common in drug users compared to non drug users. Compared to drug users group, the mean age of onset of schizophrenia was higher in patients without addiction, in both those with family history of mental disorders and in those without positive family history.

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