Original Article

The Effect of Smoking During Pregnancy on Infant Feeding Attitude: A Cross-Sectional Study

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Abstract

Background: For initiation and continuation of breastfeeding, it is important that women decide on the method of feeding the infant before gestation.
Objective: The purpose of the study was to determine the smoking pattern of pregnant womenand its influence on infant feeding attitude.
Design And Setting: Cross-sectional study was conducted with pregnant women.
Method: Thiscross-sectional study was conducted with 318 pregnant women between 15 August and 31 October 2019 in Turkey. Data was collected by the "Descriptive Information Form" and the "The Iowa Infant Feeding Attitude Scale (IIFAC). Chi-square test and logistic regression analyses were used for data analysis.
Results: Young ages, being housewife and not cigarette smoking increased the risk in terms of neutral or negative attitude to breastfeeding. As two thirds of women declared neutral attitude to breast feeding, interventions to increase breastfeeding decisions should target all pregnant women especially at younger ages.
Conclusions: Young ages, being a housewife and not cigarette smoking have increased the risk in terms of neutral or negative attitude towards breastfeeding. In this study, although those who smoke before and during pregnancy have a more positive attitude towards breastfeeding, it is recommended that healthcare professionals take into account the smoking factor, which negatively affects the breastfeeding tendency, in their breastfeeding training during pregnancy.

Keywords: Smoking, infant, breastfeeding, pregnancy

Introduction

Smoking is one of the most significant public health problems on a global scale. In the "Health at a Glance" report in 2019, the rate of females smoking in Organization for Economic Co-operation and Development (OECD) countries is 14% (OECD, 2019). According to findings of the Global Adult Tobacco Survey, Turkey (2016), 17.5% of women use tobacco (Ontas & Aslan, 2016). Women who smoke before pregnancy tend to continue to smoke during pregnancy (Balmumcu, Unsal Atan & Kus, 2018). According to the European Perinatal Health Report (2015), more than 12.5% of the women in one fourth of 19 countries smoke during their pregnancy (Euro-Peristat Project, 2015). The rate of smoking during

pregnancy in Turkey ranges between 10.3% and 17.5% (Bal Erbas et al., 2020; Seker, Aydogdu & Annette Akgur, 2019; Kose et al., 2019; Tarhan & Yilmaz, 2016). The World Health Organization (WHO) and United Nations International Children's Emergency Fund (UNICEF) encourage breastfeeding within the first hour after birth, exclusive breastfeeding for the first 6 months, and continuing breastfeeding alongside supplementary foods for at least two years or more (WHO & UNICEF, 2018). According to the "Global Breastfeeding Scorecard 2018" report, the rate of breastfeeding within the first hour of birth is 42%, exclusive breastfeeding for infants younger than six months is 41%, continuing breastfeeding at the age of one is 71% and at the age of two is 45% (WHO & UNICEF, 2018). Although breastfeeding has become a tradition in our country, and mothers know that breastfeeding is the best method for infant nutrition. According to the findings of Turkey Demographic and Health Survey 2018 data, 41% of infants younger than six months are exclusively breastfed while the median breastfeeding duration of exclusive breastfeeding of infants is 1.8 months (TDHS, 2019). In order to initiate and continue a successful breastfeeding, mothers should be healthy both physically and mentally, feed on a balanced diet and not use harmful substances during gestation and in the postnatal period (Isik Koc & Tezcan, 2005; Tanrıkulu, Ersoy & Ersoy, 2012). Although there are studies within the literature on smoking in the prenatal and postnatal period and affecting factors 5, (Riaz et al., 2017; Banderali et al., 2015; Gould et al., 2019) there are no studies examining the effect of smoking in the prenatal period on the infant feeding. In a number of studies, it was determined that the maternal smoking is a risk factor in terms of early cessation of breastfeeding (Isik Koc & Tezcan, 2005; Phillips et al., 2012; Horta et al., 2001). Since the attitude of the pregnant woman towards infant feeding is shaped during prenatal period, it has been stated that smoking during pregnancy can affect the breastfeeding behavior of the mother in the postpartum (Jiménez-Muro et al., 2013). Therefore, examining the effects of smoking on infant feeding attitudes of pregnant women is an important point in terms of maternal, fetal and child health, thus the public health. The purpose of this study is to examine the effects of smoking on the nutritional attitude of pregnant women.

