

Validation of the Menopause Rating Scale in Serbian language

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Abstract

Purpose The study aim was to translate the Menopause Rating Scale (MRS) to Serbian language and assess its validity and reliability in the population of Serbian menopausal women.

Methods The study included 200 peri- and post-menopausal women from two Community Health Centers (city center and outskirts) in the Serbian capital—Belgrade. Women filled out general questionnaire (socio-demographics, habits, medical history), the MRS, Short Form-36 questionnaire (SF-36) and Beck's Depression Inventory (BDI). The MRS was translated according to recommended methodology and its psychometric properties (internal consistency, factor analysis, discriminant, construct and criterion validity) were assessed.

Results The Cronbach's alpha coefficient for the whole scale was 0.884 (psychological $\alpha = 0.902$, somato-vegetative $\alpha = 0.761$, urogenital $\alpha = 0.734$). Values of the CI-TC coefficient for Serbian MRS were adequate for 10 items, proving their suitability in the scale. On factor analysis, we obtained the same 3 factors as in the original scale (73.1 % of variance). Communalities of all items were appropriate

(>0.4). There was no common method bias. The MRS total score was correlated positively with BDI score ($p = 0.001$) and negatively with all SF-36 domains ($p = 0.001$) except General Health. Based on ROC analysis, MRS scores were more consistent for post- than perimenopausal Serbian women. Similar results of two raters ($p > 0.05$) implied on adequate translation and reliability of MRS.

Conclusion Serbian version of MRS demonstrated excellent reliability and validity. The MRS in Serbian language can be used in daily clinical work with menopausal women for assessing their symptoms and quality of life.

Keywords Menopause Rating Scale · Scale validation · Menopause · Serbia

Introduction

The Menopause Rating Scale (MRS) was developed in the 1990s in response to the lack of scales for evaluation of health-related quality of life (HRQoL) in menopause [1]. The scale was designed to measure in a standardized way the severity of climacteric symptoms and complaints, as well as their impact on overall quality of life. Additionally, by means of this questionnaire, the authors aimed to compare changes of HRQoL among aging women over time, between groups, across cultures and before/after treatment with hormone replacement therapy [2, 3].

Available literature data confirmed excellent methodological quality (high reliability and good validity as well as existence of reference values for different populations) of the MRS scale as an outcome measure [4]. Although the questionnaire was originally designed in German, altogether 25 language versions of the MRS are currently being used [5]. However, there is no Serbian version of the MRS.

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Consequently, characteristics of menopausal symptoms and HRQoL in menopause have not been adequately assessed in Serbia, in spite of its population size of around 7 million [6, 8]. Translation of the MRS to Serbian language would be indispensable to describe the most important factors associated with HRQoL of menopausal women in Serbia.

The aim of this study was to translate the Menopause Rating Scale to Serbian language and assess its validity and reliability in the population of Serbian menopausal women.

Methods

Setting

Serbian health care system consists of institutions at the primary, secondary and tertiary levels. The primary level of health care is provided in 157 Community Health Centers. One Community Health Center covers the territory of usually one or, in some cases, more municipalities or towns. All citizens should have access to a Community Health Center or associated ambulatory within 15 min travel distance, according to law. The team of chosen physicians in the Center consists of general practitioners, specialists in occupational medicine, pediatricians, gynecologists for women over 15 years and dentists [9].

The municipalities of capital city Belgrade, with population of around 1.6 million inhabitants, are divided into city center ($n = 10$) and suburban outskirts ($n = 7$) [9]. Hence, primary health care in the capital is delivered in 17 Community Health Centers. Of all Centers, we randomly chose (by picking papers with their names from a bag) two for recruitment of study participants: one from central districts and one from the outskirts. We had one investigator in each Center who administered questionnaires to women before regular check-ups by their chosen gynecologists.

The study was approved by the Institutional Review Boards of the two corresponding Community Health Centers. All subjects signed informed consent before enrollment in the study.

Participants

Consecutive peri- and postmenopausal women who had regular check-ups in two Community Health Centers in Belgrade over a four-month period (1st February–1st June 2014) were recruited for this study. Inclusion criteria were as follows: age range from 40 to 65 years, speaking Serbian fluently and giving signed informed consent; while exclusion criteria were verified psychiatric diseases or severe chronic conditions (malignancies, neurological,

acute deterioration of chronic illness, etc.) that could otherwise affect HRQoL, declining participation, giving less than 90 % of required answers and not fulfilling the inclusion criteria. To validate the same instrument, we recruited women of the same age group as in the original validation study [1]. All women that were tested have gone through a natural menopause and were not taking hormone replacement therapy (HRT).

