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ORIGINAL ARTICLE

The Effects of Complementary Alternative Methods in Labor on Fear of Birth, Birth Satisfaction, and Childbirth Perceptions

Doğumdaki Tamamlayıcı Alternatif Yöntemlerin Doğum Korkusuna, Doğum Memnuniyetine ve Doğum Algısına Etkisi

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ABSTRACT

Aim: This research was conducted to compare the fear of birth, birth satisfaction, and childbirth perceptions of postpartum women using complementary alternative methods (CAMs) in labor.
Methods: This descriptive, cross-sectional study was conducted with 391 volunteer pregnant women at a university hospital in Türkiye. Data were collected in two stages: during pregnancy and at the end of delivery. A personal information form was completed by face-to-face interview at 37-41 weeks of pregnancy. At the end of delivery, the puerperants were contacted by phone for questions about CAMs they used in their deliveries, Traumatic Childbirth Perception Scale (TCPS), Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) Version B and Birth Satisfaction Scale-Short (BSS-S) Form were applied.
Results: 69.8% of women used CAMs during delivery. In the regression model, younger maternal age (OR:0.933), being a high school (OR:2.343) and university graduate (OR:2.165), moderate-income level (OR:7.259), being primiparous (OR:0.489), participation in prenatal education classes (OR:0.320), and receiving 4 or more prenatal care (OR:2.476) were determined to be the predictors of the use of CAMs at birth. It was determined that the mean score of the W-DEQ Version B of those using CAMs was significantly lower than those not using CAMs (p=0.024) and the mean score of the BSS-R was significantly higher (p<0.001).
Conclusion: In the study, it was determined that postpartum women using CAMs experienced less fear of birth and had higher birth satisfaction.

Keywords: Birth satisfaction; complementary alternative methods; fear of birth; postpartum; traumatic childbirth perception

ÖZ

Amaç: Bu araştırma, doğumdaki tamamlayıcı alternatif yöntemlerin kullanım durumuna göre lohusaların doğum korkusu, doğum memnuniyeti ve doğum algılarının karşılaştırılması amacıyla yapılmıştır.
Gereç ve Yöntem: Tanımlayıcı, kesitsel nitelikte tasarlanan bu çalışma, Türkiye'de bir üniversite hastanesinde gönüllü 391 gebe ile yürütülmüştür. Veriler gebelikte ve doğum sonunda olmak üzere iki aşamada toplanmıştır. Verilerin toplanmasında gebeliğin 37-41. haftalarında kişisel bilgi formu yüz yüze görüşme yöntemi ile, doğum sonunda ise telefonla ulaşılan lohusalara, doğumlarında kullandıkları tamamlayıcı alternatif yönteme yönelik sorular, Travmatik Doğum Algısı Ölçeği (TDAÖ), Wijma Doğum Beklentisi/Deneyimi Ölçeği B Versiyonu ve Doğum memnuniyet ölçeği-Kısa formu (DMÖ-K) uygulanmıştır.
Bulgular: Çalışmada lohusaların %69.8'inin doğumda herhangi bir tamamlayıcı alternatif yöntem kullandığı belirlenmiştir. Regresyon modelinde daha genç anne yaşının (OR: 0.933), lise (OR: 2.343) ve üniversite (OR: 2.165) mezunu olmanın, orta düzeyde gelir durumunun (OR: 7.259), primipar olmanın (OR: 0.489), doğum öncesi eğitim sınıflarına katılmanın (OR: 0.320) ve doğum öncesi dönemde 4 ve üzeri bakım almanın (OR: 2.476) doğumda tamamlayıcı alternatif yöntem kullanımının yordayıcıları olduğu belirlenmiştir. Wijma Doğum Beklentisi/Deneyimi Ölçeği B Versiyonu ve DMÖ-K puan ortalamaları karşılaştırıldığında, tamamlayıcı alternatif yöntem kullananların Wijma Doğum Beklentisi/Deneyimi Ölçeği B Versiyonu puan ortalamasının, tamamlayıcı alternatif yöntem kullanmayanlardan anlamlı düzeyde daha düşük olduğu (p=0.024) ve DMÖ-K puan ortalamasının ise anlamlı düzeyde daha yüksek olduğu saptanmıştır (p<0.001).
Sonuç: Çalışmada tamamlayıcı alternatif yöntem kullanan lohusaların daha az doğum korkusu yaşadıkları ve doğum memnuniyetlerinin daha yüksek olduğu belirlenmiştir.

