

Psychometric Assessment of Turkish Modified Breastfeeding Self-Efficacy Scale for Mothers of Preterm Infants*

Alus Tokat Merlinda¹

Elmas Çiler²

Elmas Semra³

Okumus Hulya⁴

Ozturk Haney Meryem⁵

Dennis Cindy-Lee⁶

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Abstract

Background and Purpose: To psychometrically assess the Turkish version of the Modified Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF) among mothers of preterm infants.

Methods: This is a methodological study. A Demographic and Obstetric Characteristics Form, the Turkish version of the BSES-SF modified for mothers of preterm infants, Beck Anxiety Inventory were used.

Results: Internal consistency of scale at 1 week after birth resulted in acceptable Cronbach's α levels. For known group analysis, a significant difference was found in modified BSES-SF scores between women who gave birth before the 28th week and those who gave birth in the 28th week and after. A negative correlation was found between BSES-SF score and Beck anxiety scores.

Conclusions: The Turkish version of the modified BSES-SF is a valid and reliable measure of breastfeeding self-efficacy among mothers of preterm infants.

Keywords: Breastfeeding Self-Efficacy Scale; nursing; preterm infants; psychometric assessment; scale.

¹ Ph.D., RN, Associate Professor, Dokuz Eylul University, Faculty of Nursing, Obstetric and Gynecologic Nursing Department, Balçova-Izmir/TURKEY Orcid: 0000-0002-5899-0524

² Ph.D., RN, Assistant Professor, Izmir Tinaztepe University, Faculty of Health Sciences, Department of Midwifery, Izmir/TURKEY Orcid: 0000-0002-9061-3817

³ Ph.D., RN, Assistant Professor, Avrasya University, Faculty of Health Sciences, Department of Midwifery, Trabzon/ TURKEY E-mail: sg.semra.girgec@gmail.com (Corresponding Author) Orcid: 0000-0002-6510-1799

⁴ Ph.D., RN, Professor (retired faculty member), Dokuz Eylul University, Faculty of Nursing Obstetric and Gynecologic Nursing Department, Balçova-Izmir/TURKEY Orcid: 0000-0002-0979-4981

⁵ Ph.D., RN, Assistant Professor, Dokuz Eylul University, Faculty of Nursing Public Health Nursing Department, Balçova-Izmir/TURKEY Orcid: 0000-0002-7681-5391

⁶ Ph.D., Professor, University of Toronto, Lawrence S. Bloomberg Faculty of Nursing, Toronto/CANADA Orcid: 0000-0002-0135-7242

Introduction

Preterm birth is the birth of an infant before 37 weeks of pregnancy and is a critical perinatal health problem worldwide (WHO, 2018). Despite major advances in healthcare in developed countries, the incidence of preterm birth has not decreased in 50 years (CDC 2017). The rate of preterm birth worldwide ranges from 5% to 18% of babies born (WHO, 2018). According to the March of Dimes 2016 record, 9.8% of all infants in the US are born preterm, however, in Turkey, this rate is about 11–12% (Dilli et al., 2016).

Preterm infants need more support to prevent infections and to improve their immune systems (Gianni et al., 2018; WHO, United Nations Population Fund, & UNICEF, 2015). The World Health Organization recommends exclusively breastfeeding for six months and continuing to breastfeed for up to two years or beyond (WHO, 2017). In developed and developing countries in the world, the breastfeeding and continuing breastfeeding rates of preterm newborns are very low (Hackman, Alligood-Percoco, Martin, Zhu, & Kjerulff, 2016, ss. 119-25; Meier, Johnson, Patel, & Rossman, 2017, ss. 1-22). Davanzo et al. (2013) reported that only 28% of premature babies were fed breast milk (Davanzo et al., 2013, ss. 374-80). In Turkey, Arslan and Yeniterzi (2013) have reported that 66% of mothers with premature babies only feed their babies with breast milk and 40% of the mothers can feed their babies through breastfeeding (Arslan & Yeniterzi, 2013, ss. 77-84).

