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Reproductive health and psychological well-being of surgically menopausal Polish women

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Backgroud. Every year, thousands of women experience premature menopause induced through a medical intervention and the dramatic effect of sudden oestrogen failure. The aim of the study was to describe reproductive health and psychological well-being of women who ceased menses due to surgical interventions.

Materials and methods. The sample consisted of 628 women with surgical menopause who were examined in a cross-sectional survey (WOMID) carried out across Poland between 2000 and 2004. The data came from a 51-item Menopause Specific Questionnaire completed by every woman participating in the survey. The prevalence of menopausal symptoms was assessed using the MRS scale. Life Satisfaction Index was employed for the evaluation of the global satisfaction with life and with particular life domains. The ANCOVA models and Multiple Correspondence Analysis (MCA) were run to evaluate predictive factors for variation in subjective well-being of the study women and the association between the degrees of satisfaction with particular life domains. Statistical computations were run using Statistica 7.1 programme.

Results. The findings of uni- and multivariate ANCOVA models with calendar age as a covariate revealed that menopausal symptoms, educational attainment and marital status were the main predictors of subjective well-being among women with surgical menopause. The results of MCA revealed a negative association between the degree of severity of menopausal complaints reported by the study women and the degree of satisfaction with life domains.

Conclusion. The present estimate of the reproductive pattern, menopausal symptoms and psychological well-being of women with surgical menopause provides some insight into the growing process of medicalization of the menopause among Polish women.

Key words: hysterectomy, oophorectomy, menopausal complaints, quality of life

INTRODUCTION

Menopause signifies the irreversible cessation of female fertility. It may occur spontaneously or can be induced through a medical intervention (e.g. surgery, chemotherapy, or pelvic radiation therapy). Physiological (natural) menopause is considered to be the result of continuous loss of ovarian follicles throughout the female reproductive lifespan and changes in hormone levels to the point at which menstrual cycles are increasingly variable in length and finally cease (1, 2). This curtailing of female reproduction usually occurs between 49 and 52 years in the developed countries and between 41 and 47 years in the developing countries (3, 4). Menopause can also be induced by surgical procedures such as hysterectomy with ovarian conservation, and hysterectomy with bilateral oophorectomy. Surgical menopause may occur at any time prior to its physiological timing (5, 6). Studies have shown that, alike natural, the surgical menopause leads to a decline in oestrogen (E) levels resulting in an increased risk of menopausal symptoms (7, 8) and associating menopausal symptoms with the quality of life (9–12). However, those investigators who have examined this issue report conflicting results (13, 14).

An increasing number of women with surgical menopause make this problem considerable for understanding the role menopause is likely to play in female reproductive health. Thus, the purpose of the present study is twofold: 1. to assess the reproductive pattern and the experiencing of menopausal symptoms among surgically menopausal women; 2. to evaluate predictive factors for variation in psychological well-being of the study women and the association between the degree of severity of symptoms and the degree of satisfaction with particular life domains.

MATERIALS AND METHODS

Study sample and variables. The sample consisted of 628 women with surgical menopause who were singled out from a total sample of 7183 women examined in a cross-sectional retrospective survey (WOMID), carried out across Poland between 2000 and 2004. The participants of this survey were between 35 and

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65 years old. A detailed description of study design and enrolment procedures may be found in the author's previous paper (15). The study women were asked to complete a 51-item, semi-structured Menopause-Specific Questionnaire (MSQ), a basic tool in the survey, which included demographic, socio-economic, health, lifestyle behaviour and reproductive history aspects (16). They also were asked to report dates, if any, of hysterectomy and/or bilateral oophorectomy prior to the age at which natural menopause usually occurs. Reproductive health was described by age at menarche, usual length of menstrual cycle, age at first live birth, use of oral contraceptives, parity and the usual length of breastfeeding.

