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Development and psychometric properties of the Respectful Maternity Care Scale (RMCS)

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ABSTRACT

Aims/Background: The Respectful Maternity Care Scale (RMCS) was developed specifically to assess the health care that women receive during pregnancy, labour and the postnatal period. The aim of this study was to investigate the validity and reliability of the RMCS.

Design/Methods: This study used a methodological design. The RMCS, a self-report instrument, was developed in consultation with professionals and women who had given birth, based on the literature. It was tested for content and construct validity. Reliability was assessed using Cronbach's alpha, test-retest method, and adjusted item-total correlation. The study sample consisted of 405 women between 6 weeks and 12 months postpartum who were admitted to a family health centre in Istanbul between April and June 2023.

Results: The scale's content validity index is 0.92. The scale consists of 29 items and 3 sub-dimensions, which explain 61% of the total variance. χ^2/df was less than 5 and RMSEA was less than 0.08, which confirms the validity of this model. The corrected item-total correlations were acceptable, and the Cronbach's alpha coefficient was 0.96.

Conclusion: The RMCS has been shown to be valid and reliable and can be used to assess respectful maternity care among Turkish women.

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KEYWORDS
Respectful maternity care; Turkish women; Reliability; C).ontent validity index; Psychometrics

Introduction

The World Health Organization (WHO) defines respectful maternity care as care that protects the dignity, privacy, and confidentiality of all women; respects women's right to choose; and provides continuous support during childbirth (World Health Organization, 2014).

Respectful maternity care is an approach centred on an individual, based on principles of ethics and respect for human rights. It refers to respecting women's rights and choices during pregnancy, childbirth and postpartum through communication, actions and attitudes that promote humane and dignified treatment in healthcare facilities (World Health

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Organization, 2014). On the other hand, it is stated that the concept of respectful maternity care is broader than the reduction of disrespectful care or mistreatment towards women during childbirth and includes many different domains. Some of these domains are obtaining informed consent in obstetric practices, providing continuous access to family and community support, improving the quality of the physical environment and resources, availability of competent and motivated human resources, providing effective, efficient, and continuous care (Shakibazadeh et al., 2018).

Respectful maternity care is recognised as a universal human right that every woman who gives birth to a child in every health system has. Not providing respectful maternity care to women during pregnancy, childbirth and postpartum period is associated with less use of maternal health services, care dissatisfaction, physical and psychological traumas, and increased mortality and morbidity rates (Jolivet et al., 2021; Niles et al., 2021).

Despite this, many women still experience non-respectful treatment by health professionals during pregnancy, labour, and the postnatal period (Bohren et al., 2015). There is an increasing focus on developing strategies to ensure that respectful maternity care services are available for all women. These strategies include training health professionals in respectful maternity care, raising awareness of the importance of respectful maternity care among women and their families, and creating supportive environments for women to give birth. In this context, it is thought that there is a need for standardised measurement tools that can evaluate the current situation. WHO has also recommended to address the lack of evidence on the incidence, extent, and effects of disrespectful care and to develop quantitative tools to assess the effects of abuse of human rights in labour on quality and safety (World Health Organization, 2018). Despite the growing worldwide visibility of neglect, abuse, and disrespectful maternity care during pregnancy, childbirth, and the postnatal period in health institutions, there is still no consensus on what behaviours respectful maternity care entails or how to measure it. Bowser and Hill (2010) made a classification to distinguish disrespectful/abusive behaviours towards women, dividing it into seven main categories: physical abuse, unapproved care, violation of privacy, degrading care, discriminatory attitudes, neglect of care, and hostage/detention in a health institution (Bowser & Hill, 2010). Subsequently, Bohren et al. (2015) analysed 65 studies from 34 countries and added 'inadequate relationship between women and health professionals' and 'constraints arising from the health system' to the categories reported by Bowser and Hill (Bowser & Hill, 2010). They also drew attention to the fact that the situations in which these behaviours occur should also be considered within the scope of disrespectful care.

The NorAQ is a quantitative measurement tool used in Norway to measure the lifetime history of abuse. Although it is used especially in obstetrics, the NorAQ scale is insufficient to measure the quality of care provided during pregnancy and labour. The NorAQ scale has been criticised for its lack of specificity in measuring abuse during pregnancy and labour (Swahnberg & Wijma, 2003). Sheferaw et al. (2016) developed a quantitative measurement tool for evaluating respectful maternity care in Ethiopia. The scale consists of 15 items evaluated in four dimensions: nature, quality, timeliness, and non-discriminatory care. The scale was developed by conducting in-depth interviews with eight women, and a pilot study was conducted with 40 women after an expert review. The scale was then used to assess postpartum women within seven days of postnatal discharge, and reliability and validity studies were conducted. However, the scale has been

criticised for not covering all elements of respectful care and for not considering the different needs of women with different socioeconomic statuses (Sheferaw et al., 2016).