Researches have shown that the duration of breastfeeding of preterm infants is shorter compared to infants born at term (Hackman, Alligood-Percoco, Martin, Zhu, & Kjerulff, 2016, ss. 119-25; Meier, Johnson, Patel, & Rossman, 2017, ss. 1-22). Perrella et al. (2012) found that preterm infants born at <33 weeks of gestation have a shorter breastfeeding duration than those born at a later gestation (Perrella, Williams, Nathan, Fenwick, Hartmann, & Geddes, 2012). The initiation and duration of breastfeeding preterm infants can be less than that of full-term infants because these mothers start breastfeeding later, have delayed mother-infant attachment (Walker 2006). Mothers' stress, anxiety related to the infant's health, and hesitation about feeding are also important factors that influence breastfeeding results (Cadwell & Turner Maffei, 2008; Hill, Aldag, Chatterton, & Zinaman, 2005). Mothers of preterm infants also establish a milk supply by pumping in the first week, and continued pumping for an extended period can affect milk supply (Callen & Pinelli, 2005; Reyna, Pickler, & Thompson, 2006). Respiratory difficulties and sucking problems of preterm infants are factors that affect breastfeeding outcomes. So mothers of these infants' experience more breastfeeding problems so their breastfeeding confidence can be negatively affected.

Thus, the aim of this study, to psychometrically assess the Turkish version of the modified Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF) among mothers of preterm infants.

Background and Conceptual Framework

Breastfeeding self-efficacy

According to various studies, a mother's confidence in her ability to breastfeed her infant is an important variable influencing breastfeeding outcomes (Dyson, Cormick, & Renfrew, 2005; Dennis & Faux, 1999). This is also referred to as a mother's breastfeeding self-efficacy. The breastfeeding self-efficacy refers to a mother's confidence in her ability to breastfeed a baby. Breastfeeding self-efficacy determines whether a mother chooses to breastfeed, whether she will have self-enhancing or self-defeating ideas, how much effort she will put into this activity, how she will emotionally react to breastfeeding difficulties (Dennis, 2003). Because of the poor breastfeeding outcomes that mothers of preterm infants often experience, breastfeeding self-efficacy in mothers of preterm infants is a very critical issue. Thus, Wheeler and Dennis developed and psychometrically tested a modified version of the BSES-SF for use with mothers of preterm infants (Wheeler & Dennis, 2013). Mothers with a preterm infant are mostly unable to directly breastfeed initially, and a preterm infant's feeding behaviors and needs are very different from those of healthy term infants. The scale was formed based on the 14 items "Breastfeeding Self-Efficacy Scale" that was developed by Dennis (Dennis, 2003). In the modified version of the BSES-SF for use with mothers of preterm infants 4 items that addressed pumping enough milk, getting help with breastfeeding, determining when the infant needs to be fed, and switching from mostly pumping to mostly or completely breastfeeding were added. The resulting modified instrument has 18 items. Prior to using the modified BSES-SF with Turkish women, further psychometric testing is required.

Methods

It was a methodological study conducted in the neonatal intensive care unit (NICU) in Izmir, Turkey. 135 mothers who gave birth before 37 weeks of gestation and whose newborns required care in the Neonatal Intensive Care Unit (NICU) participated. Mothers who were 18 years of age or older and willing to breastfeed were included in the study. Having any contraindication related to breastfeeding or being unable to pump breast milk were excluding criteria. A Demographic and Obstetric Characteristics Form, the Turkish version of

the BSES-SF modified for mothers of preterm infants, and the Beck Anxiety Inventory (BAI) were used. Participants were recruited from the NICU located at the birth hospital with approximately 3180 births yearly in the western part of Turkey. After obtaining informed consent, eligible and consenting mothers who intended to breastfeed and whose infants were admitted to the NICU completed the Demographic and Obstetric Characteristics Form, the Turkish version of the modified BSEF-SF, and the BAI at the end of the first week after birth during the mother's hospital stay. At the end of the 4th week after hospital discharge of the infant, participants were contacted by phone and researchers enquired about mothers' infant feeding methods.

