

The prevalence of depression symptoms and other mental disorders among patients aged 65 years and older – screening in the rural community

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A – Study Design, **B** – Data Collection, **C** – Statistical Analysis, **D** – Data Interpretation, **E** – Manuscript Preparation, **F** – Literature Search, **G** – Funds Collection

Summary Background. Mental disorders, especially depression, are common problems among the elderly.

Objectives. To determine the prevalence of symptoms of mental disorders, with emphasis on symptoms of depressive disorders, in patients aged 65 years and older.

Material and methods. The study involved 93 patients (59 women, 34 men, median age 70). The Primary Care Evaluation of Mental Disorders Patient Health Questionnaire (PRIME-MD PHQ) was used for the preliminary diagnosis of mental disorders. The Patient Health Questionnaire (PHQ-9) was used to assess the severity of depressive symptoms.

Results. Symptoms of mental disorders were detected in 59 patients (63.4%). Thirty six (42.3%) patients reported symptoms of depressive syndrome, 13 (14%) – symptoms of anxiety, 3 (3.2%) declared alcohol overuse. Sleep disorders were reported by 58 (62%) patients. In the group of patients who reported depressive syndrome the prevalence of somatic complaints was significantly higher. The positive correlation between the number and severity of somatic complaints and symptoms of depressive disorders was revealed. In this group sleep disorders and anxiety were also reported significantly more frequent. Among the 59 patients who presented with symptoms of mental disorders 18 (30.5%) were treated pharmacologically due to psychiatric reasons. In 18 patients (19.3%) screening revealed symptoms of posttraumatic stress disorder.

Conclusions. 1. In the studied group symptoms of sleep disorders and depressive disorders were the most frequent problems. 2. The severity of symptoms of depressive disorders correlated positively with the number and severity of somatic complaints. 3. Only 1/3 of the patients presenting symptoms of mental disorders were treated with pharmacotherapy. 4. Depression screening should be carried out among the elderly who report somatic problems and sleep disorders.

Key words: depression, mental disorders, elderly, PHQ-9, PRIME-MD PHQ.

Fam Med Prim Care Rev 2016; 18(3): 274–277

Background

People older than 65 years currently comprise 15.8% of the entire Polish population, and according to demographic estimates their number will increase [1]. Data from epidemiological tests show that the frequency of mental disorders among the elderly ranges from 12 to 15% [2]. Identification of the foregoing disorders is in many instances a significant clinical problem due to atypical symptomatology, coexistence of other diseases and their symptoms, as well as interpreting various symptoms relating to the consequences of aging [3].

Objectives

The objective of the foregoing paper was to evaluate the prevalence of symptoms of mental disorders, with particular focus on depression among the elderly (≥ 65 years).

Material and methods

The foregoing analysis was performed in 93 patients aged ≥ 65 years under the care of a primary care physician,

who volunteered to participate in research conducted as part of actions to prevent skin cancer and cardiovascular diseases in the rural community in the years 2005–2007. The research involved 34 men (36.6%) and 59 women (63.4%). The median age was 70 years (min–max: 65–84). The patients were asked to complete the *Primary Care Evaluation of Mental Disorders Patient Health Questionnaire* – PRIME-MD PHQ, which is used for early diagnosis of the most common mental disorders in primary care depression, anxiety, alcohol overuse, eating disorders, and somatization. The method was developed based on DSM-IV diagnostic criteria for mental disorders [4]. Due to the lack of detailed data on the somatic health of patients, somatization diagnosis was not conducted in the foregoing research. The PRIME-MD test contains a list of somatic symptoms. Respondents are asked to assess the frequency of such symptoms in the last 4 weeks. The prevalence of sleep disorders 2 weeks before the research is evaluated by the respondent based on the following sentence: “Trouble falling or staying asleep, or sleeping too much”. Severity of depressive symptoms was additionally evaluated with the *Patient Health Questionnaire-9* (PHQ-9) [5]. A result between 20–27 points means severe level of depressive symptoms, 15–19 points – mod-



erately severe, 10–14 points – moderate, 5–9 points – mild. A result below five points is within the norm. The usefulness of both methods was confirmed by various research [4, 6], also among the Polish population [7, 8] and among the elderly [9, 10]. The project was approved by the Independent Bioethics Commission for Research by the Medical University of Gdansk (NKEBN/923/2004). All patients gave their written consent to participate in the research.

