

Recognition of catatonia and the role of the ECT in its treatment

Ph.D. Thesis

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Introduction

Catatonic syndrome (for the sake of brevity and better understanding will be used interchangeably with „catatonia”) is characterized by a variety of psychomotor, behavioral and autonomic abnormalities. Karl Ludwig Kahlbaum’s catatonia concept described the syndrome as a distinct nosological entity for the first time in 1874. In his handbook written in 1908, Kraepelin categorized catatonia as a subtype of dementia praecox, i.e. equated the catatonic syndrome with a form of schizophrenia. His view defined the concept of catatonia for nearly 100 years and, as our research demonstrates, his concept influences the view of catatonia even nowadays. In the first three editions of the Diagnostic and Statistical Manual of Mental Disorders (DSM), catatonia appeared exclusively as a subtype of schizophrenia reflecting the Krepelinian concept. DSM-IV was the first to create the category of „Catatonic Disorder due to Another Medical Condition (organic catatonia)”. As catatonic symptoms have been observed with increasing frequency in patients with affective

disorders, a catatonia specifier („with catatonic symptoms”) was introduced for the description of affective disorders.

The number of publications related to catatonia has increased significantly over the past 20 years. Changes in DSM-5 reflect the developments in the field and signal the growing importance of catatonia. DSM-5 retained the concept of organic catatonia („Catatonic Disorder due to Another Medical Condition”) and introduced a catatonia specifier that makes catatonia attributable to both psychotic and affective disorders. The traditional category of „Catatonic Schizophrenia” was removed from DSM-5 . An independent category, named „Unspecified catatonia” has been created for cases, in which the underlying psychiatric or medical condition is not yet clarified.

The lack of rigorous psychopathological definition of catatonia is also reflected in epidemiological findings that vary widely depending on the research settings, methods, diagnostic criteria and the assessment instruments used. The overall incidence of

catatonia estimated between 7% and 17% in acutely ill psychiatric inpatients.

Objectives

Study I: The aim of this study was to assess the knowledge, experience and attitudes towards the recognition and treatment of catatonia of residents and qualified psychiatrists working in acute psychiatric care in Budapest.

Study II.

To the best of our knowledge, there has been no systematic survey on catatonia in patients admitted to acute psychiatric wards in Hungary. Our prospective study aimed to fill this gap. The objectives of our research were to assess the incidence of catatonic symptoms and the most common underlying psychiatric disorders behind catatonic symptoms in patients admitted to an acute psychiatric ward in Budapest.

Study III.

According to our literature review, no systematic survey of catatonic symptoms in gerontopsychiatric populations has ever been carried out. Thus, the aim of the third study was to assess the incidence of catatonic symptoms, the symptomatic picture of catatonia and the underlying medical and psychiatric conditions in gerontopsychiatric patients (age => 65 years) admitted to an acute psychiatric ward in Budapest.

Methods

Study I. All residents and qualified psychiatrists working in an acute psychiatric unit in Budapest (N = 11) who consented to participate the study were asked to complete a 10-item questionnaire. After providing demographic data, participants had to score their knowledge on a 5-point Likert scale in the following areas: knowledge of catatonia, recognition of individual catatonic symptoms and the treatment of catatonia. Participants were asked to select evidence-based

treatment methods from 13 options, catatonic symptoms from 10 options as well as complications of untreated catatonia. Participants were asked to estimate the incidence of catatonia associated with affective, psychotic and organic disorders. Finally, participants had to estimate how many catatonic patients they have seen in the last 6 months and during their whole career.

Study II. The study was conducted in the Centre for Psychiatry and Addiction Medicine (CPAM) of Szent István and Szent László Hospitals – Merényi Gusztáv Hospital. From the 1st of April 2015 to the 31st of July 2015 all acute psychiatric patients admitted to CPAM were screened for catatonic symptoms as part of the admission examination. For this purpose, the Bush-Francis Catatonia Screening Instrument (BFCSI) was used. If at least 2 symptoms on the BFCSI were ascertained, the Bush-Francis Catatonic Rating Scale (BF CRS) was scored and the syndromal diagnosis of catatonia was made according to the criteria of DSM-5. The Hungarian version of the Structured Interview for DSM-IV (SCID I-II) was used to establish the diagnosis

of catatonic patients. In the presence of cognitive impairment, the Mini Mental State Examination (MMSE) and the Clock Drawing Test were performed.

