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5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემა-ჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტო-სურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათლების შედებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სუ-რათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხო-ური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამული, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფჩხილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანე-ლის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შე-ჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

Содержание:

THE PROGRAM OF THE COMPLEX DIFFERENTIATED MEDICAL AND PSYCHOLOGICAL REHABILITATION OF THE PATIENTS WITH SUICIDAL BEHAVIOUR IN DEMENTIA

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Abstract.

The conceptual model of rehabilitation and suicidal behaviour prevention in dementia, considering the multiple components, is presented in the article. The developed program of the complex differentiated medical and psychological rehabilitation and suicidal behaviour prevention (MPRS BP) in patients with dementia is aimed at the preventive measures of the suicidal behaviour (SB) through the depressive symptoms reduction, patient's mind and cognitive status stabilization, self-aggression decreases, social functioning and independence increase in patients with dementia. The individual approach to the prevention of SB in patients with dementia considered the SB factors (extra- and intrapersonal), SB formation mechanisms (cognitive, depressive, and psychological), clinical psychopathological SB correlators (especially gender-based) in different types of dementia. Offered MPRS BP program is based on the complex approach to rehabilitation. It combines pharmacotherapy, psychotherapy (crisis therapy, rational psychotherapy, art therapy, family psychotherapy), psychoeducation, psychological training (cognitive, communicative and social skills training) keeping to the principles of systematicity, complexity, integrity, phasing, personal interventions, provision of assistance in time. According to the approbation results of the MPRS BP program in dementia, its high efficiency was demonstrated compared to the traditional treatment programs of this category of patients.

Key words. Dementia, Alzheimer's disease, vascular dementia, combined dementia, suicidal behaviour, prevention, the program of medical and psychological rehabilitation of suicidal behaviour.

Introduction.

Suicide prevention is one of the main directions of mental health services in many countries of the world [1]. Ukraine is one from the European countries with an average suicide rate. Suicide is the principle death-rate cause among people of different age group. Declining years is one of the peaks by suicide frequency [2]. Considering population aging around the world on the whole and Ukraine, especially, dementia as an age-related disease, gas high suicidal potential. Medical expenses for dementia are exceptionally high and costs in the USA 40 thousand dollars a year per patient. Violation of high mental function is the guiding symptoms of dementia, which leads to stable social and everyday life disadaptation of the individual. Along with cognitive deficiency more than 50% of dementia have psychotic (hallucinations and delusion), affective (anxiety, depression, emotional instability) and behavioral disorders (aggression, disinhibition, agitation, SB, vagrancy, eating disorder). The prevalence of depressions among patients with dementia amounts to 30-40%. Depressive symptoms presence in patients with dementia significantly reduce the quality of life and increase the risk of SB. Depressive violation with dementia is a prognostically negative sign of activity restriction in everyday life, disability and early death [3-15]. Dementia frequently goes with somatic and neurology disease, which are typical for elderly and senile people, and with complex of human psychological, experience, associated with the aging and the death expectations, self-service disability. Intellectual insolvency realization is complementary trigger of SB in dementia [11].

Considering steadily increase in the percentage of older-age people groups in Ukraine, increased disease incidence in this age group with dementia, comorbidity, dementia with wide range of behavioral disorder, the problem of identifying the SB, medico-psychological rehabilitation and prevention MPRS BP among these patients has high activity and importance.

The purpose of the research.

The purpose of this research is based on detailed socio-demographic, clinical-anamnestic, clinical-psychopathological, personal-psychological predictors of SB with different types of dementia to develop complex program of (MPRS) BP considering pathogenetic mechanisms it formed with different types of dementia (Alzheimer's disease, vascular dementia, combined dementia).

Materials and Methods.

