

# Psychosocial conditioning of depressive disorders in post-menopausal women

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## Abstract

Studies confirm that the period prior to, during, and some time after menopause are the times of increase risk of the development of depressive disorders. It is indicated that the level of depression at this stage of a woman's life depends on the time which had elapsed since the onset of menopause and a number of demographic and psychosocial factors.

The objective of the study was evaluation of selected psychosocial factors determining the level of depression in post-menopausal women.

The study was conducted in 2011, among 364 rural and 382 urban women living in the south-eastern areas of Poland. Women aged 52-60, who had stopped menstruating within the last three years, and had delivered at least one child, were selected for the study.

Analysis of the results of the studies shows that the psychosocial situation of Polish women at postmenopausal age varies. Rural postmenopausal women more often had a poorer material standard than urban women, and also had a significantly higher statistically level of depression. The level of depression among rural and urban women in the study differed and was related with education level, family, and occupational situation, as well as the level of satisfaction with social and sex life.

The presents study shows that women living in the rural areas are to a greater extent exposed to the occurrence of depressive symptoms. Due to the scale of the phenomenon, at this stage, these women should receive support not only from a psychiatrist, to whom they still too rarely report in Poland, but primarily to a family physician or a gynecologist.

## Key words

menopause, rural area, urban area, depression, Beck's Depression Inventory (BDI)

## INTRODUCTION

For a long time, the period of menopause has been associated with the possibility of the occurrence of psychological problems, especially anxiety and depression [1,2]. The results of studies systematically confirm that pre- and perimenopausal period, as well as some time after post-menopause, is the period of increased risk of the development of depressive symptoms and/or depression [3-6]. An especially high risk occurs during perimenopause and menopause, gradually decreasing in the following years [7].

Depressive disorders during the menopausal period are characterized by such clinical symptoms as: nervousness, quarrelsomeness, apathy and emotional liability, irritability, psychical tension and bad temper. These symptoms are often of a high intensity and violent course. They are accompanied by memory and concentration disorders and signs of hypochondria. Interpersonal difficulties are also characteristic, which occur in relations with the family, partner, at work and place of residence. These difficulties may be related with the loss of tolerance of previously neutral or accepted behaviours, or the need for loneliness or avoidance of others [8-11]. At this life stage, depression symptoms frequently occur in the form of somatic disorders, such as:

angina pectoris, motor disorders of the gastrointestinal tract, restless legs syndrome, skin pruritus, headaches, back pain, joints pain, pain in the chest and neuralgia [9].

The cause of depression during the menopausal period are divided into several basic groups: biological causes (hormonal, intensification of symptoms accompanying menopause, early natural menopause, surgically induced menopause), psychiatric causes (previous episodes of depression), demographic causes (cultural and educational), psychosocial causes (life style, exposure to stress, change of roles and socio-occupational status, marital life [12-14].

The biological theory, also known as estrogen deficiency theory, assumes that the state of hypoestrogenism is the cause of low mood. Estrogen exerts an effect on the level and metabolism of neurotransmitters, such as dopamine, noradrenaline, endorfin and serotonin, resulting in emotional disorders [15-16]. The effect of hormones, basically hormonal changes on a woman's emotional state is observed at such life stages as puberty, pregnancy, lying-in, and finally menopause [17].

During the menopausal period there also occurs a domino effect. Low level of estrogen is also responsible for somatic symptoms, such as hot flushes, night sweats, and sleep difficulties, which additionally leads to mood disorders [18-19].

The psychiatric theory of the causes of menopausal depression assumes that the mood disorders episodes at earlier stages of a woman's life increase the probability of occurrence of depression during the menopausal period [20-21].

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The theory of the effect of demographic and psychosocial factors approaches mood disorders during menopause as a response to many unfavourable changes, which during this period occur in the life of a woman, e.g. end of youth, children leaving home – empty nest syndrome, illness or death of the spouse, discontinuation of occupational activity, or necessity to take care of old parents, and as an effect of overlapping of many biological changes and unfavourable psychosocial factors, e.g. low education level, loneliness, unhealthy life style, lack of satisfaction with sexual life [22-24].

