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The Effect of Information Motivation Behavioural Skills (IMB) Model Based Postpartum Sexual Counselling on Sexual Health of Women

IMB Model Temelli Postpartum Cinsel Danışmanlığın Kadın Cinsel Sağlığına Etkisi

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ABSTRACT

Aim: *The aim of this study was to determine the effect of postpartum sexual counseling provided using the Information-Motivation-Behavior (IMB) model on women's sexual health.*

Material and Method: *This semi-experimental study was completed with 105 people, including 55 postpartum women in the experimental group and 50 people in the control group. Postpartum sexual counseling based on Information-Motivation-Behavioral skills was given to the women in the experimental group. The Female Sexual Function Questionnaire Index (IFSF), Edinburgh Postpartum Depression Scale (EPDS), and Body Image Scale (BCS) were used to obtain the data.*

Results: *In the repeated measurements of the experimental group made in the 2nd and 4th months postpartum; It was determined that the IFSF total score and Sexual Satisfaction subscale scores were higher than the control group and the difference between them was statistically significant. In the 4th month postpartum, the EPDS scores of the experimental group were significantly lower. BCS scores were found to be lower in the experimental group than the control group at the 2nd and 4th months.*

Conclusion: *It was determined that postpartum sexual counseling using the IMB model positively affected women's sexual health.*

Keywords: *Postpartum sexuality, Sexual counselling, IMB Model*

ÖZET

Amaç: *Bu çalışmanın amacı, Bilgilendirme-Motivasyon-Davranış (IMB) modeli kullanılarak verilen doğum sonrası cinsel danışmanlığın kadın cinsel sağlığına etkisini belirlemektir.*

Gereç ve Yöntem: *Yarı deneysel olan bu çalışma, deney grubunu oluşturan 55 lohusa kadın ve kontrol grubunu oluşturan 50 kişi olmak üzere 105 kişi ile tamamlandı. Deney grubunda yer alan kadınlara Bilgilendirme-Motivasyon-Davranış becerileri temelli postpartum cinsel danışmanlık verildi. Verilerin elde edilmesinde Kadın Cinsel Fonksiyon Sorgulama İndeksi (IFSF), Edinburgh Postpartum Depresyon Ölçeği (EPDS), Vücut Algısı Ölçeği (BCS) kullanıldı.*

Bulgular: *Deney grubunun postpartum 2. ve 4. ayda yapılan tekrarlayan ölçümlerinde; IFSF toplam puanı ve Cinsel Doyum alt boyut puanlarının kontrol grubundan yüksek olduğu ve arasındaki farkın istatistiksel olarak ileri düzeyde anlamlı olduğu belirlendi. Postpartum 4. ayda deney grubunun EPDÖ puanları anlamlı şekilde düşüktü. BCS puanları deney grubunda 2. ay ve 4. ayda kontrol grubuna göre düşük olarak saptandı.*

Sonuç: *Doğum sonrası IMB modeli kullanılarak verilen cinsel danışmanlığın kadın cinsel sağlığını olumlu etkilediği belirlendi.*

Anahtar kelimeler: *Postpartum cinsellik, Cinsel danışmanlık, IMB modeli*

INTRODUCTION

The postpartum period is a period during which significant changes take place in a woman's life. In the guidelines of postnatal care of the mother and the new-born, published by the World Health Organization in 2013, postnatal sexual life is seen as one of the essential needs of women, and it is stated that this period is an opportunity for diagnosing problems related to sexual health and their effects in time, resolving them and providing information and consultancy services on this issue (WHO, 2013).

Studies on sexual health in the postpartum period have reported that sexual problems are quite common (Chayachinda et al., 2015; Karacam., 2011; J. Lee and Tsai., 2012; Serati et al., 2010). It has been stated in the literature that numerous factors affect the sexual functions of women in the postpartum period. It has been reported that particularly advanced maternal age, a high number of deliveries, interferential deliveries (episiotomy, vacuum, forceps) and postpartum depression and breastfeeding negatively affect the sexual lives of women in the postpartum period (Bertozzi et al., 2010; Karacam Z, 2011; Moel et al., 2010)Although sexuality is among the issues which should be dealt with by healthcare professionals in the postpartum period, it has been seen in the literature that sufficient time is not allocated for sexual health, or only family planning methods are discussed in counselling related to sexuality (Mete S, 2008; Kömürcü, Demirci, Yıldız, & Gün, 2014; Yılmaz & Eryılmaz 2005; Sezer, 2013).

