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Predictors of breastfeeding self-efficacy in pregnant adolescents

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ABSTRACT

BACKGROUND
Breastfeeding is critical for infant health and development globally. Current knowledge and attitude of future parents will significantly influence breastfeeding practices. The study was conducted to determine the levels and determinants of breastfeeding self-efficacy among primiparous and secundigravid adolescents.

METHODS
A cross-sectional study was performed involving 54 primiparous and secundigravid adolescents in antenatal clinics of hospitals affiliated to the Ministry of Health in Adana, Turkey. They were aged between 16 and 19 years, had a single living fetus, did not have pregnancy complications, were in their third trimester of pregnancy, attended an antenatal clinic, and agreed to participate in the study. Data were collected using a Personal Information Form and the Antenatal Breastfeeding Self-Efficacy Short Form Scale (BSES-SF). Kruskal-Wallis variance analysis, Mann Whitney U and multiple linear regression analysis test were used to analyze the data.

RESULTS
Mean age of the pregnant adolescents was 18.28 ± 0.79 years, and 31.5% had primary education, 96.3% were not working, 55.6% lived in a nuclear family, and 51.9% had not received breastfeeding education. The total BSES-SF mean score was 55.37 ± 12.84. Breastfeeding education has a statistically significant effect on breastfeeding self-efficacy of pregnant adolescents ($p<0.05$). Regular antenatal care, breastfeeding training status, breastfeeding education source variables and breastfeeding self-efficacy variable of women significantly predicted negatively ($p<0.05$).

CONCLUSIONS
Breastfeeding education source was the most influential predictor variable of BSES. There is a need for nursing initiatives to enhance the adolescents' antenatal breastfeeding self-efficacy levels.

Keywords: Breastfeeding, self-efficacy, pregnant, adolescents, nursing

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INTRODUCTION

Adolescence is the transition from childhood to adolescence, and includes ages between 10 to 19 years.[1] Every year, an estimated 21 million girls aged between 15 and 19 years, and 2 million girls under the age of 15, become pregnant in developing regions.[2,3] In addition, approximately 16 million girls aged between 15 to 19, and 2.5 million girls under the age of 16, give birth in developing regions.[3]

Adolescent fertility rate represents children born alive per 1000 women aged between 15 to 19. According to Turkish Statistical Institute's data from 2017, adolescent fertility rate was 21 in 1000. In other words, every 21 out of 1000 women aged between 15 and 19 years of age had given birth.[4]

There are many physiological and psychosocial changes during adolescence. In addition to these changes, pregnant adolescents are preparing to adapt to new and different situations, and to take new responsibilities during the pregnancy, childbirth and postnatal period.[5] One of the most important responsibilities of adolescents to take during the postpartum period is related to the feeding of the baby. A major sociodemographic factor regarding breastfeeding is age.[6] Adolescent mothers are a group that should be considered as a priority in breastfeeding. A cross-sectional study involving 392 adolescents showed that 290 (74%) had poor knowledge regarding breastfeeding and that there was a statistically significant association between high level of knowledge and positive attitude.[7] Özsoy [8] found that adolescent mothers had more negative behaviors and attitudes towards breastfeeding and needed more information and help than adult mothers.

One of the issues that needs to be addressed first in support of breastfeeding in adolescents is the perception of breastfeeding self-efficacy. According to Dennis and Faux,[9] breastfeeding self-efficacy perception affects the mother's ability to breastfeed, the effort she will make for the baby, as well as her emotional thoughts and feelings.[9] Yenal et al.[10] found a significant positive relationship between breastfeeding self-efficacy perception and breastfeeding success in their studies. Tokat and Okumuş [11] found that antenatal education was effective in improving breastfeeding self-efficacy perception and breastfeeding success. In a study developed in China among adult postpartum women during pregnancy and the associated hospitalization, low self-efficacy was found. Nevertheless, the self-confidence to breastfeed among adolescent mothers has been hardly explored.[12] In the present study, the aim was to determine the breastfeeding self-efficacy of pregnant adolescents in a province of the Mediterranean region. Determining the perception of breastfeeding self-efficacy of adolescents is important in shaping the provided healthcare. This study was carried out to determine the breastfeeding self-efficacy perceptions in pregnant adolescents.

METHODS

Research design

This study used a cross-sectional design and was performed in antenatal clinics of hospitals affiliated to the Ministry of Health in Adana, Turkey, between February and June 2015. In the study, all adolescent pregnant women who came to the outpatient clinic and met the research criteria in the determined time interval were included in the study.

