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The Effect of Internet Information Resources on Maternal Confidence and Breastfeeding Self-Efficacy

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ABSTRACT

Objective: Breastfeeding is a natural and beneficial practice; however, many women experience various challenges. These challenges are influenced by factors such as maternal self-confidence. The aim of this study was to evaluate the relationship between the use of parenting-related internet information resources, maternal self-confidence, and breastfeeding self-efficacy. **Materials and Methods:** The population of the descriptive and analytical study consisted of all women who breastfed between September 2022 and February 2023. Purposive sampling was used and 318 women were selected. Data were collected by the researchers with an online survey between September 2022 and February 2023. **Results:** The mean age of the mothers participating was 30.94±4.51 years. The total score mean of the Karitane Parenting Confidence Scale (KPCS) was 35.38±4.06 (min=21.00, max=42.00). The total score mean of the Breastfeeding Self-Efficacy Scale was 58.14±9.46 (min=19.00, max=70.00). A significant positive correlation was found between KPCS and breastfeeding self-efficacy (r=0.467, p<0.01). **Conclusion:** It was determined that the use of Internet sources of information about parenting increased mothers' self-confidence about infant care, but mothers with a high perception of breastfeeding self-efficacy rarely consulted Internet sources about breastfeeding.

Keywords: Internet Information Resources, Breastfeeding, Parenting, Self-confidence.

İnternet Bilgi Kaynaklarının Annelik Özgüveni ve Emzirme Öz-Yeterliği Üzerine Etkisi

ÖZ

Amaç: Emzirme, doğal ve faydalı bir uygulama olmasına rağmen birçok kadın çeşitli zorluklar yaşamaktadır. Bu zorluklar, annenin kendine güveni gibi faktörlerden etkilenmektedir. Bu çalışmanın amacı, ebeveynlikle ilgili internet bilgi kaynaklarının kullanımı ile annenin kendine güveni ve emzirme öz yeterliliği arasındaki ilişkiyi değerlendirmektir.

Gereç ve Yöntem: Tanımlayıcı ve analitik çalışmanın evrenini Eylül 2022 ile Şubat 2023 tarihleri arasında emziren tüm kadınlar oluşturmuştur. Amaçlı örnekleme yöntemi kullanılmış ve 318 kadın seçilmiştir. Veriler araştırmacılar tarafından Eylül 2022 ve Şubat 2023 tarihleri arasında çevrimiçi bir anket ile toplanmıştır. **Bulgular**: Çalışmaya katılan annelerin yaş ortalaması 30.94±4.51'dir. Karitane Ebeveynlik Güven Ölçeği (KEKGÖ) toplam puan ortalaması 35.38±4.06 olarak bulunmuştur (min=21.00, max=42.00). Emzirme Öz-Yeterlilik Ölçeği toplam puan ortalaması ise 58.14±9.46'dır (min=19.00, max=70.00). KEKGÖ ile emzirme öz yeterliliği arasında anlamlı pozitif korelasyon bulundu (r=0.467, p<0.01). **Sonuç**: Ebeveynlikle ilgili internet bilgi kaynaklarının kullanımının annelerin bebek bakımı konusunda kendilerine olan güvenlerini artırdığı, ancak emzirme öz yeterlilik algısı yüksek olan annelerin emzirme konusunda internet kaynaklarına nadiren başvurdukları belirlenmiştir.

Anahtar Kelimeler: İnternet Bilgi Kaynakları, Emzirme, Ebeveynlik, Özgüven.

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INTRODUCTION

Mothers often seek information during the postpartum period to understand the causes of changes they experience and address health or physical concerns (Batman, 2018; Slomian et al., 2017). They gather information and support from friends, family, online networks, and health professionals to ease the transition into motherhood (Aston et al., 2018). Many parents increasingly use Internet resources—such as websites, forums, and apps—for round-the-clock support, especially on breastfeeding and infant care (Haluza & Böhm, 2020). However, limited studies explore the impact of online sources (consultations, apps, social media, telemedicine, etc.) on parental well-being, attachment, parenting behaviors, and breastfeeding (Batman & Şeker, 2019; Crossland et al., 2020).