Nevertheless, the content and quality of healthcare services and consultancy received in the postpartum period may be crucial in the solution of sexual problems that may emerge in this period. Nurses can utilise the IBM (Information-Motivation-Behavioural Skills) model, which constitutes an extensive and integrated framework in composing a consultancy plan related to postpartum sexual health (Fisher, 2012). The IBM model is composed of three components. These are information, motivation and behaviour. In the component of 'Information', it is aimed to provide the information which will enhance the sexual health of individuals, prevent sexual problems and turn information into behaviour. The second component is 'Motivation'. It motivates individuals to utilise the information they received in changing negative and risky behaviours and maintaining consistent and healthy behaviours. Finally, the third component, 'Behavioural Skills', enables individuals to acquire behavioural skills in improving their sexual health by reducing the negative outcomes they experience (Fisher, 2012; Smith et al., 2012). For women's health, it is thought that nurses will be effective, while providing personal counselling, in identifying problems on issues that are associated with privacy such as sexuality (Olsson et al., 2011). The aim of this study was to determine the effect of postpartum sexual counseling provided using the Information-Motivation-Behavior (IMB) model on women's sexual health.

MATERIALS AND METHODS

Research Type

This semi-experimental study was conducted between September 2014 and March 2016 (18 months). The study was completed in a maternity hospital in Turkey.

Study Population and Sample

In the study, by performing G power analysis, the sample size was calculated as 49 postpartum women for each group. In a study with a standard deviation of 6.38 with an estimate of a 3-unit increase in IFSF scores between two groups, the minimal sample size was calculated as 49 for one group when the Type I error was planned to be 5%, the Type II error to be 20%, and the power to be 80% (Kaplan et al 1999). The research was completed with 105 people, including 55 postpartum women in the experimental group and 50 people in the control group. Due to the existence of prognostic factors that may affect postpartum sexuality, randomization, stratification and blocking methods were used to assign postpartum women in the sample to the experimental and control groups. Participants were stratified according to their educational status, age and type of birth and were randomized into experimental and control groups by simple random sampling method (by drawing lots).

After randomization, an appointment was made for a home visit with the women in the experimental group by calling them on their mobile phones one week in advance. Between the fourth and sixth weeks of the postpartum period during the home visit, the puerperal women were provided with an 'IMB Model-Based Postpartum Sexual Counselling Program'. The topics in the

program such as 'sexuality, sexual health, anatomy and physiology of women and men, menstrual cycle, sexual anatomy, sexual intimacy, normal sexual response and problems encountered in the postpartum period' were discussed based on the adult education method with the purpose of providing 'Information' within the content determined. The second stage of the IMB model is 'Motivation'. The instruction, discussion, envisioning and question-answer techniques were employed to change the negative attitudes of the women, convert the information they received into desirable behaviours in respect to maintaining consistent and appropriate behaviours, and motivate them sufficiently to act accordingly. In the sessions that were held, motivational interview principles were also taken into account with regard to this objective. These principles may be listed as showing empathy, developing contrasts/opposite conditions, avoiding arguments, opposition/breaking the resistance, and promoting self-efficacy. Motivational sharing activities which would help the puerperal woman deal with sexual problems in the postpartum period were carried out on the following topics:

Types of sexual behaviour and intercourse positions, enhancing body image, communicating with the spouse about sexual problems, being able to speak about sexual problems, the effect of lactation on sexuality, taking notes as reminders to carry out Kegel exercises, the fact that the postpartum period is a temporary period and everybody can experience it, identifying sexual problems and making an effort to receive help.

The women were provided with positive behavioural feedback and encouraged for social support, companionship and commitment. Brochures and examples of contraceptive methods which promoted the information and sharing activities above were utilised as educational materials. After providing information and motivation, the women were taught objective skills to fulfil the 'behaviour' aspect of the model. Behavioural skills such as Kegel exercises and putting male condoms on properly were emphasised. Counselling took between 30 and 45 minutes.

A home visit was made to both groups in the second month after birth. During the visits, the Female Sexual Function Index, the Edinburgh Postpartum Depression Scale and the Body Investment Scale were administered.

Procedure

Permission to use was derived from the authors who directed by the Turkish validity and reliability study of the questionnaires used in the study. All questionnaires used in the assessment of the participants were converted into an online questionnaire in their original form. Online scales and questionnaires, voluntary consent forms, and demographic data were communicated to the participants via Google Forms. The link of the questionnaire forms created online was communicated via Whatsapp application through the advisors of the universities where the participants were educated. Participants, who accessed the link provided by their advisors, filled out the questionnaires online after declaring that they agreed to participate in the research.