Research subjects

The study was conducted with 54 primiparous and secundigravid adolescents, who were aged between 16 to 19 years, had a single living fetus, did not have pregnancy complications, were in their third trimester of pregnancy, attended an antenatal clinic, spoke Turkish, and agreed to participate in the study.

Data collection

The data were collected using a personal information form and the Antenatal

Breastfeeding Self- Efficacy Scale Short Form (BSES-SF). The personal information form was prepared by the researchers and consisted of questions related to socio-demographic characteristics (age, age of marriage, educational status, occupational status, social security, income level, type of family, place of residence, age of husband, occupational status of husband) and obstetric characteristics (planned status of pregnancy, regular antenatal care, having a health problem during pregnancy, breastfeeding training status).

The Antenatal Breastfeeding Self-Efficacy Short Form scale was developed by Dennis et al.[13]and is a 14-item self-report instrument to measure breastfeeding confidence. All items are measured on a 5-point Likert-type scale, with 1 representing no confidence at all, and 5 representing greatest confidence. All items are presented positively, and scores are summed to produce scores that range from 14 to 70, with higher scores indicating higher levels of breastfeeding self-efficacy. Dennis et al.[13] stated that it is also possible to use it in the antenatal period by using the expression "future time" in the items of BSES-SF. The BSES-SF Turkish reliability and validity study was made by Aluş Tokat et al.,[14] who found that the Cronbach alpha value was 0.86.

Statistical analysis

The statistical analysis were performed using SPSS for Windows version 22.0. Descriptive statistics, Kruskal-Wallis variance analysis, and Mann-Whitney U test, and multiple linear regression were applied for analyzing the data. Significant variables ($p<0.05$) were included in the multiple linear regressions to investigate the predictors of the breastfeeding self-efficacy. The statistical significance level was accepted as $p<0.05$.

Ethical consideration

Before conducting the study, the investigators obtained written approval from the Ethics Board of School of Medicine, Cukurova University (28.10.2014/24/2), written approvals from the institutions in which the study was to be performed, and verbal consent from the participants. To obtain the adolescents' verbal consent, all participants were informed of the purpose of the study and were assured that the collected information would be used solely for scientific purposes, be kept confidential and not be shared by others than the researchers. A face-to-face interview method was used by the researchers to administer the questionnaires. The interviews lasted approximately 15 minutes.

RESULTS

The demographic characteristics of the subjects are shown in Table 1. The results showed that 83.3 % of the pregnant adolescents were 18- 19 years old, and 55.6 % were married at the age of 18- 19 years. Furthermore, 50.0% of the adolescents had completed secondary school, 88.9% had social security, 96.3% were unemployed, 68.5% reported that their income equaled their expenditure, 55.6% lived in nuclear families, and 51.9% lived in the city center. The results also showed that 50.0% of the husbands were at least 25 years old, 90.7% of the husbands were employed, and 68.5% of the adolescents chose their partner through love. The average total score of BSES-SF was 55.37 ± 12.84 (Table 1).

No significant difference in mean BSES-SF scores between subgroups of age, age of marriage, educational status, having social security, occupational status, economic status, type of family, age of husband, occupational status of husband and type of marriage ($p>0.05$) (Table 2).

A statistically significant difference was found in mean BSES-SF between subgroups of attending regular antenatal care, attending breastfeeding education, and receiving the education from a healthcare personnel ($p<0.05$) (Table 3).

Table 1. The sociodemographic and obstetrics characteristics of the participant women (n=54)

Characteristics	n	(%)
Age (years)		
Mean ± SD	18.28 ± 0.78	
16-17	9	16.7
18-19	45	83.3
Age of marriage (years)		
15-17	24	44.4
18-19	30	55.6
Education		
Primary school	17	31.5
Secondary school	27	50.0
High school	10	18.5
Having social security		
Yes	48	89.9
No	6	11.1
Occupational status		
Employed	2	3.7
Unemployed	52	96.3
Economical level		
Income ≥expenditure	10	18.5
Income=expenditure	37	68.5
Income<expenditure	7	13
Family type		
Nuclear	30	55.6
Large	24	44.4
Place of residence		
Village	5	9.3
Town	21	38.9
City	28	51.9
Age of husband (years)		
Mean ± SD	24.56±3.16	
18 – 24	27	50
≥25	27	50
Occupational status of husband		
Employed	49	90.7
Unemployed	5	9.3
Type of Marriage		
Arranged	17	31.5
Love	37	68.5
Planned status of pregnancy		
Yes	45	83.3
No	9	16.7
Regular antenatal care		
Yes	48	88.9
No	6	11.1
Breastfeeding training status		
Yes	27	50.0
No	27	50.0
Breastfeeding education source (n=27)		
Healthcare personnel	22	
Family/relative	4	40.7
Book/magazine/internet	1	7.5
Did not receive	27	1.8
BSES-SF (Mean ± SD)	55.37 ± 12.84	50.0