Statistical analysis

Normality of the distribution of quantitative variables was verified with the Shapiro–Wilk test. The variables of normal distribution are presented with a mean and a standard deviation (SD), variables with a non-normal distribution – with a median, and a minimal and maximal value (min–max). Statistical comparisons were made with the chi-square test and the Mann–Whitney U test. Dependency between quantitative variables was evaluated with the Spearman's rank correlation coefficient. The significance level was determined as $\alpha \leq 0.05$.

Results

The prevalence of particular symptoms of mental disorders confirmed by screening conducted in the examined group of people aged 65 and more is presented in Table 1. 59 participants (63.4%) complained of symptoms suggestive of mental disorders.

In the examined group, subjective symptoms suggestive of sleep disorders were found in 62% of patients (58 people), most of whom were women (70.7%, 41 patients). In participants with bad sleep quality, depressive ($p < 0.001$) and anxiety disorders ($p = 0.002$) were statistically more frequent. 36 people (42.3%) complained of depressive symptoms. Severe symptoms of depressive disorders (classified based on PHQ-9 questionnaire) were present in 8 people (9.4%). The median result of the PHQ-9 question-

naire (for the whole group) was 4 points (range: 0–27). In the group of patients with depressive disorders there were significantly more women (77.8% vs. 53.1%; $p < 0.05$). This group presented with a significantly more frequent prevalence of sleep disorders (94.4% vs. 40.8%; $p < 0.0001$), anxiety (25.0% vs. 4.1%; $p < 0.01$) and taking anti-depressive and/or anti-anxiety medications (30.6% vs. 10.2%; $p < 0.05$). Symptoms of anxiety disorders were found in 13 patients (14%). Only 30.5% of patients with mental disorders (18 out of 59 people) took anti-depressive and/or anti-anxiety medications. Six out of 59 people (10.2%) presenting with mental disorders reported having suicidal thoughts.

There is a significant correlation between the severity of depressive symptoms measured with the PHQ-9 questionnaire and the number ($r = 0.6$) and severity ($r = 0.6$) of declared somatic symptoms. The foregoing symptoms were also significantly more frequent in the group of patients with depressive symptoms (Tab. 2).

Table 1. Prevalence of symptoms of evaluated mental disorders in the examined group of elderly patients

| Symptoms of mental disorders | Frequency, n (%) |
|------------------------------|------------------|
| Sleep disorders | 58 (62) |
| Depressive disorders | 36 (42.3) |
| Anxiety disorders | 13 (14) |
| Alcohol overuse | 3 (3.2) |
| Eating disorders | 2 (2.2) |

19.3% (18 participants) of the interviewed were patients whose answers to screening questions about post-traumatic stress disorder (PTSD) were all positive, and almost half of them were men (44.4%). In this group of patients there were no significant differences in terms of frequency and severity of symptoms of depression, anxiety disorders and somatic symptoms as compared to other patients.

Table 2. The prevalence of somatic symptoms in groups of patients with and without symptoms of depressive disorders (based on the PRIME-MD questionnaire)

| Symptoms | Symptoms of depressive disorders (+) n (%) | Symptoms of depressive disorders (-) n (%) | p |
|--|---|---|---------|
| Any pain | 35 (97.2) | 44 (89.8) | Ns* |
| Symptoms from the circulatory system | 35 (97.2) | 33 (67.3) | < 0.001 |
| Symptoms from the digestive system | 30 (83.3) | 30 (61.2) | < 0.05 |
| Stomach pain | 18 (50.0) | 10 (20.4) | < 0.01 |
| Back pain | 33 (91.7) | 29 (59) | < 0.001 |
| Limb or joint pain | 34 (94.4) | 30 (61.2) | < 0.001 |
| Pain or problems during intercourse | 1 (2.8) | 1 (2.0) | Ns* |
| Headaches | 26 (72.2) | 24 (49.0) | < 0.05 |
| Chest pain | 24 (66.7) | 21 (42.9) | < 0.05 |
| Dizziness | 25 (69.4) | 16 (32.6) | < 0.001 |
| Fainting | 7 (19.4) | 1 (2.0) | < 0.01 |
| Feeling the heart pound or race | 27 (75.0) | 17 (34.7) | < 0.001 |
| Shortness of breath | 25 (69.4) | 17 (34.7) | < 0.01 |
| Constipation, loose bowels or diarrhea | 22 (61.1) | 19 (38.8) | < 0.05 |
| Nausea, gas or indigestion | 24 (66.7) | 13 (26.5) | < 0.001 |

* – statistically insignificant.