Methods

Study design and setting: This study was designed as a cross-sectional study. The research was conducted in a hospital where the majority (90%) of births took place in a city in the Aegean region of Turkey. The universe of the study consisted of pregnant women who applied to obstetric outpatient clinics of this hospital. There are 10 obstetrics outpatient clinics in the hospital where the study was conducted. In each outpatient clinic, an obstetrician and a nurse or midwife provide health service. This work adhered to the STROBE checklist requirements.

Population and sample: A power analysis using the G-power computer program indicated that a total sample of 307 pregnant women would be needed when alpha type 1 error was taken as 0.05, effect size was 0.16 (according to Baltaci and Orsal's research) with 80% power (Baltaci & Orsal, 2015). It was planned to reach 337 people with the addition of 10% reserve, anticipating that there might be deficiencies in answering the questionnaires. Pregnant women who were at least primary school or above, were 18 years of age and older, being in the first 14 weeks of pregnancy, not having hearing and visual impairment and volunteered to participate in the study were included. Questionnaire was applied by face to face interview technique. The survey was conducted with 318 pregnant women, but 19 questionnaires were excluded due to insufficient answers.

Instruments and measurements descriptive information form (DIF): A 17-item form was specifically designed for the purpose of this study by the review of the relevant literature (Tuzcu & Zencir, 2000; Kiziltepe, 2011; Yanikkerem, Ay & Gorker, 2014). There were questions about sociodemographic characteristics, obstetric characteristics and smoking characteristics in this form. Before the questionnaire was administered, five members of the teaching staff examined it and found it to be correctly designed. The questionnaire was tested on 10 women not included in the study and found to be understandable; changes were made based on their recommendations.

The Iowa infant feeding attitude scale (IIFAS): The "Infant Feeding Attitude Scale" first developed by De La Mora and Russell (1999) examines the attitude and behaviors of pregnant women towards breast milk.

The Cronbach alpha coefficient of the scale is 0.86 (De La Mora & Russell, 1999). The validity and reliability study of The Iowa Infant Feeding Attitude Scale in our country was conducted by Eksioglu et al. and cronbach's alpha coefficient was found to be 0.71 ($0.60 \leq \alpha < 0.80$) (Eksioglu, Yesil, Ceber Turfan, 2016). It was developed to investigate which mother planned to feed with formula and which mother planned to feed with breast milk in postnatal period. In the scale, there are 17 questions investigating the cost, nutritional value, benefits, and the effects of feeding with breast milk or formula. The scale is a 5-point Likert type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The instrument includes both knowledge and attitude items. Approximately half the items are worded favorably towards breastfeeding and the remaining favor formula feeding. Items favoring formula feeding are reverse-scored and a total score is computed by summing all items. Total attitude scores range from 17 to 85 with higher scores reflecting attitudes more positive to breastfeeding. Total scores are grouped into the following three categories: (1) positive attitude to breastfeeding (70–85), (2) neutral attitude (49–69), and (3) positive attitude to formula feeding (17–48) (De La Mora & Russell, 1999).

Data collection: The data of the research were collected at pregnant outpatient clinics of the Maternity and Children's Diseases Hospital between 15 August and 31 October 2019. Republic of Turkey Ministry of Health proposes the construction of the first pregnancy follow-up in the first 14 weeks of pregnancy. Evaluation of pregnant women who come to prenatal follow-up took 20-25 minutes. The pregnant women whose antenatal controls were completed or were waiting to enter the control were informed about the study and asked whether they would participate or not. All pregnants were informed of the objectives of the research. They were also informed that they were participating voluntarily with the right to withdraw at any time. Written and verbal consents were obtained from pregnant women. Data collection was performed using face-to-face interview technique in a suitable room close to pregnant outpatient clinics with women who came for the first pregnancy follow-up. Data collection lasted approximately 20 minutes.

Data analysis: The SPSS software version 25.0 (IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY, USA) was used for statistical analysis. Descriptive analyses were presented using percentages (%), mean±SD (standard deviation). The univariate analyses were performed to examine associations between infant feeding attitudes (positive attitude or neutral/negative attitude to breastfeeding) with demographic parameters and womens' cigarette smoking behaviours by chi-square test. For the multivariate analyses, the possible factors identified with univariate analyses were further entered into logistic regression analyses to determine independent predictors of attitudes to breastfeeding among women. In this analysis, neutral/negative attitude was taken as dichotomous variable whereas age (≤23 years or less), job (housewife), residence (rural), current cigarette smoking and cigarette smoking before pregnancy were taken as independent variables. The results of logistic regression analysis were showed as relative risk (odds ratio [OR]) and 95% confidence interval (CI). The Backward-Wald method was used. A 5% type-1 error level was used to infer statistical significance.