Demographic and Obstetric Characteristics Form's questions addressed maternal characteristics, such as age, education, breastfeeding experience, mode of delivery, and infant characteristics, such as gestational age and infant birth weight.

Modified Breastfeeding Self-Efficacy Scale-Short Form for Mothers of Preterm Infants is an 18 item self-report instrument that was used to assess breastfeeding self-efficacy. All items were anchored with a five-point Likert scale ranging from 1 = not at all confident and 5 = always confident. Items were presented positively, and scores were summed to produce a score ranging from 18 to 90, with higher scores indicating higher breastfeeding self-efficacy. The internal consistency of the tool among English-speaking Canadian mothers of ill or preterm infants, using Cronbach's alpha, was 0.88 (Wheeler & Dennis, 2013).

Beck Anxiety Inventory (BAI) is a 21 item self-report instrument used to assess anxiety symptoms (Beck, Epstein, Brown, & Steer, 1988). Items are rated on a 4-point scale ranging from 0 (not at all) to 3 (severely, I could barely stand it). Scores were summed to produce a range from 0 to 63, with higher scores indicating higher levels of anxiety. The BAI has established validity and reliability in a Turkish population (Ulusoy, Sahin, & Erkmen, 1998). In the current study, the BAI was administered to provide evidence for construct validity. The reason for choosing BAI was the literature determination related to the effect of anxiety on breastfeeding self-efficacy. Rodrigues et al. (2013) related to factors that influence breastfeeding self-efficacy, determined that anxiety is a factor that negatively affects breastfeeding confidence (Rodrigues, Mello Padoin, Paula, & Azevedo Guido, 2013).

Translation of the Modified BSES-SF

In order to translate the modified BSES-SF for preterm infants into Turkish, semantic, content, and technical equivalence methods were used. A frequently recommended method

for semantic equivalence is the ‘blind back-translation’ method (Beck, Bernal, & Froman, 2003). Three bilingual experts translated the scale independently from English to Turkish, and discrepancies between the three translators were discussed and reconciled into a single Turkish version. Back-translation from Turkish into English was completed by an individual who had not seen the original English version, and who knew both languages, but whose native language was Turkish. Based on breastfeeding experts' evaluations, no important differences in meaning were found.

Content equivalence was established by determining whether the content of each item of the instrument was relevant to the Turkish culture. Eight expert breastfeeding nurses and pediatric nursing reviewed the items. The content validity index (CVI) was conducted to assess for agreement among the experts. The final Turkish modified BSES-SF scale total CVI score was 93.75%, which indicates satisfactory agreement among experts. A pilot study was conducted with 12 mothers of preterm infants who made an effort to breastfeed in order to test the technical equivalence of the translated modified BSES-SF scale for mothers of preterm infants.

Statistical analysis

The reliability was evaluated using Cronbach’s alpha, corrected item-total correlation, and alpha estimate when an item was dropped from the scale. These criteria were used in the previous modified BSES-SF psychometric investigation and were used to ensure the comparability of results (Wheeler & Dennis, 2013). Poorly functioning items were defined as items that when deleted increased the alpha coefficient of more than 0.10 or items that had a corrected item-total correlation of less than 0.3. Construct validity of the Turkish modified BSES-SF was evaluated using correlation with the construct of maternal anxiety known group analysis, firstly by comparing mothers with and without breastfeeding experience, and secondly by comparing women who gave birth before and after 28 weeks’ gestation. Predictive validity was evaluated by examining the relationship between breastfeeding self-efficacy scores and infant feeding method at 4 weeks after hospital discharge.

Ethical considerations

The approval of the Ethics Committee of Dokuz Eylül University was obtained and the study was performed in accordance with the ethical standards laid down in the 1995 Declaration of Helsinki. In addition, permission from the Maternal Child Health Center was granted, and mothers were obtained.