The sample of the 27-item Person-Centered Care Scale developed by Afulani et al. (2017) consists of women in the first 48 hours postpartum. The authors reported social desirability as a limitation of the study (Afulani et al., 2017). In another scale developed by the same authors using samples from Kenya, India and Ghana, selection bias in the sample was reported as a limitation (Afulani et al., 2019). In both scales, women within the first 48 hours-9 weeks postpartum were included in the sample (Afulani et al., 2017, 2019).

Recently, scales have been developed to measure the key aspects of respectful maternity care in well-resourced healthcare settings. The Mothers on Respect Index (MORi) measures women's experiences of respect and self-determination in maternity care (Vedam et al., 2017b). Initially developed and validated in Canadian contexts, this scale has since been translated and validated in some European settings (Baji et al., 2017; Feijen de Jong et al., 2020). However, this scale is insufficient for measuring the types of humiliating behaviours that can occur during pregnancy, childbirth, and the postnatal period, such as shouting or scolding (Taavoni et al., 2018).

There is currently no global consensus on the assessment of respectful maternity care in the literature, primarily because of the significant influence of cultural structures on the provision of care. Although scales have been developed to measure respectful maternity care, the understanding and implementation of respectful care can vary across different cultural contexts (Savage & Castro, 2017; Vedam et al., 2017b). This study addressed the urgent need for standardised assessment tools to evaluate respectful care during pregnancy, labour, and postnatal period in Türkiye. Such a tool could help health professionals, policymakers, and researchers assess the level of respectful maternity care, identify gaps in respectful maternity care, fill those gaps, and facilitate evidence-based improvements. Türkiye, with its rich cultural heritage and evolving health system, faces unique challenges and opportunities in maternity care. The country has made substantial progress in reducing maternal and neonatal mortality rates and has undertaken a number of initiatives to improve the quality of care provided to women and their newborns (Avsar et al., 2017). However, despite these advances, research has shown that obstetric violence during labour is high and persists (Aşcı & Bal, 2023; Avcı & Kaydırak, 2023). With the scale to be developed, the quality of respectful maternity care will be evaluated not only during the birth process, but also during the antenatal and postnatal periods. Deficiencies in care are also identified. In this context, this study aimed to develop a culture-specific respectful care scale.

Methods

Design

This study used a methodological design. In Türkiye, there is no valid and reliable measurement tool to assess the health care received by women during pregnancy, childbirth and the postpartum period. In this context, the Respectful Maternity Care Scale (RMCS), a self-report instrument, was developed in consultation with professionals and women who had given birth, based on the literature.

Study population and sample

Tavşancil (2002) recommends that the sample size be approximately five to ten times the number of items (Tavşancıl, 2002). Comrey and Lee (1992) defined sample sizes as poor (100 or fewer participants), moderate (200 to 299 participants), good (300 to 499 participants), very good (500 to 999 participants), or excellent (1,000 or more participants) (Comrey & Lee, 1992). Aleamoni (1976) recommended that the sample size in scale development studies should be at least 200 and preferably 400 (Aleamoni, 1976). Nunally (1978) recommended that the sample size in factor analysis should be at least 10 times the number of items, whereas Gorsuch (1983) recommended that it should be at least 15 times the number of items (Gorsuch, 1983; Nunally, 1978).

This study was conducted with randomly selected mothers who visited a family health centre in Istanbul between April and June 2023. The mothers were between the 6th week and 12th month postpartum. The reason for collecting the data in this time period is that respectful maternity care covers the entire pregnancy, birth, and postnatal periods. The first six weeks were excluded due to emotional fluctuations, and from 12th months onwards due to the forgetting factor. The participants were women who voluntarily wanted to participate in the study, gave birth in a public institution, understood, and communicated in Turkish, and were physically and mentally able to participate in the study. In total, 405 mothers were included in this study. Based on the literature, it can be concluded that the sample size of this study was adequate.

Data collection

Data for the study were collected through a personal information form and the RMCS. The scale was administered to mothers between the 6th week and 12th months postpartum who had given birth and who applied to the Family Health Center. Data were collected based on self-reports. The women were taken to a suitable room separated from their babies, where they were given the forms and asked to fill them out.

Personal information form

This form was created by the researchers in line with the literature (DeVellis & Thorpe, 2021; Dzomeku et al., 2020; Savage & Castro, 2017; Vedam et al., 2017a). It consists of 21 questions, including sociodemographic characteristics of the participants (age, education level, employment status, and income status), obstetric characteristics (type of pregnancy and delivery, complication status, etc.), and characteristics related to the newborn.

Respectful Maternity Care Scale (RMCS)

The items of the scale were selected based on a literature review and existing scales. The scale was adapted from other scales and consists of 49 items. Experts in the field examined the scope of the scale, and the scale was reduced to 36. Preliminary pretest related to the scale and comprehensibility of the scale items were conducted at three week intervals in family health centres. Pre-tests were conducted with 24 postpartum mothers who visited the centre for postpartum health check. In line with the feedback received from the mothers, a 36-item five-point Likert-type

questionnaire (Absolutely Disagree, Disagree, Undecided, Agree, Strongly Agree) was prepared. The RMCS was then finalised. In the last stage, some items in the scale were reverse scored (18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29).