The work is based on the results of a study of 208 patients with dementia, particularly, 75 patients with Alzheimer's disease (AD), 73 patients with vascular dementia (VD) and 60 patients with combined dementia. Among the examined groups of patients were identified by the factor of presence or absence of the SB in past history and by clinical-psychopathological examination. The main group included 105 patients with SB and in the control group – 103 patients without symptoms of the SB. Groups that have SB and without it were comparison groups. Among the patients with AD, the main group consisted of 36 patients, comparison group – 39 patients; with VD – 39 patients is the main group and 34 – in the control group; with combined dementia – 30 patients form the main group and 30 – in the control group.

In the main group of patients with AD in 58,33% was defected dementia with a lane onset (F00.1), in 27,78% – AD atypical type (F00.2) and in 13,89% – dementia with early onset (F00.0). In the control group of patients with early onset was 53,85%, with late onset – 35,90%, with AD atypical type – 10,26%.

Among the patients with VD in the main group 33,33% they were diagnosed with subcortical VD (F01.2), 25,64% – multi-infarct VD (F01.1), 15,38% – VD with acute onset of disease (F01.0), by 15,38% – combined (F01.3) and unspecified VD (F01.9). In the control group of patients with multi-infarct VD was 38,24%, with acute onset of VD – 23,53%, with unspecified VD – 14,71%, with subcortical and combined VD – by 11,76%, respectively.

In the main group of patients with combined dementia was a combination of dementia with AD with early onset and with subcortical VD (F00.0/F01.2) – 33,33%, a combination of dementia with late onset with AD and subcortical VD (F00.1/F01.2) – 16,67%; a combination of multi-infarct (F00.1/F01.1) – 16,67% and unspecified VD (F00.1/F01.9) – 16,67%, and 16,67% of patients had a combination with atypical dementia with AD and with multi-infarct VD (F00.2/F01.1). In the control group of patients with combined dementia – 20,00%, and in 20,00% of patients was diagnosed dementia with AD with late onset and subcortical VD.

The methods of study included following blocks: clinical-psychopathological, psychodiagnostic, psychometric and statistical method results processing. Clinical-psychopathological method provided for the collection of complaints, anamnestic data, clinical interview realization, symptoms and syndromes estimation in the dynamics and supplemented with usage of psychometric methods: Mini Mental State Examination (Mini Mental State Examination – MMSE, M.F. Folstein, S.E. Folstein, P.R. Hugh, 1975); Clinical Dementia Ratingscale (Clinical Dementia Ratingscale – CDR, Morris, 1993); The Sad Persons Scal (The Sad Persons Scale) (Patterson et al., 1983); Los-Angeles Suicide Risk Scale (A.I. Nechiporenko, V.K. Shamrai, 2007); Hamilton Rating Scale for Depression (HDRS, M. Hamilton, 1967); Barthel ADL Index (Barthel ADL Index, по F. Mahoney, D. Barthel, 1965). Psychodiagnostics method was implemented using a Bass-Darky Test (I.F. Diakonov, B.V. Ovchinnikova, 2008).

Also, evaluate diagnostic value of receiving results (diagnostic coefficients (DC)) and informative measures (IM) Kullback (E.V. Hubler, A.A. Genkin, 1973; E.V. Sydorenko, 2001).

Information statistical processing was carried out using the package of Statistica Electronic Futures 6,0 and Excel. To determine the relationship between the parameters that were studied, the correlation analysis method was used. Clinic and static analysis was carried out using analysis of variance (Student's t-test was used).

To identify reliable differences between compared groups, the Student-Fisher test (t) was used:

$$t = \frac{M_1 + M_2}{\sqrt{m_1^2 + m_2^2}} \tag{1}$$

To determine the interrelations between parameters that were studied, the method of correlation analysis was used, in order to determine the Pearson's correlation coefficient (r) was determined with the calculation of the direction, strength and significance of the interrelations.

Only true value (p≤0,05) were taken into account and the strength of correlations of three levels was assessed: r=0,1–0,3 low correlation; r=0,3–0,5 – medium; r=0,5–0,1 – high.