Discussion

In the examined group the most frequent symptom reported was a subjective feeling of problems with sleeping, which was declared by 62% of participants. High frequency of sleep disorders among the elderly, similarly to a higher percentage of women in the age group that report such disorders, is described by many authors in research on both Polish and foreign populations [11–13]. Sleep disorders are often accompanied by depression and anxiety disorders [13], which was also observed in the examined group.

Symptoms of depression were observed in 42.3% of study sample. The prevalence of depression among patients age ≥ 65 . ranges from 12 to 15%, although in some works this value reaches even 35–50%, depending on the diagnostic method and adopted criteria [3, 14]. The high number of patients in the examined group that complain of symptoms of depression may be connected with the used screening method, i.e. the PRIME-MD questionnaire. Similar data were presented by authors of a work which compared 3 screening methods (including the PRIME-MD questionnaire) for depressive disorders in elderly people treated in primary care [9]. 54% of people examined using the PRIME-MD questionnaire declared symptoms of depression, and the questionnaire itself was more helpful than medical examinations. An important clinical aspect is the co-existence of depressive and somatic symptoms. The relationship between the prevalence of depressive and somatic symptoms in the elderly is confirmed by data from the literature [15, 16]. In the case of elderly patients with multiple morbidities, proper interpretation of reported somatic symptoms, particularly with the prevalence of co-existing depressive disorders, seems significant and often not very easy [3, 16]. In the examined group of patients there is a correlation between the severity of depressive symptoms and the number and severity of declared somatic symptoms. Therefore, it seems that screening for depressive symptoms is particularly justified among people with various somatic complaints. It should also be emphasized that results were obtained based on screening, which was part of a preventive action and did not include the co-existence of somatic disorders that could also be the cause of certain symptoms.

One in five patients gave a positive response to the screening questions contained in the PRIME-MD questionnaire which cover post-traumatic stress disorder. There is no data on the symptoms of PTSD in the elderly in the Polish literature. In American studies, the prevalence of PTSD in people above 60 measured by an extensive survey and diagnosed with respective diagnostic tools was nearly 10% [17, 18]. The percentage of patients in our research was twice as high, which may result from methodological differences and our use of screening. In the quoted works their authors

used tools dedicated to diagnose PTSD, which are based on DSM-IV diagnostic criteria. The PRIME-MD questionnaire contained questions, which did not include all PTSD criteria.

The results obtained focus our attention on the surprisingly low number of patients who declared alcohol overuse (3.2%). The foregoing result is contrary to data obtained from other European countries or the USA, which show that the percentage of patients older than 65 years who abuse alcohol may even amount to 20% [19, 20]. Such differences between other studies and ours may result from the following. The research was conducted in the rural community, where admitting to alcohol overuse, as well as evaluating one's drinking pattern as improper, could be difficult due to some psychological barriers. Various authors emphasize difficulties in diagnosing alcohol overuse among people over 65. Patients in the foregoing age group, particularly women, are less likely to confess to drinking excessive amounts of alcohol, often for fear of social stigma [19, 20]. There may be certain doubts as to whether the questionnaire used in this study (PRIME-MD) can identify alcohol problems in the foregoing age group. MAST-G (*Michigan Alcoholism Screening Test--Geriatric Version*) is a screening tool used to assess alcohol overuse among elderly patients which has proved highly sensitive in other research. It includes the specific nature of clinical symptoms of alcohol overuse in the elderly, as well as the fact that many of those patients are not working, and are not significantly involved in the care of family members – these are the elements included in some screening tests for alcohol overuse, including the PRIME-MD test [19, 21].

The foregoing research is limited due to the relatively small research group, and the fact that it was conducted on people who agreed to participate in a preventive action. It may be possible that people participating in the research are those who care mainly about their own health, also mental, and whose condition allowed them to participate. Therefore, the foregoing results should be interpreted carefully. They seem, however, a good incentive for further research on the elderly.

Conclusions

1. The most common problems among the examined group were symptoms of sleep and depressive disorders.
2. Intensification of depressive symptoms was connected with the number and intensification of somatic symptoms.
3. Only 1/3 of patients presenting with mental disorders took proper medications.
4. Screening for depression among elderly patients is particularly justified in the case of people with sleep and/or somatic disorders.

Source of funding: This work was funded by the authors' resources.

Conflict of interest: The authors declare no conflict of interests.

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Received: 25.04.2016

Revised: 02.06.2016

Accepted: 10.06.2016