



**Study of Insight in Patients with Obsessive Compulsive
Disorder and Its Relation to Executive Functions and
Serum Brain Derived Neurotrophic Factor**

Thesis submitted for partial fulfillment of the master degree in Neuro-
Psychiatry

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SUMMARY

This study aimed:

To compare serum Brain Derived Neurotrophic Factor in patients with OCD and control group then find the relation of BDNF level with insight in OCD.

Also, to assess executive dysfunction among the study groups and find the relation of BDNF level and executive functions (EF) and asses relation between executive function and insight in OCD patients.

Also, the study aims to assess correlation between serum BDNF level and severity of OCD symptoms.

A-Theoretical part:

Review of Literature:

Chapter 1: obsessive compulsive disorder:

Definition, epidemiology, gender and age preference, etiology, clinical picture, OCD and comorbid condition, management.

Chapter 2: Brain Derived Neurotrophic Factor:

Definition, mechanism of action, BDNF as a mediating factor in epigenesis, clinical and therapeutic aspect of BDNF, BDNF role in OCD, BDNF and psychopharmacology, BDNF and cognition.

Chapter 3: Executive Dysfunction in OCD:

executive function and OCD, neural systems supporting EF, assessment of executive function, neuroimaging to assess executive function.

Chapter 4: Insight:

Definition of insight, phenomenology of insight, assessment of insight, different etiopathogenic models of lack of insight, insight and OCD, level of insight, poor insight and OCD.

B- Practical part:

This study was a case-control study. Participants included in this study were 40 male and female patients with OCD diagnosed according to the DSM-5 criteria, who were recruited from the psychiatric outpatient clinic, Fayoum University Hospitals as well as 40 healthy controls among relatives of medical and paramedical personnel staff of Fayoum University hospitals.

Informed oral and written consent taken from all subjects participated in this study.

SUBJECTS:

Patient group:

Inclusion criteria:

- Both male and female were included.
- Participants met DSM5 criteria for obsessive compulsive disorder.
- Participants were in the range from 18 to 50 years old.
- Drug naïve/ free psychiatric patients.

Exclusion criteria:

- Other psychiatric comorbidities and substance use disorders as they can affect executive functions and BDNF levels.
- History of inflammatory illness E.g., autoimmune diseases, others...

Control group:

Forty healthy volunteers were selected among medical and paramedical health workers from Fayoum University Hospital and matched with the patients group in age, gender, education, socio demographic and economic status.

METHODS:

1. Semi-structured interview derived from the psychiatric sheet of Fayoum Psychiatry Department: for diagnosis of cases.

2. Structured Clinical Interview based on DSM-5 (Research Version) (SCID-5-RV) to diagnose OCD and to exclude comorbidities.

3. Yale Brown Obsessive-Compulsive Scale (for cases only) was used to providing a specific measure of the severity of symptoms of obsessive –compulsive disorder.

4. The Brown Assessment of Belief Scale (BABS) to detect insight among OCD patients.

5. Trail Making Test , Wisconsin Card Sorting Test (WCST)to detect executive dysfunctions.

Laboratory:

Serum level of BDNF (brain derived neurotrophic factor) for both Patients (good and poor insight) and control groups:

The analysis of clinical chemistry parameter will be performed at the department of Clinical Pathology. Venous samples were collected by a nurse from all participants by aseptic venipuncture and the blood will

then be added to serum separator vacutainer tubes and within 30 minutes of collection will be centrifuged at a rate of 3000 rpm by a trained laboratory technician. The separated serum will harvest in eppendorf tube and frozen till assay in -20 degrees centigrade. BDNF will be measured using commercially available enzyme linked immune sorbent assay (ELISA) kit.

RESULTS:

a- Demographic data and clinical characteristics in the study groups:

1. As regard sociodemographic data , no statistically significant difference (age, gender, marital status, occupation, residence, educational level, and socio-economic level) were detected between cases and control groups.
2. As regard clinical characteristics of cases, OCD patients, 27.5% had family history of OCD. The onset of OCD occurred at a median age of 22.5 years. The median duration of illness was 4 years. The severity of OCD symptoms was assessed by Y-BOCS which gave a median score of 22.
3. Regarding insight, no statistically significant association between insight and sociodemographic data in OCD patients.

4. As regard clinical characteristics of cases in insight, there was no statistically significant relation between insight and family history of OCD and age at onset.
5. Duration of illness showed statistically significance difference as, OCD patients who with poor insight had OCD with higher median 6 years than patients with good to fair insight with median 4 years.

b-Comparative data:

Serum BDNF:

1. BDNF level showed statistically significant difference between OCD patients and control with (p value=0.013).
2. BDNF level showed statistically significant difference as; OCD patients with poor insight had lower BDNF level with median 0.3 than patients with good to fair insight with median 0.64(p value <0.001).

Executive functions measured by Trail Making Test and Wisconsin Card Sorting Test:

1. Executive functions were evaluated via tests as TMT and WCST. OCD patients' worse performance in TMT with significantly longer time as compared to healthy participants (P values<0.001). Similarly, they gave significantly more perseverative responses, errors, and total errors in WCST as compared to healthy participants (P value= 0.014, 0.016, 0.003 respectively).
2. No statistically significant difference regarding executive functions in poor and good insight OCD patients.

OCD Severity measured by Yale-BOCS:

1. Y-BOCS showed statistically significant difference as; OCD patients with poor insight had higher Y-BOCS severity score with median 32 than patients with good to fair insight with median 20 (p value < 0.001).

C-Correlative data:

The correlation between Serum BDNF and Severity of OCD symptom:

- A significant negative correlation between BDNF and Y-BOCS severity (P= 0.006) in all OCD patients.

The correlation between Serum BDNF and executive function:

- A significant positive correlation between BDNF and WCST perseverative responses (r= 0.385, P= 0.039) and perseverative errors (P= 0.044) in good to fair insight OCD patients.

d-Diagnostic performance of BDNF in predicting poor insight in OCD patients:

BDNF is a valuable diagnostic biomarker of insight in patients with OCD with 100% sensitivity and 72.41% specificity, p-value < 0.001.