The diagnostic value of the obtained results (diagnostic coefficients (DC)) and measures of information value (MI) of Kullback were also evaluated [15]. Calculations were performed using the formulas:

$$DK = \log 2 \times (pi1 \div pi2) \tag{2}$$

$$MI = (pi1 - pi2) \times DK \tag{3}$$

pi1 – is the frequency of occurrence sign in men, pi2 – in women.

Results and Discussion.

The developed program of the complex differentiated MPRS BP in patients with dementia considering mechanisms and predictors of SB, determined by the results of the complex analysis. The main purpose of the developed complex is prevention of the SB through the depressive symptoms reduction, mind and cognitive status of patient stabilization, self-aggression decreases, social functioning and independence in patients with dementia (reduction of effect of intra- and extra personal factors).

Proposed MPRS BP program is based on the complex approach to rehabilitation and combines pharmacotherapy, psychotherapy (crisis therapy, rational therapy, art therapy, family therapy), psychoeducation, psychological training (cognitive, communicative and social skills training) keeping to the principles of systematicity, complexity, integrity, phasing; differentiated character of influence, timeliness assistance.

In the process of program realization, the following stages have been identified:

I – diagnostic stage; II – active intervention stage (formation of motivation for treatment, stabilization of psycho emotional state, therapeutic intervention and psychological «restructuring»); III – psycho prophylactic stage (stage of supportive treatment and prevention).

The diagnostic stage. Conducted clinical-anamnestic, clinical-psychopathological, psychometric (with Hamilton, Barthel, MMSE, CDR, and Los-Angeles SR scales), psychodiagnostic research (by Bass – Darky methodic) and results of correlation analysis (r) made it possible to determine the predictors of SB in patients with different types of dementia, based on effect of intra- extra personal factors, also evaluated the diagnostic value of obtained results (diagnostic coefficients (DC) (table 1)).

The predictors of SB in AD were such clinical-psychopathological characteristics: light degree of dementia (33,33%, p≤0,005), depression intensity (1,78±1,24 score, p≤0,025), prevalence of its agitated type (32,69%, p≤0,05), suicidal intentions (2,56±1,27 score, p≤0,0001), multiple awaking at night (1,22±0,80 score, p≤0,01); personal characteristics: irrigation, touchiness, negativism and jealousy ((51,52%, p≤0,0001; 58,33%, p≤0,05; 53,33%, p≤0,0001 and 56,67%, p≤0,0001) respectively), guilt-feelings (77,78%, p≤0,0001); anamnestic: depressive episodes in the past (4,67±4,28 score, p≤0,0001); mental trauma factors: «life-threatening disease» (5,67±4,17 score, p≤0,0001), «loss of job, money or status» (r=0,616), recurrence of stress (r=0,539); characteristics of social functioning: light degree of dependence from others (44,44%, p≤0,0005), absence of emotions (5,67±3,88 score, p≤0,0001), financial (4,67±4,06 score, p≤0,0001) and communicative (4,22±4,22 score, p≤0,0001) support source.

Table 1. *Differentiated predictors of suicidal behavior in patients with different types of dementia.*

