

Traumatic birth perceptions of adolescent and adult pregnant women: a cross-sectional study

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ABSTRACT

Aims: This study aimed to determine and compare the traumatic birth perceptions of adolescent and adult nulliparous pregnant women and to examine the relationship between self-perception and traumatic birth perception in these groups.

Methods: This descriptive and cross-sectional study was conducted between July 2021 and July 2022 in the obstetrics clinic of a hospital. The sample consisted of 30 adolescent and 50 adult nulliparous pregnant women between 37-42 weeks of gestation who met the inclusion criteria and attended prenatal follow-ups. Data were collected via face-to-face interviews using the "Personal Information Form," the "Pregnant Women's Self-Perception Scale," and the "Traumatic Birth Perception Scale." Statistical significance was set at $p < 0.05$.

Results: The mean age of adolescent pregnant women was 17.53 ± 0.68 , whereas adult pregnant women had a mean age of 23.9 ± 3.64 . Adolescent women had higher total mean scores on the Traumatic Birth Perception Scale (TBPS) (77.26 ± 19.84) compared to adult women (64.96 ± 28.99), with this difference reaching statistical significance ($p < 0.05$). A moderate, positive, and statistically significant correlation ($r = 0.41$) was observed between adolescents' self-perception levels and their traumatic birth perception ($p < 0.05$), while no such relationship was found in adult women ($p > 0.05$).

Conclusion: Adolescent pregnant women perceive childbirth as more traumatic than adult women, and this perception is linked to their self-perception levels. These findings underscore the importance of developing age-specific psychosocial support, prenatal education, and childbirth preparation programs for adolescent pregnant women to mitigate psychological and emotional risks associated with early pregnancy.

Keywords: Adolescent pregnancy, adult pregnancy, traumatic birth, self-perception, cross-sectional study

INTRODUCTION

Childbirth is a pivotal life event with profound physiological, psychological, and social implications for women. While every woman experiences labor uniquely, maternal age is increasingly recognized as a critical determinant shaping both the childbirth experience and subsequent maternal well-being. Traumatic childbirth is characterized by intense fear, helplessness, or horror during or after labor, which may result in lasting psychological effects, including postpartum anxiety, depression, and post-traumatic stress disorder (Simpson & Catling, 2016; Yıldırım & Bilgin, 2021).

Despite the clinical significance, the factors influencing the perception of childbirth as traumatic remain underexplored. Maternal age, particularly the comparison between adolescent and adult pregnancies, represents a key but understudied factor. Adolescent pregnancies occur during a developmental period marked by incomplete physical, cognitive, and psychosocial maturation (Ayanaw Habitu et al., 2017; UNFPA, 2020). Globally, approximately 11% of births occur among adolescents, mostly in low-and middle-income

countries (WHO, 2022). In Türkiye, adolescent pregnancies are concentrated in eastern and southeastern regions, with around 4% of females aged 15-19 either pregnant or having given birth to their first child (TDHS, 2018).

Adolescent pregnant women are particularly vulnerable due to limited psychosocial maturity, underdeveloped coping strategies, and heightened emotional reactivity, which may increase the perception of childbirth as traumatic. Social vulnerability factors-including lower educational attainment, economic dependence, and weaker social support networks-may exacerbate feelings of fear and helplessness during labor. Recent studies highlight that younger mothers report higher traumatic birth perception, with contributing factors including unplanned pregnancies, lower perception of respectful maternity care, and inadequate prenatal preparation (Koç & Özkan, 2022; Aksoy Derya et al., 2024). Additionally, prenatal psychosocial variables, such as maternal-fetal attachment, health anxiety, and self-perception, have been associated with traumatic birth perception (Yılmaz & Kılıç, 2024).

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In contrast, adult pregnant women generally have greater psychosocial and emotional maturity, stronger coping mechanisms, and broader social support networks, which may buffer against traumatic perceptions. However, adults may experience age-related obstetric risks, such as gestational diabetes or hypertensive disorders, which could influence the perception of childbirth trauma through different mechanisms. Therefore, maternal age interacts with both psychosocial and biological factors to shape childbirth experiences.