Note ; BESE-SF : breastfeeding self-efficacy scale short form

Table 2. Comparison of mean scores of breastfeeding self-efficacy scale of pregnant adolescents according to their sociodemographic characteristics

Sociodemographic characteristics	Mean scores of breastfeeding self-efficacy scale	Test and p value
Age		
16-17	49.88 ±0.00	KW=1.446
18-19	49.00±15.91	p=0.229
Age of marriage		
15-17	54.00±14.18	KW=0.478
18-19	56.46±11.79	p=0.489
Education		
Primary school	57.11±12.75	KW=0.542
Secondary school	54.77±13.47	p=0.763
High school	54.00±12.19	
Having Social Security		
Yes	55.89±12.84	MW-U= 117.000
No	51.16±13.21	p=0.475
Occupational status		
Employed	53.00±12.72	MW-U= 45.000
Unemployed	55.46±12.96	p=0.771
Economical level		
Income≥expenditure	57.40±13.58	KW= 2.594
Income=expenditure	55.94±12.62	p=0.273
Income<expenditure	49.42±13.18	
Family type		MW-U= 309.00
Nuclear	57.06±11.73	p=0.372
Large	53.25±14.06	
Place of residence		
Village	61.00±13.76	KW= 6.655
Town	49.57±14.39	p=003
City	58.71±9.93	
Age of husband		MW-U= 282.000
18 – 24	54.18±10.89	p=0.151
25 age and over	56.55±14.65	
Occupational status of husband		
Employed	55.08±13.22	MW-U= 110.000
Unemployed	58.20±8.67	p=0.728
Type of Marriage		MW-U= 299.500
Arranged	54.11±13.74	p=0.779
Love	55.94±12.56	

Note : KW : Kruskal-Wallis; MW-U : Man Whitney-U

No statistically significant difference was found between place of residence of indigenous women and breastfeeding extracts. The variables consisting of regular antenatal care, breastfeeding training status, breastfeeding education source and breastfeeding self-efficacy of women significantly predicted negatively ($p<0.05$). Breastfeeding education source was the most influential predictor of breastfeeding self-efficacy (Beta=-0.541) (Table 4).

DISCUSSION

In this study, the BSES-SF mean scores of pregnant adolescents was 55.37 ± 12.84. A study by Alus Tokat et al.[14] showed that BSES-SF mean scores of pregnant adolescents was 51.72 ± 7.69. In another study conducted in Turkey, the mean BSES-SF scores of pregnant adolescents was 50.30 ± 9.30.[11] Otsuko et al.[15] found the mean BSES-SF scores to be 42.4, and Brando et

Table 3. Comparison of mean scores of breastfeeding self-efficacy scale according to obstetric characteristics of pregnant adolescents

Obstetric characteristics	Mean scores of breastfeeding self-efficacy scale	Test and p value
Planned status of pregnancy		
Yes	55.80±12.66	MW-U= 191.000
No	53.22±14.28	p=0.788
Regular antenatal care		
Yes	56.70±11.88	MW-U= 78.500
No	44.66±16.28	p=0.07
Breastfeeding training status		MW-U= 141.500
Yes	61.70±8.62	p=0.001
No	49.03±13.36	
Breastfeeding education source (n=27)		
Healthcare personnel	63.86±6.14	KW= 19.736
Family/relative	53.00±13.85	p=0.001
Book/magazine/internet	53.00±0.00	
Did not receive	48.88±13.33	