Maternal self-confidence reflects women's perceptions of their ability to effectively undertake their maternal role. Becoming a mother is a significant developmental transition in adulthood, and change is an inevitable part of this process (Esmaelzadeh Saeieh et al., 2017). Low maternal self-confidence is common during the first year postpartum (Khajehei and Lee, 2019). Maternal self-confidence is also a critical factor in predicting various outcomes for both parents and children, including depression, stress, and child development (Pontoppidan et al., 2019). Strategies to enhance maternal self-confidence should not only focus on the individual but also consider the broader family context (Yang et al., 2020). In Turkey, research exists on the use of online information by pregnant women and mothers (Batman, 2018; Çobanoğlu, 2020), yet studies examining its effect on maternal self-confidence and breastfeeding efficacy are lacking. The Internet offers a broad parenting support network, including peer and professional advice (Salonen et al., 2014), especially valuable in underserved areas where it can reduce postnatal costs and foster positive breastfeeding attitudes (Qian et al., 2021). Online interventions can better meet maternal health needs by providing specific, evidence-based information and a wider reach than traditional methods, positively impacting exclusive breastfeeding (Chivers et al., 2021). However, the overwhelming information online complicates quality control, highlighting a need for curated, reliable platforms to prevent misinformation risks (Wu et al., 2021). In the present study, the aim was to evaluate the relationship between the use of Internet information sources on parenting and maternal self-confidence and breastfeeding self-efficacy.

MATERIALS AND METHODS

Study design and participants

This study employed both descriptive and analytical methodologies. It was conducted using an online questionnaire with participants from different cities in Turkey between September 2022 and February 2023. The universe of the study comprised all breastfeeding mothers in Turkey with Internet access between September 2022 and February 2023, who met the inclusion criteria. Specifically, mothers were required to be 18 years or older, still breastfeeding, literate in Turkish, and active users of online platforms, such as social media, to ensure accessibility for participation. Purposive sampling was employed, and 318 women who satisfied the inclusion criteria were selected for participation. In order to calculate the sample size to be included in the study, the sample calculation formula in cases where the number of elements in the universe is not known was used and for the minimum sample size, 95% confidence interval, 5% margin of error, and 71.7% incidence [71.7% incidence of women using the Internet in Turkey to seek information about health (TUİK Household Information Technology Use Survey, 2021)], it was calculated that 312 participants should be included.

Dependent and independent variables

The independent variables were the use of Internet information sources related to parenting and sociodemographic and personal characteristics of the mothers who met the inclusion criteria such as age and employment and educational status. The dependent variables were Postpartum Breastfeeding Self-Efficacy Scale and Karitane Parenting Confidence Scale scores.

Procedures

Data were gathered through an online survey. The questionnaire was designed using Google Forms, with the study's purpose, participation terms, and guidelines provided at the start. The URL link required to access the questionnaire was sent to mothers who met the conditions of participation on social media, forums, etc. on the Internet. The link was sent by the researcher to Facebook and WhatsApp mother groups and Instagram pages. Before responding to the research questions and statements, the participants read the purpose of the research and the voluntary consent form and ticked the box declaring that they were willing to participate. The participants were able to access the data collection forms after giving their consent. They were informed that they could withdraw at any time and that their participation was entirely voluntary. The obstetric features (such as the number of cesarean deliveries, the number of pregnancies, etc.) in the introductory information form were examined by cross-referencing participants' responses regarding breastfeeding status and inconsistent data were excluded. The researcher responded to the questions and problems of the participants who completed the questionnaire regarding the subjects they needed information about in the next stage.

Introductory information form

This data collection form, developed by the researcher through a review of the literature, was utilized for gathering information. It was composed of 44 questions concerning the sociodemographic details and obstetric and parenting knowledge of the mothers

and the Internet information sources from which they obtained this information (Karaçam & Sağlık, 2018).

Postpartum Breastfeeding Self-Efficacy Scale

This 33-item scale was developed by Dennis in 1999. In 2003, she developed the Breastfeeding Self-Efficacy Scale - Short Form by reducing it to 14 items. The scale is a 5-point Likert-type, with items rated from 1 = 'not at all confident' to 5 = 'always confident.' Scores on the scale vary from a minimum of 14 to a maximum of 70, with higher scores reflecting increased self-efficacy in breastfeeding. In their 2010 study, Aluş Tokat et al. assessed the reliability and validity of the Turkish adaptation of the Breastfeeding Self-Efficacy Scale - Short Form, reporting a Cronbach's alpha of 0.86, which supported its suitability for Turkish culture. The scale takes an average of 5-7 min to administer (Aluş Tokat et al., 2010). In our study, the scale demonstrated a Cronbach's alpha value of 0.89, indicating an acceptable level of reliability. This scale has been widely used in studies involving breastfeeding mothers, and its validity has been supported across different populations, including full-term mothers.

