Symptoms of depression among adults in rural areas of western Poland

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Abstract

Objective. To measure the intensity of depressive symptoms in the populations residing in rural areas of western Poland, and to delineate the putative association between the intensity of depression and selected socio-demographic and clinical factors.

Materials and method. The study covered 445 adults recruited from one family physician practice in the rural area of Wielkopolska region. The following tools were applied: Beck Depression Inventory (BDI), the WHO WHOQoL-Bref quality of life assessment scale, and a socio-demographic and clinical questionnaire elaborated by the authors.

Results. Depressive symptoms were observed in approx. 30% of the patients. The intensity of symptoms correlated with age, female gender, and inversely correlated with the quality of life. There was no association between depressive symptoms and level of education (counted as years of education), number of somatic illnesses, and family burden of psychiatric disorders.

Conclusion. Symptoms of depression were noted in approx. 30% of patients who consulted their family physician. The Beck questionnaire is a simple tool whose application could decidedly improve the recognition of depression. It is worth taking note of factors that may be connected with the intensity of depressive symptoms – gender, the number of diagnosed somatic illnesses, and the quantity of drugs administered.

Key words

depression, rural population, quality of life, Beck Depression Inventory, primary care

INTRODUCTION

According to epidemiological research, depression is one of the illnesses most frequently encountered in the practice of primary care physicians [1, 2, 3]. Only 2.9 – 4.9% of these persons are correctly diagnosed, and thereafter only some of them are treated (correctly). It would appear that for physicians conducting their practice in rural areas, diagnosing (and treating) depression is of considerably greater importance due to the more restricted access to specialist psychiatric care, and the fact that the stigmatisation of persons undergoing psychiatric treatment is still likely in such areas. This study presents a part of the results obtained through the assessment of patients living in a rural area who consulted their family physician.

MATERIALS AND METHOD

The study covered 445 adults residing in villages in Western Poland (commune of Kołaczkowo, Września district). Research was conducted from September – December 2009, in a group of consecutive persons over 18 years of age consulted by a primary care provider at the family physician practice in Sokolniki. Participation in the study was conditional on the patient providing their written consent. Clarifications

were provided in the event of any doubts as to how to complete the questionnaires. Patients were allowed to take the questionnaires home and return it at their convenience. Two persons refused to take part in the study. The completion of the study took approximately 30 minutes.

The examined group, comprising 445 persons: 226 (50.8%) females and 219 (49.2%) males. The average age for the examined group was 44.8 ± 17.0 years (18–91 years). Of the respondents, 287 persons (64.5%) were married, while the least numerous subgroup, comprising only 10 persons, was made up of divorcees (2.2%); the majority of respondents had secondary or vocational education (206 persons), with 8% holding a Bachelor's or Master's degree. Agriculture was the predominant occupation in the examined group (159 persons), while self-employed persons working outside agriculture were the least numerous (14 persons). 20.4% of the group were retired, 31 persons were in the group of students and the unemployed. The state of health of the group was also examined by means of a question concerning the presence of illnesses confirmed by a medical diagnosis. Healthy persons formed the largest group (191 of respondents). The least numerous group comprised persons with 6 disease entities (1 person). In the examined group, 103 persons were suffering from illnesses relating to the osteoarticular system. The smallest number (8 persons) reported illnesses relating to the endocrine system. The illnesses mentioned also included those of the respiratory, alimentary and cardiovascular systems. Within the studied group, 38 persons reported mental diseases in the family; this number accounted for 8.5% of those examined.

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The following tools were applied: Beck Depression Inventory (BDI), the WHOQOL- BREF Quality of Life Assessment Scale, and a socio-demographic and clinical questionnaire elaborated by the authors.

