

Identifikační záznam

SIGITOVA, Ekaterina. Psychopathology, mental disorders and mitochondrial disorders. Praha, 2017. 117 s., 5 příl. Disertacní práce (Ph.D.). Univerzita Karlova, 1. lékařská fakulta, Psychiatrická klinika. Vedoucí práce Raboch, Jiří.

Bipolar disorder is characterized by two types of episodes – manic and depressive.

The manic episode is characterized by a pathologically elevated mood and an increased physical and mental activity.

Patient's mood is elevated inadequately to the circumstances and may vary from careless cheerfulness to almost uncontrollable excitement. Mood swings are accompanied by increased energy which leads to hyperactivity, excessive speech production (both in volume and speed), increased vital drives (appetite, sexual desire), low need for sleep. Perception disturbances may also occur. The ability to hold oneself back is lost, attention jumps from one subject to another quickly, self-esteem raises, some supra-optimistic ideas and ideas of greatness may appear and are easily expressed. The patient has many plans, but none of them get realized. Self-criticism is reduced or absent. The patient loses the ability to critically assess his own problems and thus may go for some inadequate actions with negative consequences for social status and well-being, can commit extravagant and impractical actions, thoughtlessly spend money or be aggressive, amorous, hypersexual, playful in improper circumstances.

There are three degrees in severity of manic disorders:

- Hypomania
- Mania without psychotic symptoms
- Mania with psychotic symptoms.

The depressive episode is characterized by emotional, cognitive and somatic impairment, which manifests as mood decrease, loss of interest and pleasure, a decrease in energy, and as a result, a decrease in activity and increase in fatigue. Fatigue may appear even after a slight effort. Additional symptoms are: reduced ability to concentrate and hold the attention; low self-esteem and self-confidence; secondary ideas of self-blame; gloomy and pessimistic vision of the future; ideas or actions of self-harm or suicide; disturbed sleep; decreased appetite.

Depressive episodes are differentiated by the number, type and severity of the symptoms:

- Mild depressive episode
- Moderate depressive episode
- Severe depressive episode.

The included criteria for the experimental group were as follows:

- all in-patients and out-patients are already treated for BPD (at least second current episode);
- acute state;
- within one week upon hospitalization;
- diagnosis of the BPD – F31 (phase manic, depressive, remission);
- age 18-65.

The excluded criteria for the experimental group were as follows:

- additional diagnosis of any listed in F10-F19, F20-F29, F70-F79;
- organic brain damage;
- significant cognitive impairment (during the primary clinical examination patient did not show any sign of cognitive impairment);
- history of medication abuse of any kind;
- diagnosis of cancer or any neoplastic disease within the last 3 years;
- a diagnosed mitochondrial disorder;
- constantly taking medicines such as coenzyme Q, L-carnitine, vitamin E, chloramphenicol, doxycycline, ofloxacin, ciprofloxacin, perofloxacin, azathioprine, cyclosporine, tacrolimus, everolimus, monoclonal antibodies, amiodarone, statins, levomepromazine, haloperidol;
- participation in any study involving investigational drug within the last 3 months.

The included criteria for control group were as follows:

- age 18-65;
- an ability to undergo blood sampling procedure.

The excluded criteria for control group were as follows:

- history of any psychiatric or neurodegenerative disease;
- history of medication abuse of any kind;
- diagnosis of cancer or any neoplastic disease within the last 3 years;

- a diagnosed mitochondrial disorder;
- constantly taking medicines such as coenzyme Q, L-carnitine, vitamin E, chloramphenicol, doxycycline, ofloxacin, ciprofloxacin, perofloxacin, azathioprine, cyclosporine, tacrolimus, everolimus, monoclonal antibodies, amiodarone, statins, levomepromazine, haloperidol;
- participation in any study involving investigational drug within the last 3 months.

Power analysis (linear regression)

Dependent variable: mitochondrial disorders (respiration, complexes, etc.)

Independent variables: sex, age, diagnosis, disease experience, psychopathological symptoms, disease phase, treatment, etc.

! Predictor data: check if there are any correlations between the predictors (ind. var.)

SD (x) = 1

VIF (variance-inflation factor) = 1 (predictors are uncorrelated)

Alpha = .05

Error SD = 1

Power = 80%

Detectable Beta (meaningful value of the regression coeff.) = 0.5

Sample size:

V. = 32-57

Demographic data from patients in the experimental and control group

	Male	Female		BMI
Experimental group	14	23	Subgroup A	27,9
			Subgroup B	26,8
Control group	14	7	26,0	

Patients were included in the research as follows: in the laboratory I received information about a new patient with bipolar disorder in the clinical departments 1, 5 and 6 (there was an agreement with their chiefs). Then I visited the department, checked including and excluding criteria, did the scaling and collected all the necessary data for processing (also via electronic system MEDEA). Information about the patient in remission was also given to me in the same way. After getting the information I visited the clinical department for the second time and repeated the scaling. Sometimes patient was already discharged from the clinic and we agreed to meet on the other day for the blood sampling procedure and scaling. During the research 3 patients were redirected to the other health care institution before the remission, 2 patients did not fulfill the criteria of the acute manic or depressive episode.

The definition of remission for patients with bipolar disorder:

- Montgomery-Asberg Depression Rating Scale (MADRS) – remission from depression, less than 10 points.
- Young Mania Rating Scale (YMRS) – remission from mania, less than 12 points.