Data Collection Tools

Index of Female Sexual Function-IFSF: The scale, consisting of 9 items, questions the woman's sexual function in the last month. The minimum value of the scale is 5 and the maximum is 45. Scores below 30 are considered at risk for sexual dysfunction (Ayseçkin and Eryılmaz, 2004). Cronbach's Alpha coefficient in our study is .82.

Edinburgh Postnatal Depression Scale-EPDS: The scale consists of 10 items and is scored as a minimum of 0 and a maximum of 30 between. Although the cut-off scores determined for the scale vary, it is stated that 12 points are sufficient to indicate clinical depression among studies. Cronbach's Alpha coefficient in our study is .82.

Body Cathexis Scale-BCS: This scale, which evaluates the individual's satisfaction with body parts, consists of 40 items. It is a scale. The minimum score on the scale is 40 and the maximum score is 200. High total scores are interpreted as low satisfaction with the individual's body part or function (Hovardaoğlu, 1993). Cronbach's alpha coefficient in our study is .91.

Ethics Consideration

The ethical permission required to conduct the research was approved by a university ethics committee (Date: 14.10.2014 and Approval number: 2014/258, 19/10). Written permission was obtained from the hospital where the study was conducted on 19.02.2015. Written consent was obtained from the participants in the study.

Data Analysis

We analyzed the data of the study with SPSS 21.0 program. T-test was used to compare the experimental and control groups in terms of continuous variables. Chi-square test was used to compare categorical variables. T-test, correlation analysis, Mann-Whitney U test and Wilcoxon Signed-Rank tests were used to compare the dependent variables of the study in the experimental and control groups.

RESULTS

Table 1. Comparison of The Descriptive Characteristics of The Women in The Experimental and Control Groups

Characteristics	Experimental Group (n=55)		Control Group (n =50)		Total (n =105)		Homogeneity of Variances
Mean Age	25.47 ± 3.94 *min:20* *max:33*		23.50 ± 3.97 *min:18* *max:30*		24.53±4.06 *min:18* *max:33*		F=0.001 *p*=0.979
	n	**%**	**n**	**%**	**n**	**%**	
Age Groups							
18-22 years	18	32.8	17	34.0	35	33.3	
23-28 years	24	43.6	20	40.0	44	41.9	x^2=0.154
29-34 years	13	23.6	13	26.0	26	24.8	*p*=0.926
Total	55	100.0	50	100.0	105	100.0	
Educational Status							
Primary School	35	63.6	30	60.0	65	61.9	
High School	17	33.3	18	36.0	35	33.3	x^2=0.376
University	3	4.8	2	4.0	5	4.8	*p*=0.829
Total	55	100.0	50	100.0	105	100.0	
Delivery Type							
Normal Delivery	27	49.1	24	48.0	51	48.6	x^2=0.012
Caesarean Delivery	28	50.9	26	52.0	54	51.4	*p*=0.911
Total	55	100.0	50	100.0	105	100.0	

F= Levene Test X^2=Pearson chi-squared test

It was determined that the participants in the study exhibited a homogeneous distribution in terms of their descriptive characteristics (p>0.05). The average age of women was 24.53 ± 4.06 (Table 1).

As seen in the findings presented in Table 2, the mean time of starting to have sexual intercourse in the postpartum period was 40.43 ± 20.41 days after delivery for the entire sample, while it was 40.35 ± 21.42 days for the experimental group and 40.52 ± 19.91 days for the control group. It was determined that in the second postpartum month, 56.4% (n=21) of the women hugged their spouses every day without sexual intercourse, and this rate was seen to be 42% (n=21) among the women in the control group. In the fourth month, it was determined in both the experimental group (58.2%) and the control group (58%), the frequencies of hugging without sexual intercourse increased.

Table 2. Distribution of the Women Based on Their Sex Lives in Their Puerperal Period