The BDI (Beck Depression Inventory) [4] was developed in 1961. This is self- assessment questionnaire containing the 21 most frequently observed depression symptoms, which score 3 points on a scale of self-assessment of symptoms of intensity of depression. The respondent may be given from 0 – 3 points for each answer. Respondents assess the following: general depressed mood, feeling of helplessness, loss of satisfaction, feeling of guilt, anticipation of punishment, lack of self-acceptance, blaming oneself for everything bad, wishing for death, crying for help, irritability, withdrawal from social contacts, inability to make decisions, distorted image of oneself, difficulty in performing activities, insomnia, tiredness, loss of appetite, decrease in body mass, somatic complaints, low energy level. The results obtained are grouped in score ranges, and it is assumed that: from 0 – 11 points – no symptoms of depression; 12 – 19 points – symptoms of mild depression, 20 – 25 points – symptoms of moderate depression, 26 or more points – symptoms of severe depression. The BDI also makes it possible to determine the intensity of specific domains in the following aspects:
1) Cognitive (questions 2, 3, 6, 7, 9, 20);
2) Emotional (questions 1, 5, 10, 11);
3) Somatic (questions 14, 16, 17, 18, 19);
4) Conative (questions 4, 12, 15, 21).

The WHOQOL-BREF (World Health Organization Quality of Life – BREF) questionnaire in its Polish version [5] was used to conduct a subjective assessment of the quality of life of both healthy and sick persons. This is an abbreviated form of the WHOQOL-100 and allows the subjective assessment of the quality of life in 4 aspects: Physical (FI), Psychological (PS), Social Relations (RS) and the Environment (E). It also contains 2 questions that are analysed separately: one concerning satisfaction with the general quality of life, while the other concerns satisfaction with one's own state of health. Responses are given on the 5-point Likert scale. Scores for individual aspects total from 4 – 20 points. Greater numerical values are associated with a better quality of life. Assessment categories for general questions were as follows: very dissatisfied – 1 point, dissatisfied – 2 points, neither satisfied nor dissatisfied – 3 points, satisfied – 4 points, very satisfied – 5 points. The score should be reversed for negative responses. These are questions 3, 4 and 26. Next, scores for individual aspects are calculated, firstly by determining the arithmetic mean of items comprising individual aspects, which are subsequently multiplied by 4 in order to obtain results that are comparable with WHOQOL-100. The following Table (Tab. 1) presents the structure of the scale: its aspects and questions [5, 6].

Statistical analyses. Statistical analyses were carried out with Statistica version 10.0 for Windows. To evaluate normality of distribution of the variables, the Shapiro–Wilk test was applied. As most of the investigated variables were not normally distributed, non-parametric tests were employed – Mann–Whitney test (two-group comparisons) and Spearman's correlation coefficient. All results were expressed as the mean and standard deviation (S.D.). Statistical significance was set at p<0.05 for all analyses.

Table 1. WHOQOL-BRIEF – Scale structure

Aspect	Question
Physical (FI)	3. Pain and discomfort 4. Dependence on medical substances/aids 10. Energy and fatigue 15. Mobility 16. Sleep and rest 17. Activities of daily living 18. Work capacity
Psychological (PS)	5. Positive feelings 6. Spirituality/religion/ personal beliefs 7. Thinking, learning, memory 11. Body image and appearance 19. Self-esteem 26. Negative feeling
Social Relations (RS)	20. Personal relations 21. Sexual activity 22. Social support
Environment (E)	8. Freedom, physical safety and security 9. Physical environment 12. Financial resources 13. Opportunities for acquiring new information/skills 14. Recreation/leisure activities 23. Housing situation 24. Health and social care: accessibility and quality 25. Transport

RESULTS

Among persons residing in rural areas, the Beck Depression Scale identified mild depression in 22.9% of respondents, moderate in 3.6%, and severe depression in 4.1% of participants. No symptoms of depression were discovered in 69.4% of those examined. Table 2 presents the intensity of depression, and Table 3 presents the results of measurements of the severity of depression symptoms in individual questionnaire aspects. When considering an interpretation of the Beck Scale, it should be noted that the average sum of the intensity of depression symptoms for the examined group falls into the 'no depression symptoms' range.

Results of the research concerning the quality of life according to the WHOQOL-BREF scale are shown in Table 4. It was determined that the difference between the quality of life of the group of persons with depression and those without depression is statistically significant, p < 0.001.