Study III. As a secondary examination of the second study, all patients aged above 65 years admitted to the CPAM during the same period as above were screened for catatonia with the BFCSI. If a minimum of 2 symptoms were detected, the examination was continued with the BFCRS to establish the diagnosis of catatonia according to DSM-5 criteria. The validated Hungarian version of the SCID I-II structured interview was used to make the diagnosis of patients with catatonia. The severity of cognitive decline was measured with the MMSE and Clock Drawing Test.

Statistical analysis

The SPSS, Version 11.5 statistical package was used for statistical analysis for all three studies. Descriptive data were given as percentages or with mean and standard deviations. For group comparisons, chi-square test and t-test were used for discrete and normally distributed continuous variables, respectively, and Mann-Whitney

U-test for non-normally distributed continuous variables.
Significance level was set at 0.05 => p .

Results

Study I. A total of 98 residents and qualified psychiatrists completed the questionnaire yielding a response rate of means 69.6%. The mean age of the respondents was 40.7 +/-2.8 years and 62% were female. The proportion of residents was 38.8%. Respondents estimated their knowledge on catatonia as minimal in 15.3%, moderate in 61.25% and comprehensive in 23.5%. Clinical position was in direct correlation with self-assessed knowledge; specialists rated their own knowledge significantly higher than the residents did (p=0,001). A small number (5.1%) of the respondents rated the possibility of recognizing catatonic symptoms in their daily practice as low, 26.5% could not estimate this likelihood and 58.2% thought that they would recognize catatonic symptoms with high or very high probability (10.2%). The symptoms identified by the respondents as catatonic were as follows: waxy

flexibility (93.9%), echopraxia (62.2%), catalepsy (57.1%), Gegenhalten (49%), and spasticity (37.8%). Non-catatonic symptoms mistakenly reported by the respondents as catatonic were in the following proportions: cataplexy (49%), aphasia (19.2%), dysdiadochokinesis (6.1%), and strabism (2%). Participants' responses regarding the treatment options of catatonia were as follows: electroconvulsive therapy (ECT) (93.9%), second generation antipsychotic drugs (85.7%), benzodiazepines (69.4%), first generation antipsychotic drugs (54.1%), antidepressants (20.4%), transcranial magnetic stimulation (rTMS) (7.1%), barbiturates (6.1%), antibiotics (2%), psychotherapy (2%), and antiepileptic drugs (1%). Respondents who self-rated their knowledge as high, marked ECT ($p=0,037$) and first generation antipsychotic drugs ($p=0,030$) more often as adequate therapy of catatonia. The majority (84.7%) of respondents encountered 0 to 4 catatonic patients in the last month, and 53% came across with only 0-10 catatonic patients during their whole career. In the respondents' opinion, catatonia is mostly associated with psychotic (51.7% +/- 23%),

affective (28.7% +/- 18.2%) and organic disorders (16.7% +/- 14.2%).

Study II. A total of 342 patients were admitted to the CPAM during the study period. Four patients were discharged within 24 hours, thus 338 patients have been included in the study. The mean age of the patients was 53.02 +/- 5.8 years and nearly half of them (48.5%) were men. The incidence of catatonia was 8.55% according to BFCRS and 5.02% according to DSM-5 diagnostic criteria. The mean age of the catatonic patients was 57.6% +/- 3.2 years and 41.1% were men. The mean score on BFCRS was 8.5 +/- 2 points. The diagnostic distribution of patients, diagnosed with BFCRS as catatonic was as follows: schizophrenia spectrum disorders (27.5%), affective disorders (17.2%), dementia + other organic diseases (13.8%), organic catatonia (10.3%), dementia + affective disorder (10.3%), drug withdrawal (6.8%), dementia (3.4%), alcohol withdrawal (3.4%), and Down syndrome (3.4%). The frequency of catatonic symptoms according to BFCRS was the following: immobility/stupor (48.3%), staring (48.3%), Mitgehen (38%), agitation (38%), mutism (31.1%),

mannerism (31.1%), negativism (31.1%), posturing (31.1%), perseveration (27.6), crystallization (27.6 %), automatic obedience (17.2%), verbigeration (20.7%), impulsivity (13.8%), grimacing (13.8%), withdrawn behavior (13.8%), grasp reflex (13.8%), waxy flexibility (10.3%), ambitendency (10.3%), Gegenhalten (10.3%), and autonomic disturbance (6.9%).