Karitane Parenting Confidence Scale (KPCS)

This 15-item scale was developed by Crncec et al. in 2008. It was designed by health professionals to measure parenting-related competence and self-efficacy in early parenthood. It is suitable for parents with babies between 0 and 12 months old. It was reported that although the sample group was mothers during the development of the scale, it could also be used to evaluate the self-confidence of fathers regarding parenting. Each item in the scale is scored as 0: No, hardly ever; 1: No, not very often; 2: Yes, some of the time; 3: Yes, most of the time. There are two subscales and only Item 11 is reverse scored. Reverse scoring means 0=3; 1=2; 2=1; 3=0. The score range is 0-42, and high scores are positive, indicating that the parent has high self-confidence regarding parenting. Yılmaz and Oskay (2021) assessed the validity and reliability of the Turkish version of the scale, finding a Cronbach's alpha of 0.93 for the overall scale, 0.96 for the 'infant care' subscale, and 0.71 for the 'parenting role' subscale. Their findings indicate that the scale is appropriate for assessing maternal self-confidence within Turkish culture. The scale takes an average of 15 min to complete (Yılmaz & Oskay, 2021). In our study, the Cronbach's alpha value was 0.78 for the "infant care" subscale, 0.53 for the "parenting role" subscale, and 0.71 for the total scale reliability, showing it has an acceptable level of reliability. The KPCS can be applied to a broad group of mothers and has been used in various studies involving mothers of full-term infants (Avşin and Can 2022). In our study, the scale was specifically applied to breastfeeding mothers with infants aged 0-12 months, in line with the scale's target population. This scale is suitable for our study since it measures overall parenting confidence, and its use is consistent with prior research. Furthermore, the inclusion criteria ensured that all participants met the necessary conditions for using the KPCS, supporting the validity and applicability of the scale in this context.

Statistical analysis

Data analysis was conducted using IBM SPSS Statistics 22 (IBM SPSS, Turkey). Descriptive statistical methods, including frequency, percentage, minimum and maximum values, median, mean, and standard deviation, were employed. The Mann–Whitney U test and the Kruskal–Wallis test were utilized for comparisons. For significant results from comparisons involving more than two groups, post-hoc analyses were carried out using the pairwise Mann–Whitney U test with Bonferroni correction. The significance level was set at $p<0.05$.

Ethical considerations

Ethical permission for the research was granted by the Istanbul University-Cerrahpaşa Social and Human Sciences Research Ethics Committee (Date: 04.10.2022; Decision No: 2022/284). At the beginning of the questionnaire, statements regarding the conditions of participation, the instructions, the purpose of the research, and the fact that the information provided would be kept confidential and not be shared with other individuals were included. Permission was obtained by email from Merlinda Aluş Tokat to use the Postpartum Breastfeeding Self-Efficacy Scale and from Yılmaz to use the KPCS in the study. Written consent was obtained from the participants included in the sample through the Informed Voluntary Consent Form.

RESULTS

The demographic and obstetric characteristics of the mothers are given in Table 1. The distribution of the mothers according to their information needs and resources during pregnancy, infant care, and breastfeeding is given in Table 2. When the distribution of the mothers according to their Internet use characteristics is examined, it is shown in Table 3, along with other characteristics, that 80.8% used Instagram and 62.3% used YouTube as Internet information sources, and many of them have used the Internet for 10 years or more.

The total mean score of the KPCS was 35.38±4.06 (min=21.00, max=42.00) and the total mean score of the Breastfeeding Self-Efficacy Scale was 58.14±9.46 (min=19.00, max=70.00). Correlation analysis revealed a significant and positive correlation between the scores of the two scales ($r=0.46$, $p<0.01$).

Breastfeeding self-efficacy scores were evaluated based on obstetric factors, current baby characteristics, and Internet usage, with significant findings presented in Table 4. No significant differences were found in relation to other demographic, obstetric, baby-related, or Internet use characteristics. The KPCS was examined in terms of mothers' demographic, obstetric, and Internet use characteristics and the significant ones are shown in Table 5. No differences were

observed in terms of other demographic, obstetric, or Internet use characteristics.

Table 1. Demographic and obstetric characteristics of the mothers (n=318).

		n	%
Age ($\bar{X}$±SD, 30.94±4.51)	21-25	26	8.2
	26-30	137	43.1
	31-35	111	34.9
	36 or older	44	13.8
Education	Primary school	6	1.9
	Bachelor's degree	238	74.8
	Postgraduate degree	74	23.3
Employment status	Working	179	56.3
	Not working	139	43.7
Socioeconomic status	Low (expenses exceed income)	17	5.3
	Middle (expenses equal to income)	198	62.3
	High (income exceeds expenses)	103	32.4
Number of living children	1	222	69.8
	2	76	23.9
	3 or more	20	6.3
Time between last pregnancies	First pregnancy	190	59.7
	0-2 years	33	10.4
	More than 2 years	95	29.9
Planned pregnancy	Yes	267	84.0
	No	51	16.0
Gestational week at birth	36+6 days or before	54	17.0
	37 or after	264	83.0
Type of birth	Vaginal	110	34.6
	Cesarean section	208	65.4
Weight of baby at birth	3000 g or below	93	29.2
	Above 3000 g	225	70.8

n: Count, **%:** Column percentage.