Table 2. Severity of depression according to BDI

Degrees of severity of depression	n	%	mean	Standard Deviation
none	309	69.4	4.3	3.7
mild	102	22.9	14.8	2.5
moderate	16	3.6	21.8	1.6
severe	18	4.1	29.8	4.6
Total	445	100.0	8.4	8.2

Table 3. Intensity of dimensions of depression

	BDI sum	BDI - Cognitive aspect	BDI - Emotional aspect	BDI - Somatic aspect	BDI - Conative aspect
Mean	8.4	1.8	1.5	2.3	2.0
Median	7.0	1.0	1.0	1.0	1.0
Standard deviation	7.6	2.0	1.8	2.4	2.2
Minimum	0.0	0.0	0.0	0.0	0.0
Maximum	39.0	14.0	9.0	10.0	10.0

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Table 4. Quality of life of examined persons according to WHOQOL

WHOQOL	Examined group Mean ± SD	Examined group	
		with symptoms of depression (n = 136)	without symptoms of depression (n = 309)
Satisfaction with general quality of life.	3.6 ± 0.7	3.0 ± 0.7	3.8 ± 0.5
Satisfaction with state of health	3.5 ± 0.9	3.0 ± 0.9	3.7 ± 0.8
Physical aspect	14.7 ± 2.6	12.5 ± 2.3	15.7 ± 2.0
Psychological aspect	14.0 ± 2.3	12.1 ± 2.2	14.9 ± 1.8
Social relations aspect	15.1 ± 2.3	13.4 ± 2.4	15.8 ± 1.8
Environment aspect	13.8 ± 1.9	12.7 ± 1.9	14.3 ± 1.8
Overall	57.7 ± 7.8	50.7 ± 6.9	60.8 ± 6.0

Differences between groups are statistically significant in all domains of the quality of life scale; p < 0.05

Table 5 presents the correlation coefficient between the socio-demographic factor – age and the severity of depression according to the Beck Depression Scale and its ranges.

A dependence between age and depression symptoms was found; the severity of depression increases with age.

Table 5. Correlation between depression symptoms and age of patients in the examined group

Beck Depression Inventory	Spearman's correlation coefficient	Statistics
Cognitive	0.17	p<0.05
Emotional	0.22	p<0.05
Somatic	0.48	p<0.01
Conative	0.43	p<0.01
Overall	0.40	p<0.01

Table 6 shows that there exists a difference in the intensity of depression symptoms between females and males in the emotional, somatic, conative dimensions and overall Beck Depression Scale. There was no difference between females and males as regards the cognitive aspect.

Table 6. Comparison of depression severity in male and female groups

Beck Scale	Females N = 226	Males N = 219	Statistics
	Mean (SD)	Mean (SD)	
Cognitive aspect	1.9 (2.2)	1.7 (1.9)	NS
Emotional aspect	1.8 (1.9)	1.3 (1.7)	p<0.01
Somatic aspect	2.7 (2.5)	1.9 (2.1)	p<0.01
Conative aspect	2.4 (2.4)	1.6 (1.9)	p< 0.01
BDI overall	9.6 (8.0)	7.1 (6.7)	p< 0.01

Statistical analysis concerning the association between the intensity of depressive symptoms and the quality of life, measured by means of the WHOQOL-BREF scale, showed that there exists a strong negative correlation between these variables in all the domains, as well as in satisfaction with the general quality of life and satisfaction with the state of health. An increase in the severity of depression symptoms brings about a decrease in the quality of life (Tab. 7).

The dependence between the intensity of depression disorders and clinical and demographic factors are presented in Table 8.