Anahtar Kelimeler: Doğum korkusu; doğum memnuniyeti; lohusa; tamamlayıcı alternatif yöntemler; travmatik doğum algısı

Introduction

Traditional medicine is defined as all knowledge, skills, and practices based on beliefs, theories, and experiences specific to different cultures in the prevention, treatment, diagnosis, health protection, and promotion of physical and mental illnesses (1). Supplements, mindfulness, massage, and essential oils are common examples of complementary medicine. Generally, these treatments do not require a doctor's order or prescription (2). The term alternative medicine refers to a complete system of medical care used in place of traditional medicine. Practices such as homeopathy, naturopathy, acupuncture, and herbalism are common examples of alternative medicine (2, 3). Herbal treatments, vitamins, meditation, massage, and yoga are among the most used complementary alternative methods (CAMs) (4, 5). More than three-quarters of the world's population rely on CAMs for health care services (6).

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Birth, a natural and physiological event, is a turning point in women's lives. The use of CAMs during pregnancy and birth has a widespread distribution between 1% and 87% (6-10). Labor pain is defined as one of the most intense pains a person can feel and leads to negative birth perceptions such as anxiety and fear, which negatively affect women's birth experiences. It is widely accepted that the greater the anxiety, the greater the pain (7, 11, 12). Inadequate management of pain may lead to medical complications and adverse obstetric and neonatal outcomes, as well as prolonged hospital stays (13, 14). Considering that the factors affecting labor pain are not only physiological and are affected by many factors, it is stated that CAMs are effective (15). Methods to be used in labor pain management should reduce pain and increase the woman's satisfaction with birth (16). Breathing techniques, massage, hypnotherapy, reflexology, herbal medicine, homeopathy, hypnosis, music, and acupuncture are some of the non-pharmacological pain management techniques (17). CAMs enable the pregnant woman to participate in the labor process actively, reduce birth interventions, and positively affect birth, maternal, and newborn outcomes. Although midwifery practices, especially during labor, have the most important role in reducing labor pain in pregnant women, the use of these methods also helps the pregnant woman create a positive childbirth perception during labor and increase her level of satisfaction by increasing the quality of midwifery practices and providing women-centered care (18, 19). In the Cochrane Systematic Review of pain management in labor, acupuncture, relaxation, massage, and hypnotherapy were found to assist in the management of labor (20). Based on these, the importance of using CAMs by healthcare professionals to support women giving birth emerges (18). Türkiye has a deep-rooted history in the use of traditional medicine, and its use has been increasing in recent years. However, previous studies in Türkiye generally cover the pregnancy period and focus on different purposes of the use of CAMs (21, 22). For this reason, in the present study, postpartum fear of birth, birth satisfaction, and childbirth perceptions were compared according to the pregnant women's use of CAMs.

Research questions:

(1) What are the rates of the use of CAMs by women?

(2) Are there any differences in obstetric and demographic characteristics according to women's use of CAMs?

(3) Are there any differences between birth interventions, birth satisfaction, fear of birth, and childbirth perceptions according to the use of CAMs by postpartum women?

(4) Are there any differences in birth satisfaction, fear of birth, and childbirth perceptions according to the CAMs used by postpartum women?

Methods

Research Design and Sample

This research, designed in the form of a descriptive and cross-sectional study, was conducted at a university hospital in Türkiye between January 2023 and July 2023. The population of the research consisted of pregnant women applying to the obstetrics and gynecology outpatient clinics of the university hospital. In the power analysis used to determine the sample size with the 5% error level, 383 pregnant women were needed with a 95% confidence interval at the two-sided significance level and 80% power. Considering the data losses in the study, it was planned to recruit 20% more, and 460 volunteer pregnant women were included in the sample. Data were collected in two stages: during pregnancy and at the end of birth. 42 pregnant women gave birth by cesarean section and 27 pregnant women could not be reached at the end of delivery. Thus, the research was completed with a total of 391 postpartum mothers. The study included women over the age of 18, understanding Turkish, without any pregnancy-related risks to the fetus, having a singleton or live fetus, planning to have a vaginal birth, and at 37-41 weeks of gestation were included. Prenatal forms were collected by face-to-face interviews and telephone information was obtained. Pregnant women were called at the end of the birth, according to their estimated birth dates, and postpartum forms were filled out.