Table 2. Mothers' information needs and sources during the pregnancy, infant care, and breastfeeding periods.

(N=318)		n	%
Frequency of obtaining information from those around them during pregnancy	Rarely	113	35.5
	Sometimes	94	29.6
	Often	77	24.2
	Very often	34	10.7
Frequency of obtaining information from the Internet during pregnancy	Rarely	27	8.5
	Sometimes	72	22.6
	Often	118	37.1
	Very often	101	31.8
Frequency of obtaining information about infant care from those around them after birth	Rarely	96	30.2
	Sometimes	129	40.6
	Often	68	21.4
	Very often	25	7.9
Frequency of obtaining information about infant care from the Internet after birth	Rarely	38	11.9
	Sometimes	86	27.0
	Often	129	40.6
	Very often	65	20.4
Frequency of obtaining information about breastfeeding from those around them after birth	Rarely	128	40.3
	Sometimes	122	38.4
	Often	53	16.7
	Very often	15	4.7
Frequency of obtaining information about breastfeeding from the Internet after birth	Rarely	64	20.1
	Sometimes	93	29.2
	Often	114	35.8
	Very often	47	14.8

n: Count, **%:** Column percentage.

Table 3. General characteristics of mothers' internet use.

(N=318)			**n**	**%**
Reasons for needing internet research during pregnancy and after	I don't have enough knowledge about infant care, breastfeeding, etc.	Yes	152	47.8
		No	166	52.2
	I can immediately access the information I want	Yes	268	84.3
		No	50	15.7
	I do not find the health personnel's answers satisfactory/sufficient	Yes	43	13.5
		No	275	86.5
	I cannot contact health personnel immediately when I need to	Yes	164	51.6
		No	154	48.4
	I am reluctant to ask people around me	Yes	24	7.5
		No	294	92.5
	I am reluctant to ask health personnel	Yes	13	4.1
		No	305	95.9
	Other (enjoying researching, sharing experiences, etc.)	Yes	5	1.6
		No	313	98.4
The extent to which Internet research meets their needs during pregnancy and after		Not at all	2	0.6
		A little	122	38.4
		A lot	148	46.5
		Very much	46	14.5
Believing in the accuracy of information found on the Internet		Sometimes	203	63.8
		Often	109	34.3
		Never	6	1.9
Consulting health personnel about the accuracy of information on the Internet		Yes	242	76.1
		No	12	3.8
		Sometimes	64	20.1
Concern about using information obtained from the Internet		Yes	144	45.3
		No	174	54.7
Feelings when sharing on the Internet or social media with strangers who have pregnancy/birth experience		Reluctance	28	8.8
		Comfortable because of having experienced it before	204	64.2
		Distrust/caution	86	27.0

n: Count, **%:** Column percentage.

Table 4. Comparison of participants' breastfeeding self-efficacy scale scores by characteristics (n=318).

		Breastfeeding Self-Efficacy Scale Scores		
		$\bar{X}$±SD	**Min.-Max.**	**Median (Q1-Q3)**
Planned pregnancy	Yes	58.82±8.98	19.00-70.00	61.00 (55.00-65.00)
	No	54.60±11.06	23.00-70.00	55.00 (50.00-64.00)
Z/p				-2.77/**0.01**[2*]
Gestational week at birth	≤36+6 days	55.70±9.11	30.00-70.00	56.00 (50.75-62.25)
	≥37	58.64±9.46	19.00-70.00	61.00 (55.00-66.00)
Z/p				-2.51/**0.01**[2*]
Had trouble breastfeeding her last baby immediately after birth	No	60.95±7.25	39.00-70.00	62.00 (55.25-67.00)
	Yes	55.30±10.54	19.00-70.00	57.00 (50.00-63.00)
Z/ p				-4.90/**0.00**[2*]
Currently having trouble breastfeeding her latest baby	No	60.11±8.09	19.00-70.00	62.00 (55.00-67.00)
	Yes	51.29±10.64	23.00-70.00	55.00 (45.00-58.00)
Z/p				-6.50/**0.00**[2*]

Table 4. (Continued). Comparison of participants' breastfeeding self-efficacy scale scores by characteristics (n=318).