Results

The mean maternal age was 26.4 years. The majority of women had elementary education (62.2%) and were unemployed (94.8%). 72.1% of the women gave birth via cesarean section, and 80.0% were expressing breast milk. The infants in the study had a mean gestational age of 33.05 weeks. The mean birth weight was 1.971 grams, with a range from 930 to 3000 grams. As noted in Table 1, when discharged from the hospital, 27.4% of infants were exclusively breastfeeding, at 4 weeks' post-hospital discharge 74.1% of infants were exclusively breastfeeding.

Table 1. Demographic and obstetrical sample characteristics (n=135)

Variable	Level	n	%
Age	< 20	4	3.0
	20-24	56	41.5
	25-29	45	33.3
	30-34	13	9.6
	≥ 35	17	12.6
Education	Elementary school	84	62.2
	High school	49	36.3
	University	2	1.5
Employment status	Employed	7	5.2
	Unemployed	128	94.8
Mode of delivery	Vaginal	39	28.8
	Cesarean	96	71.2
Infant feeding at hospital discharge	IV feeding	8	5.9
	Exclusive breastfeeding	37	27.4
	Partial breastfeeding	74	54.8
	Formula feeding	16	11.9
Express breast milk status	Yes	108	80.0
	No	27	20.0
Infant feeding at four week after hospital discharge	Exclusively breastfeeding	100	74.1
	Partly breastfeeding	35	25.9
Number of births, mean ± SD (range)		1.71 ± 0.45 (1-2)	
Gestational age, mean ± SD (range)		33.05 ± 2.36 (26-37)	
Infant birth weight (gr), mean ± SD (range)		1971.85 ± 421.20 (930-3000)	
Infant weight 1 week after birth (gr), mean ± SD (range)		1968.66 ± 421.43 (950-3000)	

Reliability

The Cronbach's alpha for the Turkish version of the modified BSES-SF at 1 week after birth was 0.72; there was no increase of more than 0.10 with the removal of any item.

The lowest item-total correlation was 0.08 and the highest was 0.60, with 72% falling within the recommended range of 0.30 and 0.70. The mean modified BSES-SF score was 43.32 (SD = 5.76). The overall item mean was 2.40. The item variance mean was 0.63, ranging from 0.32 to 1.09.

Construct validity

In this study, it was hypothesized that breastfeeding self-efficacy scores would negatively correlate with maternal anxiety scores. So if the mother has high anxiety she will have lower breastfeeding self-efficacy. This relationship was supported, as the modified BSES-SF was negatively correlated with the Beck Anxiety Inventory (BAI) ($r = -0.219, p < 0.05$).

Known group's procedure

Although the modified BSES-SF scores of the women without previous breastfeeding experience ($M = 44.00, SD = 5.46$) were slightly higher than those with previous breastfeeding experience ($M = 43.06, SD = 5.88$), the difference was significant ($p > .05$). Secondly, like it was hypothesized in the beginning the women who gave birth before the 28th week had significantly lower BSEF ($M = 36.50, SD = 0.70$) than those who gave birth in the 28th week or after ($M = 43.42, SD = 5.74; p < .05$).

In this study, predictive validity was determined through the examination of breastfeeding self-efficacy scores at 1 week after birth and infant feeding method at 4 weeks post-hospital discharge. There was a significant difference in mean modified BSES-SF scores between mothers who were exclusively breastfeeding ($M = 44.62, SD = 5.15$) and those who were partially breastfeeding ($M = 39.62, SD = 5.88$) at 4 weeks' post-hospital discharge ($p < .05$).

Breastfeeding self-efficacy and maternal demographic and infant variables

Relationships between the maternal demographic and infant variables and breastfeeding self-efficacy were explored to assess the utility of the Turkish modified BSES-SF as a unique instrument in identifying mothers of preterm infants at high risk to discontinue breastfeeding prematurely (Table 2).

