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Determination of parents' sense of security after spontaneous vaginal delivery and cesarean section

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Abstract

This descriptive and cross-sectional study aimed to determine parents' sense of security after spontaneous vaginal delivery and cesarean section. The study included 384 couples interviewed: 192 women who had spontaneous vaginal delivery and 192 women and their husbands who had cesarean sections. The study sample comprised a total of 768 individuals. Personal information forms and 'Mothers' Postnatal Sense of Security Scale and 'Fathers' Postnatal Sense of Security Scale were used for data collection. Number, percentage, mean, standard deviation, Pearson correlation coefficient, and independent sample t-test were used for data analysis. In the study, it was determined that the mean scores of mothers who had spontaneous vaginal delivery and cesarean section on the postnatal security sense scale were 56.05±8.86 and 55.21±9.89, respectively. The mean scores of the fathers whose spouses had spontaneous vaginal delivery and cesarean section on the parents' postnatal sense of security scale were 29.78±10.59 and 28.98±10.32, respectively. Postnatal sense of security scale scores were found to be no different between mothers and fathers who gave delivery in both types of delivery (p>0.05). Therefore, it is recommended that midwives/nurses take an active role in providing counseling and support services to enhance the sense of security of parents after childbirth. *(Afr J Reprod Health 2026; 30 [6]34-47).*

Keywords: cesarean section, parents, postnatal period, sense of security, spontaneous vaginal delivery

Résumé

Cette étude descriptive et transversale visait à déterminer le sentiment de sécurité des parents après un accouchement vaginal spontané et une césarienne. L'étude a inclus 384 couples interrogés : 192 femmes ayant accouché par voie vaginale spontanée et 192 femmes et leurs maris ayant subi une césarienne. L'échantillon de l'étude comprenait un total de 768 individus. Des formulaires de renseignements personnels et l'échelle du sentiment de sécurité postnatal des mères et des pères ont été utilisés pour la collecte des données. Le nombre, le pourcentage, la moyenne, l'écart type, le coefficient de corrélation de Pearson et le test t pour échantillons indépendants ont été utilisés pour l'analyse des données. Dans l'étude, il a été déterminé que les scores moyens des mères ayant accouché par voie vaginale spontanée et par césarienne sur l'échelle de sécurité postnatale étaient respectivement de 56.05±8.86 et 55.21±9.89. Les scores moyens des pères dont les épouses ont eu un accouchement vaginal spontané et une césarienne sur l'échelle du sentiment de sécurité postnatal des parents étaient respectivement de 29.78±10.59 et 28.98±10.32. Les scores de l'échelle de sentiment de sécurité postnatale ne se sont révélés pas différents entre les mères et les pères qui ont accouché dans les deux types d'accouchement (p>0,05). Il est donc recommandé que les sages-femmes/infirmières jouent un rôle actif en fournissant des services de conseil et de soutien afin de renforcer le sentiment de sécurité des parents après l'accouchement .*(Afr J Reprod Health 2026; 30 [6]: 34-47).*

Mots-clés: césarienne, parents, période postnatale, sentiment de sécurité, accouchement vaginal spontané

Introduction

Recently, the question of how to ensure a sense of security in the postnatal period has gained importance.[1,2,3] In Maslow's hierarchy of human needs, the need for security is defined as an important need to be met after physical needs.[4] A sense of security is very important for mothers during the first postnatal week. In this process, mothers' sense of security is influenced by many physical and emotional factors such as the general well-being of the mother and the baby, the support of the spouse and health professionals, fear, anxiety, depression, and primiparity or multiparity.[5,6] In a study, it was found that multiparous mothers had a higher sense of security than primiparous mothers.[2]

In studies conducted based on the mode of delivery, it has been determined that mothers who had cesarean section had a higher postnatal sense of security than mothers who had spontaneous vaginal delivery.[7,8] In a study, the sense of security of parents who had spontaneous vaginal delivery was found to be higher compared to those who had cesarean section.[1] In other studies, it has been reported that fathers whose wives had cesarean sections had a lower sense of security.[9,10,11] In the postnatal period, mothers' sense of security increases their physical well-being and their husbands' participation in care. The feeling of postnatal security in the first week after delivery is as important for fathers as it is for mothers.[12] Studies have shown that the concept of postnatal security for fathers is related to their participation in pregnancy, delivery and parenting processes, their sense of decision-making and care during delivery, their say in the delivery and their experiences. [12,13,14]

Although the importance of fathers' involvement in the transition to parenthood has been emphasized, it has been reported that health professionals still fail to involve fathers in the process.[4] It has also been emphasized that the concept of a sense of security is a basic need to cope with concerns regarding pregnancy, childbirth, and the postnatal period.[2,5]

Therefore, this study aimed to determine parents' sense of security after spontaneous vaginal delivery and cesarean section.