Frequency of obtaining information from the Internet during pregnancy	Rarely (A)	62.37±6.61	48.00-70.00	63.00 (57.00-68.00)
	Sometimes (B)	56.70±9.39	23.00-70.00	56.50 (52.25-64.00)
	Often (C)	58.21±9.32	19.00-70.00	59.00 (53.00-66.00)
	Very often (D)	57.97±10.07	27.00-70.00	61.00 (54.00-65.00)
Bonferroni				**A>B, A>C, A>D**
X^2_{KW}/p				8.24/**0.04**[1*]
Frequency of getting information about infant care from the Internet after birth	Rarely (A)	62.00±6.38	50.00-70.00	62.50 (56.00-68.00)
	Sometimes (B)	59.18±8.58	30.00-70.00	60.00 (55.00-65.00)
	Often (C)	57.13±9.75	19.00-70.00	58.00 (52.5-64.5)
	Very often (D)	56.53±10.80	27.00-70.00	58.00 (50.00-64.00)
Bonferroni				**A>D, A>C**
X^2_{KW}/p				9.09/**0.03**[1*]
Obtained information about breastfeeding before	Yes	57.71±9.61	19.00-70.00	59.00 (53.00-65.00)
	No	62.77±6.01	50.00-70.00	63.00 (57.00-69.00)
Z/p				-2.68/**0.01**[2*]
Frequency of getting information about breastfeeding from those around them after birth	Rarely (A)	60.39±7.89	34.00-70.00	62.00 (56.00-67.00)
	Sometimes (B)	57.38±10.23	19.00-70.00	58.00 (53.00- 65.25)
	Often (C)	54.71±10.72	29.00-70.00	58.00 (48.00-63.00)
	Vey often (D)	57.26±5.63	49.00-65.00	56.00 (53.00-63.00)
Bonferroni				**A>C, A>B**
X^2_{KW}/p				14.08/**0.00**[1*]
Frequency of getting information about breastfeeding from the Internet after birth	Rarely (A)	62.23±7.41	30.00-70.00	64.00 (56.00-68.00)
	Sometimes (B)	58.17±8.32	34.00-70.00	59.00 (53.00-64.00)
	Often (C)	56.31±10.31	19.00-70.00	58.00 (50.75-64.00)
	Very often (D)	56.97±10.41	27.00-70.00	58.00 (52.00-65.00)
Bonferroni				**A>B, A>C, A>D**
X^2_{KW}/p				17.91/**0.00**[1*]

***** p<0.05, 1 Kruskal–Wallis test used, 2 Mann–Whitney U test used, Z: Wilcoxon signed rank test statistic, X^2_{KW}: Kruskal–Wallis test.

Table 5. Comparison of participants' karitane parenting confidence scale scores by characteristics (n=318).

		Karitane Parenting Confidence Scale Score		
		$\bar{X}$±SD	**Min.-Max.**	**Median (Q1-Q3)**
Frequency of obtaining information from the Internet during pregnancy	Rarely (A)	25.40±4.05	13.00-30.00	27.00 (23.00-29.00)
	Sometimes (B)	26.04±3.35	17.00-30.00	27.00 (23.25-29.00)
	Often (C)	26.56±3.25	14.00-30.00	27.50 (25.00-29.00)
	Very often (D)	27.15±3.18	15.00-30.00	28.00 (25.50-30.00)
Bonferroni				**D>A, D> B**
X^2_{KW}/p				9.24/**0.03**[1*]
Frequency of getting information about infant care from those around them after birth	Rarely (A)	31.21±4.29	24.00-39.00	32.00 (28.00-35.00)
	Sometimes (B)	32.50±4.66	19.00-39.00	34.00 (30.25-36.00)
	Often (C)	32.95±4.00	25.00-39.00	32.00 (30.50-36.50)
	Very often (D)	31.14±3.76	26.00-37.00	32.00 (28.00-34.00)
Bonferroni				**B>A, C>A**
X^2_{KW}/p				8.45/**0.04**[1*]
Obtained information about breastfeeding before	Yes	5.88±1.80	0.00-9.00	6.00 (5.00-7.00)
	No	4.58±1.97	2.00-8.00	5.00 (3.00-6.00)
Z/p				-2.23/**0.03**[2*]

*****p<0.05, 1 Kruskal–Wallis test used, 2 Mann–Whitney U test used, Z: Wilcoxon signed rank test statistic, X^2_{KW}: Kruskal–Wallis test.

DISCUSSION

In our study, 50% of mothers experienced breastfeeding issues immediately after birth, with 25.2% reporting cracks/pain in their breasts and 13.2% reporting insufficient milk. Karaçam and Sağlık's (2018) review identified frequent issues such as breast
redness (28.8%) and cracks/wounds (26.1%). Literature shows that postpartum individuals often seek information from social networks, including family, healthcare professionals, and online sources (Batman, 2018; Kahraman et al., 2016). In our study, most mothers (68.9%) frequently obtained pregnancy-related information online (Table 2).

Various factors influence mothers' choices of infant care information sources. For example, Van der Gugten et al. (2016) noted that some parents avoid seeking help from relatives, favoring the accessibility and vast information offered online. Similarly, mothers in our study mainly received infant care

information from the Internet after birth. Online forums were valuable for many breastfeeding mothers, allowing them to quickly receive answers from others with similar experiences (Lebron et al., 2020). However, traditional information sources may offer more structured insights (Jang et al., 2015).

