THE EFFICACY OF COGNITIVE-BEHAVIOURAL THERAPY IN AMELIORATING DEPRESSION IN PATIENTS WITH DEMENTIA

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Abstract: *The present study was designed to evaluate the efficacy of cognitive-behavioral therapy in ameliorating depression and slowing cognitive decline for 60 patients of both sexes, aged between 52 and over 86, diagnosed with different types of dementia. This study was analytic, experimental-controlled. It was randomly allocated to two groups, each of 30 institutionalized patients with dementia. The subjects from the first group received standard procedeeings of treatment and those from the second group underwent cognitive-behavioral therapy. It has been prooved statistically the efficacy of cognitive behavioral-therapy in ameliorating depression and slowing the cognitive decline for dementia patients.*

Cuvinte cheie: *demenţă, depresie, terapie cognitiv-comportamentală*

Rezumat: *Studiul de faţă şi-a propus să evalueze eficienţa terapiei cognitiv-comportamentale în ameliorarea depresiei şi încetinirea declinului cognitiv la 60 de pacienţi de ambele sexe, cu vârsta cuprinsă între 52 şi peste 86 de ani, diagnosticaţi cu diferite forme de demenţă. Acest studiu a fost de tip analitic, experimental-controlat. S-a efectuat o eşantionare pe două loturi, a câte 30 de pacienţi cu demenţă, instituţionalizaţi. Subiecţii lotului 1 au fost trataţi prin proceduri standard de îngrijire, iar cei din lotul 2 au fost supuşi terapiei de tip cognitiv-comportamentale. S-a demonstrat cu date statistice eficienţa terapiei cognitiv-comportamentale în ameliorarea depresiei şi încetinirea declinului cognitiv la pacienţii cu demenţă.*

INTRODUCTION

A main aspect in the clinical and scientific understanding of the dementia is the determination of the way the depression affects the cognitive and non-cognitive symptoms. Generally, it is considered that the non-cognitive symptoms (apathy, nervousness) affect more the everyday life of the patient with dementia than the cognitive symptoms of dementia (1). What is worrying is how the depressive syndrome affects the behaviour of the person with dementia and if the depression might be the area of an intensive intervention, not only for the elimination of the depressive symptoms but also for diminish the excessive disabilities of the person with dementia (that is the concept of the limited activities (2). Many studies showed concretely that the depression has a contribution to the emphasis of the cognitive dysfunction (1, 3, 4, 5)

The understanding of the influence of the depression in patients with dementia, in emphasising the cognitive dysfunction is limited. More studies tried to establish the patterns that show in what way it emphasises the depression, the cognitive dysfunction at the patients with dementia (1). As clinical implications, it was concluded that the depression is related to the emphasis of the cognitive and non-cognitive dysfunctional events, respectively that the interventions which keep the dementia person functional and physically active could prevent and diminish the depressive reactions.

A very recent study aimed the differentiating of the pattern of the cognitive disorder between the depressive patients and non-depressive ones, diagnosed with dementia, who live in residential services on a long term (6). The cognitive profile of the patients with dementia was analysed / examined, respectively of the patients with non-depressive dementia. It was determined the depressive status and the cognitive functioning. The analysis indicated in the beginning that the patients with depression had a greater cognitive dysfunction than the non-depressive ones. The later analyses showed that the difference between the groups was found also in detail at the functioning of the perception, attention, memory, calculation and language. So, the depressive and non-depressive patients with dementia are different one from another not only by the presence or the absence of the symptoms but also through the cognitive actual expression.

Another study developed into a day service, having 72 subjects with Alzheimer and 12 subjects with cognitive moderate disorders (7) reported positive effects of the cognitive-motor intervention. The ones from the lot/group had the benefit of a cognitive-motor intervention while the one from the control lot/group received the psycho-social support specific to the day centre. The responsiveness at the intervention was proved by maintaining the cognitive status after six months while the ones who benefited only by a social support experienced a significant decline in the same period of time. The evolution of the depression was not studied.