Research questions

Is there a difference between the mean postnatal sense of security scores of mothers who had spontaneous vaginal delivery and cesarean section? Is there a difference between the mean postnatal sense of security scores of spouses of mothers who had spontaneous vaginal delivery and cesarean section?.

Methods

This descriptive and cross-sectional study was designed to determine parents' sense of security after spontaneous vaginal delivery and cesarean section. This study was initially planned to be carried out in Erzurum Nene Hatun Maternity Hospital. However, the hospital was moved to Erzurum Regional Training and Research Hospital; thus, spontaneous vaginal delivery and cesarean section rates could not be obtained. For this reason, the study sample was calculated as 384 couples using the sampling technique for an unknown population. Then, the couples were divided into 2 strata according to the mode of delivery, and 192 couples who had spontaneous vaginal delivery and 192 couples who had cesarean section were included in the sample. As a result, the sample of the study consisted of 768 individuals in total. Data were collected using the "Individual Information Form - Mothers",[6,7,15,16,17,18] the "Individual Information Form - Fathers",[19,20,21] the "Mothers' Postnatal Sense of Security Scale (MPSSS)" [16], and the "Fathers' Postnatal Sense of Security Scale (FPSSS)".[22]

The "Individual Information Form - Mothers" consists of three sections. The first section includes eight questions regarding the sociodemographic characteristics of the mothers such as age, age at marriage, education level, and employment status.[6,15,16] The second section includes six questions regarding obstetric characteristics such as number of pregnancies, miscarriages, abortions, curettages, and childbirths.[7,16,17,18] The third section includes 13 questions regarding the status of receiving information about pregnancy, childbirth, and the postnatal period, etc.[6,7,16]

The "Individual Information Form - Fathers" consists of two sections. The first section includes seven questions regarding the sociodemographic characteristics of the fathers such as age, age at marriage, education level, and employment status.[6,19,21,22] The second section consists of 13 questions regarding fathers' status of receiving information about pregnancy, childbirth, and the postnatal period, etc.[6,14,21]

The MPSSS was developed by Persson et al.[6] to assess mothers' perceived sense of security during the first postnatal week. The Turkish validity and reliability study of the scale was carried out by Geçkil et al.[18] The MPSSS consists of 18 items rated on a 4-point Likert scale (1 = strongly disagree, 4 = strongly agree). Items 7, 8, 9, and 11 are reverse-scored. Total scores range from 18 to 72, with higher scores reflecting a stronger sense of postnatal security. The scale comprises four subscales: midwives'/nurses' empowering behaviour (items 1–6), general well-being (items 7–11), affinity within the family (items 12–15), and breastfeeding was

manageable (items 16–18).[18] In the Turkish validity study, Cronbach's alpha values for the subscales were reported as 0.88 for empowering behaviour, 0.46 for general well-being, 0.72 for affinity within the family, and 0.72 for breastfeeding behaviour.[18] In the present study, Cronbach's alpha coefficients were found to be 0.90, 0.61, 0.91, and 0.88 for the respective subscales.The Father's Postnatal Sense of Security Scale (FPSSS) was developed by Persson et al.[21] to assess fathers' perceived sense of security during the first postnatal week. The Turkish validity and reliability study of the scale was conducted by Koçak et al.[22] The FPSSS consists of 13 items rated on a 4-point Likert scale (1 = strongly disagree, 4 = strongly agree), with items 6, 7, and 8 reverse-scored. Total scores range between 13 and 52, and higher scores indicate a stronger sense of postnatal security among fathers. The scale comprises four subscales: midwives'/nurses' empowering behaviour (items 1–5), general well-being (items 6–8), mother's general well-being including breastfeeding (items 9–11), and affinity within the family (items 12–13).[22] In the Turkish adaptation study, Cronbach's alpha coefficients were reported as 0.81 for empowering behaviour, 0.61 for general well-being, 0.61 for maternal well-being, and 0.37 for affinity within the family.[22] In the present study, internal consistency was high, with subscale reliabilities of 0.91, 0.80, 0.86, and 0.92, respectively.