The MRS scale was used to assess the prevalence and severity of menopausal symptoms and to measure health-related quality of life (HRQoL) (17). The MRS is composed of 11 items assessing menopausal symptoms divided into three dimensions - subscales. Somato-vegetative subscale includes hot flushes and sweating, heart discomfort, sleep problems, and joint and muscular discomfort (items 1–3 and 11, respectively). Psychological subscale includes depressive mood, irritability, anxiety and physical and mental exhaustion (items 4–7, respectively). Urogenital subscale includes sexual problems, bladder problems and dryness of the vagina (items 8–10, respectively). The severity of each item can be graded by the subject from none (0), through mild (1), moderate (2), severe (3) to very severe (4). For a particular individual, the composite scores for each of the three subscales are based on summing up the scores of the items of the respective subscales. Total MRS score is the sum of the three subscale scores.

Psychological well-being (PWB) was evaluated within the framework of its cognitive concept (18) and measured using the Life Satisfaction Index (LSI) (19). The LSI is composed of 11 items assessing the degree of satisfaction with particular life domains: marriage, family, health, friends, work, housing, leisure time, standard of living, acquired education level, income, life in Poland. Respondents are given a 7-point rating scale to evaluate their perception of the defined life domains, ranging from highly dissatisfied (scores 1 and 2 of this scale) through mildly and moderately dissatisfied / satisfied which denotes a neutral feeling (scores 3–5) to highly satisfied (scores 6 and 7). Total LSI score is the sum of the reported scores of 11 component items. For the purpose of this study the Polish versions of the Menopause Rating Scale and Life Satisfaction Index were used (16).

Birth year, marital status, educational attainment, category of residence place, and employment status were indicators of sociodemographic background. Lifestyle behaviours were described by physical activity, smoking habits and amount as well as alcohol consumption.

Data analysis. Analyses of covariance (ANCOVA) were conducted to evaluate the main effects of predictive variables to psychological well-being (LSI) with age as covariate. Qualitative data were presented in multiway tables and the chi-square test was used to test their interdependence. Thereafter, the association among qualitative data was estimated using the Euclidean distances obtained from the model of Multiple Correspondence Analysis (MCA). All the computations were run using Statistica 7.1 programme (20).

RESULTS

Of all the surgically menopausal women, 41.5% underwent hysterectomy with oophorectomy, 17.2% oophorectomy and 41.3% hysterectomy. The age at surgical menopause ranged between 25 and 50 years with the mean age 41.5 years (SD 6.1 years) and the median age 43.0 years (Q_1 38; Q_3 46 years).

The mean age of the study women was 50 years (SD 5.4 years). They were in majority married or living with a partner (79.9%) at the time of the survey. They represented all the social strata, with the majority currently working (62.9%), urban residents (77.1%) with secondary education (44.9%). Only 19.8%

Table 1. **Selected demographic, social and lifestyle behaviour characteristics of the study Polish women with surgical menopause**

Variable	n = 628	
	n	%
Age groups, years		
35–44.99	107	17.0
45–54.99	419	66.7
55–65	102	16.3
Marital status		
Married / Partnered	502	79.9
Never married	30	4.8
Widowed	63	10.1
Divorced / Separated	33	5.2
Residence		
Village	144	22.9
City < 500,000 people	328	52.3
Large City ≥ 500,000 people	156	24.8
Education levels, years		
Primary / Apprenticeship, 7–11	210	33.5
Secondary, 11–12	282	44.9
High / Academic, >12	136	21.6
Current Employment		
No	233	37.1
Yes	395	62.9
Physical activity		
No	504	80.2
Yes, ≥1 h per week	124	19.8
Smoking status		
Never smoked	212	33.7
Past smoker	170	27.1
Current smoker	246	39.2
Smoking amount		
<10 cigarettes / day	60	24.4
10–20 cigarettes / day	139	56.5
>20 cigarettes / day	47	19.1
Alcohol consumption		
No	337	53.7
Yes, ≥2 drinks / week	291	46.3

of the study women reported that they had performed physical activity for at least 1 h weekly. The status of current smokers belonged to 39.2% of women, 19.1% of whom were heavy smokers, smoking more than 20 cigarettes per day. Almost half of the study women (46.3%) reported that they usually had consumed two or more drinks per week.