Data Collection Tools

The Personal Information Form, Traumatic Childbirth Perception Scale (TCPS), Wijma Delivery Expectancy/ Experience Questionnaire (W-DEQ) Version B, and Birth Satisfaction Scale-Revised (BSS-R) were used to collect the data. 37-41 weeks of pregnancy. After filling out the Personal Information Form by utilizing the face-to-face interview method during the 2nd week, the pregnant women were contacted by phone at the end of the delivery and were asked questions about CAMs they used during labor; additionally, the TCPS,

W-DEQ Version B, and BSS-R were applied.

Personal Information Form

The form created by the researchers included women's sociodemographic data (age, employment, educational level, family type, income level, etc.), obstetric characteristics (parity, participation in prenatal education classes, miscarriage status, number of taking prenatal care treatments, etc.), questions about their current delivery (painkiller use during delivery, amniotomy, fundal compression, episiotomy, laceration, etc.), and CAMs they used during labor (10, 19, 20, 22). The women in this study stated that they used one or more mind-body methods (breathing and relaxation exercises, music, art therapy, hypnosis, yoga, meditation, prayer, mental recovery, focusing, dreaming), biologically based treatment (foods, vitamins) ve manipulative and body-based methods (massage, hydrotherapy, acupressure, hot application, perineal heat application, cold application) as CAMs. The distribution of CAMs used by women during labor is given in Table 3.

Traumatic Childbirth Perception Scale (TCPS)

This scale evaluates the traumatic childbirth perceptions of women of reproductive age. The scale includes 13 questions. The mean score of the scale indicates the level of traumatic childbirth perception. The lowest score to be obtained from the scale is 0 and the highest score is 130. The mean score range of the scale is between 0-26, indicating very low perception, 27-52 indicating low perception, 53-78 indicating moderate perception, 79-104 indicating high perception, and 105-130 indicating very high traumatic childbirth perception. The Cronbach's alpha reliability coefficient of the scale was calculated as 0.89 (23). In this study was found to be 0.92.

Birth Satisfaction Scale-Revised (BSS-R)

To determine women's birth satisfaction levels, the form was developed by Martin CJH and Martin CR (2014), and its short form was created; the validity and reliability study of the scale in Turkish was conducted by Serhatlıoğlu et al. (2018). The scale consists of 10 items, the minimum score is 0 and the maximum score is 40, and the Cronbach's alpha reliability coefficient of the scale was calculated as 0.74 (24). For this study was calculated as 0.51.

Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) Version B

The Turkish adaptation of the questionnaire, which was first developed by K. Wijma et al. (1998), was made by Uçar and Beji in 2013. The questionnaire includes fear, trust, feelings of loneliness, happiness, etc. It consists of a total of 33 questions. Each item is in the form of a 6-point Likert type with scores between 1-6. 1 means "extremely" and 6 means "not at all". The minimum score on the questionnaire is 33, and the maximum score is 198. An increase in the score indicates an increase in fear of childbirth. The negatively charged items in the questionnaire (2, 3, 6, 7, 8, 11, 12, 15, 19, 20, 24, 25, 27, 31) are calculated by reversing them to ensure consistency in measurement. The Cronbach's alpha reliability coefficient of the questionnaire was found to be 0.88 (25). For this study was calculated as 0.90.

Data Collection

The data were collected by the researcher using the face-to-face interview method in the hospital. The sections of the Personal Information Form containing sociodemographic and obstetric characteristics were applied to the pregnant women at the first meeting. Pregnant women, whose phone numbers were taken at the first meeting, were contacted via phone on their estimated date of birth according to their last menstrual period, and the Personal Information Form's questions regarding birth characteristics, questions regarding the CAMs they used at birth, and the TCPS, W-DEQ Version B, and BSS-R were applied.

Data Analysis

Data analysis was performed using SPSS 25.0 software. Visualization was performed with R language software programming language. In Figures 1 and 2, the mean and standard errors of the scales according to the CAM method used are integrated. Column bars in the figure represent the mean and error bars represent the standard error. In the statistical analysis of the data, mean and standard deviation were used to evaluate numerical data, and frequency and percentage values were used to evaluate nominal data (demographic). The chi-square test was used to compare women's categorical independent variables. In evaluating continuous data, firstly, the Kolmogrow-Smirnov test was used to investigate whether the variables met the condition of normal distribution. Since the data showed normal distribution, an independent samples t-test was used for comparisons between two groups, and a one-way analysis of variance was used for comparisons of more than two groups. Post-hoc Tukey and Tamhane's

T2 tests were used in multiple comparisons to determine the differences between groups. Variables affecting the use of CAMs in women were evaluated with logistic regression analysis. While determining the variables to be included in the regression model, variables that had a significant relationship with CAM use status ($p<0.05$) were included in the model. Accordingly, age, educational level, income level, parity, participation in prenatal education classes, and the number of receiving care during the prenatal period were taken into the regression model. Statistical significance was determined as $p<0.05$.