The data were collected by the researcher between March 03 and May 03, 2023, in the postnatal service Erzurum Regional Training and Research Hospital by implementing data collection tools to the parents who had spontaneous vaginal delivery and cesarean section. Since the study also included fathers, interviews with the parents were held during patient visit hours (12 a.m.-2 p.m. and 6:00-8:00 p.m.). The number of visits in a day varied between 2-10. The parents read the consent form and those who agreed to participate in the study participated in the survey and completed the survey forms in approximately 30-45 minutes. According to the postnatal care management guideline, mothers are normally discharged 24 hours after spontaneous vaginal delivery and 48 hours after cesarean section. Parents coming from close provinces to the Regional Training and Research Hospital may have some transportation problems in returning to their provinces. Therefore, the time of discharge may extend up to 72 hours. Therefore, parents within the first 72 hours postnatal were included in this study. The inclusion and exclusion criteria for the study were determined as follows:

Inclusion criteria

Participants were required to have delivered a live infant at term (≥37 weeks) via spontaneous vaginal birth or cesarean section under general or regional anesthesia, and to be within the first 72 hours postnatal. Mothers were included if they had no medical complications during or after delivery that could affect maternal or neonatal outcomes, and if their newborn had no congenital anomalies and was present with them. Both mothers and fathers were eligible if they had no significant or chronic health conditions (e.g., hypertension, cardiovascular disease, or mental health disorders), no physical disabilities such as hearing or visual impairment, and had completed at least primary school education. Fathers were included if they were the spouse/partner of the participating mother, were present with the mother–infant dyad during the early postnatal period, and voluntarily agreed to participate. All parents who met these criteria and consented to take part in the study were included in the sample.

Exclusion criteria

Individuals with physical or mental illnesses that hinder their ability to complete the survey form will be excluded. Additionally, those with hearing impairments that would obstruct effective communication during the survey application will not be eligible. Participants who do not consent to engage in the study will also be excluded. Furthermore, individuals who do not meet the study's criteria will not be included in the research.

Statistical analysis

The data obtained through the data collection forms were transferred to the computer environment and statistical analyses were performed in the IBM SPSS Statistics (Statistical Package for Social Sciences) 26 package program.

In data analysis, number, percentage, mean, standard deviation, and independent sample t-test were used. The correlations between two independent numerical variables were interpreted

with the Pearson Correlation coefficient. In the analyses, statistical significance was interpreted based on the 0.05 level.

Ethical considerations

This study was conducted in accordance with the ethical standards of the Declaration of Helsinki. Voluntary participants were included in the study and their personal identity information was kept confidential. A form containing detailed information about the purpose and methodology of the study was explained to volunteers who agree to participate, and their consent was obtained. Written permission was obtained from the authors to use the scales in this study. Before the study, ethical approval numbered 81829502.903/74 and dated 05.31.2022 was obtained from Kafkas University Faculty of Health Sciences Non-Interventional Research Ethics Committee. Official permission numbered B.30.2.ATA.0.01.00/503 and dated 06.30.2022 was obtained from Ataturk University Faculty of Medicine clinical research ethics committee. In addition, official permission numbered E-76614443-799 and dated 07.08.2022 was obtained from the Erzurum Province Health Directorate Health Services Monitoring, Evaluation and Audit unit.

Results

The mean age of the mothers who had a spontaneous vaginal delivery and cesarean section was 30.57±5.47 years and 59.6% of the mothers were between the ages of 16-24 at marriage. Of the mothers, 41.9% had a bachelor's degree or higher and 55.4% were housewives. Of the mothers who had spontaneous vaginal delivery and cesarean section, 46.6% stated that their income was less than their expenses. 70.3% of the mothers who had spontaneous vaginal deliveries and 78.7% of the mothers who had cesarean sections lived in the city center. 84.6% of the parents had a nuclear family (Table 1). In the study, the mean age of the fathers whose spouses had spontaneous vaginal delivery and cesarean section was 33.37±5.70 years, and 56.8% of them were between the age of 26-42 at marriage. Of fathers, 51.6% had a bachelor's degree or higher, and 94.0% were employed. 40.6% of the fathers were self-employed. Of the fathers whose wives had a spontaneous vaginal delivery and cesarean section, 50.0% stated that their income was less than their expenses. 75.5% of the fathers whose wives had spontaneous vaginal deliveries and 78.1% of the fathers whose wives had cesarean sections lived in the city center (Table 2).