Ethical considerations: This research was conducted in adherence to the Declaration of Helsinki. Prior to the research, approval was received from the Non-Interventional Clinical Research Ethics Committee at the Faculty of Medicine (Number: 2019/126). Written permission was obtained from the Provincial Health Directorate Maternity and Children's Diseases Hospital, where the study was conducted. The participants were informed of the objectives of the study and that their confidentiality would be respected and their responses would not be judged. Informed consent forms were received from each participant. Volunteer participation was ensured without any pressure on whether the mothers should participate in the study or not.

Results

Characteristics of the pregnant women

A total of 318 pregnant women's data were evaluated. The findings revealed that 33% of the women were between 19-23 years old, 75.8% of them were housewife and 26.7% of them had an educational level of primary school or less. Out of 318 participants, 37.7% of the women indicated that they had income less than expenditure and 43.7% indicated that they were living in urban residence. The mean number of pregnancies of women was 2.2 ± 1.1. From a total of 318 women, 3.9% (n = 3) stated that they had never received antenatal care, 60.0% (n = 123) stated that they received breastfeeding training, 68.3% (n = 140)

had no breastfeeding problem previously, 2.2% (n = 7) stated that they do not intend to breastfeed.

Smoking habits of pregnant women

It was found that 32.1% of pregnant women smoked daily and 17.9% their smoked sometimes. It was determined that 58.5% of smoking women smoked 2-5 times a day, 25.8% smoked 6-10 times a day, 60.4% smoked for more than 5 years, 49.7% smoked before pregnancy, 89.9% during pregnancy reduces cigarette smoking (Table 1).

The infant feeding attitude of pregnant women

Total IIFAS scores ranged from 41-81 (mean = 65.9, SD = 6.8). It was determined that 29.9% (n = 95) of women were positive attitude to breastfeeding, 68.9% (n = 219) were neutral, 1.3% (n = 4) were positive attitude to formula feeding.

Factors related to infant feeding attitude of pregnant women

Univariate analysis results showed that age, job, residence, current cigarette smoking status and cigarette smoking before pregnancy were related with infant feeding attitude of pregnant women. While 39.2% of current smokers had a positive attitude to breast feeding, it was 25.5% in nonsmokers. Likewise cigarette smoking before pregnancy also showed more positive attitude to breastfeeding (Table 2). Multiple logistic regression analysis results showed that age, job and current cigarette smoking were related with infant feeding attitude of pregnant women. Young ages increased the risk by 3.641 (95% CI [1.911-6.936]; p<0.001), being housewife increased the risk by 2 (95% CI [1.141-3.505]; p=0.016) and not cigarette smoking increased the risk by 0.521 (95% CI [0.306-0.887]; p = 0.016) in terms of neutral or negative attitude to breastfeeding (Table 3).

Table 1. Smoking habits of the participants

Smoking habits	n	%
Current cigarette smoke (n=318)		
Daily user	102	32.1
Sometimes	57	17.9
No	159	50.0
The amount of cigarette use per day (n=159)		
2-5	93	58.5
6-10	41	25.8
>10	25	15.7
Smoking period (n=159)		
Below one year	3	1.9
1-4 years	60	37.7
>5 years	96	60.4
Cigarette smoking before pregnancy (n=318)		
Yes	158	49.7
No	160	50.3
Change in smoking habits with pregnancy (n=159)		
Decreased	143	89.9

Increased	4	2.5
No change	12	7.5

Table 2. Factors Related to Infant Feeding Attitude of Pregnant Women

Variables	Positive attitude to breast feeding	Neutral/positive attitude to formula feeding	X^2	p
Age				
≤23 years	13.3	86.7	20.473	<0.001
≥24 years	38.0	62.0		
Education status of women				
Primary school and less	28.2	71.8	0.149	0.700
Above primary school	30.5	69.5		
Job				
Housewife	25.3	74.7	9.892	0.002
Other	44.2	55.8		
Economic status of the family				
Income less than expenditure	30.0	70.0	0.001	0.970
Income equal to or above expenditure	29.8	70.2		
Residence				
Urban	24.0	76.0	6.694	0.010
Rural	37.4	62.6		
Breastfeeding training				
Yes	30.1	69.9	0.019	0.889
No	29.3	70.7		
Problem while previous breastfeeding				
No	31.2	68.8	2.108	0.147
Yes	19.4	80.6		
Cigarette smoking				
Yes	39.2	60.8	6.255	0.012
No	25.5	74.5		
Cigarette smoking before pregnancy				
Yes	36.1	63.9	5.765	0.016
No	23.8	76.3		