	2nd Postpartum Month				4th Postpartum Month				Homogeneity of Variances
	Experimental Group (n =55)		Control Group (n=50)		Experimental Group (n=55)		Control Group (n=50)		
	n	%	n	%	n	%	n	%	
Sex Position									
Woman on top	8	14.5	12	24.0	10	18.2	14	28.0	[PP2] x^2=1.728 *p*=0.631
Man on top	33	60.0	25	50.0	27	49.1	25	50.0	
Side by side	5	9.1	5	10.0	13	23.6	5	10.0	[PP4] x^2=4.161 p=0.245
No coitus	9	16.4	8	16.0	5	9.1	6	12.0	
Total	55	100.0	50	100.0	55	100.0	50	100.0	
Onset of Sexual Intercourse *(Days)*	36.95±19.15 *min:0 max:60*		37.64±17.53 *min:0 max:55*		43.76±21.41 *min:0 max:100*		43.40±19.91 *min:0 max:100*		[PP2] F=1.161 *p*=0.284 [PP4] F=1.117 *p*=0.293
Frequency of Hugging without Sexual Intercourse									
Never	5	9.1	21	42.0	22	40.0	21	42.0	[PP2] x^2=16.049 *p*=0.000*
Every day	31	56.4	21	42.0	32	58.2	29	58.0	
Once every 2-3 days	19	34.5	8	16.0	1	1.8	–	–	[PP4] x^2=0.935 *p*=0.627
Total	55	100.0	50	100.0	55	100.0	50	100.0	
Sexual Behaviours Other Than Intercourse [a]									
Kissing	53	96.4	45	90.0	51	92.7	43	86.0	–
Spouse stroking the woman's body	51	92.7	43	86.0	1	1.8	1	2.0	
Spouse touching the woman's genitals	1	1.8	1	2.0	–	–	–	–	
Spouse stimulating the woman through oral sex	–	–	–	–	5	9.1	4	8.0	
Woman stimulating the spouse through oral sex	4	7.3	3	6.0	4	7.3	1	2.0	

[a] *Multiple choices were allowed* [PP2] *2nd Postpartum Month* [PP4] *4th Postpartum Month*
F=Levene's Test for Homogeneity of Variances X^2*=Pearson's Chi-Squared Test*

As shown in Table 3, it was ascertained that in the second and fourth postpartum months, the scores obtained from all dimensions of IFSF and the total IFSF did not indicate a statistically significant difference between the experimental and control groups (p>0.05). Yet, in the repeated measures carried out in the second and fourth postpartum months, it was seen that the differences between the scores of the experimental and control groups from the Sexual Satisfaction dimension and total IFSF were statistically highly significant. Nevertheless, the scores of the experimental and control groups from the Frequency of Sexual Intercourse and Disorder in Sexual Intercourse dimensions in the repeated measures did not indicate a statistically significant difference (p>0.05). The scores of the experimental and control groups on the Edinburgh Postnatal Depression Scale (EPDS) in the second postpartum month were not significantly different (p>0.05). On the other hand, it was seen that the postpartum depression levels of the women in the control group were significantly higher than those of the women in the experimental group in the fourth postpartum month (t=-2.153; p=0.034). Furthermore, in the repeated measures carried out in the second and fourth postpartum months, the difference between the scores of the experimental and control groups on EPDS was statistically significant (F=6.717; p=0.011). The scores of the experimental and control groups on the Body Cathexis Scale (BCS) were not significantly different in the second postpartum month (p>0.05). Yet, in the repeated measures carried out

in the second and fourth postpartum months, the difference between the BCS scores of the experimental and control groups was found to be statistically significant (F=28.660; p=0.000).

Table 3. Comparison of the 2nd and 4th Postpartum Month Distributions of the Mean Scores of The Participants in the Index of Female Sexual Function (IFSF), Edinburgh Postnatal Depression Scale (EPDS) and Body Cathexis Scale (BCS)

Index of Female Sexual Function (IFSF) Dimensions	**2nd Postpartum Month**		**4th Postpartum Month**		**Intergroup Significance in Repeated Measures**
	Experimental Group (n=55)	**Control Group (n=50)**	**Experimental Group (n=55)**	**Control Group (n=50)**	
Sexual Satisfaction	6.95 ± 3.84	7.82 ± 4.04	8.00 ± 3.93	8.16 ± 3.83	F=11.472 *p*=0.001*
	t=-1.136 *p*=0.259		t=-0.211 *p*=0.834		
Sexual Intercourse Frequency *(Libido)*	9.44 ± 3.81	9.46 ± 3.59	9.64 ± 3.87	9.60 ± 3.57	F=0.516 *p*=0.474
	t=-0.033 *p*=0.974		t=0.050 *p*=0.960		
Disorder in Sexual Intercourse	5.33 ± 3.08	4.70 ± 2.51	5.51 ± 3.03	4.88 ± 2.60	F=0.000 *p*=0.991
	t=1.135 *p*=0.259		t=1.135 *p*=0.259		
IFSF Total	21.71 ± 9.61	21.98 ± 9.35	23.15 ± 9.69	22.64 ± 9.14	F=8.707 *p*=0.004*
	t=-0.146 *p*=0.884		t=0.274 *p*=0.785		
Edinburgh Postnatal Depression Scale (EPDS)	**2nd Postpartum Month**		**4th Postpartum Month**		**Intergroup Significance in Repeated Measures**
	Experimental Group (n=55)	**Control Group (n=50)**	**Experimental Group (n=55)**	**Control Group (n=50)**	
EPDS Total	13.69 ± 2.86	13.18 ± 2.76	10.00 ± 1.98	10.84 ± 2.01	F=6.717 *p*=0.011*
	t=0.928 *p*=0.355		t=-2.153 *p*=0.034*		
Body Cathexis Scale (BCS)	**2nd Postpartum Month**		**4th Postpartum Month**		
	Experimental Group (n=55)	**Control Group (n=50)**	**Experimental Group (n=55)**	**Control Group (n=50)**	**Intergroup Significance in Repeated Measures**
BCS Total	116.75 ± 16.39	116.54 ± 16.21	110.47 ± 16.14	112.12 ± 16.20	F=28.660 *p*=0.000*
	t=0.064 *p*=0.949		t=-0.521 *p*=0.603		