Table 2. **Reproductive health profile of the study Polish women with surgical menopause**

Variable	n = 628	
	n	%
Age at menarche, years		
<13	152	24.2
13–14	303	48.3
>14	173	27.5
Usual menstrual cycle length, days		
<28	249	39.6
28–32	334	53.2
>32	45	7.1
Age at first live birth, years		
<22	207	36.4
22–24	196	34.4
>24	166	29.2
Live birth, No		
None	59	9.4
1 child	125	19.9
2 children	289	46.1
≥3 children	155	24.7
Breastfeeding		
Never	190	30.3
Ever, ≥1 month	438	69.7
Use of oral contraceptives		
Never	386	61.5
Ever, ≥1 year	242	38.5
MRS degree of severity; Total score		
No, little (0–4)	181	29.0
Mild (5–8)	160	25.6
Moderate (9–16)	162	25.9
Severe (≥16)	122	19.5
Somato-vegetative domain		
No, little (0–2)	242	38.8
Mild (3–4)	143	22.9
Moderate (5–8)	154	24.7
Severe (≥9)	85	13.6
Psychological domain		
No, little (0–2)	201	32.1
Mild (3–4)	131	20.8
Moderate (5–8)	169	27.0
Severe (≥9)	126	20.1
Urogenital domain		
No, little (0)	221	35.3
Mild (1)	141	22.7
Moderate (2–3)	149	23.8
Severe (≥4)	114	18.2

The reproductive health profile of the surgically menopausal women is presented in Table 2.

Mean age at menarche was 13.6 years (SD 1.6 years), and mean age at first live birth was 23.1 years (SD 3.4 years). The prevalence of women whose usual menstrual cycle lasted shorter than 28 days was 39.6%. Nulliparous women composed 9.4% of the total sample, and 42.3% were those having two children. The prevalence of women using oral contraceptives was 38.5%, and those who had never breastfed constituted 30.3%.

Considering menopausal symptoms, the largest group of women (20.1% of the total sample) reported severe psychological troubles, including depressive mood, irritability, anxiety, and physical and mental exhaustion. Those women who severely suffered from symptoms defined as somato-vegetative (including hot flushes, sweating, heart problems, and joint and muscular pain) constituted 12.6% of the total sample and those with severe urogenital complaints 18.2%, respectively.

ANCOVA models examining the effects of menopausal symptoms (MRS) on the global psychological well-being (LSI) with age as covariates are shown in Table 3.

Menopausal symptoms remained significant as a factor in explaining variance in PWB when occurring in any combination with the main factors such as marital status and educational attainment and age as a covariance. Menopausal symptoms re-

Table 3. **Analysis of covariance (ANCOVA) of psychological well-being (LSI total) with the menopausal symptoms (MRS total), marital status and education level as the main effects and age as covariate in the sample of surgically menopausal Polish women**

Main effect	F value	Main effect	F value
One main effect			
n = 625			
Menopausal symptoms		15.3**	
Covariate – Age		0.1	
Two main effects			
n = 619			
Menopausal symptoms	10.3**	and Marital status	7.9**
Covariate – Age		2.1	
Interaction effect: Menopausal symptoms x Marital status			1.7
n = 624			
Menopausal symptoms	12.6**	and Education level	15.5**
Covariate – Age		1.4	
Interaction effect: Menopausal symptoms x Education level			1.3

* – $p < 0.05$; ** – $p < 0.01$.

mained significant as one main effect ($F = 15.3$; $p < 0.01$) and in combination with either marital status ($F = 10.3$; $p < 0.01$), or educational attainment ($F = 12.6$; $p < 0.01$) as an additional main effect. Both marital status ($F = 7.9$; $p < 0.01$) and education level ($F = 15.5$; $p < 0.01$) remained significant predictors of the PWB in models with two predictive factors in combination with menopausal symptoms. Age appeared to have no significant effect on PWB in either combination (F values 0.1, 2.1, and 1.4, respectively) of the study variables. The findings revealed lack of interaction between menopausal symptoms and marital status, and menopausal symptoms and educational attainment (F values 1.7 and 1.3, respectively).