Statistical analysis

Statistical analysis of the data was performed using SPSS 21.0 and SPSS Amos 24.0. The reliability analysis of the scale used Pearson's test-retest method to evaluate invariance, and the correlation and item-total coefficients were used to evaluate internal consistency. Pearson product-moment correlation coefficient was used for the correlation coefficient, and the Cronbach's alpha reliability coefficient was calculated for internal consistency. Lawshe technique was used for the evaluation of expert opinions, and exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were applied to assess construct validity. In all analyses, $p < 0.05$ was considered statistically significant.

Ethical considerations

In order to conduct this research, approval was obtained from the Ethics Committee of the Marmara University (30.03.2023/41). The ethical requirements specified in the Declaration of Helsinki were fulfilled. To protect the rights of women, the purpose of the research was explained to the women before collecting the research data. The principle of informed consent was explained, and the information was kept confidential. Those who wished to participate voluntarily were recruited to fulfil the ethical principle of respect for autonomy.

Results

The mean age of the participants was 29.17 ± 4.75 years (min:20, max:43), and the mean duration of education was 12.47 ± 4.21 years (min:4, max:26). More than half of the participants were not working (64.7%), their income was equal to their expenses (64.2%), and the majority had nuclear families (87.4%). The study found that 54.8% of the women received regular antenatal care, and 27.7% had problems in their pregnancies, such as threatened preterm labour, diabetes, hypertension, and gestational cholestasis. The women gave birth at a mean gestational week of 38.39 ± 1.99 (min:25, max:42). All of them (100%) gave birth in state/public hospitals, 75.3% received support during labour, 73.1% were accompanied by a midwife, and more than half (56%) had vaginal deliveries. The study also found that 11.6% of women experienced postnatal problems such as bleeding, infection, and pain. Additionally, 18.5% of women encountered problems with their newborns, such as respiratory distress, jaundice, and prematurity. The number of living children of the participants was 1.77 ± 0.95 (min:1, max:9), and the youngest living baby was 6.41 ± 3.32 months old.

The researchers developed a 49-item draft version of the RMCS based on previous research and the existing literature on respectful maternity care during pregnancy, labour, and the postnatal period. In this context, they identified propositions on how mothers express respectful maternity care, what it includes in the ethical framework, and how it is received (Bohren et al., 2015; DeVellis & Thorpe, 2021; Dzomeku et al., 2020; Savage &

Castro, 2017; Sheferaw et al., 2016; Swahnberg & Wijma, 2003; Vedam et al., 2017a, 2017b). In addition to examining the scale items in the aforementioned studies, the researchers sought the opinion of a measurement and evaluation expert. The researchers then analysed the written items in detail and removed 13 items with the same meaning from the draft scale.

Content and content validity analysis

After the draft scale was created, the Turkish form of the scale was given to 12 academic staff with a doctoral degree in the field of midwifery, obstetrics, and women's health to determine content validity. The experts were asked to score each item on a scale of 1 to 4, with 1 indicating 'not appropriate' and 4 indicating 'very appropriate'. The results of the evaluation showed that 94% of the items scored three or four. The differences in opinions between the experts were analysed using the Lawshe technique, and the data obtained from the experts were evaluated using the Content Validity Index (CVI). The CVI for each item is 92%. The scale on which consensus was reached was then evaluated through a pilot application with 20 people who were not included in the research sample. Each participant completed the draft forms individually within 15 minutes. The participants found the draft scales to be clear, informative, and easy to use and made a few suggestions for improvement. At this stage, no items were deleted from the scale, but the participants' feedback was considered. Following Seçer's (2018) recommendation, the opinions of three midwifery experts and one linguist were sought (Seçer, 2018). The scales were finalised for use in the sample group.

Test-retest

To test the time invariance of the RMCS, the scale was administered a second time to 24 postpartum women at least three weeks after the first assessment. Test-retest measures were evaluated using Pearson product-moment correlation and t-test. Pearson correlation analysis showed a positive, strong, and statistically significant relationship between the two measurement scores, with a reliability coefficient of $r = 0.96$ ($p < 0.05$, Table 1). The t-test for dependent groups showed that there was no statistically significant difference between the mean scores of the participants on the test and retest ($p > 0.05$, Table 1).

Item analysis

The item-total score correlations of the 36 items in the SABS were analysed to assess the reliability of the scale. The results showed that the reliability coefficient ranged from $r = 0.17$ to 0.83, and the relationship between item scores and total scale scores was positive and statistically significant ($p < 0.001$). However, items with an item-total

Table 1. Respectful maternity care scale internal consistency.