Table 7. Correlation between severity of depression and quality of life in the examined group

Quality of life	Spearman's correlation coefficient	Statistics
Physical subscale	-0.66	p<0.01
Psychological subscale	-0.67	p<0.01
Social Relations subscale	-0.54	p<0.01
Environment subscale	-0.51	p<0.01
Perception/satisfaction with general quality of life (Question 1)	-0.60	p<0.01
Satisfaction with state of health (Question 2)	-0.51	p<0.01

Table 8. Association between depression severity and socio-demographic factors

	N	Spearman's correlation coefficient	Statistics
Education	445	-0.2	NS
No. of somatic diseases	445	0.35	p<0.01
Quantity of drugs administered	445	0.46	p<0.01
Family burden of mental disorders	445	0.2	NS

DISCUSSION

According to World Health Organisation (WHO), in 2020, depression will be the second most prevalent cause of social incapacitation, immediately behind coronary heart disease [7]. Depressive disorders constitute a significant problem for primary health care. It is estimated that 6–30% of patients who consult their family physician are suffering from depression [3, 8]. 2/3 of patients with undiagnosed depression seen by their family physician 6 or more times have somatic complaints. More such patients were seen in the rural area [9, 10]. These somatic symptoms may constitute a mask for depression; frequently, such patients are reluctant to start treatment with psychotropic drugs or visit a psychiatrist because of the stigma – fear [11]. It is the family physicians who should diagnose depression, as their patients will trust them regarding the diagnosis and therapeutic recommendations.

The presented study was conducted between September – December 2009 among persons inhabiting a rural area. A group of 445 persons participated in the study. It was determined that 4.1% of the examined village population had symptoms of severe depression, 3.6% – moderate depression, and 22.9% – of mild depression, with 69.4% being free of symptoms. Dróżdż et al. [8] obtained similar results in their pioneering studies into the spread of depression disorders among primary health care patients (depression symptoms in 41% of the examined population), conducted in Poland in 2000 – 2002 using the same Beck Scale. The presented research also showed that depressive disorders more commonly afflict females, which is consistent with the study by Aaro [10]. A significant difference between females and males was observed in the emotional, somatic, conative dimensions, as well as in the overall score. The lack of significant difference between the intensity of depression and gender was observed only for the cognitive aspect. Apart from gender, other analysed socio-demographic factors included a connection between age and the intensity of depression, the same as in other papers [8, 10]. The dependence between the depression and

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the level of education was also examined, but no significant statistical dependence was determined between these variables. Research also centred on the dependence between the occurrence of depression and existing somatic illnesses and quantities of drugs administered. The current research confirms previous reports concerning strong associations [8, 12]. The most prevalent illnesses afflicting residents of rural areas concerned the osteoarticular system, with painkillers being the most frequently administered drugs. Depression is a risk factor for somatic illness occurrence, and depression is very important factor which leads to worse compliance in the treatment of somatic disorders. On the other hand, somatic disorders might worsen the clinical course of depression and precipitate the occurrence of mood disorders [13, 14, 15].

The results of the presented study did not confirm a connection between the occurrence of mental disorders in a family and the appearance of depression disorders, although other researchers have reported such an association. It would seem that this could be caused by a lack of knowledge as to whether or not a relative was/is mentally ill, or by embarrassment, leading to a person keeping the problem hidden.

The current results also show that there exists a strong negative association between the depressive symptoms and the quality of life of persons residing in rural areas. It should be assumed that the worsening of depression brings about a decrease in the quality of life, and vice versa, i.e. that the quality of life improves as the depression disorder symptoms recede. A similar correlation has been shown by other Polish researchers [16].

The limitations of the presented study include the use of the self-assessment method (subjectivity of information), the fact that depression was not confirmed by a psychiatrist

(analysis covered the results of the Beck questionnaire), and the lack of a control group. In the opinion of the authors, the advantages of the test method applied would include the large examined group (nearly 500 individuals), the fact that the research was conducted over a short period of time (3 months), and that one of the authors is a primary care provider practicing in the area and involved in the treatment of the examined patients (objectivisation of data).

CONCLUSIONS

Depressive symptoms occur in approx. 30% of patients who consulted their family physician. The Beck questionnaire is a simple tool, the application of which could decidedly improve the recognition of depression. It is worth taking note of factors that may be connected with the intensity of depression symptoms – gender, the number of diagnosed somatic illnesses, and the quantity of drugs administered.

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