Study III. Of the 338 patients enrolled in the study in the CPAM during a 4-month period, 98 (28.9%) were aged 65 years or older. The mean age of this gerontopsychiatric cohort was 79.4+/- 28.3 years (range: 65-95 years) and 29% were men. The diagnostic distribution was as follows: 66 (64.28%) suffered from some types of dementia syndrome, 8 (8.16%) had depressive disorder, 15 (14.28%) schizophrenia spectrum disease, 5 (5.1%) delirium, 3 (3.06%) each alcohol dependence, adjustment disorder, and organic psychotic disorder, 1 (1.02%) each organic affective disorder and personality disorder. The diagnosis of catatonia according to BFCRS and DSM 5 diagnostic criteria could be made in 11 (11.22%) and 6 (6.12%) cases, respectively. Eighteen percent of the catatonic cohort

were men, with the mean age of 75.6 +/- 25.1 years. The mean score on BFCRS was 8.81+/-2 points. The diagnostic distribution of the catatonic cohort was as follows: 1 (9%) each with dementia syndrome and schizoaffective disorder, 2 (18%) catatonia due to a medical condition, 3 (28%) dementia syndrome with associated organic affective disorder, 4 (36%) dementia syndrome and associated organic catatonia. The frequency of catatonia was 4.7% in the gerontopsychiatric sample, according to DSM-5 diagnostic criteria and 12.6% according to the BFCRS.

Organic causes underlying catatonia were heart-, liver- and renal failure, colon tumor, exsiccosis, pneumonia, each in one patient. The most common catatonic signs and symptoms were immobility/stupor (7 cases), staring (7 cases), posturing (6 cases), Mitgehen (5 cases), mutism (4 cases), and withdrawal and agitation (3 cases) each.

Conclusions

Based on their self-assessment, a relatively high proportion of residents and qualified psychiatrists participating in the first study have moderate or comprehensive knowledge on catatonia. However, their answers to factual questions have not always confirmed the self-assessment. Some catatonic symptoms were not recognized by the respondents, others were marked as catatonic, while they were not. Difficulties in recognizing symptoms may explain the frequently missed diagnosis of catatonia in routine clinical practice. In order to improve diagnostic precision and aid diagnostic skills, the use of standardized catatonia rating scales should be encouraged. From a broader perspective, it is important to emphasize the need for further research in establishing precise definitions of catatonic symptoms. Under- and postgraduate education about catatonia would also be necessary. The majority of the interviewed residents and psychiatrists working in acute care in Budapest viewed the catatonia in accordance with its Kraepelinian concept, considered it

exclusively as part of schizophrenia and treated it accordingly with antipsychotic medications.

As a result, catatonia associated with affective disorders and medical and neurologic conditions (“organic”catatonia) are often not recognized and these patients do not receive adequate therapy. This is all the more unfortunate, as catatonia has been shown to respond to adequate treatment (benzodiazepines and ECT), the use of which prevents life-threatening complications. Underrecognizing catatonia could be a possible explanation for the recent decline in ECT use in Hungary.

To the best of our knowledge, the second study was the first in Hungary that systematically surveyed the incidence of catatonia in acute psychiatric care. Using standardized catatonia rating instruments, catatonic symptoms were detected at a higher rate than applying the DSM-5 criteria for catatonia. The lack of certain catatonic symptoms in DSM-5, which are present in the BFCRS and having high specificity and sensitivity underscores the need for a revision of the DSM-5 diagnostic system.

In the third study, the prevalence of catatonia in Hungarian gerontopsychiatric patients admitted to an acute psychiatric ward was also in line with the literature. Dementia syndrome alone did not appear to be a major risk factor for catatonia, but affective disorder or other medical conditions associated with dementia significantly increased the likelihood of developing catatonic symptoms. Consequently, the presence of catatonic symptoms in elderly patients raises the possibility of an underlying acute medical disease or an undiagnosed comorbid psychiatric illness. This finding underlines the importance of early detection and appropriate treatment of medical and neurologic diseases behind catatonia, that would also reduce the risk of potentially serious somatic complications associated with catatonia.

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