Mothers in our study frequently used Instagram, YouTube, and informational websites. Prior research highlights how both highly educated and less educated parents use social media for guidance (Shoup et al., 2019). Our sample largely had bachelor's degrees, which may explain the prevalence of online information sources (Table 3). However, Internet sources can lead to heightened anxiety due to exposure to worst-case scenarios, concerns about content quality, and feelings of judgment (Kim & Hawkins, 2020).

The KPCS total mean score in our study was 35.38±4.06, reflecting high self-confidence among mothers, which is consistent with the findings of (Kristen et al., 2018). This suggests that parental self-confidence is positively influenced by information and education about the postpartum period. Notably, mothers who frequently used Internet information sources during pregnancy reported higher KPCS scores, aligning with findings that Internet information supports decision-making and caregiving confidence (Nicholl et al. 2022).

Higher self-confidence levels were observed in mothers who regularly received postpartum support from their social circles, echoing studies that highlight the importance of social support in enhancing maternal self-confidence (Zheng et al., 2018). Similarly, obtaining breastfeeding information also positively impacted self-confidence, reinforcing that knowledge enhances readiness for motherhood (Gozali et al., 2020).

The mean score on the Breastfeeding Self-Efficacy Scale was 58.14±9.46, reflecting high breastfeeding self-efficacy. This aligns with the literature, where self-efficacy scores frequently correlate with maternal readiness for breastfeeding (Amini et al., 2019). We also observed a significant correlation between self-efficacy scores and planned pregnancies, consistent with studies suggesting that prepartum preparation boosts maternal confidence (Gökçeoğlu & Küçükoğlu, 2017).

Mothers in our study who breastfed without issues post-birth had significantly higher self-efficacy scores ($p<0.001$), aligning with findings that discomfort during breastfeeding, such as nipple pain, negatively affects self-efficacy (Poorshaban et al., 2017). Additionally, mothers currently breastfeeding without difficulties showed increased self-efficacy, as ongoing breastfeeding experience reinforces maternal confidence.

Interestingly, mothers who rarely accessed Internet sources for breastfeeding information had higher self-efficacy scores, suggesting that direct experience and selective information-seeking may enhance confidence. Literature shows mixed results on the impact of Internet sources on breastfeeding self-efficacy, with some studies citing increased self-efficacy due to structured online support, while others cite lower confidence due to unregulated information (Gallegos et al., 2014). Finally, mothers' self-efficacy and need for information appear inversely proportional, as high self-confidence reduces the desire to seek external information.

Study Limitations and Strengths

The generalizability of the results we obtained is limited to the study sample. The results cannot be used to directly evaluate the rate of Internet use among all breastfeeding mothers, since the data were collected by online questionnaire, but the relationship between the use of Internet information sources on parenting by mothers who are Internet users and their maternal self-confidence and breastfeeding self-efficacy can be assessed.

CONCLUSION

The use of Internet information sources related to parenting increases mothers' self-confidence, but those with high breastfeeding self-efficacy perception rarely resort to Internet information sources for breastfeeding. Therefore, health professionals should support parents in terms of access and guidance regarding reliable Internet information sources and provide assistance, counseling, and education on such matters. Strategies should be developed to enable the organization and monitoring of health-related material on Internet information sources by a multidisciplinary team.

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Conflict of Interest

The author declare no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Author Contributions

Plan, design: EA; **Material, methods and data collection:** EA, IGS; **Data analysis and comments:** EA, IGS; **Writing and corrections:** EA, IGS.

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Ethical Approval

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REFERENCES

Amini, P., Omani-Samani, R., Sepidarkish, M., Almasi-Hashiani, A., Hosseini, M., and Maroufizadeh, S. (2019). The Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF): A validation study in Iranian mothers. *BMC Research Notes*, *12*(1), 1–6. https://doi.org/10.1186/s13104-019-4656-7

Aston, M., Price, S., Monaghan, J., Sim, M., Hunter, A., & Little, V. (2018). Navigating and negotiating information and support: Experiences of first-time mothers. *Journal of Clinical Nursing*, *27*(3–4), 640–649. https://doi.org/10.1111/jocn.13970

Aluş Tokat, M., Okumuş, H., and Dennis, C. L. (2010). Translation and psychometric assessment of the Breast-feeding Self-Efficacy Scale-Short Form among pregnant and postnatal women in Turkey. *Midwifery*, *26*(1), 101–108. https://doi.org/10.1016/j.midw.2008.04.002

Avçin, E., & Can, Ş. (2022). The relationship between the stress experienced by parents and cyberchondria during the pandemic process. *Library Hi Tech*, *40*(2), 548-568.