## OBJECTIVE

Judd, Hickey and Brayant, while analyzing scientific studies conducted within the last thirty years available in electronic databases and concerning depression during the period of menopause, indicate the relationship between depressive symptoms and demographic and psychosocial factors. They also emphasize that the level of depression is associated with the menopausal period. Its highest level occurs at the beginning of menopause, and gradually decreases in the subsequent years [25]. Considering these data, the authors of the presented study decided to investigate Polish women living in South-Eastern Poland. The objective of the study was the evaluation of selected psychosocial factors conditioning the level of depression among women during the postmenopausal period.

## MATERIAL AND METHOD

The study was conducted in 2011 among women at postmenopausal age, and covered 364 rural and 382 urban women living in South-Eastern Poland. In each group, 400 questionnaire forms were distributed, not all of them were returned or were returned incomplete.

Women in the study, aged from 52 – 60, were randomly selected from among patients reporting to gynecological outpatient departments for cervical smear test, who had stopped menstruating within the last three years and had delivered at least one child. Women with a history of depression, or ever using antidepressants, who applied antidepressants, and those with surgically-induced menopause were excluded from the study because, according to earlier studies, these factors may change the image of psychosocial functioning [26].

A questionnaire form was designed by the authors consisting of two sections. The first section of the questionnaire contained questions concerning sociodemographic data (age, education level, place of residence, marital status, family and occupational situation). The second section contained questions pertaining to the level of satisfaction with family, social and occupational functioning, which had been selected in a pilot study. Patients obtained the questionnaire directly from a physician in the outpatient department or by mail, and completed the form independently. Beck's Depression Inventory (BDI) was also applied (Polish version following Potoczek et al.) for the assessment of the level of depressive disorders. This Inventory contains 21 most frequently observed depression symptoms according to the following order: decreased mood, pessimism, past failure, loss of pleasure, guilt feelings, punishment feelings, self-

dislike, self-criticism, suicidal thoughts or wishes, crying for help, irritability, withdrawal from social contacts, indecisiveness, distorted body image, difficulties at work, sleep disorders, fatigue, loss of appetite, loss of body weight, somatic complaints, loss of energy. Each symptom may be evaluated according to the scale from 0-3 scores. The scores for each answer on the inventory are added, and total score is obtained. The sum of all BDI item scores indicates the severity of depression. According to the Polish standards, 0-9 scores means no depression, 10- 19 scores - mild depression, i.e. low mood, 20-25 scores – moderate depression, 26 scores and more – severe depression [27-29].

The research material collected was subject to statistical analysis. At the first stage of the analysis the women in the study were divided into two groups according to the place of residence, considering literature data indicating clear differences in their psychosocial situation [22, 24]. In order to collect the information obtained and perform statistical analyses, software was developed based on the procedures of the SPSS/PC statistical package. The data was encoded according to previously prepared classification, and subsequently verified. Based on the information obtained, statistical tables were developed displaying the distribution of the characteristics analyzed (frequency and fraction tables). Statistical significance of the relationships between variables was tested by means of  $\chi^2$  Pearson test. The significance of the differences between the mean values of the variables analyzed were investigated by means of t-Student test. The p values  $p < 0.05$  were considered statistically significant. Three levels of significance were considered:  $p = 0.05$ ,  $p = 0.01$ ,  $p = 0.001$ . Due to the large number of comparisons performed with the use of t-Student test, Bonferroni correction was utilised.

## RESULTS

Tables 1, 2, and 3 present the psychosocial situation of the women examined and the level of depression.

Analysis of the results shows that the psychosocial situation of women at postmenopausal age in Poland varies. Urban women are better educated ( $p < 0.05$ ), they have a better material standard ( $p < 0.05$ ), better socializing relations and contact with their own children ( $p < 0.001$ ), are more often occupationally active ( $p < 0.05$ ), and more often are satisfied with their sex life. Rural women at postmenopausal age more often live with their family ( $p < 0.05$ ). A similar percentage of the women examined in both groups were married, and to a similar degree were satisfied with their family and occupational situation.