Table 2. Relationship between maternal and infant variables and breastfeeding self-efficacy

Characteristics	Modified BSES-SF Scores	
	r*	p**
Mother age	.12	.14
Education	.03	.69
Gestational age	.11	.16
Infant birth weight	.13	.11

* Correlation index

** $p < 0.05$

There was no statistically significant relationship between modified BSES-SF scores and maternal age, education, infant gestational age, or infant birth weight. There was no significant difference in mean modified BSES-SF scores between employed ($M = 44.85$, $SD = 4.94$) and unemployed mothers ($M = 43.24$, $SD = 5.81$) and there was no significant difference in mean modified BSES-SF scores between mothers who had a vaginal ($M = 42.02$, $SD = 5.92$) or cesarean birth ($M = 43.85$, $SD = 5.64$) ($p > .05$).

Reliability of the Modified BSES-SF

The results provide evidence that the translated version of the modified BSES-SF is a valid and reliable measure of breastfeeding self-efficacy among mothers of preterm infants in Turkey. The Cronbach's alpha coefficient of 0.72 is comparable with the 0.88 reported in the original modified BSES-SF study. The overall mean score was 43.32, which is lower than the original modified BSES-SF score of 79.29 suggesting that Turkish mothers of preterm infants at 1 week after birth lacked confidence in breastfeeding ability (Wheeler & Dennis, 2013). A possible explanation for this difference is that in the original study the modified BSES-SF was administered at 1-week post-infant hospital discharge but in the current study it was administered at 1-week after birth when infants were still in the hospital. Most of these mothers had fears related to the infant's condition, thus decreasing breastfeeding self-efficacy, since, in self-efficacy theory, performance accomplishment influences an individual's perceived confidence in performing a specific task (Bandura, 2004).

Discussion

Analysis of viability by item after translation

Of the 18 items translated, four have corrected item-total correlations below 0.30. The second item was 'successfully cope with the breastfeeding situation (pumping and actual breastfeeding) as I have with other challenging tasks.' This may be explained by a mother's

fear of the potential inability to feed her infant. Also in Turkish culture breastfeeding is usual practice but pumping not. The fourth item was 'Ensure that the baby is properly latched on for the whole feeding' and the sixth was 'Manage to breastfeed even if my baby is crying.' This result was expected because the mothers had not experienced breastfeeding yet. Finally, the 13th item was 'Manage to keep up with my baby breastfeeding demands.' The response to this could vary depending on a mother's awareness of the infant's breastfeeding needs. The item means a score of 2.40 was lower than the original modified BSES-SF mean of 4.41. This result can be explained to some extent by the factors mentioned above.

Association between BAI and BSES-SF scores

Construct validity was supported by correlation with maternal anxiety and comparison of contrasted groups. In particular, women with lower breastfeeding self-efficacy had increased anxiety. Having a preterm infant that requires treatment in the NICU is a very stressful situation, and as such, increased anxiety and delayed breastfeeding self-efficacy is an expected result. This expectation was confirmed by the fact that breastfeeding self-efficacy scores for mothers who gave birth during or after the 28th week of pregnancy were significantly higher than mothers who gave birth before the 28th week. This week is critical because of sufficient surfactant production and achieving sufficient breathing, which in turn is crucial for effective breastfeeding. Contrary to expectations, there was no significant difference between breastfeeding self-efficacy of multiparous and primiparous women, because women in both cases were concerned with the health of the current infant.

Analysis of BSES-SF scores in relation to the mother's demographic variables and breastfeeding habits following hospital discharge and the implications for postpartum care practice

This finding provides evidence for predictive validity and is consistent with previous research (Dennis, 2003; Kingston, Dennis, & Sword, 2007). Higher breastfeeding self-efficacy before hospital discharge was related to higher breastfeeding results 4 weeks after discharge. As such, the Turkish version of the modified BSES-SF may assist in identifying mothers of preterm infants who are at risk of prematurely discontinuing breastfeeding following hospital discharge. According to Spatz (2004), by assisting the mother in the maintenance of an adequate milk supply; providing skin-to-skin care, ensuring correct breast milk storage and handling, preparing the infant and the parents for infant hospital discharge,

and providing appropriate follow-up, nurses can promote effective breastfeeding habits among mothers of preterm infants.