Scale	First Evaluation Mean±SD ($n = 24$)	Second Evaluation Mean±SD ($n = 24$)	t	p	r	p
Respectful Maternity Care Scale ***(Total)***	157.20 ± 21.71	156.50 ± 17.53	.501	.621	.960	p<.001

t: Paired samples *t*- test, r: Pearson correlation test, SD: Standard deviation.

score correlation value below 0.30 were considered insufficient to measure the desired situation. Therefore, the items 'My cultural and religious practices were respected' (item 30), 'I felt that the control was not with me but with the healthcare professionals' (item 31), and 'Bribes/gifts were expected from me and my relatives' (item 32) were removed from the scale. In the second reliability study, the item-total score correlations of the 33 remaining items were examined. The results showed that the reliability coefficient ranged from $r = 0.39$ to 0.83, and the relationship between item scores and total scale scores was positive and statistically significant ($p < 0.001$). In the EFA, it was found that four items of the scale overlapped: item 33 ('I was subjected to a treatment that made me feel humiliated and worthless'), item 34 ('I was forced to stay in an uncomfortable or painful position'), item 35 ('I felt neglected'), and item 36 ('The physical conditions of the health institutions where I received service (broken equipment, crowded environment, etc.) were inadequate'). The reliability coefficient of the scale was calculated without these four items.

Internal consistency reliability coefficient

The reliability of the RMCS was assessed using Cronbach's alpha coefficient. The alpha coefficient for the 33-item scale is 0.96. After removing four items from the scale through EFA, the alpha coefficient for the 29-item scale was still 0.96 (Table 2).

Construct validity

EFA was performed to determine the construct validity of the RMCS, and CFA analysis was performed. The factor analysis used principal components and varimax rotation techniques. Since the construct validity of the 33-item RMCS was tested, factor analysis was conducted with a sample size of 405, which is at least 10 times the number of items. The Kaiser-Meyer-Olkin (KMO) test was used to determine the suitability of the data for factor analysis, and the Bartlett test was used to determine whether the relationships between the variables were significant. The KMO coefficient was 0.96, and the chi-square value of Bartlett's test was 9089.426, with df = 528 and $p < 0.001$. These results indicate that the data were suitable and sufficient for factor analysis (Table 3).

The 33-item RMCS was found to have four factors with eigenvalues above 1.00, explaining 63% of the total variance. The eigenvalues of these factors were 13.929, 2.607, 1.311, and 1.006, and their contributions to the total explained variance were 46.431%, 8.691%, 4.370%, and 3.492%, respectively. In the factor analysis, items with high factor loading values in many factors and overlapping items 33, 34, 35, and 36 were removed from the scale if the difference between the two high loading values was not greater than 0.10. Factor analysis was conducted again on the remaining 29 items. The KMO coefficient was 0.95, and the chi-square value of Bartlett's test ($\chi^2 = 8175.832$; df = 406; $p = 0.000$) was found to be highly significant ($p < 0.001$). In the EFA of the 29-item RMCS scale, it was determined that the eigenvalues of the items gathered under the three dimensions varied between 13.501 and 1.208, and the variances they explained were between 46.556% and 4.150%. Based on these findings, it was determined that the three factors that emerged as a result of the analysis together explained approximately 61% of the total variance in the main structure (Table 4, Figure 1).

Table 2. Respectful maternity care scale item-total score correlations ($n = 405$).

	Initial Item-Total Score Correlation Coefficients		Cronbach Alfa	Final Item-Total Score Correlation Coefficients		Cronbach Alfa
Items	r	p	∝	r	p	∝
Consensual Dignified Care						
Item 1 (RMCS1)	.78	p<.001		.78	p<.001	
Item 2 (RMCS2)	.83	p<.001		.83	p<.001	
Item 3 (RMCS3)	.80	p<.001		.81	p<.001	
Item 4 (RMCS4)	.75	p<.001		.74	p<.001	
Item 5 (RMCS5)	.73	p<.001		.75	p<.001	
Item 6 (RMCS6)	.77	p<.001		.76	p<.001	
Item 7 (RMCS7)	.73	p<.001		.73	p<.001	
Item 8 (RMCS8)	.77	p<.001		.76	p<.001	
Item 9 (RMCS9)	.71	p<.001	.96	.70	p<.001	.96
Item 10 (RMCS10)	.68	p<.001		.69	p<.001	
Item 11 (RMCS11)	.75	p<.001		.77	p<.001	
Item 12 (RMCS12)	.71	p<.001		.71	p<.001	
Item 13 (RMCS13)	.75	p<.001		.76	p<.001	
Item 14 (RMCS14)	.72	p<.001		.72	p<.001	
Item 15 (RMCS15)	.69	p<.001		.68	p<.001	
Item 16 (RMCS16)	.68	p<.001		.69	p<.001	
Item 17 (RMCS17)	.44	p<.001		.47	p<.001	
Psychological Abuse and Neglected Care						
Item 18 (RMCS18)	.68	p<.001		.68	p<.001	
Item 19 (RMCS19)	.61	p<.001		.61	p<.001	
Item 20 (RMCS20)	.67	p<.001		.67	p<.001	
Item 21 (RMCS21)	.67	p<.001	.86	.63	p<.001	.86
Item 22 (RMCS22)	.59	p<.001		.56	p<.001	
Item 23 (RMCS23)	.43	p<.001		.42	p<.001	
Item 24 (RMCS24)	.50	p<.001		.51	p<.001	
Physical Abuse, Non-Confidential and Discrimination						
Item 25 (RMCS25)	.46	p<.001		.42	p<.001	
Item 26 (RMCS26)	.51	p<.001		.48	p<.001	
Item 27 (RMCS27)	.42	p<.001	.80	.40	p<.001	.80
Item 28 (RMCS28)	.48	p<.001		.46	p<.001	
Item 29 (RMCS29)	.54	p<.001		.54	p<.001	
Items deleted for cross-loading and correlation below				Reason for deletion		
Item 30 (RMCS30)*	.27	p<.001		Correlation below .30		
Item 31 (RMCS31)*	.17	p<.001		Correlation below .30		
Item 32 (RMCS32)*	.22	p<.001		Correlation below .30		
Item 33 (RMCS33)**	.67	p<.001		Cross loaded on two factors		
Item 34 (RMCS34)**	.54	p<.001		Cross loaded on two factors		
Item 35 (RMCS35)**	.43	p<.001		Cross loaded on two factors		
Item 36 (RMCS36)**	.50	p<.001		Cross loaded on two factors		
Total Cronbach Alfa			.96			.96