Receiving regular antenatal care				
Yes	32.2	67.8	0.978	0.323
No	27.1	72.9		

Table 3. Multiple logistic regression analysis of factors related to infant feeding attitude of pregnant women

Variables	B	S.E.	Sig.	OR	%95 CI	
Age (≤23 years)	1.292	0.329	0.000	3.641	1.911	6.936
Job (Housewife)	-0.693	0.286	0.016	2	1.141	3.505
Residence (urban)	-0.513	0.262	0.050	1.671	1.001	2.791
Current use of cigarette smoking	-0.652	0.272	0.016	0.521	0.306	0.887
Constant	-0.039	0.295				

Discussion

In this study, the effects of smoking in the gestation period on the infant feeding attitude was examined, and it was found that the age (23 years and under), occupation (housewife), place of residence, smoking, and continued smoking in the gestation period affects the tendency to breastfeeding. It has been determined by the advanced statistical analysis that breastfeeding is negatively affected by young maternal age 3.641 times more, by being a housewife 2 times more, and by not smoking 0.521 times more. In Dogan's study (2019), it was found that the average of IIFAS total scores in terms of the employment status are higher in working mothers than non-working mothers (Dogan, 2019). In a similar study from Northern Ireland, it was stated that being married, having a high level of education and socioeconomic level, and being employed increased the scores on the scale (Sittlington et al., 2007). In the same study, no significant link between maternal age and breastfeeding attitude was detected. In the study, it was thought that the negative effect of young maternal age on breastfeeding tendency might be due to the mother's lack of experience and knowledge.

It was reported that shorter breastfeeding periods and early initiation of supplementary foods are observed more among young mothers due to lack of experience and knowledge (*Isik* et al., 2018). Similar to findings of this study, it has been stated that maternal age is among the factors affecting breastfeeding, and young mothers need more support due to their lack of experience on breastfeeding in different studies (*Isik*, Cetisli Egelioglu & Baskaya, 2018; Saglam et al., 2020; Abekah-Nkrumah et al., 2020).

Cohen et al. (2018) stated that besides the women smoking in the gestation period, 50% - 80% of the women who quitted smoking in the gestation period would initiate smoking again in the first 6 months after birth, and that smoking is associated with both shorter breastfeeding period and decreased milk production among breastfeeding women (Cohen et al., 2018). In the study of Lechosa Muniz et al. (2019), the possibility of feeding the infant with formula was found to be 2 times higher among smokers compared to non-smoker (Lechosa Muniz et al., 2019). In the study of Napierala et al. (2016), it was found that breastfeeding women smoke less than women who do not and that there is a strong link between tobacco use and breastfeeding (Napierala et al., 2016). In the literature, there are studies showing that smoking generally affects breastfeeding negatively. In this study, contrary to the literature in general, a tendency to breastfeed was found among smokers. This situation may be explained

by the fact that pregnancy and motherhood are subjective experiences, that there is a tendency among the pregnant women who smoke towards balancing the health disadvantages of infants, that the motivation of smoking of the pregnant women continues in the gestation period (Dorea, 2007; Grant et al., 2020). Smoking pregnant women have a negative image and even cause social exclusion in our country, just like in many other societies. Therefore, most of the time women hide that they smoke and can continue to hide in the breastfeeding period. The smoking woman desires to be accepted by the society by being seen as a non-smoking and breastfeeding mother. In a study to understand the health attitudes in the gestation period (2019), when a smoker and non-smoker pregnant women were asked what to do if a smoking woman wanted to breastfeed, non-smoker women suggested that the woman should not breastfeed or should stop smoking while one-third of the smokers suggested that the woman should breastfeed the infant (Bogen et al., 2008). As it is revealed by the study, health attitudes are affected by individual differences. Studies involving face to-face interview techniques may be planned to understand subjective health experiences such as gestation and maternity.