The predictors of suicidal behavior	Alzheimer's disease	Vascular dementia	Combined dementia
Variant of dementia	• dementia in AD with late onset (DC=2,11) • dementia in AD atypical or combined (DC=4,33)	• subcortical VD (DC=4,52)	• combination of clinical symptoms if dementia in AD with early onset and subcortical VD (DC=5,23). • combination of clinical symptoms of dementia in AD with late onset and with unspecified VD (DC=2,73). • combination of clinical symptoms atypical dementia in AD and multiinfarct VD (DC=3,10)
Cognitive disorders characteristics	• light degree of dementia and individual signs of cognitive deficit (33,33%; DC=5,79)	• light (r=0,552) and moderate level of dementia intensity (r=0,458)	• hard level of dementia with significant disturbances in concentration (p≤0,05), memory (p≤0,0001) and executive functions (p≤0,005)
Clinical-psychopathological predictors	• prevalence of agitated type of depression (r=0,646). • guilt-feelings (r=0,694). • suicidal intentions (r=0,887). • multiple awaking at night (r=0,710).	• prevalence of somatized type of depression (r=0,558). • disorganization and disorientation (p≤0,01). • irritation and jealousy (r=0,817). • intensity and anxiety (p≤0,005). • suicidal intentions (p≤0,0001). • multiple awaking at night (r=0,527).	• prevalence of somatized type of depression (r=0,528). • suicidal intentions. • early insomnia (r=0,870). • paranoid symptoms (p≤0,05). • presence and severity of daily fluctuations (r=0,602). • feeling of hopelessness (r=0,613). • presence of chronic diseases (r=0,630).
Mental trauma factors	• loss of job, money, and status(r=0,616). • recurrence of stress (r=0,539). • life-threatening disease (r=0,727)	• loss of a loved one due to death or divorce (r=0,552). • loss of job, money and status (r=0,562). • life-threatening disease (p≤0,01).	• loss of a loved one due to death or divorce (p≤0,0001). • changes in life or environment (r=0,610).
Anamnestic predictors	• depressive episodes in the past (r=0,605)	• burdened suicidal history(r=0,550)	• burdened suicidal history (p≤0,01). • depressive episodes in the past (p≤0,0025)
Social functioning characteristics	• predominance of light degree of dependence from others (p≤0,0005); • absence of emotional, financial and communicative support sources (p≤0,0001)	• absence of financial support (r=0,690)	• absence of financial and emotional support (r=0,586). • well-defined dependence from others(p≤0,05)
Personal characteristics	• irritation (51,52%). • touchiness (r=0,452). • negativism (58,33%) and jealousy (53,33%). • guilt-feelings (r=0,438)	• prevalence of physical (56,36%) and indirect aggression(57,58%). • irritation (p≤0,0001). • Touchiness (r=0,386)	• prevalence of indirect aggression (r=0,715). • guilt-feelings (r=0,688);

The predictors of SB in VD were clinical-psychopathological characteristics: somatized type of depression (36,22%, p≤0,05), disorganization and disorientation ((5,51±3,98) score, p≤0,01), irritation and jealousy ((4,62±2,56) score, p≤0,0001), intensity and anxiety ((3,74±2,76) score, p≤0,005), suicidal intentions ((1,85±1,53) score, p≤0,0001), genital symptoms ((1,10±0,97) score, p≤0,025), multiple awaking at night ((1,36±0,74) score, p≤0,05); personal characteristics: prevalence of physical (56,36%) indirect aggression (57,58%) ((p≤0,025 and p≤0,05 respectively), and also touchiness (76,14%, p≤0,01) and irritation (60,33%, p≤0,01); anamnestic: burdened suicidal history (r=0,550); factors of mental trauma: «life-threatening

disease» ((4,77±4,48) score, p≤0,01), «loss of a loved one due to death or divorce» (r=0,552), «loss of job, money or status» (r=0,562); characteristics of social functioning: absence of financial support (r=0,690).

The predictors of SB in combined dementia were clinical-psychological characteristics VD with significant impairment of concentration (20,00%, p≤0,05) and executive function (39,00%, p≤0,005), torpid type of depression (42,42%, p≤0,05), difficulty falling asleep ((1,33±0,75) score, p≤0,0001), paranoid symptoms((1,83±1,70) score, p≤0,05), feeling of hopelessness and helplessness ((5,67±4,13) score, p≤0,005), somatic anxiety (1,67±1,26 score, p≤0,0001); personal characteristics:

prevailing of indirect (63,89%, p≤0,01) aggression and guilt-feelings (83,33%, p≤0,0001; anamnestic: burdened suicidal history ((1,50±1,41 score), p≤0,01) and depressive episodes in the past ((3,00±2,31) score, p≤0,0025); factors of mental trauma: «loss of a loved one due to death or divorce» ((4,50±3,57) score, p≤0,0001), «changes in life or environment» ((4,33±3,42) score, p≤0,01); characteristics of functioning: absence of emotional ((3,33±3,13) score, p≤0,001), financial support ((2,83±2,08) score, p≤0,025), well-defined dependence from others (33,33%, p≤0,05).