The study found that the mean postnatal sense of security scores of mothers who had spontaneous vaginal delivery and those who had cesarean sections were 56.05±8.86 and 55.21±9.89, respectively, with no statistically significant difference between them ($p>0.05$). The mean postnatal sense of security scores of fathers whose wives had spontaneous vaginal delivery and those who had cesarean sections were 29.78±10.59 and 28.98±10.32, respectively, with no statistically significant difference between them ($p>0.05$). There was a significant difference in the "general well-being'' subscale scores of the mothers who had spontaneous vaginal delivery and cesarean section ($p<0.05$), whereas there was no significant difference in the mean scores on the other subscales ($p>0.05$). Accordingly, the mean "general well-being'' scores of mothers who had spontaneous vaginal delivery were statistically significantly higher than the mean scores of mothers who had cesarean section ($p<0.05$). In the study, no significant difference was found in terms of the FPSSS subscale scores of fathers whose wives had spontaneous vaginal delivery and cesarean section ($p>0.05$) (Table 3).

As a result of the Pearson Correlation analyses, there was a statistically significant weak positive correlation between the MPSSS scores and the scores on "midwives'/nurses' empowering behaviour'', "mother's general well-being including breastfeeding'', and "affinity within the family'', which are the subscales of FPSSS, in those who had spontaneous vaginal deliveries.

Table 1: Distribution of mothers' socio-demographic characteristics by type of delivery

Features	**Spontaneous Vaginal Delivery (n=192)**		**Cesarean Section (n=192)**		**Total (n=384)**	
	Number	**Percentage**	**Number**	**Percentage**	**Number**	**Percentage**
Age	Mean±SD= 30,48±5,49		Mean±SD= 30,66±5,51		Mean±SD= 30,57±5,47	
18-30	104	54,2	104	54,2	208	54,2
31-47	88	45,8	88	45,8	176	45,8
Marriage Age	Mean±SD=23,60±3,85		Mean±SD=24,03±3,71		Mean±SD=23,81±3,78	
16-24	118	61,5	111	57,8	229	59,6
25-35	74	38,5	81	42,2	155	40,4
Education Level						
Primary education	50	26,0	36	18,8	86	22,4
Secondary education-high school	71	37,0	66	34,3	137	35,7
University and above	71	37,0	90	46,9	161	41,9
Working Status						
Working	86	44,8	89	46,4	175	45,6
Not working	106	55,2	103	53,6	209	54,4
Job						
Housewife	108	56,3	105	54,6	213	55,4
Self-employment	15	7,8	13	6,8	28	7,3
Health personnel	21	10,9	29	15,1	50	13,0
Officer	32	16,7	32	16,7	64	16,7
Other*	16	8,3	13	6,8	29	7,6

Table 1. continued

Features	Spontaneous Vaginal Birth (n=192)		Cesarean Birth (n=192)		Total (n=384)	
Income status	**Percentage**	**Number**	**Percentage**	**Percentage**	**Number**	**Percentage**
Income meets expenses	62	32,3	74	38,5	136	35,4
Income exceeds expenses	33	17,2	36	18,8	69	18,0
Income less than expenditure	97	50,5	82	42,7	179	46,6
Place of residence						
City center	135	70,3	151	78,7	286	74,5
County center	38	19,8	27	14,1	65	17,0
Village	19	9,9	14	7,2	33	8,5
Family Type						
Nuclear family	158	82,3	167	87,0	325	84,6
Extended family	34	17,7	25	13,0	59	15,4

*Customer representative, sales consultant, accountant, banker, Mean: Mean, SD: Standard Deviation

Table 2: Distribution of fathers' socio-demographic characteristics by type of delivery

Features	Spontaneous Vaginal Delivery (n=192)		Cesarean Section (n=192)		Total (n=384)	
	Number	**Percentage**	**Number**	**Percentage**	**Number**	**Percentage**
	Mean±SD= 33,35±5,74		Mean±SD= 33,39±5,68		Mean±SD= 33,37±5,70	
Age						
20-35	129	67,2	128	66,7	257	66,9
36-52	63	32,8	64	33,3	127	33,1
Marriage Age	Mean±SD=26,33±4,41		Mean±SD=26,70±4,09		Mean±SD=26,52±4,25	
17-25	89	46,4	77	40,1	166	43,2
26-42	103	53,6	115	59,9	218	56,8
Education Level						
Primary education	26	13,5	24	12,5	50	13,0
Secondary education-high school	70	36,5	66	34,4	136	35,4
University and above	96	50,0	102	53,1	198	51,6
Working Status						
Working	180	93,7	181	94,3	361	94,0
Not working	12	6,3	11	5,7	23	6,0
Job						
Health personnel	17	8,8	21	10,9	38	9,9
Officer	69	35,9	71	37,0	140	36,5
Self-employment	84	43,8	72	37,5	156	40,6
Other*	22	11,5	28	14,6	50	13,0
Income Status						
Income meets expenses	51	26,6	64	33,3	115	29,9
Income exceeds expenses	38	19,8	39	20,3	77	20,1
Income less than expenditure	103	53,6	89	46,4	192	50,0
Place of residence						
City center	145	75,5	150	78,1	295	76,8
County center	27	14,1	25	13,1	52	13,5
Village	20	10,4	17	8,8	37	9,7