The association of menopausal symptoms with psychological well-being, plotted in terms of the Euclidean distances among the degree of satisfaction with particular life domains (LSI) and four degrees of severity of menopausal symptoms is indicated in Fig. 1.

Seven categories of satisfaction with particular life domains formed three clusters of high, inconclusive (indifferent) and low degree of satisfaction, respectively. The cluster of inconclusive (indifferent) degree of satisfaction appeared to be more consistent than the two others. It was found that the degree of severity of menopausal symptoms was associated with the level of satisfaction with life domains. Women who complained of menopausal symptoms in severe degree were mostly among those highly dissatisfied with life domains (scores 1 and 2 on the rating scale). Women who reported mild or moderate degree of menopausal symptoms were likely to be indifferent about their satisfaction with life domains. Women who reported high level of satisfaction were associated with mild degree of menopausal symptoms severity as it might be seen in Fig. 1. The MCA provided another evidence for the importance of menopausal symptoms to the psychological well-being of surgically menopausal women, although the first dimension explained only 6.6% of the total inertia, and the second dimension 5.2% of the total inertia.

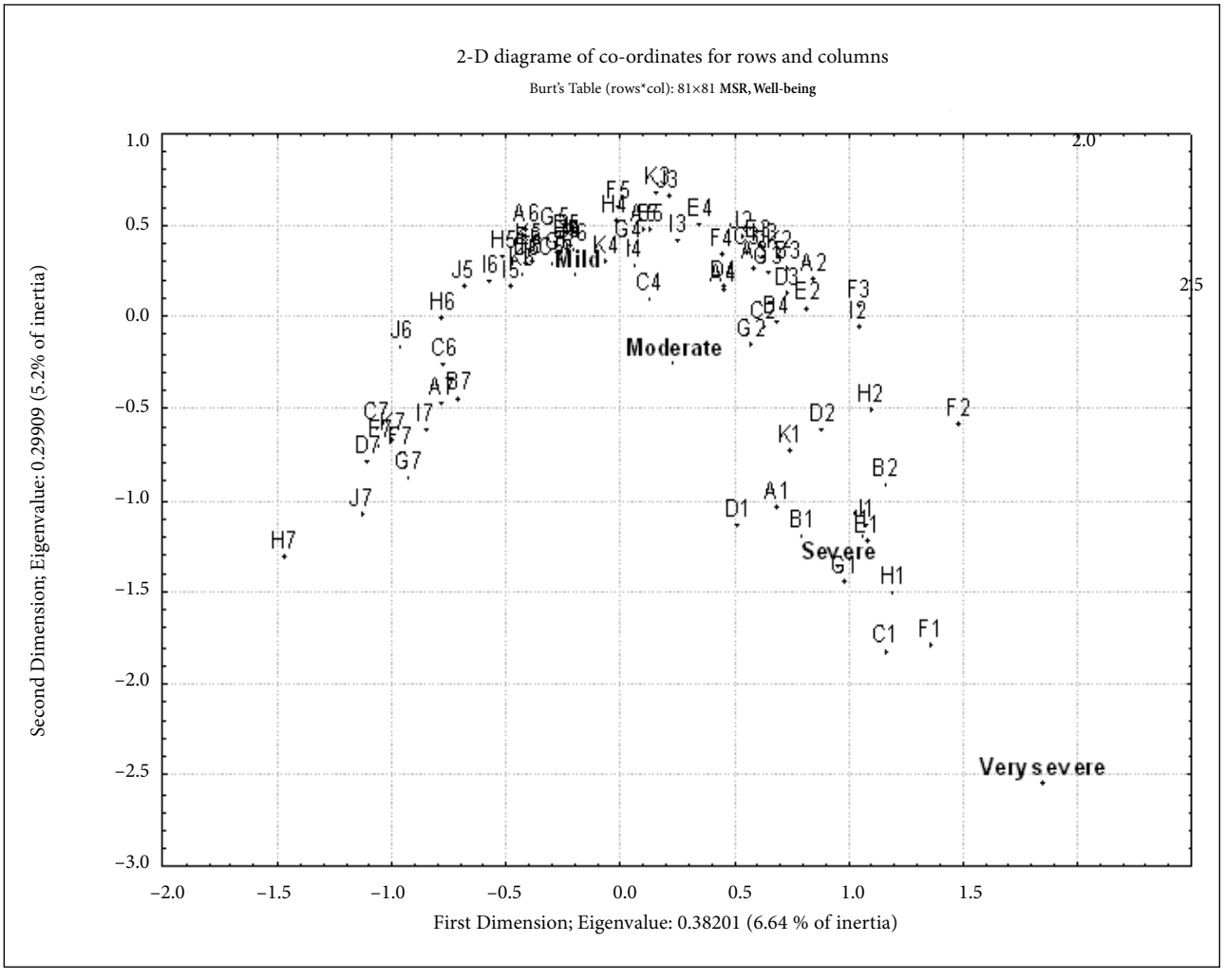

Fig. 1. Euclidean distances between profiles representing contents of rows and columns in Burt's Table for menopausal symptoms (MRS) and psychological well-being

Notes. Degree of severity of menopausal symptoms: No, Little, Mild, Moderate, Severe, Very severe.

Numbers between 1 and 7 indicate the degree of satisfaction with life ranging from high dissatisfaction (1) to high satisfaction (7).

Abbreviations for life domains: A – Marriage, B – Family, C – Health, D – Friends, E – Work, F – Housing, G – Leisure time, H – Standard of living (SOL), I – Acquired education, J – Income, K – Life in Poland.

DISCUSSION

The findings of the study revealed that surgical menopause may occur at any time prior its natural counterpart. Polish women with surgical menopause were on average postmenopausal 8.2 years earlier than their counterparts with natural menopause (median age 43 years and 51.2 years, respectively) (15, 21). Surgically menopausal women from the U.S.A. were likely to be postmenopausal 6.5 years earlier than their counterparts with natural menopause (22). Only 2-year difference was found between surgically and naturally postmenopausal Turkish women (23).