Table 4 shows that in the second postpartum month, in the experimental group, a weak, negative and statistically significant relationship was determined between the participants' EPDS total scores and their scores in the Sexual Satisfaction (r=-0.309) and Frequency of Sexual Intercourse (r=-0.326) dimensions of IFSF and their total IFSF scores (p<0.05). In the control group, a weak, negative and statistically significant relationship was determined between the participants' EPDS total scores and their scores in the Sexual Satisfaction (r=-0.297) dimension of IFSF (p<0.05). In the fourth postpartum month, there was no significant relationship between the EPDS total scores of the women in the experimental group and their IFSF dimension or total scores (p>0.05). Conversely, in the control group, a weak, negative and statistically significant relationship was determined between the participants' EPDS total scores and their scores in the Sexual Satisfaction (r=-0.353) and Frequency of Sexual Intercourse (r=-0.295) dimensions of IFSF and their IFSF total scores (p>0.05).

In the second postpartum month, in the experimental group, a moderate, negative and statistically significant relationship (p<0.001) was observed between the participants' BCS total scores and their scores in the Sexual Satisfaction (r=-0.516) and Frequency of Sexual Intercourse (r=-0.662) dimensions of IFSF and IFSF total scores (r=-0.560), and a weak, negative and statistically significant relationship (p<0.05) was seen between their BCS total scores and their scores in the Disorder in Sexual Intercourse dimension of IFSF (r=-0.283). Among the women in the control group, a moderate, negative and statistically highly significant relationship (p<0.001) was observed between the participants' BCS total scores and their scores in the Sexual

Satisfaction (r=-0.578), Frequency of Sexual Intercourse (r=-0.625) and Disorder in Sexual Intercourse (r=-0.201) dimensions of IFSF and total IFSF scores (r=-0.545).

Table 4. The Relationships Between the Scores of the Participants From the Index of Female Sexual Function (IFSF) and Edinburgh Postnatal Depression Scale (EPDS) in The 2nd and 4th Postpartum Months Based on the Groups

		2nd postpartum month		
		Experimental Group (n=55)		
	Sexual Satisfaction	**Frequency of Sexual Intercourse *(Libido)***	**Disorder in Sexual Intercourse**	**IFSF Total**
EPDS Total	r=-0.309 *p*=0.022*	r=-0.326 *p*=0.015*	r=-0.191 *p*=0.161	r=-0.315 *p*=0.019*
		Control Group (n=50)		
	Sexual Satisfaction	**Frequency of Sexual Intercourse *(Libido)***	**Disorder in Sexual Intercourse**	**IFSF Total**
EPDS Total	r=-0.297 *p*=0.036*	r=-0.171 *p*=0.236	r=0.115 *p*=0.425	r=-0.225 *p*=0.116
		4th Postpartum Month		
		Experimental Group (n=55)		
	Sexual Satisfaction	**Frequency of Sexual Intercourse *(Libido)***	**Disorder in Sexual Intercourse**	**IFSF Total**
EPDS Total	r=-0.204 *p*=0.135	r=-0.181 *p*=0.187	r=0.043 *p*=0.754	r=-0.169 *p*=0.218
		Control Group (n=50)		
	Sexual Satisfaction	**Frequency of Sexual Intercourse *(Libido)***	**Disorder in Sexual Intercourse**	**IFSF Total**
EPDS Total	r=-0.353 *p*=0.012*	r=-0.295 *p*=0.037*	r=-0.132 *p*=0.361	r=-0.301 *p*=0.033*