Table 2 (continued)						
Length of Living in the Place of Living						
16-30 year	52	27,1	52	27,1	104	27,1
30 year and above	140	72,9	140	72,9	280	72,9

*Private sector, security guard, customer representative, worker, cleaning personnel, Mean: Average, SD: Standard Deviation

Table 3: Examining the differences in postnatal sense of security and subscales scores of mothers and fathers according to delivery type

		Spontaneous Vaginal Delivery (n=192)	**Cesarean Section (n=192)**	**Statistical analysis**	
		Mean±SD	Mean±SD	**T**	**p**
Mothers' Postnatal Sense of Security Scale		56,05± 8,86	55,21±9,89	0,875	0,382
MPSSS Subscales	Midwives'/nurses' empowering behaviour	18,94±4,27	18,66±5,10	0,586	0,559
	General well-being,	15,54±2,96	14,89±2,80	2,213	**0,028***
	Affinity within the family	12,69±3,18	12,85±3,55	-0,470	0,639
	Breastfeeding was manageable	8,89±2,81	8,82±2,89	0,233	0,816
Fathers' Postnatal Sense of Security Scale		29,78±10,59	28,98±10,32	0,747	0,456
FPSSS Subscales	Midwives'/nurses' empowering behaviour	11,69± 5,02	11,29± 5,22	0,767	0,444
	General well-being	5,35± 2,62	4,97± 2,41	1,480	0,140
	Mother's general well-being including breastfeeding	7,37± 3,12	7,32± 3,00	0,150	0,881
	Affinity within the family	5,36± 2,34	5,40± 2,28	-0,132	0,895

t: Independent Sample t Test * p<0.05, Mean: Mean, SD: Standard Deviation; MPSSS: Mothers' Postnatal Sense of Security Scale; FPSSS: Fathers' Postnatal Sense of Security Scale

Table 4: Examining the relationships between MPSSS and subscale scores and FPSSS and subscale scores by delivery type

			FPSSS	Midwives'/nurses' empowering behavior	General well-being	Mother's general well-being including breastfeeding	Affinity within the family
Vaginal	MPSSS	r	0,121	**,143***	-0,133	**,180***	**,152***
		p	0,093	**0,048**	0,066	**0,012**	**0,036**
	Midwives'/nurses' empowering behaviour	r	0,090	0,113	-0,065	0,114	0,085
		p	0,217	0,119	0,368	0,116	0,243
	General well-being,	r	**-,217****	-0,100	**-,427****	-0,102	**-,153***
		p	**0,002**	0,169	**0,000**	0,160	**0,034**
	Affinity within the family	r	**,208****	**,190****	0,064	**,185***	**,214****
		p	**0,004**	**0,008**	0,381	**0,010**	**0,003**
	Breastfeeding was manageable	r	**,241****	**,169***	0,059	**,294****	**,269****
		p	**0,001**	**0,019**	0,418	**0,000**	**0,000**
Spontaneous Deliverv	MPSSS	r	**,242****	**,218****	-0,130	**,361****	**,258****
		p	**0,001**	**0,002**	0,073	**0,000**	**0,000**
	Midwives'/nurses' empowering behaviour	r	**,215****	**,165***	0,015	**,283****	**,207****
		p	**0,003**	**0,022**	0,840	**0,000**	**0,004**
	General well-being,	r	-0,044	-0,017	**-,350****	**,153***	0,005
		p	0,541	0,818	**0,000**	**0,034**	0,949
	Affinity within the family	r	**,288****	**,256****	-0,037	**,317****	**,338****
		p	**0,000**	**0,000**	0,607	**0,000**	**0,000**
Cesarean Section	Breastfeeding was manageable	r	0,139	**,158***	-0,086	**,197****	0,099
		p	0,055	**0,028**	0,236	**0,006**	0,174

r: Pearson Correlation Coefficient *:p<0.05 **:p<0.01; MPSSS: Mothers' Postnatal Sense of Security Scale; FPSSS: Fathers' Postnatal Sense of Security Scale

There was a statistically significant moderate negative correlation between the scores on the "a sense of general well-being'', subscale of MPSSS and the scores on the "general well-being'', subscale of FPSSS. There was a statistically significant weak positive correlation between the scores on the "affinity within the family'', subscale of MPSSS and the scores on MPSSS and the "midwives'/nurses' empowering behaviour'', "mother's general well-being including breastfeeding'', and "affinity within the family'' subscales of FPSSS.