Ethics

To conduct the research, ethical approval was obtained from the Non-Interventional Research Ethics Committee of Fırat University (Session Number: 382022/15-38, Session date: 15.12.2022) and necessary permissions were obtained from the university hospital where the research would be conducted (Approval Number E-19003918-100-274500). Before starting data collection, the purpose of the study was explained to the pregnant women voluntarily participating in the study. Each pregnant woman included in the study was informed about the research and verbal and written consent was obtained from the women accepting to participate in the research. The principle of volunteering was taken as a basis for determining the women who would participate in the research. The purpose of the study was explained to the women and informed consent was obtained. Data collected for the study were used only for this research.

Results

In the study, it was determined that 69.8% of postpartum women used CAMs during labor. Table 1 presents the comparison of women using and not using CAMs in labor according to their sociodemographic, obstetric, and birth-related characteristics. It was determined that the use of CAMs was higher among those aged 28 and under, graduating from high school/university, with a moderate-income level, primiparous, attending prenatal training classes, and in those receiving four or more prenatal care sessions, and the differences between the groups were statistically significant. In addition, it was determined that less fundal compression and episiotomy were applied in labor in those using CAMs and the differences between the groups were statistically significant ($p<0.05$; Table 1).

Table 1. The comparison of women using complementary alternative methods in delivery and those not using under sociodemographic, obstetric, and birth-related characteristics (n=391)

Characteristics	CAM users (n=273)		Non-CAM users (n=118)		Test	**p-value**
	n	%	n	%		
Age (years)						
≤ 28	172	63.0	54	45.8	X^2=10.040	0.002[a]
≥ 29	101	37.0	64	54.2		
Education level						
Primary school graduate	56	20.5	41	34.7	X^2=10.228	0.017[a]
Secondary school graduate	53	19.4	24	20.3		
High school graduate	96	35.2	30	25.4		
University graduate	68	24.9	23	19.5		
Social security						
Yes	253	92.7	103	87.3	X^2=2.309	0.129[b]
No	20	7.3	15	12.7		
Employment status						
Employed	44	16.1	16	13.6	X^2=0.241	0.623[b]
Unemployed	229	83.9	102	86.4		
Income status						
Less than income	2	0.7	6	5.1	X^2=5.766	0.011[c]
Equivalent to income	271	99.3	112	94.9		
More than income	-	-	-	-		
Family type						
Nuclear family	264	96.7	111	94.1	X^2=0.864	0.267[c]
Extended family	9	3.3	7	5.9		
Parity						
Primipara	100	36.6	26	22.0	X^2=8.037	0.005[a]
Multipara	173	63.4	92	78.0		
Previous history of abortion						
Yes	50	18.3	25	21.2	X^2=0.273	0.602[b]
No	223	81.7	93	78.8		
Participation in antenatal education classes						
Yes	27	9.9	4	3.4	X^2=3.920	0.048[b]
No	246	90.1	114	96.6		
Number of antenatal care						
≤ 3	13	4.8	13	11.0	X^2=4.234	0.040[b]
≥ 4	260	95.2	105	89.0		
Analgesic use in labor						
Yes	48	17.6	21	17.8	X^2=0.429	0.807[a]
No	176	64.5	79	66.9		
I don't know	49	17.9	18	15.3		
Amniotomy						
Yes	37	13.6	20	16.9	X^2=0.515	0.473[b]
No	236	86.4	98	83.1		
Fundal pressure						
Yes	64	23.4	41	34.7	X^2=5.358	0.021[a]
No	209	76.6	77	65.3		
Episiotomy						

Yes	197	72.2	97	82.2	X^2=4.454	0.035[a]
No	76	27.8	21	17.8		
Laceration						
Yes	81	29.7	39	33.1	X^2=0.443	0.506[a]
No	192	70.3	79	66.9		

[a]Chi-squared test, [b]Continuity Correction, [c]Fisher's Exact Test, CAM: Complementary alternative method