The predictors of SB in patients with different variants of dementia reflected conceptual model of suicidogenesis. Established, that predictors of SB in dementia form a compound multifactorial complex, which contains extra- and intrapersonal factors of SB risk. Intrapersonal factors contain clinical-psychopathological personal-psychological and anamnestic characteristics in patients with SB, and extra personal factors of mental trauma, indices of communicative dysfunction and social functioning.

These predictors of SB were considered by development of a program of the complex differentiated MPRS BP in patients with dementia.

Based on the received data were determined psychopathological mechanisms of SB forming depending on the form and severity of dementia, existing additional symptoms, namely: depressive, psychotic and cognitive. It has been proven, that in dementia in consequence of AD, SB informed mainly of depressive and cognitive mechanisms (38,89% и 47,22% respectively); in SB – by psychotic and cognitive mechanisms (35,90% и 41,03% respectively); in combined dementia implemented all SB mechanisms (cognitive, depressive and psychotic) (33,33%; 36,67% and 30,00% respectively).The SB mechanisms in patients with dementia were considered when drawing up a plan of therapeutic and rehabilitation interventions.

The second stage is the active intervention stage. At this stage, extensive biological, psychotherapeutic, socio-psychological interventions were carried out aimed at reducing the SB, clinical and psychopathological manifestations of dementia, and the formation of compensatory mechanisms that contribute to the readaptation of the patient.

The individualized system of psychotherapeutic and psychosocial intervention included rational and family psychotherapy, cognitive training, self-service training and psychoeducation in patients with the cognitive mechanism of SB; for patients with a depressive mechanism of SB - art therapy and family psychotherapy, communicative training and psychoeducation; with a psychotic mechanism – crisis psychotherapy and art therapy, social skills training and psychoeducational sessions.

Crisis psychotherapy is carried out in the most severe state of SB, the main purpose of which is to stop acute psychopathological disorders and auto-aggressive behavior, to stabilize the mental state. These changes were achieved due to the disclosure of suicidal experiences, mobilization of the patient's resource capabilities, correction of non-adaptive attitudes [2,10]. Crisis psychotherapy was carried out individually, once a day for one hour, for three days, followed by a transition to group supportive psychotherapy.

Rational psychotherapy (Pinsker & Rosenthal, 1988; Rosenthal et al. 1999) is a form of treatment for persons with disabling and chronic mental illness, the main role of the psychotherapist and the group, in which is the preservation and strengthening of the individual's potential for a better and more mature functioning of the "I" in the process, both adaptation and development [8]. The group form of work made it possible to improve communicative relationships and the ability to communicate. Rational psychotherapy was carried out three times a week for three months.

For patients with SB in dementia, was developed and implemented a course of art therapy activities which was based on generally accepted methodological principles of art therapy [2,3,10]. The course of art therapy was carried out three times a week for 1,5 hours. Number of sessions – 10. The structure of each art therapy session consisted of two main parts: non-verbal (drawing, painting) (70% of the session) and verbal (verbal discussion, interpretation) (30% of the session). We used the mechanisms of non-verbal self-expression and visual communication. Art therapy contributed to the expression of emotions and feelings, the search for new forms of interaction with the world; confirmation of their individuality, uniqueness and significance; increasing adaptability.

Family psychotherapy was carried out once a week, which helped the patient and his close relatives to understand each other's point of view [4,9,12]. The therapy included work with the patient himself and members of his family. Family therapy has been used both to mobilize family help for the patient and to support family members. The goal of therapy is to eliminate emotional disturbances in the family associated with the rejection of the fact of the illness of one of the family members, help in overcoming guilt feeling and auto-aggression, and the formation of an adequate attitude towards the disease.