The cognitive-behavioural therapy has applications in pathology and health, so it has a clinical feature which aims simultaneously or not the modification of the irrational cognition, the modification of the not adaptive behaviours, respectively the biological modifications through psycho-therapy or medical means (8). Also, it has an efficiency demonstrated by many studies in the therapeutic approach of the depression and not only.

THE OBJECTIVE OF THE STUDY

The present study has as an objective to emphasize the

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efficiency of the cognitive-behavioural therapy in the reduction of the depression at the patients with dementia, and also the efficiency of the cognitive-behavioural therapy in delaying of the cognitive decline at the patients with dementia.

MATERIAL AND METHODS

The study received the approval of the Ethic Commission of the University of Medicine and Pharmacy "Iuliu Haţieganu" in Cluj-Napoca and it was managed according to the rules of a good clinical practice.

In the study there were included 60 patients of both sexes, with age between 52 and over 86 years, diagnosed with dementia of Alzheimer type (early onset and late-onset), senile, mixed (vascular-Alzheimer, senile-Alzheimer, Alzheimer-Parkinson, dementia-epilepsy) and of other staged aetiology (9,10) between mild, moderate and severe (11), depending on the scores MMSE contained between 0 and 25.

For this study of analytical type, experimentally controlled, there were used samples on two lots of patients with dementia, institutionalized within the Centre of Rehabilitation and Neuropsychiatric Rehabilitation for Adults with Alzheimer in Beclean (Bistrita-Nasaud County). Each of the two lots contained at the initial moment 30 subjects establish starting from an alphabetically arranged list. The subjects were selected with the help of a sampling step from a total of 120 patients, which satisfied the criteria of inclusion in the study. In the lot 1 there were introduced the subjects by counting every four, beginning with the first on the list (1,5,9, ...). In the lot 2, with the same sampling step, there were introduced the subjects by counting from the forth one in the list (4,8,12,..). The other 60 patients were introduced in another study developed in parallel.

Criteria of inclusion of the subjects in the study:

1. the existence of the diagnosis *dementia* with the registering of the any comorbidities, for the patients taken in the study;
2. the existence of the status of institutionalized patient;
3. for all the subjects, the getting of the written accord of the legal representative to be included in the studied lot.

Criteria of exclusion of the subjects from the study:

1. the expression of the refusal to be subjects of the study (personally or by the legal representative);
2. the expression of the refusal of the activities and the intervention program;
3. invalidate the diagnosis;
4. other mental and behavioural disorders (psychosis, affective disorders etc.).

Criteria of withdrawal of the subjects from the study:

The subjects had the opportunity to withdraw from the study in any moment (by a personal request or the legal representative's request). There were not registered such cases. In the case of a subject's death, the moment till the he/she was part of the study and the lot were specified (making possible the qualitative analysis of the data obtained for the period of time he/she was involved in the study).

At the initial moment, the lot 1 contained 30 subjects who have emerged over time by death 4 subjects (female), one in January 2009, the second one in February 2009, the third one in September 2009 and the forth one in January 2010. Their information was registered till the moment they went out from the lot (not being contained in the data basis), in order to be kept and, possibly analysed qualitatively. At the final moment, in the data basis there were 26 subjects from whom 15 female subjects, 11 male subjects, the average age being 75, 07.

The lot 2 took into the study 30 subjects initially (that is, in November 2008), who have emerged over time by death two female subjects, one in January 2010 and the other in March 2010. The studied LOT in the databases in the final moment was of 28 subjects. From the total N=28, 16 subjects were female, 12 were male, the average age being 74, 73.

The study lasted one year and a half, period of time when the measurements were made within 6 months (November 2008 – May 2009, November 2009 – May 2010).

From the view of the way and duration of the data gathering, the study was of longitudinal type, aiming prospectively the change made by the cognitive-behavioural therapy, compared to the one made by the standard care (applied throughout the study).