The reliability analysis of the 29-item version demonstrated significant positive correlations between item scores and total scale scores. ∝: Cronbach alfa.
*Items with item total score correlation values below 0.30 were removed.
**Items with overlapping factor loadings during exploratory factor analysis were removed.

In the last stage of the scale development study, the CFA measurement results of the RMCS are shown in Figure 2. As a result of three-factors CFA, fit indices were determined as follows: chi-square (χ^2) = 1326.441 ($p < 0.001$), degrees of freedom (df) = 374 (χ^2/df = 3.54), root mean square error of approximation (RMSEA) = 0.069 ($p < 0.05$), standardised root-mean-square residual (SRMR) = 0.054, comparative fit

Table 3. Summary statistics on sampling adequacy and the number of extracted factors.

	Initial	Final
Items In The Scale	36	29
Item Deleted	0	7
Factor Exctracted	4	3
Sample Size	405	405
Total Variance Explanied	62.84%	60.60%
KMO	96%	95%
Barlett's Test of Sphericity	$\chi 2 = 9089.426$*	$\chi 2 = 8175.832$*
Degree of Freedom	528	406

*$p < 0.001$.
In order to verify the fit of the factors for construct validity, unidimensional confirmatory factor analysis.
(CFA) was performed first, as in the exploratory factor analysis.

index (CFI) = 0.96, non-normed fit index (NNFI) = 0.92, goodness of fit index (GFI) = 0.90, and adjusted goodness of fit index (AGFI) = 0.92. The 29-item and three-factor RMCS scale showed that the goodness-of-fit indices obtained in the CFA analysis conducted during the development of the scale had appropriate values within the 95% confidence interval.

Discussion

Assessment of respectful maternity care during pregnancy, birth, and the postnatal period is important in terms of identifying inadequacies in respectful maternity care, achieving sustainable development goal 3, and raising awareness (World Health Organization, 2014). However, the scales for respectful maternity care are limited in number and have some deficiencies. The results of the present study showed that the psychometric properties of the RMCS were satisfactory and supported its use. Therefore, the RMCS has the potential to fill the existing gap in the literature.

The most critical stage in scale development is the creation of an item pool and the verification of its content validity (DeVellis, 2017). The initial RMCS item pool was developed through a rigorous process that involved a literature review, review of similar scales, expert input, and feedback from postpartum women. The item pool was refined by a linguist to ensure cultural sensitivity and clarity (DeVellis, 2017; Seçer, 2018). The content validity of the scale was evaluated by twelve experts. The experts were asked to rate each item on a scale from 1 to 4, with 1 being 'not at all relevant' and 4 being 'very relevant'. The overall CVI value of the scale was 92%, which is above the acceptable level of 0.8 (Gürbüz & Şahin, 2018). The content validity index (CVI) values of the scales on respectful maternity care were 0.89 in Sheferaw et al.'s scale, 0.91 in Swahnberg et al.'s scale, and 0.93 in Vedam et al.'s scale (Sheferaw et al., 2016; Swahnberg & Wijma, 2003; Vedam et al., 2017b). These values are all above the commonly accepted threshold of 0.80, indicating that the RMCS adequately measures the targeted concepts of respectful maternity care, and is compatible with the literature.

The test-retest reliability of respectful maternity care scales is a critical measure of their accuracy. High test-retest reliability indicates that the scale is consistent over

Table 4. Exploratory factor analysis: factor loadings ($n = 405$).