In this study, data on the tendency of pregnant women towards the use of formula or giving breast milk shows that 29.9% (n=95) of the pregnant women have a tendency towards breastfeeding, 68.9% (n=219) of the pregnant women are neutral, and 1.3% (n=4) of the pregnant women have a tendency towards feeding with formula. It was found that the IIFAS score average of the pregnant women participating in this study varied between 41 and 81, and the average score was between the indifferent-neutral range with a point of 65 (UNICEF, 2018). In the study of Kiziltepe (2011), 92.2% of the pregnant women (n=319) were found to be in the neutral group and 7.8% (n=27) of the pregnant women were found to be in the group with a tendency towards breastfeeding. In the same study, none of the pregnant women was able to get a score between 17-48 points, therefore there was no group that has a tendency towards feeding with formula (Kiziltepe, 2011). In a study (2015) examining infant feeding attitudes of the mothers, the average IIFAS score of all participants was found to be 66 (indifferent, neutral) (range 39-84 ± SD 8.3) (Cox et al., 2019). In Dogan's study (2019), 11.4% of the mothers were found to have a tendency towards breastfeeding, 78.1% of the mothers were found to be neutral, and 10.5% of the mothers were found to have a tendency towards feeding with formula (Dogan, 2019). In the study of Yu et al. (2020), the IIFAS score was found to be significantly different for different countries. The average scores of Chinese and Russian mothers were found to be in the "indifferent, neutral" range while the average scores of British mothers were found to be in the group that "have a tendency towards breastfeeding" (Yu et al., 2020). It can be seen in the literature that the majority of women do not decide on how to feed their infants in the gestation period or after birth. Although the women were informed and educated about breastfeeding and breast milk in both the prenatal and postnatal periods, the neutral results about infant feeding may be explained by the influence of various factors on this attitude. The age and education level of the mother, family income level, number of births, previous breastfeeding experiences of the mothers, employment status of the mother and smoking are among the main factors affecting infant feeding attitude of mothers.

WHO and UNICEF recommend implementing of the Ten Steps to Successful Breastfeeding in maternity and newborn facilities globally. And one of these steps is “Educating all pregnant women about the benefits breastfeeding and about the practice of breastfeeding”. If women are educated, empowered and supported about breastfeeding, benefits may extend to children and society besides themselves (UNICEF, 2019). When it comes to encourage women about breastfeeding, it is important to know their breastfeeding tendency and to examine the infant feeding attitudes of pregnant mothers to determine the required support level toward these women about breast milk and breastfeeding.

Conclusion: In this study, it was found that the age of the mother to be young, being a housewife, and not smoking negatively affects the tendency towards breastfeeding and infant feeding attitude. It was also found that most of the pregnant women participating in this study were neutral about their infant feeding attitudes. It is very important that obstetric nurses and midwives are aware of the smoking factor, which has a potential to significantly affect women's infant feeding attitudes, from the preconception period to making appropriate interventions in the pregnancy and postpartum period. We recommend that these factors should be taken into consideration for

breastfeeding education conducted by nurses and midwives in the pregnancy period of women.

Acknowledgements: The authors thank the pregnant women who participated in this research program.

References

Abekah-Nkrumah G, Antwi MY, Nkrumah J & Gbagbo FY. (2020). Examining working mothers' experience of exclusive breastfeeding in Ghana. Int Breastfeed J 15(1):1-10. https://doi.org/10.1186/s13006-020-00300-0.

Bal Erbas G, Sengezer T, Yıldırım U & Ozkara A. (2020). Investigation of active and passive smoking in pregnant women applying to a maternity. Konuralp Medical Journal 12(2):261-9. https://doi.org/10.18521/ktd.653859.

Balmumcu A, Unsal Atan S & Kus FS. Factors affectting the smoking use of pregnant women. [Paper senssion presentation at the meeting of the 1st International Health Sciences and Life Congress], [2018, May 2-5] Burdur, Turkey.

Baltaci N, & Orsal O. (2015). The Association of gestational cigarette exposure with breastfeeding the newborn in the first three hours in women having vaginal delivery. Journal of Duzce University Health Sciences Institute 5(2):19-27.