A total of 487 women were approached. Participation was declined by 258 women. Twenty nine women did not fulfill the inclusion criteria (3 psychiatric diseases, 26 severe illnesses: 12 malignancies and 14 cardiologic conditions). Therefore, the study sample consisted of 200 women (response rate 41.07 %).

Sampling of participants for the survey was based on convenience. We approached all women aged 40–65 years during three working days per week, when gynecological check-ups for non-pregnant women were scheduled in corresponding Community Health Centers. To ensure participation of women who were likely employed, recruitment of study participants was carried out in afternoon hours. According to Serbian health regulations, all women over 18 years of age are obligated to register with the gynecologist of their choice at their municipal Community Health Center [9]. Consequently, women of various socioeconomic and educational levels are represented in the study sample.

Instruments

The MRS is a self-administered specific instrument covering 11 climacteric symptoms or complaints experienced by a woman over the past period [1, 10]. According to instructions for filling in the questionnaire, women are asked to evaluate their climacteric symptoms “at this time”. Symptoms are combined into three independent dimensions i.e., domains: psychological (PD), somato-vegetative (SVD) and urogenital (UD). The PD domain includes depression, irritability, anxiousness, and exhaustion. The SVD domain consists of 4 symptoms (sweating/flush, cardiac complaints, sleeping disorders, joint and muscle complaints), while UD domain includes 3 symptoms (sexual problems, urinary complaints and vaginal dryness) [2].

Items are rated on a 5-point Likert scale (from no symptoms—0 to very severe symptoms—5) [4]. The scoring is done by adding the obtained symptom ratings. The scores for each MRS domain (dimensions/subscales) are based on adding the ratings of the items of the respective domain. The composite score (i.e., total score) is the sum of the three domain scores. Therefore, the total MRS score ranges between 0 (asymptomatic woman) and 44 (the highest degree of complaints). The cut-off scores of

>7 for PD, >9 for the SVD, >4 for UD, and >17 for the total MRS have been used to define severe effects on HRQoL [5].

Apart from MRS, which is a specific HRQoL instrument, women were asked to fill in the generic HRQoL instrument, the Short Form-36 questionnaire (SF-36), and Beck's Depression Inventory (BDI). Serbian versions of these two questionnaires are widely used in population surveys. The SF-36 questionnaire is the most frequently used generic HRQoL instrument, testing eight different dimensions: Physical Functioning, Role Physical, Bodily Pain, General Health, Vitality, Social Functioning, Role Emotional and Mental Health. Based on these domains, two summary scores are constructed: Physical Health Composite Score (PCS) and Mental Health Composite Score (MCS). Finally, the Total Quality of Life score (TQL) is calculated as mean value of PCS and MCS. Scores in the scale range from 0 to 100, where higher values indicate a better HRQoL [11]. Beck's Depression Inventory is a 21-item scale designed to measure severity of depression and impact of depression on HRQoL. Answers are graded from 0 to 3. The BDI score higher than 21 is considered as cut-off for presence of depression in the general population [12]. We used these two questionnaires to assess the criterion validity of the Serbian MRS. The Serbian versions of SF-36 and BDI have been validated and widely used [13, 14]. Moreover, we included BDI in our questionnaire set because literature data indicate that presence of depression seems to be an important confounding factor in the assessment of quality of life in menopausal transition [15, 16].

Socio-demographic characteristics and detailed gynecological history were taken from all study participants.

Translation of the MRS

The MRS was translated following the internationally accepted methodology for cultural adaptation of a questionnaire [17]. The aim of this process was to generate a version that was semantically and conceptually as close as possible to the original questionnaire. The scale was originally developed in German language. However, authors recommend the English version of MRS to be used as the basis for creating further language versions to maintain uniformity of translations [18]. Because of that, we used the English version for creating the Serbian translation of the MRS. We followed the six steps of the translation process that the scale authors recommended. Translation of the English MRS ("forward translation") to Serbian language was performed by two independent translators. At the consensus meeting with the manuscript authors who coordinated translation, English language expert who was a native Serbian speaker evaluated the scientific correctness

of the wording. The "backward translation" (from Serbian back to English) was completed by the third translator, who was blinded to the original questionnaire. Afterwards, all translators discussed all items to generate a version of the MRS which would be the most appropriate for the cultural environment of Serbia and acceptable for testing menopausal women. To check the understanding and interpretation of the translated items by the Serbian population, the questionnaire was tested on 15 women. As there were no remarks on clarity and understanding of items, the final version was generated and applied in this study.