Item no	Item	RMCS Factor I	RMCS Factor II	RMCS Factor III
1.	I was effectively involved in decisions concerning me. (RMCS1)	.820		
2.	A respectful line of communication has been established with me. (RMCS2)	.794		
3.	Healthcare professional(s) have been kind to me. (RMCS3)	.793		
4.	I felt that I was receiving personalised care. (RMCS4)	.788		
5.	I felt comfortable asking questions of health professionals. (RMCS5)	.753		
6.	My choices were respected. (RMCS6)	.749		
7.	Consent was obtained before all procedures/interventions. (RMCS7)	.741		
8.	My right to choice/preference is protected in all interventions. (RMCS8)	.738		
9.	My concerns have been addressed. (RMCS9)	.726		
10.	My physical privacy was respected. (RMCS10)	.726		
11.	I was provided with clear and sufficient information in a way that I could understand. (RMCS11)	.725		
12.	I felt that I was receiving ongoing care. (RMCS12)	.725		
13.	I felt that I received an appropriate level of health care. (RMCS13)	.695		
14.	I was informed before all procedures/interventions. (RMCS14)	.693		
15.	I was supported in coping with pain. (RMCS15)	.689		
16.	My requests regarding my companion (spouse, friend, relative) have been respected. (RMCS16)	.686		
17.	The healthcare professional/professionals addressed me by my name. (RMCS17)	.522		
18.	I was treated badly. (RMCS18)		.726	
19.	I felt judged or accused. (RMCS19)		.720	
20.	I thought that the procedures concerning me were being carried out carelessly. (RMCS20)		.716	
21.	I have been spoken to in a disturbing way (insults, ridicule, belittling, rude language, etc.). (RMCS21)		.592	
22.	I felt pressured to accept the recommendations I was given. (RMCS22)		.575	
23.	I had to wait a long time before I got the service. (RMCS23)		.565	
24.	I was threatened with serious harm to myself or my baby. (RMCS24)		.530	
25.	I have been subjected to physical violence (pushing, shoving, pinching, slapping, etc.). (RMCS25)			.698
26.	I felt my body (genitals, breasts, groin, etc.) was touched inappropriately. (RMCS26)			.682
27.	My personal/confidential information has been disclosed without my consent. (RMCS27)			.671
28.	I have felt discriminated against for reasons such as age, marital status, language, ethnic origin, etc. (RMCS28)			.671
29.	I have been threatened with the withdrawal of my health services. (RMCS29)			.592

Percentage of Variance Explained by the Factors		Eigenvalue
RMCS Factor I	46.556%	13.501
RMCS Factor II	9.900%	2.581
RMCS Factor III	4.150%	1.203
Total variance explained	60.606%	

Exploratory Factor Analysis (EFA) of the 29-item Turkish RMCS revealed 3 factor structure with an eigenvalue of 17.294, explaining 61% of the total variance. RMCS Factor I: Consensual Dignified Care, RMCS Factor II: Psychological Abuse and Neglected Care, RMCS Factor III: Physical Abuse, Non-Confidential and Discrimination.

time, meaning that the results of the scale are likely to be accurate. In general, respectful maternity care scales have been found to have good to excellent test-retest reliability (Sheferaw et al., 2016; Swahnberg & Wijma, 2003; Vedam et al., 2017b). In our study, the test-retest value was quite good ($r = 0.96$), which indicated

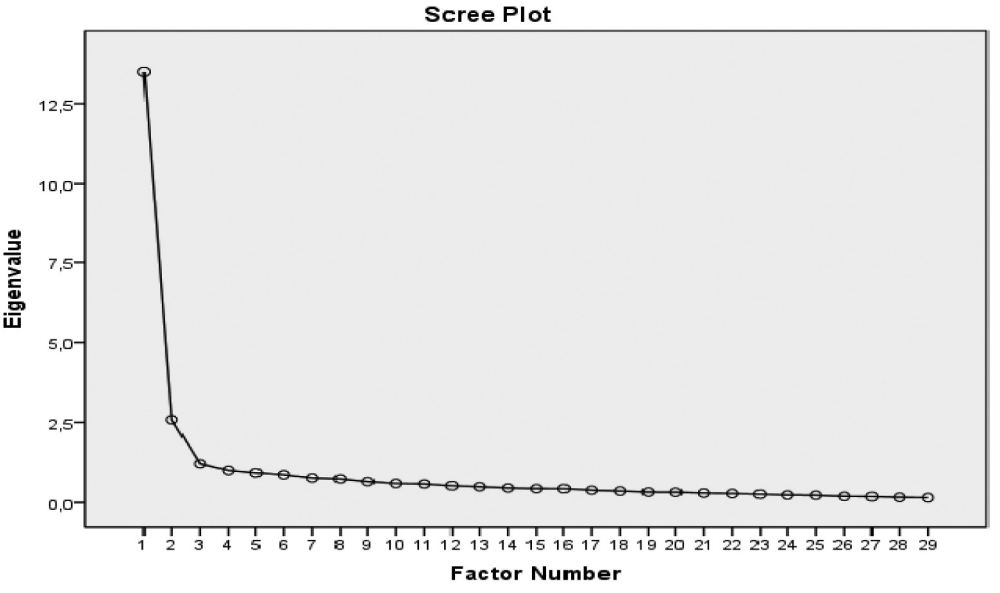

Figure 1. Scree plot (exploratory factor analysis for three factors of the questionnaire).

that there was a strong correlation between the scores obtained from the RMCS at two different time points. This finding suggests that RMCS is a reliable measure of respectful maternity care.