*r= Pearson's Correlation Analysis * p<0.05 ** p<0.01 *** p<0.001*

Table 5. The Relationships Between the Scores of the Participants From the Index of Female Sexual Function (IFSF) and Body Cathexis Scale in the 2nd and 4th Postpartum Months Based on the Groups

		2nd postpartum month		
		Experimental Group (n=55)		
	Sexual Satisfaction	**Frequency of Sexual Intercourse *(Libido)***	**Disorder in Sexual Intercourse**	**IFSF Total**
Body Cathexis Scale (BCS) Total	r=-0.516 *p*=0.000***	r=-0.662 *p*=0.000***	r=-0.283 *p*=0.036*	r=-0.560 *p*=0.000***
		Control Group (n=50)		
	Sexual Satisfaction	**Frequency of Sexual Intercourse *(Libido)***	**Disorder in Sexual Intercourse**	**IFSF Total**
Body Cathexis Scale (BCS) Total	r=-0.578 *p*=0.000***	r=-0.625 *p*=0.000***	r=-0.201 *p*=0.000***	r=-0.545 *p*=0.000***
		4th postpartum month		
		Experimental Group (n=55)		
	Sexual Satisfaction	**Frequency of Sexual Intercourse *(Libido)***	**Disorder in Sexual Intercourse**	**IFSF Total**
Body Cathexis Scale (BCS) Total	r=-0.419 *p*=0.001**	r=-0.621 *p*=0.000***	r=-0.304 *p*=0.024*	r=-0.513 *p*=0.000***
		Control Group (n=50)		
	Sexual Satisfaction	**Frequency of Sexual Intercourse *(Libido))***	**Disorder in Sexual Intercourse**	**IFSF Total**
Body Cathexis Scale (BCS) Total	r=-0.615 *p*=0.000***	r=-0.619 *p*=0.000***	r=-0.232 *p*=0.106	r=-0.566 *p*=0.000***

r=Pearson's Correlation Analysis p<0.05*

In the fourth postpartum month, in the experimental group, a moderate, negative and statistically highly significant relationship was determined between the participants' BCS total scores and their scores in the Sexual Satisfaction ($r=-0.419$) ($p<0.01$) and Disorder in Sexual Intercourse ($r=-0.304$) ($p<0.05$) dimensions of IFSF, while a strong, negative and statistically significant relationship ($p<0.001$) was seen between their BCS total scores and their scores in the Frequency of Sexual Intercourse dimension ($r=-0.621$) and total IFSF scores ($r=-0.513$).

Moreover, in the control group, a strong, negative and statistically highly significant relationship ($p<0.001$) was identified between the participants' BCS total scores and their scores in the Sexual Satisfaction ($r=-0.615$) and Frequency of Sexual Intercourse ($r=-0.619$) dimensions of IFSF and total IFSF ($r=-0.566$).

DISCUSSION

As a significant life event for the family, having a baby brings about anatomical and physiological differences and hormonal changes for women along with various changes in family structure and partner relationships. The woman who experiences these changes must be able to adapt (Asadi et al., 2022). However, the spouse's awareness of these changes which develop following delivery is not sufficient. For this reason, healthcare professionals should support spouses in the postpartum period in terms of bio-psychosocial aspects through professional counselling programs which cover all these changes (Faisal-Cury, Huang, Chan, Lee, et al., 2013; Johnson, 2011; Sahin N., 2009). It is a crucial factor for a successful postpartum counselling program that the topic included in the educational plan is based on some models and theories (Beydokhti et al., 2021; Musavi et al., 2024). Upon examining sexual behaviours except for coitus in the postpartum period in this study, it was seen that the frequency of kissing among the women in the experimental group was high in the second postpartum month (96.4%) and the fourth postpartum month (92.7%). On the other hand, this rate in the women in the control group was lowed in the second postpartum month (90%) and the fourth postpartum month (86%). It may be argued that the clearly lower frequency observed in the control group in comparison to the experimental group indicated the efficacy of the IMB model-based postpartum sexual counselling that was provided in this study. Though sexuality is frequently interpreted as penile-vaginal coitus within Turkish society, a sexual counselling program should focus on identifying and changing the tabooed notions of spouses over sexuality. The significance of the fact that sexuality does not necessarily mean vaginal intercourse should be emphasised, where instead, alternative options of satisfaction such as genital stimulation using hands and kissing may also be preferred (Johnson, 2011; Ogallar-Blanco et al., 2022). In the training provided within our counselling program, it was stressed to the puerperal women that besides penile-vaginal penetration, intimacy can be achieved between spouses through various sexual behaviours. This issue on which necessary information and motivation were provided was influential in creating the variety of the data obtained in our study. In managing issues which adversely affect the communication and sexuality between spouses, the utilisation of cognitive methods such as individual counselling and psychotherapy may be of great use. In their study where the results of individual psychotherapy applied to major depressive postpartum women were examined, Moel determined that the spouse satisfaction levels of the women receiving therapy were higher (Moel et al., 2010). Yildiz and Kucuksahin (2011) pointed out in their study in which they examined problems experienced following delivery that one of the severe problems at a rate of 20% involved issues related to emotional states (Yıldız & Küçükşahin, 2011). In this context, it may be thought that the relationship between the spouses in the postpartum period may be reinforced, and postpartum depressive symptoms may be cured in the course of postpartum counselling by emphasising the importance of affective behaviours displayed along with or without sexual intercourse.