Banderali G, Martelli A, Landi M, Moretti F, Radaelli G, Lassandro C & Verduci E.(2015). Short and long term health effects of parental tobacco smoking during pregnancy and lactation: a descripte review. J Transl Med 13:327. https://doi.org/10.1186/s12967-015-0690-y

Bogen DL, Davies ED, Barnhart WC, Lucero CA & Moss DR. (2008). What do mothers think about concurrent breast-feeding and smoking? Ambul Pediatr 8(3):200-4. https://doi.org/10.1016/j..ambp.2008.01.008

Cohen SS, Alexander DD, Krebs NF, Young BE, Cabana MD, Erdmann P, Hays NP, Bezold CP, Levin-Sparenberg E, Turini M & Saavedra JM. (2018). Factors associated with breastfeeding initiation and continuation: a meta-analysis. J Pediatr 203:190-6. https://doi.org/10.1016/j.jpeds.2018.08.008.

Cox KN, Giglia RC & Binns CW. (2015). The influence of infant feeding attitudes on breastfeeding duration: evidence from a cohort study in rural Western Australia. Int Breastfeed J 10(1):25. https://doi.org/10.1186/s13006-015-0048-3.

De La Mora A & Russell, DW. (1999). The Iowa Feeding Attitude Scale: Analysis of reliability and validity. J Appl Soc Psychol 29(11):2362-80. https://doi.org/10.1111/j.1559-1816.1999.tb00115.x.

Dogan G. (2019). Evaluation of information, attitudes and behaviors of mothers on infant nutrition and postpartum depression status. BaSkent University Institute of Health Sciences, Nutrition and Dietetics Program, Master Thesis, Ankara.

Dorea JG. (2007). Maternal smoking and infant feeding: breastfeeding is better and safer. J Mother Child 11(3):287-91. https://doi.org/10.1007/s10995-006-0172-1.

Eksioglu A, Yesil Y & Ceber Turfan E. (2016). The Translation and validation of the Iowa Infant Feeding Attitude Scale into Turkish. JERN 13(3):209-15. https://doi.org/10.5222/HEAD.2016.209.

Euro-Peristat Project. (2015). European Perinatal Health Report. Core indicators of the health and care of pregnant women and babies in Europe in 2015. Available from: http:// www.europeristat.com. Accessed in 2021 (January 14).

Grant A, Morgan M, Gallagher D & Mannay D. (2020). Smoking during pregnancy, stigma and secrets: Visual methods exploration in the UK. Women Birth 33:70-6. https://doi.org/10.1016/j.wombi.2018.11.012

Gould SG, Twyman L, Stevenson L, Gribbin GR, Bonevski B, Palazzi K & Zeev YB. (2019). What components of smoking cessation care during pregnancy are implemented by health providers? A systematic review and meta-analysis. BMJ Open. 9(8):e026037. https://doi.org/10.1136/bmjopen-2018-026037

Horta BL, Kramer MS & Platt RW. (2001). Maternal smoking and the risk of early weaning: a meta-analysis. Am J Public Health 91(2):304-7. https://doi.org/10.2105/ajph.91.2.304

Isik G, Cetisli Egelioglu N & Baskaya VA. (2018). Postpartum pain, fatigue levels and breastfeeding self-efficacy according to type of birth. Dokuz Eylul University Nursing Faculty Electronic J 11(3): 224-32.

Isik Koc G & Tezcan S. (2005). Breastfeeding attitudes of pregnant women and some factors which effect the breastfeeding attitude. Journal of Hacettepe University School of Nursing 12(2):1-3.

Jimenez-Muro A, Nerín I, Samper P, Marqueta A, Beamonte A, Gargallo P, et al. (2013). A proactive smoking cessation intervention in postpartum women. Midwifery 29(3):240-5. https://doi.org/10.1016/j.midw.2012.01.003

Kose S, Tosun G, İsbilen Basok B & Altunyurt S. (2019). A look at the obstetric outcomes in smoking pregnants through the firts trimester screening window. Kocaeli Medical Journal 2019;8(1):51-9. https://doi.org/10.5505/ktd.2019.38243.

Kiziltepe C. (2011). Evaluation of the validity of the IOWA scale in neonatal and infant nutrition. Doctoral Thesis, Trakya University Faculty of Medicine Department of Child Health and Diseases, Edirne.

Lechosa Muniz C, Paz-Zulueta M, Cornejo del Rio E, Sota SM, Saez de Adana M, Pérez MM, et al.

(2019). Impact of maternal smoking on the onset of breastfeeding versus formula feeding: A cross-sectional study. Int J Environ Res Public Health 16(24):4888. https://doi.org/10.3390/ijerph16244888 .