Statistical analysis

To describe MRS scale, we analyzed minimal and maximal values, skewness, and kurtosis for items and scores [19]. Skewness is a measure of data weighing toward one extremity of the scale. Adequate skewness is between -1 and 1 . Kurtosis shows the convexity or flatness of the data distribution. When absolute value of kurtosis is less than three times the standard error, distribution of values of the variable in question is adequate [19].

Scale reliability was evaluated by testing internal consistency and inter-rater reliability. Internal consistency of the Serbian version of the MRS was assessed using Cronbach's alpha coefficient [20]. This coefficient indicates correlations between scale items. Values above 0.7 are considered statistically appropriate. Inter-rater reliability was tested by Kruskal–Wallis test.

Hotelling T-square test (HT^2) is a multivariate test for the null hypothesis stating that all items on the scale have the same mean. It was applied to test the significance of differences between obtained mean score values of all MRS items together and the hypothetical case in which items have equal scores [19].

Discriminating characteristics of the scale items were tested by Corrected Item-Total Correlation (CI-TC) analysis. It shows the relationships of one item with the score of remaining scale items. Items with $CI-TC \geq 0.40$ are regarded as suitable parts of the scale [19].

To evaluate construct validity, an exploratory factor analysis (principal component analysis with varimax rotation) was performed. A factor is significant if its eigenvalue is above 1.0. Factor loadings are correlation coefficients between the scale items and established factors. Communality index represents the variance of the scale item accounted for all factors [21].

To exclude common method bias (CBM), we performed Harman's single factor test. CMB is present in the model if one factor accounts for the majority of the variance [21].

Criterion validity of the scale was assessed by correlating (Spearman's correlation) the MRS score with SF-36 scores and BDI as well as by applying linear regression

analysis. Dependent variable was MRS total score. Independent variables were BDI and SF-36 scores (according to domains, composite and total scores) [19].

To determine the applicability of the MRS in relation to menopausal status (perimenopausal vs. postmenopausal), ROC analysis with sensitivity and specificity calculation was carried out [19].

Results

Study included 200 peri- and postmenopausal women with mean \pm SD age of 51.4 ± 5.7 years, up to eight pregnancies and three births. The average \pm SD age of menopause was 48.6 ± 4.0 years. There were no significant differences regarding menopausal status (perimenopausal $n = 90$; 45 % and postmenopausal $n = 110$; 55 %) of examined women ($\chi^2 = 2.001$; $p = 0.157$).

There were no major changes in the description of items during the process of translation and validation. The simple literal translation was adequate for almost all MRS items.

Average MRS scores according to items and domains are presented in Table 1. All item scores were heterogeneous and not normally distributed ($p = 0.001$), but skewness and kurtosis were appropriate. The highest score was achieved for items #1 (hot flushes), #3 (sleep problems) and #4 (depressive mood), while item #10 (vaginal dryness) received the lowest marks. Overall, Serbian women did not complain much on menopausal symptoms. Apart from item #5 (irritability), no other item was rated as

very severe and all mean values are lower than score 2 (moderate). Moreover, the average total MRS of 11.7 was not high (26.6 % of maximal 44 points), although in 18 cases, it reached the score of 41 (very severe symptoms). As for the MRS domains, PD and SVD were more expressed than UD.

Cronbach's alpha coefficient for the whole scale was 0.884. Cronbach's alpha coefficient based on standardized items was 0.867. Cronbach's alpha coefficient for PD was 0.902, for SVD was 0.761 and for UD was 0.734.

Hotelling's *T*-Squared test value was highly significant ($HT^2 = 89.496$; $F = 8.545$; $p = 0.001$). The values of the CI-TC coefficient for the MRS in Serbian population were adequate for 10 items. The CI-TC values were the lowest for items #11 (Joint and muscular discomfort: 0.396) and #2 (Heart discomfort: 0.417). Cronbach's alpha coefficient if item deleted was above 0.800 for all items. It was the highest if items #11 and #2 were deleted (0.887 and 0.884, respectively) and the lowest if items #6 (Anxiety) and #7 (Physical and mental exhaustion) were deleted: 0.864.