There was a statistically significant weak positive correlation between the scores on the "breastfeeding was manageable'' subscale of MPSSS and the scores on FPSSS and the "midwives'/nurses' empowering behaviour'', "mother's general well-being including breastfeeding'' and "affinity within the family'' subscales of FPSSS (Table 4). There was a statistically significant weak positive correlation between the MPSSS scores and scores on FPSSS and the "midwives'/nurses' empowering behaviour'', and "affinity within the family'' subscales of FPSSS among those who had cesarean sections. There was a statistically significant moderate positive correlation between the scores on MPSSS and the score on the "mother's general well-being including breastfeeding'' subscale of FPSSS. There was a statistically significant weak positive correlation between the scores on the "midwives'/nurses' empowering behaviour'' subscale of MPSSS and the scores on FPSSS and the "midwives'/nurses' empowering behaviour'', "mother's general well-being including breastfeeding'', and "affinity within the family'' subscales of FPSSS.

There was a statistically significant moderate negative correlation between the scores on the "general well-being'' subscale of MPSSS and the scores on the "general well-being'' subscale of FPSSS. There was a statistically significant weak positive correlation between the scores on the "general well-being'' subscale of MPSSS and the scores on the "mother's general well-being including breastfeeding'' subscale of FPSSS. There was a statistically significant weak positive correlation between the scores on the "affinity within the family'' subscale of MPSSS and the scores on FPSSS and the "midwives'/nurses' empowering behaviour'' subscale of FPSSS. There was a statistically significant moderate positive correlation between the scores on the "affinity within the family'' subscale of MPSSS and the scores on the "mother's general well-being including breastfeeding'' and "affinity within the family'' subscale of FPSSS. There was a statistically significant weak positive correlation between the scores on the "breastfeeding was manageable'' subscale of MPSSS and the scores on the "midwives'/nurses' empowering behaviour'' and "mother's general well-being including breastfeeding'' subscale of FPSSS (Table 4)

Discussion

This study was carried out to determine parents' sense of security after spontaneous vaginal delivery and cesarean section. In this study, the mean age of the mothers was found to be 30.57±5.47 (Table 1). In studies including both modes of delivery, the mean age of mothers was reported to be 29.48±5.46,[1] and 29.70±6.23.[23] It is seen that the mean age of mothers in the studies is similar to that in our study. In this study, the mean age of the fathers was found to be 33.37±5.70 (Table 2). In different studies in which the sense of security was studied, it was found that the mean age of fathers was 33.27±5.71,[1] and 35.72±4.65.[24] In studies on the sense of security, 42.4% of the fathers were aged 35 and over;[19] 52.8% were aged 31 and over.[20] It is seen that our study findings are similar to those in the study of Koçak et al.[1] in terms of the mean age of fathers, but different from other studies.

It is important for mothers to feel safe for a positive childbirth experience.[25] In this study, the mean postnatal sense of security score was determined as 56.05±8.86 and 55.21±9.89 in mothers who had spontaneous vaginal delivery and cesarean section, respectively (Table 3). In studies conducted with both mothers who had spontaneous vaginal delivery and cesarean section, the total score of postnatal sense of security was found to be 55.09±9.19,[18] 56.3±9.63,[6] 49.36±12.84,[1] and 49.61±7.6.[26] The mean postnatal sense of security score in this study was found to be similar to those reported in the studies conducted by Geçkil et al.[18] and Persson et al.[6] and higher than those reported in other studies mentioned above. Considering that the highest score obtainable from the scale is 72, it can be said that the mean postnatal sense of security scores of the mothers were high.

Moreover, in this study, the mean score of the mothers who had spontaneous vaginal delivery on the general well-being subscale was statistically significantly higher than the score of mothers who had cesarean section ($p<0.05$, Table 3). In the study of Kumral,[17] no statistically significant difference was found between the mode of delivery and general well-being subscale. This suggests that mothers who had spontaneous vaginal delivery felt mentally better than mothers who had cesarean section. The reason for this may be related to the fact that mothers who had spontaneous vaginal delivery recovered earlier in the postnatal period, were discharged in a shorter time, could breastfeed their baby sooner and could establish skin-to-skin contact with their baby sooner compared to mothers who had cesarean section.