The mean level of depression was statistically significantly higher among rural than urban women ( $p < 0.01$ ). In rural women, the mean level of depression remained within the lower range of mild depression, whereas the mean score for urban women was classified as no depression. The percentage distribution of the intensity of depression in the groups examined differed statistically. Lack of depression was observed in 45% of rural women and 52% of urban women. Mild mood disorders were noted in 30% of rural women and 26% of urban women. Moderate or severe depression was diagnosed in 24% of rural women and 21% of urban women.

The subsequent stage of the analysis was comparison of the mean intensity of depression according to the psychosocial situation of the women in the study.

**Table 1.** Psychosocial situation of rural and urban women at menopausal age

Characteristics		Rural areas - 364		Urban areas - 382		$\chi^2$
		N	%	N	%	
Education	Elementary and elementary vocational	118	32.41	92	24.08	p<0.05
	Secondary school and university	246	67.59	325	75.92	
Marital status	Married	233	64.01	245	64.14	n.s.
	Unmarried	131	35.99	137	35.86	
Material standard	Satisfactory	118	32.42	151	39.53	p<0.05
	Unsatisfactory	246	67.58	231	60.47	
Family situation	Lives with family	281	77.18	258	67.54	p<0.05
	Lives alone	83	22.82	124	32.46	
Satisfaction with family situation	Yes	302	82.97	304	79.58	n.s.
	No	62	17.03	78	20.42	
Support from significant others	Yes	216	59.34	234	61.26	n.s.
	No	148	40.66	148	38.74	
Satisfaction with contacts with children	Yes	204	56.04	265	69.11	p<0.001
	No	169	43.96	117	30.89	
Satisfaction with social relations	Yes	124	34.06	226	59.16	p<0.001
	No	240	65.94	156	40.84	
Occupational activity	Yes	197	54.13	237	62.04	p<0.05
	No	167	45.87	145	37.96	
Satisfaction with occupational activity	Yes	78*	39.59	112*	47.26	n.s.
	No	119*	60.41	125*	52.74	
Satisfaction with sex life**	Yes	128	35.16	167	43.71	p<0.05
	No	236	64.84	215	56.29	

\* only occupationally active women were considered.

\*\* intensity of sex life was not evaluated, only the level of a woman's satisfaction.

**Table 2.** Level of depression among rural and urban postmenopausal women.

Depression level	Rural women - 364		Urban women - 382		$\chi^2$
	N	%	N	%	
No depression	165	45.33	199	52.09	p<0.05
Mild	111	30.49	101	26.44	
Moderate	58	15.94	66	17.28	
Severe	30	8.24	16	4.19	
X=11.86, SD=5.03		X=10.16, SD=4.47		t=2.585, p<0.01	

Among rural women at menopausal age a statistically higher level of depression was noted in those who had a lower education level, unmarried, possessing a sense of loneliness, and worse functioning among others (p<0.001). It is surprising that the level of depression was higher among occupationally active women, which may be associated with the type and excessive amount of work in the rural areas. The variables which had no effect on the level of depression among rural women are: material standard, support from significant others, contact with children, satisfaction with occupational situation and sex life.

**Table 3.** Mean level of depression according to the psychosocial situation of the women examined (level of significance with Bonferroni correction)