The lack of association between maternal demographic variables and breastfeeding self-efficacy was similar to the original study of the modified BSES-SF for preterm infants and previous BSES-SF studies (Dennis, 2003; Kingston, Dennis, & Sword, 2007). However, unlike in the original study, there was no correlation between infant birth weight and BSES-SF scores, which may be explained by differences in the time of evaluation of breastfeeding self-efficacy. Conclusively, the fact that breastfeeding self-efficacy was not affected by maternal demographic variables suggests that the modified BSES-SF is a unique tool in identifying mothers of preterm infants at high risk of discontinuing breastfeeding prematurely in Turkey.

Relevance to nursing practice

The findings suggest that the Turkish version of the modified BSES-SF can be used with Turkish mothers of preterm infants to identify mothers who may be at risk for prematurely discontinuing breastfeeding soon after hospital discharge and consequently to plan individualized confidence enhancing strategies.

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Conflict of interest

All authors declare that they have no conflict of interest.

References

- Arslan, F., & Yeniterzi, E. (2013). Views of parents' about taking human milk of premature infants. *Journal of Perinatology*, 21(2), 77-84. <https://doi.org/10.2399/prn.13.0212006>.
- Bandura, A. (2004). Health promotion by socialcognitive means. *Health Educ Behav*, 31(2), 143-164. <https://doi.org/10.1177/1090198104263660>.

- Beck, C.T., Bernal, H., & Froman, R.D. (2003). Methods to document semantic equivalence of a translated scale. *Res Nurs Health*, 26(1), 64–73. <https://doi.org/10.1002/nur.10066>.
- Beck, A.T., Epstein, N., Brown, G., & Steer, R.A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *J Consult Clin Psychol*, 56, 893–897. <https://doi.org/10.1037/0022-006X.56.6.893>.
- Cadwell, K., & Turner Maffei, C. (2008). *Continuity of care in breastfeeding: best practices in the maternity setting*. Boston: Jones and Bartlett Publishers.
- Callen, J., & Pinelli, J. (2005). A review of the literature examining the benefits and challenges, incidence and duration, and barriers to breastfeeding in preterm infants. *Adv Neonatal Care*, 5(2), 72–88. <https://doi.org/10.1016/j.adnc.2004.12.003>.
- Centers for Disease Control and Prevention. (CDC). (2017). Preterm birth. <http://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm>
 Accessed 15 May 2018
- Davanzo, R., Monasta, L., Ronfani, L., Brovedani, P., Demarini, S., & Group, B. i. N. I. C. U. S. (2013). Breastfeeding at NICU discharge: a multicenter Italian study. *Journal of Human Lactation*, 29(3), 374- 380.
- Dennis, C.L. (2003). The Breastfeeding Self-Efficacy Scale: Psychometric assessment of short form. *J Obstet Gynecol Neonatal Nurs*, 32(6), 734-744. <https://doi.org/10.1177/0884217503258459>.
- Dennis, C.L., & Faux, S. (1999). Development and psychometric testing of breastfeeding self-efficacy scale. *Res Nurs Health*, 22(5), 399–409. [https://doi.org/10.1002/\(SICI\)1098-240X\(199910\)22:5<399::AID-NUR6>3.0.CO;2-4](https://doi.org/10.1002/(SICI)1098-240X(199910)22:5<399::AID-NUR6>3.0.CO;2-4).
- Dilli, D., Köse, M.R., Gündüz, R.C., Özbaş, S., Tezel, B., & Okumuş, N. (2016). Recent declines in infant and neonatal mortality in Turkey from 2007 to 2012: impact of improvements in health policies. *Cent Eur J Public Health*, 24(1), 52–57. <https://doi.org/10.21101/cejph.a4097>.
- Dyson, L., Mc Cormick, F.M., & Renfrew, M.J. (2005). *Interventions for promoting the initiation of breastfeeding*. Cochrane Database of Systematic Reviews, 2.
- Gianni, M.L., Bezze, E.N., Sannino, P. Baro, M., Roggero, P., Muscolo, S., ... Modasca, F. (2018). Maternal views on facilitators of and barriers to breastfeeding preterm infants. *BMC Pediatr*, 18, 283 <https://doi.org/10.1186/s12887-018-1260-2>
- Hackman, N. M., Alligood-Percoco, N., Martin, A., Zhu, J., & Kjerulff, K. H. (2016). Reduced breastfeeding rates in firstborn late preterm and early term infants. *Breastfeeding Medicine*, 11(3), 119- 125.
- Hill, P.D., Aldag, J.C., Chatterton, R.T., & Zinaman, M. (2005). Comparison of milk output between mothers of preterm and term infants: the first six weeks after birth. *J. Hum Lact*, 21(1), 22-30. <https://doi.org/10.1177/0890334404272407>.
- Kingston, D., Dennis, C.L., & Sword, W. (2007). Exploring breastfeeding self-efficacy. *J Perinat Neonatal Nurs*, 21(3), 207-215. <https://doi.org/10.1097/01.JPN.0000285810.13527.a7>.
- March of Dimes. Premature birth report card. (2016). <http://www.marchofdimes.org/materials/premature-birth-report-card-united-states.pdf>