In univariate analysis, age, educational level, income level, parity, participation in prenatal education classes, and number of prenatal care sessions were determined as independent risk factors for women's use of CAMs in labor. As age increases, the use of CAMs decreases (p=0.001). When age increases by one unit, the rate of the use of CAMs decreases by 0.933 times. Those graduating from high school were 2.343 times more likely to use CAMs than primary school graduates (p=0.004), and those graduating from university or higher were 2.165 times (p=0.015) more likely to use CAMs than primary school graduates. Those whose income level was "income is equal to expenses" were 7.259 times more likely to use CAMs

Table 2. Factors associated with the use of CAMs among women in labor (n=391)

	CAM		Univariate		Multivariate (Enter)	
	Non-CAM users	**CAM users**	OR (%95 CI)	p	OR (%95 CI)	p
Age (years)		0.933	(0.896-0.972)	**0.001**	0.954 (0.908-1.003)	0.063
Education level						
Primary school			Reference			
Secondary school		1.617	(0.863-3.031)	0.134	1.504 (0.782-2.890)	0.221
High school		2.343	(1.319-4.163)	**0.004**	1.638 (0.873-3.072)	0.124
University		2.165	(1.163-4.028)	**0.015**	1.569 (0.794-3.099)	0.195
Income status						
Less than income			Reference			
Equivalent to income		7.259	(1.443-36.511)	**0.016**	5.938 (0.996-35.406)	0.051
Parity						
Primigravida			Reference			
Multigravida		0.489	(0.297-0.806)	**0.005**	0.766 (0.411-1.427)	0.401
Participation in antenatal training classes						
Yes			Reference			
No		0.320	(0.109-0.935)	**0.037**	0.336 (0.111-1.018)	0.054
Number of antenatal care						
≤ 3			Reference			
≥ 4		2.476	(1.111-5.519)	**0.027**	1.495 (0.610-3.663)	0.379
Constant					2.548	0.434

Cox & Snell R Square: 0.072; Nagelkerke R Square:0.102; Accuracy:0.714; CAM: Complementary alternative method, OR: Odds ratio, CI: Confidence interval

Table 3. Distribution of the use of CAMs by women in labor (n=273)

***Types of CAMs**	**Frequency (n)**	**Percentage (%)**
Mind-Body Methods	222	81.3
Breathing and relaxation exercises	81	29.7
Music	16	5.9
Art therapy	22	8.1
Hypnosis	17	6.2
Yoga	14	5.1
Meditation	14	5.1
Prayer	150	54.9
Mental recovery	13	4.8
Focusing	23	8.4
Dreaming	50	18.3

Biologically Based Treatment	27	9.9
Foods	14	5.1
Vitamins	13	4.8
Manipulative and Body-Based Methods	24	8.8
Massage	3	1.1
Hydrotherapy	7	2.6
Acupressure	1	0.4
Hot application	4	1.5
Perineal heat application	8	2.9
Cold application	1	0.4

* More than one response was given. CAM: Complementary alternative method

than those whose income level was "income is less than expenses" (p=0.016). In addition, primiparous women were 0.489 times more likely than multiparous (p=0.005), those attending prenatal education classes were 0.320 times more likely than those not attending (p=0.037), and those receiving four or more prenatal care sessions were 2.476 times (p=0.027) more likely than those receiving three or fewer care sessions. There is a possibility of using more CAMs. No significance was found in multivariate analysis. The correct classification rate obtained with the created model was found to be 71.4% (Table 2).

Table 3 presents the distribution of CAMs used by women in labor. It was determined that the majority of women used Mind-Body Methods (81.3%), while 9.9% of them used Biologically Based Treatment and 8.8% used Manipulative and Body-Based Methods.

Table 4; Figure 1). The mean scores of the BSS-R and its subscales (Quality of care provision (BSS-QC) and Stress experienced during labor (BSS-SL) of postpartum women using CAMs (Mean ± SD: 18.88±3.80; 7.58±1.82;

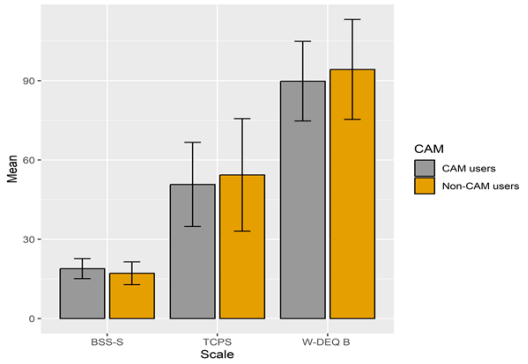

Figure 1. The mean scores of the W-DEQ B Version, TCPS, and BSS-S of women using and not using CAMs in labor (n=391). W-DEQ Version B: Wijma Delivery Expectancy/Experience Questionnaire B Version, BSS-S: Birth Satisfaction Scale-Short, TCPS: Traumatic Childbirth Perception Scale, CAM: Complementary alternative method