Note : KW : Kruskal-Wallis; MW-U : Man Whitney-U

al.[16] obtained the figure of 57.51 ± 8.0 for the BSES-SF mean scores of Portuguese pregnant adolescents. In another study, the mean BSES-SF scores of 306 adults and 94 adolescents who were in the early postpartum period were investigated, high self-efficacy levels were found in both groups, and no statistically significant difference was found between the groups.[17] No significant difference was found between age, age of marriage, educational status, having social security, occupational status, economic status, type of family versus BSES-SF mean scores of pregnant adolescents. Gerçek et al.[18] studied first day postpartum women and found no statistically significant difference in the BSES-SF mean scores between subgroups of age, educational status, occupational status, economic status, length of marriage. In the study by Ince et al.,[19] where self-efficacy levels of mothers and the factors affecting breastfeeding were assessed, no significant difference in the BSES-SF scores between subgroups of age, educational level, occupational status, perceived economic status. Adolescents with planned pregnancies had higher total BSES-SF scores, but the difference was not statistically significant. Akkoyun and Arslan obtained similar results in their study.[20] In a study by Aydyn and Aba, adolescents with planned pregnancies had higher levels of self-efficacy, but the difference was not statistically significant.[21]

Pregnant adolescents who attended regular antenatal care, had higher self-efficacy scores. The results of a study by Yang et al.[22] were similar to our findings. Tucker et al.[23] and Wambach et al.[24] both found that women who received antenatal support from healthcare personnel had higher levels of self-efficacy.

Table 4. Predictors of breastfeeding self-efficacy among pregnant adolescents (n=54)

Predictors	B	Beta	p value
Place of residence	0.072	0.145	0.294
Regular antenatal care	-0.074	-0.297	0.029
Breastfeeding training status	-0.201	-0.498	0.000
Breastfeeding education source	-0.824	-0.541	0.000

Note: β = regression coefficient; Beta = standardized regression coefficient

Pregnant adolescents receiving breastfeeding education had higher mean BSES-SF scores than adolescents who did not receive any education, and the difference was statistically significant. When investigating the source of the education and the mean BSES-SF scores, the highest mean scores were obtained by adolescents who received the education from healthcare personnel. There are literature studies suggesting that education is effective in improving breastfeeding self-efficacy. Myzrak et al.[25] investigated the effects of breastfeeding education given to primipara women during antenatal period, on the mothers' breastfeeding self-efficacy perceptions and success, and found that the breastfeeding self-efficacy scores were 48.73 during the antenatal period prior to the education, and 66.22 after the education, 8 weeks postpartum. Tokat and Okumuş found that antenatal education based on strengthening the perception of breastfeeding self-efficacy was effective in improving breastfeeding self-efficacy.[11] In a study by Karagöz,[26] where the effects of antenatal breastfeeding education on breastfeeding success and self-efficacy were investigated, repeated tests were conducted to both the experiment and the control groups on the first day and at one month, four, and six months postpartum, and a statistically significant difference was found between the postpartum self-efficacy scores of the experimental and control groups. Chan et al.[27] found that education related to self-efficacy given during the antenatal period affected the scores of the second week postpartum, which were significantly higher than the scores prior to education. Liu et al.[28] investigated the effects of breastfeeding education on breastfeeding self-efficacy four and eight weeks postpartum and found that breastfeeding self-efficacy was significantly higher after this period. The findings of our study are in accordance with the literature, and the results indicate that education improves breastfeeding self-efficacy positively.

This study has several limitations. First, this study included 54 antenatal care women at a single hospital in southern Turkey, limiting the generalizability of the results, since breastfeeding is a long process. The fact that breastfeeding was not evaluated in the postpartum period is one of the limitations of the study. Despite its limitations, this study may be helpful in guiding further research.

Adolescence is one of the important transition processes, which is one of the phases of a women's life. Pregnancy is not recommended during this period as it brings risks to the mother and fetus. It is very important to determine the self-efficacy of adolescent pregnant women in order to continue breastfeeding effectively in the postpartum period, as in every life period.

CONCLUSION

Adolescents who received education regarding breastfeeding had higher levels of breastfeeding self-efficacy in our study. Therefore, it is important that nurses and midwives guide adolescents to pregnancy education classes during the antenatal cares. Pregnancy education classes should cover subjects regarding breastfeeding in detail.

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CONFLICTS OF INTEREST

Nothing to declare.

CONTRIBUTORS

All authors have contributed significantly to this article to design of the work; analysis, or interpretation of data for the work and all authors are in agreement with the content of the manuscript. Authors' contributions SKY collected the data. FO and EN analyzed the data. FO, EN, SKY drafted and finalized the manuscript. All

authors contributed to the design of the study, and reviewed the manuscript. All authors have read and approved the final manuscript.

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