Cognitive training and cognitive rehabilitation were used to correct cognitive dysfunction. Cognitive training was aimed at "training" the most affected cognitive functions identified using psychological research methods. Cognitive training is a set of standardized tasks created according to each of the cognitive functions (Bahar-Fuchs et al.). We used cognitive rehabilitation (according to the ERICA method), which included exercises to improve attention, memory, speech, and/or executive functions. The method contributes to the social and professional integration of patients. The tasks were computerized and included problematic questions from daily activities. Training sessions were held 2 times a week for 40 minutes for 3 months [11].

The training of social skills was aimed at increasing the resistance of patients to stressful influences (demands of society, family conflicts), contributed to the formation of social skills (interaction with various government agencies and private institutions, distribution of the family budget, housekeeping, shopping, spending free time) and skills of interpersonal relationships (talk skills, friendships and family relationships). During social training, the patient acquires the skills to control his behavior, thoughts, feelings, to make rational decisions, and develop an adequate attitude to the disease, treatment, and life in new conditions. This type of training was conducted once a week for 40 minutes for 3 months.

Communicative training was aimed at the formation, restoration and development of communication skills in patients with dementia, as well as the acquisition of knowledge, social attitudes and experience in the field of interpersonal interaction [2]. Training groups enhance the ability of patients to communicate, expand the circle of social contacts - in groups, patients find friends, maintain relationships with them and with other participants in the training. Training sessions were held 2 times a week for one hour for 2 months.

The task of the self-service training was to inculcate self-service skills, hygiene rules, the development of fine motor skills, the formation of spatial representations. Training sessions were held once a day for 40 minutes for 2 months. Psychoeducation allows you to develop an adequate attitude to the disease, treatment, rehabilitation, as well as to master the skills of recognizing the beginning recurrence of the disease [10,12].

Pharmacotherapy was carried out differentially, considering many factors of suicidogenesis. For patients with AD with light and moderate degree of dementia, were prescribed acetylcholinesterase inhibitors (ACEI) (donepezil) as basic drugs with dose titration (5-20 mg/day), with severe dementia, a drug from the group of NMDA receptor blockers (memantine) with dose titration (5-20 mg/day) for 4-6 months [6,7].

Pathogenetic treatment of patients with VD included the combined drug cognifen (phenibut 300 mg in combination with ipidacrine 5 mg) 1 capsule 2-3 times a day or a drug from the group of NMDA receptor blockers (memantine) with dose titration (5-20 mg/day) within 2-3 months. In patients with mixed dementia, the basic treatment included ACEI (donepezil) with dose titration (5-20 mg/day) or cognifen 1 capsule 2-3 times a day for 4-6 months. Patients with dementia with a depressive mechanism of SB were prescribed: pathogenetic treatment, as well as antidepressants from the class of selective serotonin reuptake inhibitors (SSRIs) (paroxetine – 20-40 mg/day, or fluvoxamine maleate – 50-100 mg/day, or mianserin – 30 mg/day, considering tolerability for 3-4 months) [3].

Patients with dementia with a cognitive mechanism of SB without additional psychopathological symptoms were simultaneously prescribed a drug from the ACEI group (cognifen or donepezil) according to the scheme and a drug from the group of NMDA receptor blockers (memantine) with dose titration (5-20 mg/day) for 4-6 months. Patients with dementia with a psychotic mechanism of SB were prescribed: basic therapy depending on the type of dementia and risperidone – 1-2 mg/day and/or quetiapine – 25 mg at night, considering their tolerability (2-3 months).

The psychoprophylactic stage is aimed at preventing the recurrence of SB in patients with dementia, restoring broken and lost social ties, maintaining activity and self-care of patients. This task is carried out through medical, psychological, social methods of working with the patient.

Medical methods included supportive drug therapy and psychotherapy. In psychotherapy, group methods of work were used. The main goal of psychotherapeutic methods is to consolidate, developed at the previous stages, new forms of emotional, behavioral, and cognitive response to the factors that provoked the occurrence of SB. From group methods, was used the group supportive psychotherapy, focused on improving the communicative properties of the individual, and developing effective communication between people.