Table 4. Comparison of the mean scores of the W-DEQ Version B, TCPS, BSS-R, and its subscales of women using and not using CAMs in labor (n=391)

Measurements	**CAM users (n=273)**	**Non-CAM users (n=118)**	**Test***	**p**
	Ort ± SS	**Ort ± SS**		
W-DEQ Version B	89.83±15.08	94.29±18.90	t=-2.270	**p=0.024**
BSS-S	18.88±3.80	17.12±4.32	t=3.835	**p<0.001**
Quality of care	7.58±1.82	6.79±1.87	t=3.844	**p<0.001**
Women's characteristics	3.05±1.67	2.97±2.36	t=0.334	p=0.739
Stress experienced during childbirth	8.24±2.81	7.35±3.38	t=2.508	**p=0.013**
TCPS	50.75±15.91	54.35±21.28	t=-1.649	p=0.101

*Independent samples *t*-test. W-DEQ Version B: Wijma Delivery Expectancy/Experience Questionnaire B Version, BSS-S: Birth Satisfaction Scale-Short, TCPS: Traumatic Childbirth Perception Scale, CAM: Complementary alternative method

In the study, statistically significant differences were found between the mean scores of the W-DEQ Version B, BSS-R, and its subscales (Quality of care provision (BSS-QC) and Stress experienced during labor (BSS-SL) of the postpartum women (p<0.05; Table 4; Figure 1). It was determined that the mean score of the W-DEQ Version B total was significantly lower in postpartum women using CAMs (Mean ± SD: 89.83±15.08) than in those not using CAMs (Mean ± SD: 94.29±18.90) (p<0.05; 8.24±2.81, respectively) were significantly higher (p<0.05; Table 4; Figure 1) than those not using CAMs (Mean ± SD: 17.12±4.32; 6.79±1.87; 7.35±3.38, respectively).

Women's W-DEQ Version B, BSS-R, and TCPS mean scores vary according to groups. The mean score of the fear of birth in the manipulative and body-based methods group was statistically lower than in

the mind-body methods group (p=0.012; Table 5; Figure 2). Similarly, the mean score of the TCPS was statistically lower in the manipulative and body-based methods group than in the mind-body methods group (p=0.018; Table 5; Figure 2). The mean score of the BSS-R was found to be statistically higher in the mind-body methods group than in the biologically-based treatment methods group (p=0.024; Table 5; Figure 2).

Table 5. Comparison of the mean scores of the W-DEQ, TCPS, BSS-R, and its subscales under the use of CAMs (n=273)

Measurements	Mind-Body Methods (n=222)	Biologically-Based Treatment (n=27)	Manipulative and Body-Based Methods (n=24)	Test	p
W-DEQ Version B	90.7 ± 13.8^{b}	91.6 ± 21.3^{ab}	80.2 ± 15.6^{a}	F*=4.973	**0.012**$^{\#}$
BSS-S	19.2 ± 3.6^{b}	17.2 ± 3.8^{a}	18.2 ± 4.8^{ab}	F**=3.763	**0.024**$^{\&}$
Quality of care	7.6 ± 1.9	6.9 ± 1.8	7.8 ± 1.5	F**=2.314	0.101$^{\&}$
Women's characteristics	3.2 ± 1.6	2.7 ± 2.0	2.6 ± 2.0	F**=2.072	0.128$^{\&}$
Stress experienced during childbirth	8.4 ± 2.7	7.6 ± 2.8	7.8 ± 3.6	F**=1.176	0.310$^{\&}$
TCPS	51.4 ± 15.7^{b}	52.4 ± 18.0^{ab}	42.7 ± 13.5^{a}	F*=4.440	**0.018**$^{\#}$

*One Way ANOVA(Welch), **One Way ANOVA $^{a-b}$: There is no difference between groups with the same letter for each row ($^{\#}$: Tamhane's T2; $^{\&}$: Tukey). W-DEQ Version B: Wijma Delivery Expectancy/Experience Questionnaire B Version, BSS-S: Birth Satisfaction Scale-Short, TCPS: Traumatic Childbirth Perception Scale, CAM: Complementary alternative method