Postpartum sexual health problems can be diverse. Women experience a wide array of postpartum sexual health problems, including dyspareunia (Geuens & Vermeulen, 2023). After examining the presence of dyspareunia among the women in our study, it was seen that the dyspareunia rate, which was 63.6% in second postpartum month, decreased to 47.3% in the fourth postpartum month among the women in the experimental group, whereas this rate, which was 58% in the second postpartum month, decreased to 54% in the fourth postpartum month among the women in the control group. In a study conducted in Thailand, it was stated that dyspareunia is encountered more

frequently in the third postpartum month, and those with dyspareunia are slower in proceeding to a normal sex life. It was revealed that pain, orgasm and satisfaction levels in the sixth postpartum month developed positively in women without dyspareunia (Chayachinda et al., 2015). In their review of 48 studies, Serati et al. (2010) stated that dyspareunia leads to delaying the continuation of sexual relations after delivery (Serati et al., 2010). The evident improvement in the dyspareunia symptoms of the experimental group that received the IMB model-based postpartum sexual counselling in this study may be explained through education's positive effects on sexual functions, which covers a scope such as motivation for using them and the spouses' behaviours of touching each other more frequently and making more time for each other. In a study where the effects of theory-based interactive postpartum sexuality training on sexual functions were examined, it was reported that sexual self-sufficiency of women who received the training and the variety of their sexual activities increased, and they started to have sexual intercourse earlier (Lee & Tsai, 2012). In this study, it was determined that the scores of the women in the experimental group in the IFSF dimension of Sexual Satisfaction ($p<0.05$) and the total IFSF ($p<0.05$) in the second postpartum month indicated a more significant rise in the fourth postpartum month in comparison to the control group (Table 2). Lee et al. (2012) stated that the sexual satisfaction levels of women given theory-based interactive postpartum sexual health education was maintained on the levels before pregnancy (Lee & Tsai, 2012). It has been stressed in the literature that the treatment of sexual problems which existed at the beginning can be possible without any deterioration by means of counselling given in the postpartum period (Sayyadi et al., 2019). The results obtained in this study also supported the body of literature, revealing the therapeutic effects of sexual counselling. Nonetheless, the improvement achieved among the women in the control group, albeit less than that in the experimental group, may have developed corresponding to the progression of the postpartum period.

Postpartum depression is one of the most critical health problems encountered following delivery (Wang et al., 2021; Wubetu et al., 2020). In our study, the postpartum depression rate was determined to be 81.8% in the women in the experimental group and 76% in those in the control group in the second postpartum month. In the fourth postpartum month, it was seen that this rate decreased to 23.6% in the experimental group and 36% in the control group. Upon examining the distribution of the mean Edinburg Postpartum Depression Scale (EPDS) scores between the groups, in the repeated measures in the second and fourth postpartum months, it was observed that the decrease seen in the mean EPDS score of the women in the experimental group was statistically more significant in comparison to that in the control group ($p<0.05$) (Table 2). In a controlled experimental study conducted in Turkey, between two groups to which home visits were made twice, the experimental group was applied a 60-minute education program during the visits, and in comparison to the control group which was provided with routine care, it was reported in the second home visit made 2 months later that there was a significant decrease in the postpartum depression levels of the women in the experimental group (Karacam Z, 2011). As a part of the controlled experimental study carried out on 230 pregnant women who were in their 28th to 30th weeks of gestation, Moshki et al. (2013) stated that in the patients in the experimental group which was applied 36 hours of an educational program in total based on health locus of control, the education program was effective in the prevention of postpartum depression (Moshki et al., 2013). In another study carried out in Thailand, similarly, it was revealed that in the sixth postpartum week and third postpartum month, the postpartum depression levels of women in the experimental group which was provided with a discharge education supported with content towards preventing postpartum depression were significantly lower compared to the depression levels of women in the control group which received routine discharge education (Ho et al., 2009). Obtaining positive findings in this study which were in agreement with the results of similar studies revealed once again the importance of counselling we provided through home visits in the first postpartum month.