Fathers' postnatal sense of security is considered an important factor affecting their decisions and behaviors in the postnatal period.[12] In this study, the mean scale scores of fathers whose wives had spontaneous vaginal delivery and cesarean section were found to be 29.78±10.59 and 28.98±10.32, respectively (Table 3). In the study conducted by Suid and Özkan, the mean postnatal sense of security score of fathers was reported to be 39.24±2.34[27]. In studies conducted with fathers whose wives had spontaneous vaginal delivery and cesarean section, the mean postnatal sense of security score was found to be 34.90±9.57,[1] and 40.4.[6] The lowest score obtainable by fathers is 13 and the highest score is 52.[22] Accordingly, it can be said that the fathers who participated in the study had a moderate postnatal sense of security. This may be related to the limited participation of fathers in the delivery process.

While mothers' sense of control, self-esteem, and ability to give delivery can create a sense of security, fathers' sense of security reveals a special dependence on mothers and health staff. Support from health personnel plays an important role in creating a sense of security for both spouses.[5] In this study, a statistically significant weak positive correlation was found between the scores of mothers who had spontaneous vaginal delivery and cesarean section on MPSSS and the empowering behavior subscale of FPSSS (Table 4). It has been reported that nurses' empowering behaviors are significantly associated with the sense of security in the first week postnatal for parents.[12] The presence and support of health staff is an important factor that connects mothers and fathers.[5] In our study, the fact that mothers felt secure in both modes of delivery may have influenced fathers positively. This may increase the father's communication with and support from health staff. Fathers' postnatal sense of security was associated with mother's general well-being including breastfeeding.[6] Mother's general well-being including breastfeeding experienced by the father is the most important dimension of the security experienced by parents.[12] After childbirth, it is of great importance for the father's postnatal sense of security that he is assured of the mother's general well-being including breastfeeding of the mother and the baby.[28] In this study, a statistically significant positive correlation was determined between the MPSSS scores of the mothers who had spontaneous vaginal delivery and cesarean section and the mother's general well-being incluiding breastfeeding subscale of FPSSS (Table 4). According to this result, the fact that mothers feel secure, are generally well and can breastfeed their babies positively affects the "mother's general well-being incluiding breastfeeding'' subscale of FPSSS. This may be explained by mothers' faster physical and emotional recovery, their ability to breastfeed, and their ability to maintain skin-to-skin contact. Higher general well-being scores, particularly among mothers who had spontaneous vaginal delivery, positively impacted fathers' perceptions of trust.

The identity of the father, which has an important place in every aspect of the family, starts with pregnancy and continues after childbirth.[29] When parents hold their baby in their arms, they need the experience of intimate in-family friendship. Parents should mutually support and help each other. Being together as a family is very important for fathers' relationship with mothers, their involvement in roles and responsibilities within the family, and in building a sense of security for parents.[30] In this study, a statistically significant weak positive correlation was determined between the mean MPSSS score and the mean score on the "affinity within the family'' subscale of FPSSS (Table 4). In a study, it was shown that mothers' sense of security was not associated with the "affinity within the family'' subscale of FPSSS.[15] In our study, it was demonstrated that mothers' feeling secure positively influenced fathers' relationship with mothers and their involvement in family processes.

Mother's general well-being was associated with a postnatal sense of security for fathers.[12] In this study, a statistically significant moderate negative correlation was determined between the general well-being subscale of MPSSS and the "general well-being'' subscale of FPSSS (Table 4). This shows that the mental state of mothers who had spontaneous vaginal delivery was moderate and that the mental state of fathers was affected negatively at a moderate level. Fathers experience emotional disturbances, discomfort, and a feeling of exclusion in the first weeks postnatal.[21,29] In this study, it is thought that the reason for the moderate negative influence on the fathers' mental state in the postnatal period may be the stress and anxiety caused by the lack of information about infant care and responsibility and the feeling of inadequacy. This can be explained by the fact that while mothers feel physically well, fathers feel excluded or inadequate in the first weeks. Emotional fluctuations due to responsibility, lack of knowledge and stress can be observed in fathers in the postnatal period. Mothers being in good mental health after giving delivery can trigger fathers to become aware of their responsibilities and increase expectations regarding childcare. This situation can also cause fathers to feel pressured and negatively affect their overall mood. Therefore, it is thought that information, education, and psychosocial support programs may be beneficial in supporting fathers' mental health during the postnatal period.