- Meier, P. P., Johnson, T. J., Patel, A. L., & Rossman, B. (2017). Evidence-based methods that promote human milk feeding of preterm infants: An expert review. *Clinics in Perinatology*, 44(1), 1-22.
- Perrella, S.L., Williams, J., Nathan, E.A., [Fenwick, J.](#), [Hartmann, P.E.](#), & [Geddes, D.T.](#) (2012). Influences on breastfeeding outcomes for healthy term and preterm/sick infants. *Breastfeed Med*, 7(4), 255–261. <https://doi.org/10.1089/bfm.2011.0118>.
- Reyna, B.A., Pickler, R.H., & Thompson, A. (2006). A descriptive study of mothers' experiences feeding their preterm infants after discharge. *Adv Neonatal Care* 6(6), 333-340. <https://doi.org/10.1016/j.adnc.2006.08.007>.
- Rodrigues, A.P., Mello Padoin, S.M., Paula, C. C., & *Azevedo Guido, L.* (2013). Factors those influence in self-efficacy of breastfeeding: an integrative review. *J Nurs UFPE*, 4144-4152. <https://doi.org/10.5205/1981-8963-v7i5a11643p4144-4152-2013>.
- Spatz, D. (2004). Ten steps for promoting and protecting breastfeeding for vulnerable infants. *J Perinat Neonatal Nurs*, 18(4), 385-396. <https://doi.org/10.1097/00005237-200410000-00009>.
- Ulusoy, M., Sahin, N.H., & Erkmen, H. (1998). Turkish version of the Beck Anxiety Inventory: psychometric properties. *J Cogn Psychother*, 12, 163-172.
- Walker, M. (2006). *Breastfeeding management for the clinician*. Boston: Jones and Bartlett Publishers.
- Wheeler, B.J., & Dennis, C.L. (2013). Psychometric testing of the Modified Breastfeeding Self-Efficacy Scale (short form) among mothers of ill or preterm infants. *J Obstet Gynecol Neonatal Nurs*, 42, 70-80. <https://doi.org/10.1111/j.1552-6909.2012.01431.x>.
- World Health Organization (WHO), United Nations Population Fund, & UNICEF. (2015). *Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice*. (3rd ed.) https://www.who.int/maternal_child_adolescent/documents/imca-essential-practice-guide/en/
- World Health Organization (WHO) (2018). Preterm birth. <https://www.who.int/news-room/fact-sheets/detail/preterm-birth>
- World Health Organization (WHO) (2017). Breastfeeding. https://www.who.int/health-topics/breastfeeding#tab=tab_2