On factor analysis of the Serbian MRS, we obtained the same 3 factors as in the original scale. These factors explained 73.1 % of variance (Table 2). Communalities of all items were appropriate (>0.4). We did not have CMB, as our single factor accounted for only 37.30 % variance. So, it could be said that good discriminant validity was obtained.

There were no significant differences in neither of the MRS scores between our two investigators (PD: $\chi^2 = 2.480$, $p = 0.115$; SVD: $\chi^2 = 1.934$, $p = 0.164$; UD: $\chi^2 = 2.471$, $p = 0.116$; MRS total: $\chi^2 = 2.169$,

Table 1 Average scores of the Menopause Rating Scale in Serbian language according to items and domains

Items	Min	Max	Mean	SD	Skew	Kurt
#1 Hot flushes, sweating (episodes of sweating)	0.00	4.00	1.20	1.03	0.43	-0.51
#2 Heart discomfort (unusual awareness of heart beat, heart skipping, heart racing, tightness)	0.00	4.00	1.15	0.94	0.42	-0.26
#3 Sleep problems (difficulty in falling asleep, difficulty in sleeping through, waking up early)	0.00	4.00	1.25	1.15	0.56	-0.54
#4 Depressive mood (feeling down, sad, on the verge of tears, lack of drive, mood swings)	0.00	4.00	1.22	1.06	0.61	-0.13
#5 Irritability (feeling nervous, inner tension, feeling aggressive)	0.00	5.00	1.19	1.13	0.78	-0.01
#6 Anxiety (inner restlessness, feeling panicky)	0.00	4.00	1.14	1.14	0.74	-0.38
#7 Physical and mental exhaustion (general decrease in performance, impaired memory, decrease in concentration, forgetfulness)	0.00	4.00	1.17	1.05	0.58	-0.51
#8 Sexual problems (change in sexual desire, in sexual activity and satisfaction)	0.00	4.00	0.98	1.13	0.87	-0.16
#9 Bladder problems (difficulty in urinating, increased need to urinate, bladder incontinence)	0.00	4.00	0.79	1.04	0.44	0.03
#10 Dryness of vagina (sensation of dryness or burning in the vagina, difficulty with sexual intercourse)	0.00	4.00	0.61	0.99	0.69	0.28
#11 Joint and muscular discomfort (pain in the joints, rheumatoid complaints)	0.00	4.00	1.03	1.16	0.83	-0.31
Psychological domain—PD	0.00	16.00	4.72	3.85	0.73	-0.10
Somato-vegetative domain—SVD	0.00	15.00	4.62	3.02	0.78	0.61
Urogenital domain—UD	0.00	12.00	2.37	2.56	0.62	0.17
MRS total score	0.00	41.00	11.70	8.05	0.99	0.31

Min minimum (1—not true of me), *max* maximum (5—very true of me), *SD* standard deviation, *skew* skewness, *kurt* kurtosis

$p = 0.141$). The fact that two raters found similar results implies on adequate translation and reliability of MRS.

The majority of women were not depressed as measured by the BDI (mean \pm SD 7.35 ± 8.61). Total quality of life based on SF-36 questionnaire findings ranged from 16.6 to 95.0 (mean \pm SD = 65.5 ± 17.3). Correlation coefficients between domains of MRS and SF-36 as well as BDI are presented in Table 3. All correlations were highly statistically significant ($p = 0.001$), except for the SF-36 domain of General Health (PD $p = 0.076$; SVD $p = 0.552$; UD $p = 0.444$; MRS $p = 0.141$).