The information were gathered on the base of the questionnaires completed by the psychologist and of the medical sheet completed by the specialist doctor – psychiatrist. The test MMSE (Mini Mental State Examination) (12) was used for establishing the level of the cognitive dysfunction at the studied patients with dementia, the most used standardized instrument of screening for dementia and also GDS (Geriatric Depression Scale) for depression (13). GDS is considered nowadays the most effective scale of evaluation of the depression at the persons with dementia.

The patients of the lot 1 were subjected to a standard treatment. Within this lot, the patients were encouraged and helped to maintain the rhythms of their daily activities till the speciality staff and the caregivers would ensure all the activities to ensure them the necessary comfort (14).

The lot 2 was created in order to emphasize the effectiveness of the cognitive-behavioural therapy in delaying the cognitive decline and the reducing of the severity of the depression symptoms. There were used individualised methods of reduction, stopping of the undesirable behaviour: the stopping, the satiety, the change of the stimuli, the positive strengthening with the promotion of an alternative behaviour and the self-control training (naturally, all these in variants adapted to the level of patient's understanding and depending on the signalised needs). In a very rigorous way, the patient's daily program was structured based on an individualised schedule that contains all activities specific to the standard care (14) (making the best of the pleasant activities and the fulfilling the daily needs) but into a compulsory repetitive manner structured in time. The same individualised schedule contained meetings of *cognitive rehabilitation* that involve programs individualised applicable, focused on activities specific to the daily program (for example learning the name of a person involved in care) and/or *cognitive stimulation* that refers to the implication of the subject in the group activities (discussions, supervised leisure activities, learning by heart of lists without explicitly support or more structured activities such as the orientation etc.), conceived to increase the social and cognitive functioning into a nonspecific manner (15).

The care staff and the therapists were informed regarding the study development and they agreed to have a contribution as needed in making the evaluations, respectively to the application of the therapeutic programs. The identity of the subjects involved in the study was strictly confidential.

The registered data were included into a databases making use of the Excel program, which lately was exported in the SPSS program (version 14.0). We opted for an interferential strategy of validation of the results by calculating of the score t for the paired samples, for each lot separately. The scores corresponded to each clinical scale and subscales applied to the subjects were calculated, separately for each stage of measure (initially, at 6 months, at 1 year, at 1 ½ year).

RESULTS

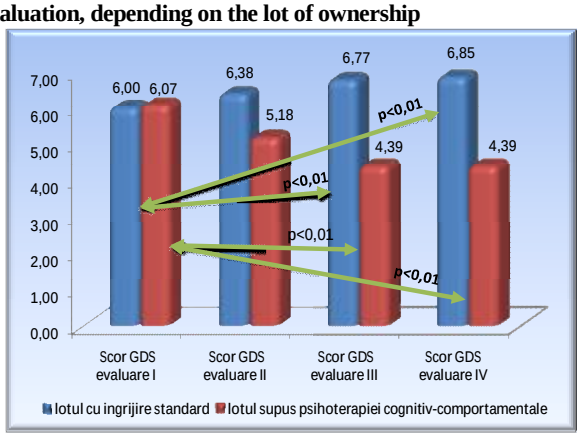
The subjects' distribution on sexes in the general sample was of: 59,65% female, 40,35% male.

The subjects' age in the general sample on the established intervals: under 65 years old 36,8%, between 66 and 75 years old 21,1%, between 76 and 85 years old 31,6% and over 86 years old 10,5%. The distribution according to the actual diagnosis:

Alzheimer dementia with untimely debut 21,1%, Alzheimer dementia with late debut 10,5%, senile dementia 24,6%, mixed dementia 33,3% and dementia of another aetiology 10,5%. The subjects' distribution included in the sample according to the educational level: out of school (illiterate) 21, 1%, primary school 22, 8%, gymnasium 19, 3%, professional school 3,5%, highschool 29,8% and superior school 3,5%. Depending on subject's socio-economical situation defined by the presence or the absence of the family support: have benefits from the family 86% and there are social cases 14%. In terms of the distribution on lots of research at the final moment: the standard care lot 47,4%, and the lot exposed to the cognitive-behavioural therapy 52,6%.