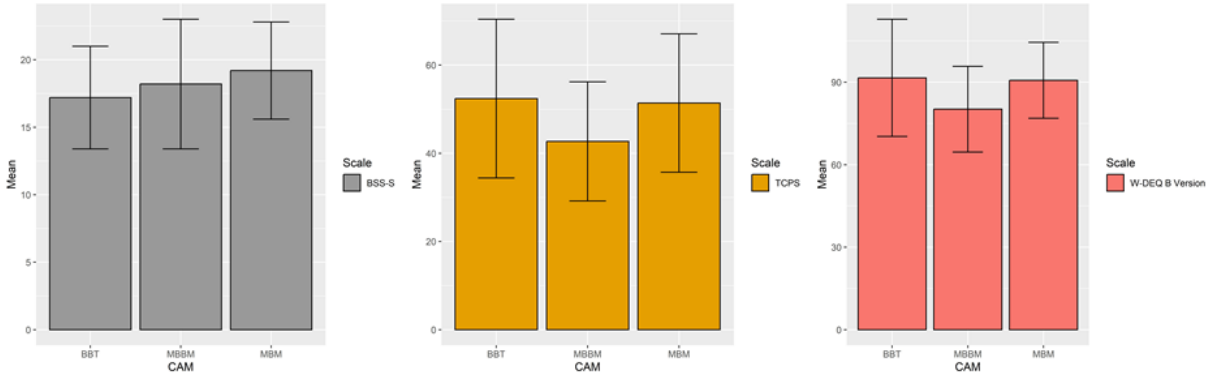

Figure 2. The mean scores of the W-DEQ Version B, TCPS, and BSS-S under the use of CAMs (n=273). BBT: Biologically Based Treatment,MBBM: Manipulative and Body-Based Methods, MBM: Mind-Body Methods, CAM: Complementary alternative method

more prenatal care sessions (p< 0.05; Table 1). In the established regression model, the same parameters (age, educational level, income level, parity, participation in prenatal education classes, and number of prenatal care sessions) were found to be important determinants of the use of CAMs (p<0.05; Table 2). In the study, it was determined that the use of CAMs increased as age decreased (p<0.05; Table 1, Table 2). Similar to the current study in the literature, a study conducted to investigate the prevalence and determinants of the use of CAMs in England found that those using CAMs were younger than those not using them (26). In the study, it was determined that the use of CAMs was higher in high school/university graduates than in primary school/secondary school graduates (p<0.05; Table 1, Table 2). Similar to the current study's finding, a study aiming to investigate the prevalence of the use of CAMs and related factors in Japan found that increasing the level of education enhanced the use of CAMs (3). It is thought that as the academic level increases, both the ability and capacity to critically evaluate information and collect information increases and this increases the use of CAMs. In the study, it was found that those with medium income use CAMs more than those with low income (p <0.05; Table 1, Table 2). Similarly, in a study conducted to determine the use of

Discussion

This study reveals that the rate of the use of CAMs by women during labor in Türkiye is high, and more than two-thirds of women (69.8%) used CAMs during labor. This finding is supported by the study conducted to determine the effects of complementary and alternative medicine use on labor pain management, which revealed that more than two-thirds of women used CAMs (17). However, variations in the rates of the use of CAMs may be attributable to differences in the definition of CAM, types of traditional CAMs included in the studies, location, and cultural differences.

When women using and not using CAMs were compared in the study, it was determined that the use of CAM was higher in those 28 years of age or younger, high school/university graduates, those with middle income, primiparous women, those attending prenatal training classes, and those receiving four or

CAMs by women with breast cancer or gynecological cancer, it was found that having a medium or high monthly income was one of the factors predicting the use of CAMs (27). In the present study, it was observed that primiparas used CAMs more at labor compared to multiparas ($p<0.05$; Table 1, Table 2). It is reported in the literature that women not giving birth tend to turn to positive health practices (28, 29). Similar to the finding of the present study, a study aiming to investigate the prevalence of the use of CAMs and related factors in Japan found that the use of CAMs was higher in primiparas (3). One of the limiting factors for women with multiple children is the cost and time required for the implementation of CAMs. Therefore, it is thought that multiparous women in the study do not have time to do research on CAMs and learn these methods. In the study, it was determined that the use of CAMs in labor was higher among women attending prenatal education classes and those receiving four or more prenatal care sessions ($p<0.05$; Table 1, Table 2). It was stated in the literature that women need information about the risks and benefits of nonpharmacological methods and that they need to communicate with healthcare professionals about the use of CAMs (30, 31). In the study conducted to determine the effects of teaching guides on pregnant women's knowledge and practices regarding complementary treatments, it was concluded that the training guides had positive effects on improving pregnant women's knowledge and practices regarding complementary treatments (32). In support of the current study's findings, in a study conducted to determine pregnant women's use of health services, it was found that women meeting healthcare professionals (physicians, midwives) more frequently also met with the practitioners of CAMs (33). In this regard, it is thought that attending prenatal education classes and receiving 4 or more prenatal care sessions contributes to obtaining more information about CAMs from healthcare professionals.