Table 2 Correlation coefficients of the items in Serbian Menopause Rating Scale according to extracted factors after varimax rotation

Scale item	Factorial loading			Communality index
	PD	SVD	UD	
#1	0.320	0.636	0.218	0.555
#2	0.107	0.854	0.107	0.752
#3	0.263	0.529	0.461	0.562
#4	0.823	0.181	0.257	0.776
#5	0.890	0.076	0.129	0.815
#6	0.886	0.204	0.143	0.847
#7	0.631	0.427	0.307	0.675
#8	0.476	0.009	0.627	0.620
#9	0.256	0.297	0.628	0.548
#10	0.251	0.031	0.795	0.696
#11	-0.063	0.749	0.268	0.637

Bold shows the highest value of factorial loading i.e., affiliation of item to the factor

PD psychological domain, SVD somato-vegetative domain, UD urogenital domain

Using multiple linear regression analysis, a statistically significant equation of relationship between total MRS and SF-36 scores and BDI together was obtained ($R = 0.667$; adj $R^2 = 0.418$; $F = 16.884$; $p = 0.001$). This model verified the validity of MRS. We found that the strongest predictors of higher MRS score were lower values of the SF-36 domains of Social Functioning (SF) and Mental Health (MH). Additionally, level of depression as measured by the BDI was significantly positively associated with higher MRS score.

$$\text{MRS} = 21.557 - 0.073 \times \text{SF} - 0.129 \times \text{MH} + 0.397 \times \text{BDI}$$

Results of ROC analysis are presented in Table 4. Sensitivity was better than specificity for all three domains. All MRS domains (particularly SVD) as well as the total MRS score were more reliable and more consistent among postmenopausal women.

Discussion

Our analysis showed that the Serbian version of the MRS had remarkable psychometric properties. It is also important to highlight that this scale was acceptable for our menopausal women, as they did not find any question daunting or inconvenient. In terms of scale properties, values of the CI-TC coefficient for majority of scale items confirmed that they are appropriate parts of this scale. Based on the ROC analysis, Serbian MRS can be used in peri- and postmenopausal women, although fairly better

Table 3 Spearman correlation coefficients for association between Serbian Menopause Rating Scale scores, depression and generic SF-36 scores

Scales	Psychological domain	Somato-vegetative domain	Urogenital domain	MRS total score
Domains and scores of the SF-36 questionnaire				
Physical functioning	-0.297	-0.312	-0.276	-0.360
Role physical	-0.248	-0.281	-0.271	-0.313
Bodily pain	-0.183	-0.320	-0.265	-0.290
General health	-0.126*	-0.042*	-0.054*	-0.105*
Vitality	-0.392	-0.338	-0.366	-0.445
Role emotional	-0.266	-0.285	-0.219	-0.307
Social functioning	-0.369	-0.354	-0.386	-0.440
Emotional wellbeing	-0.426	-0.301	-0.409	-0.469
Physical Composite Score	-0.308	-0.360	-0.342	-0.397
Mental Composite Score	-0.439	-0.396	-0.419	-0.509
Total score	-0.406	-0.410	-0.418	-0.495
Beck Depression Score (BDI)	0.382	0.372	0.352	0.451

MRS Menopause Rating Scale, HRQoL health-related quality of life

* Not significant

Table 4 ROC analysis of the Serbian Menopause Rating Scale according to menopausal status: coordinates and area under the curve

MRS domains	Explained cases (%)		Cut-off MRS value	Sensitivity (%)	Specificity (%)
	PeriM	PostM			
Psychological domain—PD	46.2	53.8	3.5	60	40
Somato-vegetative domain—SVD	34.8	65.2	3.5	71.8	45.6
Urogenital domain—UD	40.9	59.1	1.5	59.1	55.6
MRS total score	39.3	60.7	7.5	70.9	45.6

MRS Menopause Rating Scale, *PeriM* perimenopausal, *PostM* postmenopausal

sensitivity was achieved for symptoms among postmenopausal women.

After initial validation, the authors of the MRS questionnaire specified that acceptable Cronbach's alpha values for different MRS language versions should be between 0.6 and 0.9 [1, 2]. Cronbach's alpha coefficient for the whole scale of 0.884 demonstrated excellent internal consistency of the MRS in Serbian population. Comparable coefficients were obtained in other cultural settings. For instance, Cronbach's alpha value for Turkish MRS was 0.81, Chinese 0.93, while it was 0.87 for Czech language [22–24]. Moreover, all MRS domains also had Cronbach's alpha coefficient above the standard cut-off level of 0.7. The highest coefficient was obtained for PD domain. Similarly, in the validation of Chinese MRS, Cronbach's alpha coefficients for the PD and SVD were above 0.85, while for UD it was somewhat lower [24, 25]. In Serbian population, Cronbach's alpha coefficients for the total MRS score (0.88) as well as for PD (0.90) were equal to the ones in North America (USA). Alpha coefficients for SVD and UD domains obtained in our study were higher than the world average (0.66 and 0.65 vs. 0.76 and 0.73, respectively) [3]. These findings suggest that Serbian version of the MRS questionnaire has remarkably good internal consistency.