Batman, D. (2018). Gebe kadınların gebelikleriyle ilgili araştırdığı konular ve bilgi kaynakları: Nitel bir çalışma. *Kocaeli Üniversitesi Sağlık Bilimleri Dergisi*, *4*(3), 63–69. https://doi.org/10.30934/KUSBED.427777

Batman, D., & Şeker, S. (2019). Web tabanlı eğitimin prematüre yenidoğanların ebeveynlerinin bakımındaki özgüven ve kaygı düzeylerine etkisi. *DEU HYO Dergisi*, *12*(2), 46–52. https://doi.org/10.1016/j.midw.2017.03.005

Chivers, B. R., Garad, R. M., Moran, L. J., Lim, S., and Harrison, C. L. (2021). Support seeking in the postpartum period: Content analysis of posts in web-based parenting discussion groups. *Journal of Medical Internet Research*, *23*(7). https://doi.org/10.2196/26600

Črncec, R., Barnett, B., and Matthey, S. (2008). Development of an instrument to assess perceived self-efficacy in the parents of infants. *Research in Nursing & Health*, *31*(5), 442–453. https://doi.org/10.1002/nur.20271

Crossland, N., Thomson, G., and Moran, V. H. (2020). Impact of parenting resources on breastfeeding, parenting confidence and relationships. *Midwifery*, *81*. https://doi.org/10.1016/j.midw.2019.102591

Çobanoğlu, A. (2020). Gebelerin ilaç kullanım durumu ve güvenli ilaç kullanımı bilgilerinin incelenmesi. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi*, *23*(4), 463–469. https://doi.org/10.17049/ATAUNIHEM

Esmaelzadeh Saeieh, S., Rahimzadeh, M., Yazdkhasti, M., and Torkashvand, S. (2017). Perceived social support and maternal competence in primipara women during pregnancy and after childbirth. *International Journal of Community Based Nursing and Midwifery*, 5(4), 408–416.

Gallegos, D., Russell-Bennett, R., Previte, J., and Parkinson, J. (2014). Can a text message a week improve breastfeeding? *BMC Pregnancy and Childbirth*, *14*(1). https://doi.org/10.1186/s12884-014-0374-2

Gökçeoğlu, E., and Küçükoğlu, S. (2017). The relationship between insufficient milk perception and breastfeeding self-efficacy among Turkish mothers. *Global Health Promotion*, *24*(4), 53–61. https://doi.org/10.1177/1757975916635080

Gozali, A., Gibson, S., Lipton, L. R., Pressman, A. W., Hammond, B. S., and Dumitriu, D. (2020). Assessing the effectiveness of a pediatrician-led newborn parenting class on maternal newborn-care knowledge, confidence and anxiety: A quasi-randomized controlled trial. *Early Human Development*, *147*, 105082. https://doi.org/10.1016/j.earlhumdev.2020.105082

Haluza, D., and Böhm, I. (2020). Mobile and Online Health Information: Exploring digital media use among austrian parents. *International Journal of Environmental Research and Public Health*, *17*(17). https://doi.org/10.3390/ijerph17176053

Jang, J., Dworkin, J., and Hessel, H. (2015). Mothers' use of information and communication technologies for information seeking. *Cyberpsychology, Behavior, and Social Networking*, *18*(4), 221–227. https://doi.org/10.1089/cyber.2014.0533

Kahraman, S., Kabalcıoğlı, F., and Ersin, F. (2016). Şanlıurfa'daki gebelerin bebek bakımına ilişkin bilgi düzeylerinin belirlenmesi ve değerlendirilmesi. *Sosyal Politika Çalışmaları Dergisi*, *36*. https://doi.org/10.21560/spcd.92701

Karaçam, Z., and Sağlık, M. (2018). Breastfeeding problems and interventions performed on problems: Systematic review based on studies made in Turkey. *Turk Pediatri Arsivi*, *53*(3). https://doi.org/10.5152/TurkPediatriArs.2018.6350

Khajehei, M., and Lee, A. (2019). Prevalence and risk factors of low parenting confidence in mothers of infants 0–12 months of age: a retrospective file review. *Journal of Family Studies*, 25(4), 397–410. https://doi.org/10.1080/13229400.2016.1270226

Kim, S. C., and Hawkins, K. H. (2020). The psychology of social media communication in influencing prevention intentions during the 2019 U.S. measles outbreak. *Computers in Human Behavior*, *111*, 106428. https://doi.org/10.1016/j.chb.2020.106428

Kristensen, I. H., Simonsen, M., Trillingsgaard, T., Pontoppidan, M., and Kronborg, H. (2018). First-time mothers' confidence mood and stress in the first months postpartum. A cohort study. *Sexual and Reproductive Healthcare*, *17*, 43–49. https://doi.org/10.1016/j.srhc.2018.06.003