The social aspect of prevention of SB in patients with dementia included social-environmental, social-everyday forms of prevention. The restoration of broken and lost social ties and the formation of new social relations were carried out by stimulating the patient to participate in various activities, such as educational, labor, leisure activities, various types of creativity, participation in the work of public organizations.

The duration of the stages of the complex differentiated program of the MPRS BP in patients with dementia depended on the severity of CD, the existing rehabilitation potential and adaptive capabilities, additional psychopathological symptoms, and environmental resources. The diagnostic stage lasted approximately 10 days until the establishment of a clinical diagnosis and included a comprehensive assessment of SR factors (suicidal risk). The stage of active therapy lasted 2-3 months until the reduction of SR and concomitant psychopathological symptoms and was aimed at stabilizing the psychological state of patients.

The psychoprophylactic stage for dementia with SB continues for life and includes supportive treatment and rehabilitation measures.

The next stage of our work was the approbation of the MPRS BP program for dementia. 199 patients with SB took part in the approbation of a complex differentiated program of the MPRS BP for patients with dementia, 107 people of which were treated in accordance with the developed program (main group), 92 people received traditional treatment (control group). The first group of patients were distributed, according to the type of dementia, as follows: in the first place – dementia, as a result of AD – 32 patients (29,9%), VD – 42 patients (39,2%), CD – 33 patients (30,8%).

The first group took a course of prevention of SB according to the developed system, the control group – a course of traditional suicide prevention.

A comparative analysis of the results of the effectiveness of preventive measures was carried out according to the following criteria:

1) dynamics of the mental state (recovery, improvement of the mental state, lack of positive dynamics of the mental state, worsening of the mental state).

2) dynamics of SR and SB (suicidal thoughts, intentions, attempts).

3) dynamics of depressive symptoms and aggressiveness.

4) evaluation of the activity of daily life.

According to the results of the approbation, Table 2 shows the indicators of the clinical effectiveness of preventive measures of SB in patients with dementia: after using the developed program for the prevention of MPRS BP in patients of the main group, 72,9% of patients were diagnosed with an improvement in their mental state, then as after the use of traditional forms of prevention, improvement of the mental state was diagnosed in only 40,2% of patients (DC=2,58; MI=0,43; p<0,001).

At the same time, in the group of patients who underwent measures according to the traditional scheme of prevention, a larger number of patients with an absence of positive dynamics was noted than in the main group (16,33 and 48,65%,

Table 2. *Evaluation of the clinical effectiveness of a complex differentiated MPRS BP program in patients with dementia.*

Criterion for evaluation of clinical efficiency	A developed prevention system (n = 107)		Traditional preventive measures (n = 92)	
	abs.	% ± m	abs.	% ± m
Mental health	7	6,54±2,4	2	2,17±1,53
Improvement of mental state	78	72,9±4,32*	37	40,2±5,14*
Absence of positive dynamics of mental state	18	16,8±3,63*	45	48,9±5,24*
Worsening of the mental state	5	4,67±2,05	8	8,7±2,95
Notations: * – the possibility of disagreements p <0,05				

Table 3. *Results of follow-up evaluation of SP in patients with dementia after the program of complex differentiated MPRP SP.*

Evaluation of SB	A developed prevention system (n = 107)		Traditional preventive measures (n = 92)	
	abs.	% ± m	abs.	% ± m
SB (suicidal thoughts, intentions)	24	22,4 ± 4,05*	45	48,9±5,24*
Suicidal attempts	7	6,54±2,4	5	13,0±3,53
SR expression	3,8	14,0 ±3,37*	6,2	27,2±4,66*
Notations: * – the possibility of disagreements p <0,05				

respectively, with DC=4,74; MI=0,77; p<0,001).