According to the results of the analysis on the relationship between sexual dysfunction and postpartum depression in this study, as the postpartum depression levels observed in the second postpartum month increased in the women in the experimental group, their sexual satisfaction, frequency of sexual intercourse and IFSF total scores decreased on a significant level. In the control group, a similar relationship was observed only in terms of the participants' sexual

satisfaction scores. In the fourth postpartum month, a negative significant relationship was determined between the postpartum depression levels of the women in the control group and their sexual satisfaction, frequency of sexual intercourse dimension and total IFSF scores (Table 3).

Similar results have been reached in many studies which have examined the relationship between postpartum depression and sexual life. In their study where 831 pregnant women were examined between 2005 and 2007, Faisal-Cury et al. (2013) reported that the sex lives of women who were determined to suffer from depression and anxiety in the postpartum period were adversely affected (Faisal-Cury, Huang, Chan, & Menezes, 2013). In a comparative study where postpartum women diagnosed with major depression and postpartum women without any history of depression were examined, Moel et al. (2010) reported that the sexual interest levels of the depressive women and their levels of satisfaction with their relationships with their spouses were lower in comparison to those who did not have any history of depression (Moel et al., 2010).

Another problem encountered in the postpartum period involves negative changes in women's perceptions of their body image (Grajek et al., 2022). In a study carried out in Sweden with focus group meetings held with 27 women, it was stressed that the women were not pleased with the physical changes developing in their bodies after delivery (Olsson et al., 2011). Likewise, in another study carried out in Australia, it was observed that the physical displeasure which was felt in the sixth postpartum month by 79 women who were being observed since early pregnancy was higher than the discontent experienced in the early and late periods of pregnancy (Faisal-Cury, Huang, Chan, Lee, et al., 2013). In a study conducted in Turkey, upon examining the factors which influenced body image following delivery, it was reported that gaining weight before delivery and in the postpartum period was related to a negative body image (Erbil et al., 2012).

As the women's scores on the Body Cathexis Scale decreased in our study, the satisfaction with their body increased. It stood out in our findings that approximately one-fourth of the women in both groups had a negative body image in the second postpartum month. It was found that the improvement in the body image of the women in the experimental group in the fourth postpartum month was better compared to the control group, and the differences in the groups' mean scores both periods were significantly in favour of the experimental group ($p<0.001$). This result revealed that the women in the experimental group reflected the positive effects of the counselling they received.

According to the results of the analysis of the relationship between sexual function and body image in this study, there was a negative significant relationship between the body image of the women in the experimental and control groups and their IFSF scores in the second and fourth postpartum months ($p<0.001$). In other words, this relationship means that a decrease/increase in the women's body image scores corresponded to a decrease/increase in their IFSF scores. While an increase in the body image scores in the second postpartum month corresponded to a decrease in the sexual function scores in both groups, it had a reversed effect in the fourth postpartum month. The experimental and control groups in this study shared similarities in terms of this parameter. It was revealed that as the body image of the women increased, their levels of sexual function also increased.

CONCLUSION

It was revealed in this study that the IFSF total and Sexual Satisfaction dimension scores of the experimental group in the second and fourth postpartum months were significantly higher than the scores of the control group. The Edinburg Postpartum Depression Scale score of the experimental group was significantly lower than that of the control group. The scores the participants obtained from the Body Cathexis Scale had a significant difference in favour of the experimental group in terms of an increase in being content. It was concluded that the postpartum sexual functions of the sample were negatively affected by the variables of depression and a negative body image. In order to change the negative attitudes of puerperal women for solutions to the problems they encounter in terms of sexuality after delivery and enable them to maintain consistent and appropriate behaviours, nurses and midwives are recommended to ensure that these women are firstly given information about these issues, followed by transforming the information they have received into behaviours, desirable attitudes and motivation.

Ethics Committe Approval

Ethics committee approval was received for this study from the Kocaeli University Research and Training Hospital Ethics Committee (Date: 19.10.2014, and Approval No: KOU-Kaek 2014/258, 19/10).

Author Contributions

Idea/Concept: R.Ö.; Design: R.Ö. A.M.C.; Supervision/Consulting: A.M.C.; Analysis and/or Interpretation: R.Ö.; Literature Search: R.Ö., A.M.C.; Writing the Article: R.Ö., A.M.C.; Critical Review: A.M.C.

Peer-review

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Conflict of Interest

The authors have no conflict of interest to declare.

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