The most common approach for assessing the construct validity of scales is to conduct factor analyses. These analyses require that the data be suitable for factor analysis and that the sample size be sufficiently large. The Kaiser-Meyer-Olkin (KMO) coefficient is an important indicator of sampling adequacy, and values of 0.90 or higher are considered to be excellent (Field, 2018; Seçer, 2018). The KMO coefficient for RMCS was 0.95, indicating that the sample size was very good (Field, 2018). The Kaiser-Meyer-Olkin (KMO) values of 0.87, 0.92, and 0.90 found in our study and similar studies, respectively, are compatible with the literature (Sheferaw et al., 2016; Swahnberg & Wijma, 2003; Vedam et al., 2017b).

EFA and CFA of the same sample are controversial topics. However, some researchers suggest that if the sample size is large enough (>300), both EFA and CFA can be performed on the same population. We followed the recommendations of the literature and performed both EFA and CFA on the same sample (Ullman & Bentler, 2013). In this study, the construct validity of the scale was evaluated using EFA. Consistent with the recommendations of Carpenter (2018), a minimum factor loading of 0.30 was used. The NorAQ scale, developed in Norway, is a 20-item scale that measures four dimensions of abuse during childbirth: emotional abuse, physical abuse, sexual abuse, and abuse in the healthcare system (Carpenter, 2018; Sheferaw et al., 2016; Swahnberg & Wijma, 2003; Vedam et al., 2017b). The scale developed in Ethiopia is a 15-item scale that measures four factors of respectful maternity care: friendly, abuse-free, timely, and discrimination-free care (Sheferaw et al., 2016). The two versions of the scale developed by Vedam et al. for Canadian and US cultures have 25 items and six dimensions, which are privacy and confidentiality, informed choice, freedom from harm, non-discrimination, continuity of care and respectful language (Vedam et al., 2017a; Vedam et al., 2017b). In the CFA

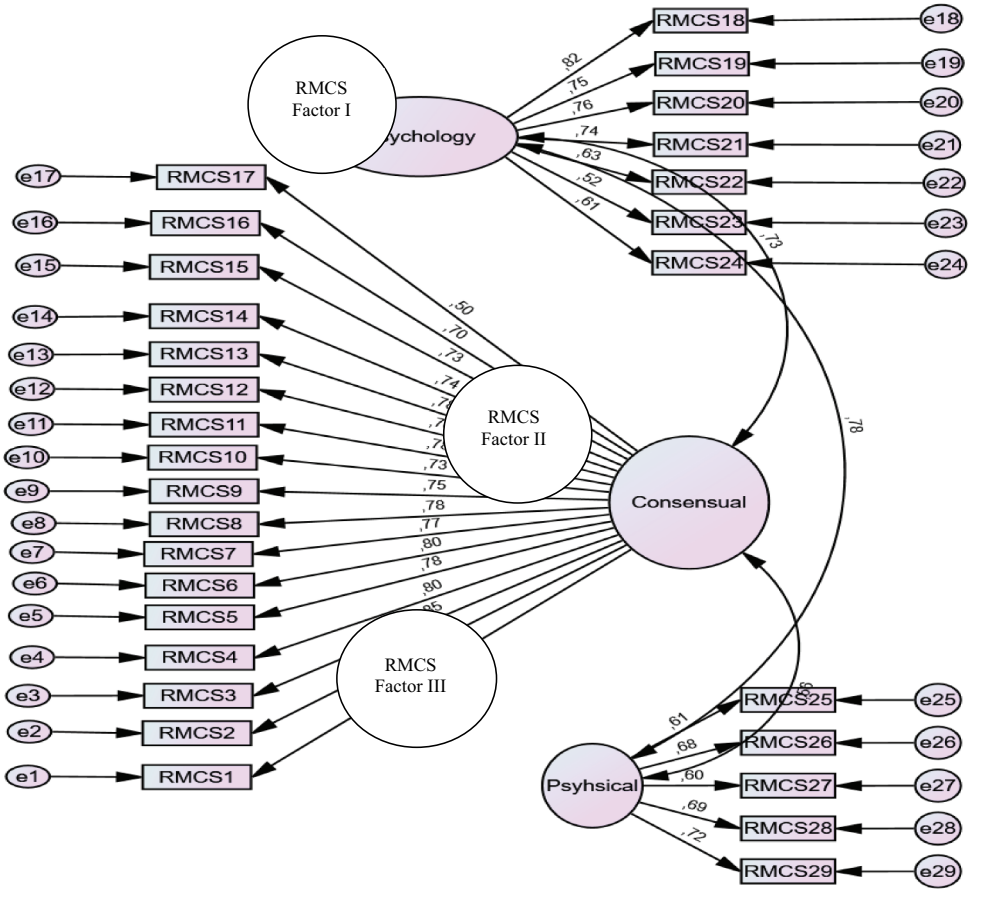

Figure 2. Model of CFA analysis for RMCS. RMCS Factor I: Consensual Dignified Care, RMCS Factor II: Psychological Abuse and Neglected Care, RMCS Factor III: Physical Abuse, Non-Confidential and Discrimination

analysis in this study, $\chi^2/df < 5$, RMSEA = 0.08 and SRMR < 0.1 confirm the validity of this model. Moreover, fit indices such as GFI and AGFI are > 0.08 and NNFI and CFI are > 0.90. This model has a positive fit and thus the factor structure can be confirmed. Given that the confirmatory factor model has a good relative fit and the results show that there is a significant relationship between the items of the instrument, the results of the exploratory factor model were supported by the confirmatory models, similar to the result of the study conducted by Hajizadeh et al. (2020) and Taavoni et al. (2018), thus confirming the construct validity of the instrument (Hajizadeh et al., 2020; Taavoni et al., 2018). The scale, developed specifically for Turkish culture, consists of 29 items and three dimensions. The sub-scale names were 'Consensual Dignified Care', 'Psychological Abuse and Neglected Care', 'Physical Abuse, Non-Confidential and Discrimination'. The subdimensions of the scale were named in accordance with the literature and theoretical background, as the results of this study support the findings of previous studies.