Prospective studies of surgically menopausal women due to oophorectomy revealed that this intervention was associated with reduced level of oestrogen which in turn resulted in menopausal symptoms, mostly hot flashes and other symptoms from somato-vegetative category (24, 25).

It was interesting to note that Polish women with surgical menopause were likely to complain mostly of psychological symptoms (20.1% of women who reported severe psychological complaints versus 13.6% of those with somato-vegetative and 18.2% of women with urogenital complaints, respectively).

It was found that menopausal symptoms, marital status and educational attainment were important predictors of psychological well-being in the group of surgically menopausal women. From among them, the most consistent was educational attainment. Women with lower level of educational attainment were likely to be less satisfied with life than their better educated counterparts. This finding was supported by psychologists. They emphasize the role of intellectual resources in better understanding the process of ageing and health promoted behaviours (26, 27).

It was determined that marital status was an important factor of psychological well-being. Married women and those living with a partner felt much better than their single counterparts. This finding was in agreement with other studies (28, 29). Indeed, the loneliness was found to be a serious risk factor of depression and other mental and physical illnesses (30, 31).

Differential marital status effect on psychological well-being is usually explained by selective mating and protective role of marriage hypotheses. According to the first hypothesis, people of poor health are more often never married than their counterparts having good health (32). The second hypothesis claims that marriage provides social, financial and emotional protection, which enable to alleviate menopausal suffering (33, 34).

It was also established that the degree of severity of menopausal symptoms was important for psychological well-being with more severe experience in menopausal symptoms associated with lower level of well-being. The same direction of association between symptoms and well-beings was found in many other studies (35, 36).

CONCLUSION

The present estimate of reproductive health and psychological well-being of women with surgical menopause revealed that menopausal symptoms, marital status and educational attainments were predictive factors for women's well-beings. Findings of this study provide some insight into the growing process of medicalization of menopause among Polish women.

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