In this study, a statistically significant weak positive correlation was found between the mean score on the "affinity within the family'' subscale of MPSSS and the scores on FPSSS among those who had spontaneous vaginal delivery and cesarean section (Table 4). Mothers who have strong ties with family members can cope better with stress and may have higher self-esteem, and this may positively influence the mother's sense of security. In previous studies, it has been found that the mother's postnatal sense of security is strongly associated with the father's sense of security.[24,31,32] Therefore, a mother who feels secure can indirectly make the father feel secure as well. A weak but significant positive correlation was found between the family closeness subscale and both maternal and paternal security scores. Strong bonds with family members increased mothers' ability to cope with stress and self-esteem, while also strengthening the father's involvement in family roles. This process of mutual support strengthens parents' sense of security.

It was determined that parents had difficulty communicating with health staff in the postnatal period when they needed.[33] However, the empowering behavior (communication with health staff) subscale of the postnatal sense of security scale is associated with the sense of security for both parents.[12] In this study, it was determined that there was a statistically significant weak positive correlation between the score on the midwives'/nurses' empowering behaviour subscale of MPSSS and the "midwives'/nurses' empowering behaviour'' subscale of FPSSS among those who had cesarean section (Table 4). This suggests that as the communication of mothers with health staff increases the communication of fathers increases as well. This also shows that the supportive behavior of healthcare personnel plays an important role in the perception of safety among both mothers and fathers.

As a result, it has been determined that mothers who have spontaneous vaginal delivery have a higher overall well-being. In both types of delivery, it was determined that as mothers' overall well-being increased, fathers' overall well-being decreased; as parents' average postnatal sense of security scores increased, the average family closeness scores also increased; and as mothers' postnatal sense of security scores increased, fathers' overall well-being, including breastfeeding, also increased. At the same time, it was found that as mothers' sense of security after childbirth and midwife/nurse empowering behavior increased, fathers' empowering behavior also increased.

To enhance the sense of security of parents after childbirth, postnatal care services for mothers (early mobilization, skin-to-skin contact, etc.) should be supported. In addition, it is recommended that fathers be involved in the birthing process to ensure that parents feel a high level of security after the birth. At the same time, family-centered care, which strengthens family bonds, should be supported and promoted through policies that empower parents. The empowering behaviors of healthcare professionals have an impact on feelings of security. Therefore, it is recommended that health systems expand the necessary training and counseling services for midwives/nurses on family-centered and empowering communication with parents.

Strengths and weakness

The study's strength lies in the use of a validated scale, and the fact that the MPSSS and FPSSS scales are valid and reliable for Turkish. Another strength is that interviews were conducted with both parents. The original measurement tool was developed with a questionnaire given 8 weeks after birth and containing questions related to the first week postnatal. However, the data in our study were collected within 72 hours. Therefore, the ability to detect the impact of emotional changes more clearly and earlier is a strong point. However, emotional state in the first 72 hours can also be affected by hormones and may not reflect the overall state, which is a weakness. Therefore, there is a need to develop a scale that provides greater universality and generalizability in measuring postnatal safety at different times in the postnatal period. The fact that the research data was collected with the participation of fathers means that the research data had to be collected in a short period of time, which is one of the weaknesses of the study.

Recommendations for practice

It is recommended that midwives/nurses provide the necessary education and counseling services during the postnatal period to improve the general well-being of mothers and partners, especially those who have had a cesarean section, and to increase fathers' sense of security after delivery. In order to better understand the effects of delivery type on parents' sense of security and general well-being after delivery, it is recommended that future studies be conducted on groups with broader sampling and different sociodemographic characteristics. Both parents should be encouraged to actively participate in the pregnancy and postnatal care process. Involving fathers in infant care contributes to strengthening family bonds. Strategies aimed at developing family bonds and supporting parents' well-being should be implemented. Effective communication between parents and healthcare personnel must be ensured. Programs should be developed to educate parents about infant care, the postnatal period, and family roles, with the aim of reducing stress and increasing confidence.

Research limitations

Parents who were not with their babies for medical reasons or who lost their babies were excluded from the study. Since the research was conducted only in the province of Erzurum, the results of the study can be generalized only for this province.

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Conflict of interest

The author declared no conflicts of interest.

Contribution of authors

Material preparation, data collection, and analysis were performed by RTD and KT. The manuscript was written by RTD and KT. All authors mentioned here approved the manuscript.

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