Characteristics		Rural area - 364		Urban area - 382	
		X	SD	X	SD
Education level	Elementary and elementary vocational	14.11	6.48	13.54	5.06
	Secondary school and higher	9.08	3.57	8.43	3.82
		t=13.212, p<0.001		t=15.613, p<0.001	
Marital status	Married	10.29	4.65	9.81	4.42
	Unmarried	13.49	5.43	12.09	4.47
		t=8.658, p<0.001		t=7.001, p<0.001	
Material standard	Unsatisfactory	12.09	5.22	11.76	4.34
	Satisfactory	11.58	4.84	9.97	4.65
		t=1.384, n.s.		t=5.428, p<0.001	
Family situation	Lives with family	10.86	4.89	9.97	4.35
	Lives alone	12.87	5.18	11.82	4.53
		t=5.451, p<0.001		t=5.626, p<0.001	
Satisfaction with family situation	Yes	11.66	4.97	10.34	3.92
	No	12.06	5.07	11.65	4.93
		t=1.087, n.s.		t=4.004, p<0.05	
Support from significant others	Yes	10.96	4.78	8.97	3.57
	No	11.13	4.65	9.45	3.91
		t=0.492, n.s.		t=1.748, n.s.	
Good contact with own children	Yes	11.39	4.72	9.98	4.84
	No	12.14	5.32	11.69	3.96
		t=2.039, n.s.		t=5.292, p<0.001	
Good socializing relations	Yes	10.96	5.44	10.74	4.32
	No	12.56	4.80	10.93	4.65
		t=4.307, p<0.05		t=0.577, n.s.	
Occupational activity	Yes	12.32	5.34	10.54	4.25
	No	11.45	4.76	11.26	4.63
		t=2.351, p<0.05		t=2.209, n.s.	
Satisfaction with occupational activity	Yes	11.67	4.99	10.23	3.92
	No	12.05	5.12	11.67	4.97
		t=1.025, n.s.		t=4.380, p<0.001	
Satisfaction with sex life	Yes	11.65	4.56	9.94	4.36
	No	11.97	5.45	11.87	4.48
		t=0.867, n.s.		t=5.958, p<0.001	

A higher level of depression in urban women at postmenopausal age was observed among those with a lower education level, lower material standard, dissatisfied with occupational activity and sex life. A higher level of depression was also noted among women who were dissatisfied with their family situation and had a worse contact with their children.

Family support and satisfaction with socializing relationships had no effect on the level of depression in urban women.

## DISCUSSION

Analysis of the results of studies showed a varied psychosocial situation of Polish women at postmenopausal age according to the place of residence. Urban women were better educated, to a higher degree occupationally active and had a higher material standard, better socializing contacts, better contacts with their children, and were more often satisfied with sex life. Rural women at postmenopausal age more frequently lived with their family, and in other spheres of the psychosocial situation examined they were worse off than those living in the urban areas. A worse situation of rural than urban women was also observed in Italy and Mexico [29-31], which was accompanied with a higher level of depression.

The studies conducted in Poland to-date confirmed that depressive disorders affect 20% - 32% of women at postmenopausal age [8,32]. In the studies conducted in other countries, depression at this stage of life was diagnosed in 22.4% - 38.5% of women [14, 33-36]. In the group of postmenopausal women examined, depression was observed in 24.18% of rural and 21.47% of urban women. In the studies by Wojnar et al., without division according to the place of residence, depression was diagnosed in approximately 32.5% of women aged 45-55 who reported to gynecological outpatient departments. During the menopausal period there were only 19% of such females [32]. This confirms that the level of depression depends on the time elapsed since the start of the menopause, showing a downward tendency during the subsequent years.

The level of depression among the women examined varied. Women with a lower education level, both rural and urban, had a higher level of depression. This observation is confirmed by the results of many studies [37-40].

Many reports indicate that women who are not occupationally active have more intensified symptoms of depression [41-43]. In own studies, somewhat surprising results were obtained: occupationally active rural women had a higher level of depression, and in the group of urban women, a higher level of depression was noted in those who had no satisfaction with the occupation performed.

Dissatisfaction of women with marital and family life is a depression risk factor during the menopausal period [39,43]. Among the rural and urban women examined, a higher level of depression was diagnosed in those unmarried, living alone, and less satisfied with their family situation. In urban women, this level was also higher among women who had worse relations with their children. Aaron et al. in their studies confirmed that family factors exerted an especially strong effect on the level of depression of women living in the rural environment [44]. A very high level of depression was observed in menopausal women who experienced physical and psychological violence in the family [45].

Urban more often than rural women were satisfied with their socializing contacts. In the group of women living in the rural areas, the level of depression was higher among those who were dissatisfied with their socializing life. Similar results, without the division into rural and urban place of residence, were obtained by Kumari et al. [22].

## SUMMARY

It is estimated that the menopausal period is approximately 1/3 of a woman's life span. The presented study shows that rural women have a worse psychosocial situation and are at greater risk of depression symptoms. These women should obtain support not only from a psychiatrist, to whom they still rarely report in Poland, but primarily from a family physician and a gynecologist.

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