When birth interventions were evaluated in the study, it was determined that less fundal compression and episiotomy were applied in labor for those using CAMs ($p<0.05$; Table 1). It is known that the use of CAMs in labor reduces interventions (34). In parallel with the current study's findings, many studies using CAMs in labor have found that the use of CAMs reduces episiotomy and fundal compression attempts (35-39).

In the present study, it was found that women using CAMs had less fear of birth ($p<0.05$; Table 4; Figure 1). Similar results were obtained in the literature in studies investigating the birth fears of women using CAMs in labor (38, 40-42). In a study conducted to examine the effects of yoga and meditation applied during pregnancy and in labor on the birth process, it was found that women applying yoga and meditation had lower fear of birth (38). In the study conducted in labor to determine the effectiveness of the Emotional Freedom Technique and breathing awareness applications in reducing the fear of birth, it was found that the fear of birth was lower in women practicing these applications (40). In a study where aromatherapy was applied to reduce fear in labor, it was found that aromatherapy helped reduce fear (41). In a study in which supportive care through the Hypnobirthing Philosophy was applied to pregnant women, it was found that the application reduced the fear of birth (42). Therefore, it is considered that by using CAMs, women make the birth process a positive experience and can cope with the fear of birth.

The present study found that women using CAMs had higher birth satisfaction. It was also determined that their satisfaction with the stress experienced during labor and satisfaction with the quality of care were higher ($p<0.05$; Table 4; Figure 1). In the study conducted to determine the effects of hydrotherapy application in vaginal births on maternal-newborn outcomes and birth satisfaction, it was determined that the birth satisfaction of women receiving hydrotherapy was higher. (43) Similarly, in a study investigating the effects of breathing exercises applied in labor on pregnant women's satisfaction and the birth processes, it was determined that breathing exercises increased birth satisfaction (44). Within the framework of these results, it is thought that the present study's findings are similar to the literature and that the use of CAMs enables the women to be involved in the process, increases their self-confidence, supports the ability to control the birth processes, and therefore increases birth satisfaction.

The present study also examined the levels of fear of birth, birth satisfaction, and childbirth perceptions according to the CAMs used. It was found that the lowest levels of fear of birth and traumatic childbirth perceptions were in the manipulative and body-based methods group, and the highest satisfaction was in the mind-body methods group ($p<0.05$; Table 5; Figure 2). When the literature was examined, no study was found that evaluated the levels of fear of birth and traumatic childbirth perceptions among pregnant women using CAMs. In a study conducted to determine the effects of the use of complementary and alternative

treatments on the quality of life in pregnant women diagnosed with hyperemesis gravidarum, when the satisfaction levels were examined according to the CAMs, it was found that the highest satisfaction was in "Mind and Body Treatments" (45). This finding supports the current study's findings.

Limitations of the study

This study has several limitations. The limitations of the research are that it was conducted on limited dates, that the research was conducted only in a hospital in an eastern province in Türkiye, and that it was based on the statements of the participants. However, in the literature review, no study was found comparing the fear of birth, birth satisfaction, and childbirth perceptions of postpartum women according to the use of CAMs in labor. Therefore, it is thought that the study will contribute to the literature.

Conclusion And Recommendations

According to the results of the current study, it was determined that younger maternal age, having a moderate level of income, being primiparous, attending prenatal education classes, and receiving 4 or more prenatal care sessions increased the use of CAMs. Additionally, this study demonstrated the effectiveness of the use of CAMs in reducing birth interventions, fear of birth, and perception of traumatic childbirth perceptions, and increasing birth satisfaction. In this regard, it is recommended to prepare training programs on CAM to first raise awareness among healthcare professionals and then integrate it into midwifery practices. In addition, it is recommended to increase the number of studies to determine the effects of the use of CAMs in labor on the birth processes, fear of birth, childbirth perceptions, and birth satisfaction.

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Disclosure statement

The authors declare no conflict of interest.

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Authors' Contribution

All authors contributed to the conception, design of the study, data collection, data analysis, and assembly. The manuscript was written and approved by all authors.

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