When CI-TC values of the MRS were compared to other validations, we noted that in Turkish population, CI-TC values were not lower than 0.30 except for exhaustion [23]. Similarly to ours, in Czech version, values for all 11 items of the MRS were appropriate [22]. According to Serbian MRS validation, the only item with improper CI-TC coefficient was #11 (joint and muscular pain). Moreover, based on findings of the Cronbach's alpha coefficient if item deleted, symptoms of joint and muscular pain and heart discomfort were the least important, while anxiety and exhaustion were the most significant for Serbian women.

In the initial MRS validation and standardization, three identified domains on factor analysis explained 59 % of the total variance [1, 4]. In Serbian population, the explained percent of variance was even higher (73.1 %). The recent survey in nine countries in four continents found similar factor loadings for the 11 items in the 3 domains of the

MRS, showing that the structure of complaints/symptoms seems to be similar among regions/cultures [1, 5]. On the other hand, there were populations in which factor analysis yielded different domains. For instance, only two factors were identified in the Czech version of the MRS questionnaire. However, Czech authors maintained the original three-factor model to enable intercultural comparison [22].

In terms of understanding and response to various items in the MRS questionnaire, certain cross-cultural differences were noted between populations [22]. In Latin American countries as well as in Spain, item #3 (sleep disorders) was attributed to both SVD and PD, while in the USA item #11 (muscle and joint pain) had the same loading for SVD and UD [2, 3]. Contrary to these findings, in other countries as well as in Serbian population, item distribution into three domains corresponded with the original MRS. This could be a result of some common characteristics of Serbian and German population, given that they are both from Europe.

Literature data show a remarkably good association between domains of the SF-36 and MRS [26, 27]. Higher scores in the somatic and psychological dimension of the MRS indicated lower quality of life according to both physical and mental health composite domains [10, 26]. Moreover, it was found that MRS correlates best with those dimensions of the SF-36 that are highly relevant for women in the menopausal transition [27]. Lower correlations of the SF-36 were obtained only with UD, due to specific characteristics of these items [14]. Additionally, the HRQoL assessment according to Chinese version of MRS was similar to findings of other menopause-specific questionnaires (abbreviated version of World Health Organization Quality of Life Questionnaire—WHOQOL-BREF and Menopause-specific quality of life questionnaire—MENQOL) [24]. Therefore, it was deemed that the MRS represents an adequate instrument for assessment of menopausal HRQoL [1–4, 26]. We also confirmed numerous inverse correlations of MRS domains and domains of the generic SF-36 questionnaire. This means that women with less menopausal symptoms had better quality of life. Additionally, we obtained significant positive correlation of the MRS and Becks Depression Inventory scores, indicating that having more menopausal symptoms can

increase feelings of depression. Based on obtained regression model, it could be presumed that Serbian menopausal women in climacteric transition have difficulties with psychological burden in particular.

Our analysis has certain limitations. This survey included only women from metropolitan area of the capital city, while women from rural areas were omitted, which may limit representativeness of our study sample. Moreover, the applied sampling procedure based on convenience and somewhat low response rate can give rise to sampling bias, while small sample size can increase the likelihood of commitment a type error II. Nevertheless, our sample was drawn from Community Health Centers, which are referral primary health care centers for the surrounding municipality, including women from various socioeconomic backgrounds in the largest Serbian city. Because women in our sample came from suburban and central city districts, our results may be applicable to postmenopausal women living in other urban areas in the country. Another methodological limitation is the fact that test–retest analysis was not performed. Finally, results of the regression analysis should be interpreted carefully given that our study was cross-sectional, which is a design that precludes causal inference.

Conclusions

To conclude, translated Serbian version of the MRS for testing HRQoL of menopausal women showed excellent validity. The MRS in Serbian language could be equally used among perimenopausal and postmenopausal women, for estimating the level of bothersome climacteric symptoms. However, we consider that this scale reflects symptoms and perceptions of postmenopausal women in a somewhat better manner. Because Serbian version of the MRS has adequate psychometric characteristics, this scale could be used in daily clinical work with menopausal women in Serbian language.

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Conflict of interest Authors declare no conflict of interest.

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