

## Medical and Mental Target Risk Factors for Dementia Prevention

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### Abstract

The authors draw attention to two current trends in search for relevant risk factors of cognitive impairment and dementia. They discuss whether the most important risk factors are somatic conditions such as hypertension, hyperlipidemia, obesity, diabetes. The authors indicate arguments, found in the literature that the impaired cognitive performance could be caused partly by the previous cognitive impacts. The authors point out that these two lines of research is combined by the occurrence of depression. They postulate, therefore, that assessment of the health of the older people should take into account the data of stressful events in childhood and youth. Important are also data about current living conditions, social conditions and the current mental and physical activity.

**Keywords:** Dementia; Cognitive impairment; Risk factors; Depression; Neuroticism; Stress; Cognitive behavioral therapy

### Medical and Mental Target Risk Factors for Dementia Prevention

International Journal of Geriatric Psychiatry published recently the results of the trial to determine the most essential, modifiable risk factors for dementia [1]. These authors performed the systematic literature review and additionally gathered the opinions of experts obtained through so called Delphi consensus study. The team found a good agreement between the list of modifiable risk factors identified in the literature with the ranks of risk factors enumerated by the experts.

It appeared that this methodology lead to the determinations of risk factors related mainly to individual health and some behavioral characteristics. In this way, the list of the most important risk factors for dementia include: depression, hypertension, diabetes, obesity, hyperlipidemia, physical inactivity, and smoking.

The authors postulate however that more research is needed for factors related to coronary heart disease, renal dysfunction, diet, and cognitive activity.

Dementia it is mainly the impaired cognitive performance, so it seems that the important risk factors could be indeed also changes in the previous cognitive activity. It was noticed formerly be some authors [2], who see possibilities of therapeutic interventions also in the domain of former cognitive changes.

These authors are convinced that the early emergence of cognitive impairments results from: the quality of mother—infant interactions, adverse events in childhood, long cumulative exposure to stress, ineffective coping strategies, long negative emotions, worry, rumination, and many social factors (eg: social ties, network size, integration, support, and conflicts).

Important is also [2], the inability to “shut off” the stress response after termination of the stressor.

According to these authors neuroticism, negative affectivity, depression or emotional instability are in old age a good indicator of the cumulative level of psychological stress experienced during the life span. So, the stress-related variables are important predictors of cognitive aging. They are convinced that these variables are important risk factors because they are a viable targets for interventions.

In fact, these statements are not in contradiction with recently observations. Deckers et al [1] put on the first place of the ranking list the syndrome of depression. This syndrome can be treated also as

the manifestation of a prolonged stress. But, this attempt to combine these two assemblies of risk factors has practical significance, since it indicates how to intervene.

Just it happen that International Journal of Geriatric Psychiatry published in the same issue the article about the possible methods of interventions in the case of the depressive syndrome [3]. The authors of this systematic review of methods of cognitive behavioral therapy (CBT) emphasize that it is focused on problem solving and has better effectiveness than supportive therapy. The treatment usually improve executive functions, processing speed, problem solving skills, such as generating alternatives and decision-making.

CBT consists mainly on solving problems of patients, therefore its variant is named as “problem solving therapy” [4]. Furthermore, yet another variant of CBT was elaborated, which emphasizes not so much the necessity of solving the problem, but rather the possibility of adaptation to the problem [5]. The same team of researchers made recently yet another step, and propose to replace the stringent forms of CAT by the use of “natural ways of personal engagement in family and social processes”, what is named as “Engage therapeutic procedure” [6].

These authors suggest however that the application of CBT and its variants would be more effective if we know better the cognitive status of depressed elders. Some investigators proposed already the methods of evaluation of the actual mental state [7].

Better understanding of cognitive status of depressed elders could facilitate the use of cognitive behavioral therapy, which consists mainly on problem solving. But in our opinion this evaluation should be based rather on structured interview then on scales. This interview should be focused on the detection of the reasons of experienced stress caused by negative events in childhood, adolescence and adulthood.

In our opinion during this interview is always worth to ask whether during childhood happened such events as:

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1. The death of a parent
2. The parents' divorce
3. Loss of other significant person (eg. a grandmother - who raised)
4. Domestic violence (physical abuse)
5. Sexual abuse
6. Alcoholism in the family
7. Criminal behavior of family members
8. Serious illness in childhood
9. The lack of family support
10. Bad upbringing
3. If his/her sexual activity is satisfactory
4. About the quality of relationships with extended family (children, grandchildren)
5. About the social relationships
6. Job satisfaction
7. Current mental and physical activity

So, the therapeutic procedures should be composed from 1. pharmacological interventions related to such medical risk factors as hypertension, diabetes, obesity, hyperlipidemia and vascular pathology [1,8,9] 2. behavioral modifications related to physical inactivity, and smoking and 3. eliminating the impacts of stressful events cumulating throughout life. Booker et al., [10] considering the appropriate pharmacological treatment advice also take into account the use of statins and proton-pump inhibitors.

The important negative events in youth and adulthood are:

1. Serious problems at school
2. Unwanted pregnancy
3. Conflicts in family
4. Separation, divorce
5. Death of a loved one
6. Committing a crime
7. Sudden loss of sources of maintenance
8. Homelessness, extreme poverty
9. Debts, unstable financial conditions.

It would seem that many of the enumerated possible events is irreversible. However, the way to remember these disasters and long-term psychological consequences can be often modified. The detection, during a conversation with a patient the occurrence of such events in the past, sets directions for CBT, what will complete the trials of eliminations of medical risk factor predisposing to dementia.

An attempt to reduce the influence of the past events will be more effective if during a conversation with a patient we could gather also data about his current living situation, his social relations and ongoing physical and mental activities.

Therefore, we should also ask the patient about his

1. Current financial conditions, housing,
2. About his relationship with the partner (whether it is lonely?)

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