Napierala M, Mazela J, Merritt TA & Florek E. (2016). Tobacco smoking and breastfeeding: effect on the lactation process, breast milk composition and infant development. A critical review. Environ Res 151:321-38. https://doi.org/10.1016/j.envres.2016.08.002

OECD Library. Health at a Glance 2019: OECD Indicators, OECD Publishing, Paris,2019; Available from: https://www.oecd-ilibrary.org/social-issues-migration-health/health-at-aglance-2019_4dd50c09-en. Accessed in 2021 (January 12).

Ontas E & Aslan D. (2016). Global Adult Tobacco Research Turkey 2016 - Hacettepe University Faculty Of Medicine Department Of Public Health Information Series For Society. Available from: http://www.halksagligi.hacettepe.edu.tr / Accessed in 2021 (January 12).

Phillips RM, Merritt TA, Goldstein MR, Deming DD, Slater LE & Angeles DM. (2012). Prevention of postpartum smoking relapse in Mothers of infants in the neonatal intensive care unit. J Perinatol 32:374-80. https://doi.org/10.1038/jp.2011.106.

Riaz M, Lewis S, Naughton, F & Ussher MH. (2017). Predictors of smoking cessation during Pregnancy: a systematic review and meta-analysis. Addiction 113:610-22. https://doi.org/10.1111/add.14135.

Saglam HY, Ozerdogan N, Gursoy E & Cagan O. (2020). Factors related to the initation and continuation time of women working. Lokman Hekim J 10(3):468-80.

Sittlington J, Stewart-Knox B, Wright M, Bradbury I & Scott JA. (2007). Infant-feeding attitudes of expectant mothers in Northern Ireland. Health Educ Res 22(4):561-570. https://doi.org/10.1093/her/cyl113

Unsal H, Atlıhan F, Ozkan H, Targan S, & Hassoy H. (2005). The tendency to breastfeed in the society and the factors affecting this. Journal of Child Health and Diseases 48:226-33.

Seker FD, Aydogdu M & Annette Akgur S. (2019). Relationship between depression and anxiety levels of pregnant women with smoking and coffeine. Journal of Dependence 20(1):21-31.

Tarhan P & Yilmaz T. (2016). Smoking during pregnancy and the effecting factors. Journal of Health Sciences and Professions 3(3):140-7. https://doi.org/10.17681/hsp.61635.

Tanrıkulu PC, Ersoy N & Ersoy G. (2012). Examination of the knowledge level of mothers with babies between 6-24 months about breastfeeding, the duration of breastfeeding and the factors affecting them. J Nutr Diet 40(2), 120-7.

Turkey demographic and health survey [TDHS]. (2019) Turkey: Hacettepe University Institute of Population Studies in Ankara; 2019. Available from: http://www.hips.hacettepe.edu.tr/eng/TDHS_2018_main.report.pdf . Accessed in 2021 (January 10).

Tuzcu A & Zencir M. (2000). Evaluation of breastfeeding attitudes of mothers who gave birth in inpatient treatment institutions in Denizli city center. Journal of Ege University Nursing Faculty 16(1):47-57.

United Nations International Children's Emergency Fund (UNICEF). (2018). Breastfeeding: a mother's gift, for every child. Available from: https://www.unicef.org/publications/index_102824.html. Accessed in 2021 (January 10).

United Nations International Children's Emergency Fund (UNICEF). (2019). Infant and young child feeding. Available from: https://data.unicef.org/topic/nutrition/infant-andyoung-child-feeding/. Accessed in 2021 (January 10).

Yanikkerem E, Ay S & Goker A. (2014). Prenatal concerns and attitudes regarding breastfeeding in primiparous and multiparous women. Van Medical J 21(1):6-16.

Yu J, Wei Z, Lukoyanova O, Borovik T & Fewtrell MS. (2020). Maternal Infant-Feeding Attitudes, Infant Eating Behaviors, and Maternal Feeding Choice at 3 and 6 Months Postpartum: A Comparative Multicenter International Study. Breastfeeding Med 15(8):528-34. https://doi.org/10.1089/bfm.2020.0066

World Health Organization (WHO), United Nations International Children's Emergency Fund (UNICEF). (2018). Global Breastfeeding Scorcard, 2018. Enabling Women to Breastfeed Through Better Policies and Programmes. 2018. Available from: https://www.who.int/nutrition/publications/infantfeeding/global-bf-scorecard2018.pdf?ua=1 Accessed in 2021 (January 10).