Seven items were removed from the item pool during the item deletion process at different stages. Care was taken to maintain the conceptual adequacy and balance of the scale throughout the process. According to Carpenter (2018), in the EFA stage of scale development, items with factor loadings below 0.30 in the final scale should be deleted, and at least three items should remain in each factor. Three items below 0.30 were deleted in this study. In addition, in line with the recommendation that items with cross-loadings on more than one factor (difference <0.1) and items with CITC values < 0.2 should be removed from the scale, four more items were removed, resulting in a final version of 29 items (Carpenter, 2018). Therefore, all substance elimination procedures were consistent with other recommendations (Çokluk et al., 2018; Streiner et al., 2015). Factor loading values of 0.32 to 0.44 are interpreted as poor, 0.45 to 0.49 as moderate, 0.5 to 0.62 as good, 0.63 to 0.70 as very good, and 0.71 or greater as excellent (Carpenter, 2018; Gürbüz & Şahin, 2018). In this study, the factor loadings of the final 29-item scale ranged from 0.522 to 0.820 in the first dimension, 0.530 to 0.726 in the second dimension, and 0.592 to 0.698 in the last dimension. This scale explains 61% of the total variance, which is consistent with the findings of other studies conducted on similar scales. For example, Sheferaw et al. (2016) found that their scale explained 60.4% of the total variance and Swahnberg and Wijma (2003) found that it explained 81% of the total variance. Vedam et al'. s scale (2017b) explained 69.3% of the total variance (Sheferaw et al., 2016; Swahnberg & Wijma, 2003; Vedam et al., 2017b).

Internal consistency reliability of Likert-type scales is generally assessed using Cronbach's alpha coefficient (Kilic, 2016). Ideally, a value of $\alpha > 0.70$is acceptable. In all sub-dimensions of this scale, this value was above 0.80, and the total Cronbach's alpha value was 0.96. Therefore, this scale can be used to assess care during pregnancy, labour, and the postnatal period owing to its high internal consistency and homogeneity (DeVellis, 2017; Kishore et al., 2021). In parallel with our findings, the Cronbach's alpha value of Sheferaw et al.'s scale was 0.96, Swahnberg et al.'s scale was 0.95, and Vedam's scale was 0.92 (Sheferaw et al., 2016; Swahnberg & Wijma, 2003; Vedam et al., 2017b).

Item analysis is another indicator of internal consistency, reliability, and discrimination of the scale (Büyüköztürk, 2020). The corrected item-total correlation (CITC) shows the correlation between each item and the total score obtained from the scale (Field, 2018). Streiner et al. (2015) reported that CITC values should be between 0.2 and 0.8. In our study, the CITC values of RMCS ranged between 0.39 and 0.83 (Streiner et al., 2015). This indicates that most items in the scale are generally related to the construct of respectful maternity care. However, a few items (e.g. Item 30: 'I felt judged and blamed') had lower CITC values, indicating that they may not be as strongly related to the overall construct.

To the best of our knowledge, this is the first scale developed in our country to assess the status of receiving respectful care based on self-reports of women during pregnancy, labour, and the postpartum period. The scale was administered to volunteer women between 6 weeks-12 months postpartum who could speak and understand Turkish. The analyses showed that the scale is valid and reliable, and it is expected to evaluate respectful care in pregnancy, birth, and the postpartum period, separately. The scale items were developed from the literature, expert opinions, and opinions of non-experts in the pilot evaluation, making it adaptable to different cultures. Improvements can be made by identifying areas where respectful care can be improved using the information obtained using the scale.

Limitations of the study

This study had several limitations. Firstly, it focused on women in the 6 weeks-12 months postpartum period who visited a family health centre. Second, all data collected were based on the personal or subjective statements of the women. It is important to consider these limitations when interpreting the results of the present study.

Conclusions

The Turkish version of the RMCS can be used to assess respectful maternity care during pregnancy, labour, and the postnatal period. Owing to its validity, reliability, and psychometric properties, this tool can be used to identify service gaps in the field. As the score on the scale increases, it can be said that mothers' satisfaction and needs are met, respectful maternal care is provided and disrespectful behaviours towards them decrease.

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No potential conflict of interest was reported by the author(s).

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Ethical statement

Before starting the study, permission was obtained from the Marmara University Faculty of Health Sciences, Non-Invasive Clinical Studies Ethics Committee (30.03.2023/41).

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