Lebron, C. N., St. George, S. M., Eckembrecher, D. G., and Alvarez, L. M. (2020). "Am I doing this wrong?" Breastfeeding mothers' use of an online forum. *Maternal and Child Nutrition*, *16*(1). https://doi.org/10.1111/MCN.12890

Nicholl, H., Tracey, C., Begley, T., King, C., and Lynch, A. M. (2017). Internet use by parents of children with rare conditions: findings from a study on parents' web ınformation needs. *Journal of Medical Internet Research*, *19*(2). https://doi.org/10.2196/JMIR.5834

Poorshaban, F., Pakseresht, S., Bostani Khalesi, Z., and KazemNejad Leili, E. (2017). Factors associated with breastfeeding self-efficacy of mothers within 6 weeks of delivery. *Journal of Holistic Nursing and Midwifery*, *27*(1), 27–34. https://doi.org/10.18869/acadpub.hnmj.27.1.27

Pontoppidan, M., Andrade, S. B., Kristensen, I. H., and Mortensen, E. L. (2019). Maternal confidence after birth in at-risk and not-at-risk mothers: internal and external validity of the Danish version of the

Karitane Parenting Confidence Scale (KPCS). *Journal of Patient-Reported Outcomes*, 3(1). https://doi.org/10.1186/s41687-019-0126-1

Qian, J., Wu, T., Lv, M., Fang, Z., Chen, M., Zeng, Z., Jiang, S., Chen, W., and Zhang, J. (2021). The value of mobile health in improving breastfeeding outcomes among perinatal or postpartum women: Systematic review and meta-analysis of randomized controlled trials. *JMIR mHealth and uHealth*, *9*(7). https://doi.org/10.2196/26098

Salonen, A. H., Pridham, K. F., Brown, R. L., and Kaunonen, M. (2014). Impact of an internet-based intervention on Finnish mothers' perceptions of parenting satisfaction, infant centrality and depressive symptoms during the postpartum year. *Midwifery*, *30*(1), 112–122. https://doi.org/10.1016/j.midw.2013.02.009

Slomian, J., Bruyère, O., Reginster, J. Y., and Emonts, P. (2017). The internet as a source of information used by women after childbirth to meet their need for information: A web-based survey. *Midwifery*, *48*,1-6. https://doi.org/10.1016/j.midw.2017.10.004

Shoup, J. A., Narwaney, K. J., Wagner, N. M., Kraus, C. R., Gleason, K. S., Albright, K., and Glanz, J. M. (2019). Social media vaccine websites: A comparative analysis of public and moderated websites. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, *46*(3), 454–462. https://doi.org/10.1177/1090198118818253

Türkiye İstatistik Kurumu (TÜİK). (2021). TÜİK Kurumsal 2021 Doğum İstatistikleri. https://data.tuik.gov.tr/Bulten/Index?p=Birth-Statistics-2021-45547#:~:text=TÜİK Kurumsal&text=Canlı doğan bebek sayısı 2021,%2C7%27si kız oldu.&text=Toplam doğurganlık hızı%2C bir kadının,ortalama çocuk sayısını ifade etmektedir.

Van der Gugten, A. C., de Leeuw, R. J. R. J., Verheij, T. J. M., van der Ent, C. K., and Kars, M. C. (2016). E-health and health care behaviour of parents of young children: a qualitative study. *Scandinavian Journal of Primary Health Care*, *34*(2), 135–142. https://doi.org/10.3109/02813432.2016.1160627

Wu, J. J. Y., Ahmad, N., Samuel, M., Logan, S., and Mattar, C. N. Z. (2021). The influence of web-based tools on maternal and neonatal outcomes in pregnant adolescents or adolescent mothers: Mixed methods systematic review. *Journal of Medical Internet Research*, *23*(8). JMIR Publications Inc. https://doi.org/10.2196/26786

Yang, X., Ke, S., & Gao, L. L. (2020). Social support, parental role competence and satisfaction among Chinese mothers and fathers in the early postpartum period: A cross-sectional study. Women and Birth, 33(3), e280–e285. https://doi.org/10.1016/j.wombi.2019.06.009

Yılmaz, B., and Oskay, Ü. (2021). Karitane Ebeveyn Kendine Güven Ölçeği: Türkçe geçerlik ve güvenirlik çalışması. *Cukurova Medical Journal*, *46*(2), 801–813. https://doi.org/10.17826/cumj.902521

Zheng, X., Morrell, J., and Watts, K. (2018). A quantitative longitudinal study to explore factors which influence maternal self-efficacy among Chinese primiparous women during the initial postpartum period. *Midwifery*, *59*, 39–46. https://doi.org/10.1016/j.midw.2017.12.022