According to the results of the two-year follow-up, 48,9% of patients with suicidal thoughts and intentions and 13,0% with suicidal attempts were found in the control group (table 3). In the main group, patients with suicidal thoughts, intentions and suicidal attempts accounted for 22,4% and 6,54%, respectively (DC=3,36; MI=0,44; p<0,01; DC=3,18; MI=0,25; and p<0.04, respectively).

Thus, follow-up studies conducted over two years confirmed the stability of the therapeutic effect in the main group.

Conclusion.

The analysis made it possible to develop and test the MPRS BP program for dementia, which included the use of pharmacotherapy (ACEI, NMDA receptor blockers, SSRI, antipsychotic and neuroprotective drugs), psychotherapy (crisis, rational, family art therapy), psychological training (cognitive, communicative, social skills) and psychoeducation. Interventions were used in a differentiated way depending on the factors of SR, the mechanisms of SB, and gender-based clinical and psychopathological correlates. Analysis of the effectiveness of the program allows us to draw a conclusion about the effectiveness of the developed measures, which is confirmed by the dynamics of clinical and psychopathological indicators, suicidological status, social functioning, and the level of vital activity of patients with SB in dementia.

Conflict of interest statement.

The author declares no conflict of interest.

REFERENCES

1. Гублер ЕВ, Генкин АА. Применение непараметрических критериев статистики в медико-биологических исследованиях. Изд. 2-е. Ленинград: Медицина. 1973:141.
2. Кризова психологія: навчальний посібник / за заг. ред. проф. О. В. Тимченка. Харьков: НУЦЗУ, 2010. 401 с
3. Мудренко ИГ, Потапов АА, Сотников ДД. Гендерно обусловленные корреляты высокого суицидального риска у больных с деменциями различных типов. Психиатрия, психотерапия и клиническая психология. 2019;10:87-94.
4. Марута НО, Ніканорова ЮВ. Суїцидальна поведінка у хворих на тривожні розлади (клініко-психопатологічна характеристика та принципи профілактики). Український вісник психоневрології. 2012;3:54-58.
5. Мудренко ІГ. Фармакологічна корекція депресивних симптомів у хворих з різними клінічними варіантами деменцій. Український вісник психоневрології. 2017;3:49-54.
6. Мудренко ИГ. Эффективность когнифена в лечении деменций. Психиатрия, психотерапия и клиническая психология. 2017;3:409-421.
7. Мудренко ІГ. Нейропротекція когнітивного дефіциту у хворих з деменціями альцгеймерівського та неальцгеймерівського типів. Архів психіатрії. 2017;23:185-190.
8. Мушкевич МІ, Чагарна СЄ. Основи психотерапії: навч. посіб / за ред. М. І. Мушкевич. Вид. 3-тє. Луцьк: Вежа-друк, 2017:420.
9. Приходько ВВ. Соціально-психологічний тренінг як засіб формування комунікативної компетенції. Вісник Львів. ун-ту. 2005;19:182-188.
10. Михайлов БВ. Психогенно обусловленные нарушения психической сферы в условиях чрезвычайных ситуаций. Укр. вісн. психоневрології. 2015;83:71-75.
11. Орел ОО. Методика реабілітації когнітивних функцій неврологічних хворих ERICA. Актуальні проблеми психології. 2014;35:186-193.
12. Психосоціальна допомога в роботі з кризовою особистістю: навчальний посібник / наук. ред. та керівник проблем. групи Л. М. Вольнова. Київ, 2012:275.
13. Mudrenko IH. Clinical-psychopathological features of patients with dementia in Alzheimer's disease with high risk of suicide. Inter Collegass. 2017;4:203-210.
14. Serafini G. Suicide Risk in Alzheimer's Disease. A Systematic Review. Curr Alzheimer Res. 2016;13:1083-1099.
15. Nock MK, Borges G, Ono Y. The epidemiology of suicide and suicidal behaviour Suicide: Global perspectives from the WHO World Mental Health Surveys, New York, US: Cambridge University Press. 2012:5-32.