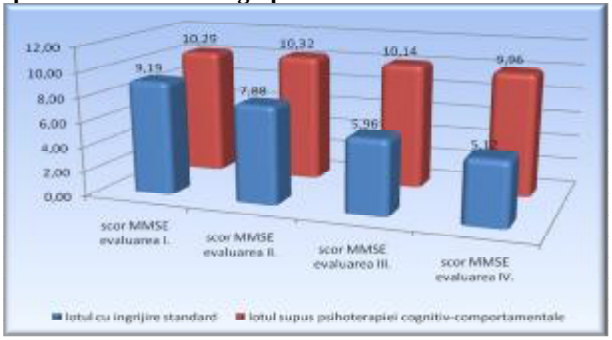
The test of the differences between the averages for the independent samples shows that there are not any significant differences between the lot, visible aspect (figure no. 1) also in the insignificant difference between the average of the scores GDS at the pre-test for the lot 1 (6,00) and the average of the scores GDS at the pre-test for the lot 2 (6,07). We can say that, at the initial evaluation there was not any significant difference statistically speaking between the lots, difference to influence the conclusions. The presence of the significant difference statistically between the lots could have determined errors of interpretation of the results.

Figure no. 1. Evolution of the score GDS in the four moments of evaluation, depending on the lot of ownership



Statistically the test t was made between the average of the depression levels of the evaluation I and the evaluation IV for the lot 1 and for the lot 2 and it was concluded that the differences between the two averages are statistically significant at $p<0,01$ (figure no. 1). More exactly, the level of the depression presents statistically a significant increase from the evaluation I to the evaluation IV in the case of the lot subject to the standard care and the level of the depression presents statistically a decrease from the evaluation I to the evaluation IV in the case of the lot subject to the cognitive-behavioural intervention.

Figure no. 2. Medium values of the MMSE score in the four successive moments of evaluation, divided on lots, are represented in the below graphic



The test t between the average of the scores MMSE, at the four successive moments of evaluation (figure no. 2) shows that the cognitive dysfunction increases (the score MMSE decreases) statistically significant ($p<0,01$) from the evaluation I to the evaluation IV in the case of the lot subject to the standard care while the cognitive dysfunction increases (the score MMSE decreases) but not statistically significant from the evaluation I to the evaluation IV in the case of the lot subject to the cognitive-behavioural intervention ($p=0,335$, value of the critical rank over the admitted limit to be a significant result).

DISCUSSIONS

This study aims to demonstrate the efficiency of the cognitive-behavioural intervention in reducing the severity of the depressive symptoms and it emphasizes simultaneously the slowing down of the cognitive decline at the patients with dementia. In the nowadays studies it is considered that the interventions which keep the dementia person functional and active from the physical point of view could prevent and diminish the depressive reactions, so that the results of this study is in the limits of the results of the actual researches. In this stage of analysis one cannot notice the way or the pattern of the cognitive deterioration because it was taken into consideration the general cognitive functioning, and the secondary analyses would aim the functioning of the attention, memory, calculation, orientation, language, during the stages of the measuring, according to the depressive symptoms and the behavioural disorders in the conditions specific to the two lots.

It is possible to mention as a limit of the study the fact that between the lots there are however differences induced by the variable comorbidity which could not be controlled even if comorbidity with other psychical diseases was excluded. The elimination of the subjects with comorbidities (69,5%) could have led to the impossibility to make the lots with the necessary number of subjects. Some comorbidities could influence the evolution of the interventions.

CONCLUSIONS

The results of the study demonstrate/show the necessity of reviewing, in the sense of improving the ways of intervention at the institutionalised patients with dementia. The standard care does not have the same efficiency in preservation of the cognitive functionalism as its supplement with therapeutic ways demonstrated as being efficient.

The hypothesis according to which the cognitive-behavioural psycho-therapy is efficient in reducing the depression at the patients with dementia and the cognitive-behavioural psycho-therapy is efficient in delaying the cognitive decline at the patients with dementia have been validated.

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