Understanding these age-related differences is crucial for developing targeted interventions, including age-specific prenatal education, psychosocial support, and birth preparation programs. Despite its clinical relevance, research on traumatic childbirth perception in Türkiye remains limited and predominantly focused on adult populations. This study aims to address this gap by comparing traumatic birth perceptions between adolescent and adult pregnant women and examining the relationship between self-perception and traumatic birth perception across these age groups. By elucidating these dynamics, the study seeks to inform preventive and supportive strategies tailored to the needs of vulnerable maternal populations.

METHODS

Ethics

This study was conducted with the approval of the Ethics Committee of the Institute of Health Sciences at Marmara University (Date: 18.01.2021, Decision No: 06). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki. Written informed consent was obtained from all individual participants prior to their inclusion in the study.

Study Design

This study was designed as a descriptive cross-sectional study to determine the traumatic birth perceptions of adolescent and adult pregnant women.

Setting and Time

The study was conducted between July 2021 and July 2022 in the non-stress test (NST) unit of a public hospital serving the regional population. The hospital provides care to women from diverse socioeconomic backgrounds in both urban and rural areas. On average, 2-3 pregnant women attend the unit daily, corresponding to approximately 500-750 women annually.

Population and Sample

The study population consisted of all pregnant women receiving prenatal care at the hospital. The sample included a total of 80 voluntary participants (30 adolescents and 50 adults) who met the inclusion criteria. Inclusion criteria were being between 37-42 weeks of gestation, nulliparous, and classified as adolescent (15-19 years) or adult (20-35 years).

Sample Size Calculation and Power Analysis

The sample size was calculated using the finite population sample size formula:

$$n = (N \times t^2 \times p \times q) / (d^2 \times [N - 1] + t^2 \times p \times q)$$

Where:

n: Population size (≈ 600)

t: 1.96 for 95% confidence level

p: Expected prevalence (0.50)

q: $1 - p$ (0.50)

d: Margin of error (0.10)

Based on these parameters, the minimum required sample size was calculated as approximately 73 participants. Considering possible data loss, the study was completed with 80 participants.

A post-hoc power analysis indicated that the study had approximately 80% power to detect a medium effect size (Cohen's $d=0.5$) at a 95% confidence level.

Research Questions

- Is there a difference between the educational status of adolescent and adult pregnant women?
- Is there a difference between the mean scores of the self-perception scale of adolescent and adult pregnant women?
- Is there a difference between adolescent and adult pregnant women's perception of traumatic birth?
- Is there a relationship between self-perception scale and Traumatic Birth Perception Scale (TBPS) of adolescent and adult pregnant women?

Independent variables: Sociodemographic characteristics of the participants (age, education level, income level, etc.), obstetric characteristics, pregnancy process and delivery.

Dependent variables: Pregnant Women's Self-Perception Scale (PSPS) and Traumatic Birth Perception Scale.

Inclusion Criteria

Adolescent group: Age between 15-19 years, nulliparous, gestational age between 37-42 weeks, singleton pregnancy, at least primary school graduates, and consent was obtained from themselves and their parents/guardians.

Adult group: Pregnant women aged between 20-35 years, nulliparous, 37-42 weeks gestational age, singleton pregnancy, at least primary school graduate, and consent was obtained.

Exclusion Criteria

Those who had a problem with themselves or their fetus and those who agreed to participate in the study but later withdrew.

Data Collection Tools

Data were collected using Personal Information Form, PSPS and Traumatic Birth Perception Scale.

Personal Information Form (PIF): The form, developed by the researchers in accordance with the literature (Koç & Özkan, 2022; Aksoy Derya et al., 2024; WHO, 2022), includes 24 questions regarding socio-demographic and obstetric characteristics, the pregnancy process, and perceptions of childbirth.

Pregnant Women's Self-Perception Scale (PSPS): The Pregnant Women's Self-Perception Scale, developed by

Kumcağız et al. (2017), assesses pregnant women's perceptions across two subdimensions: Perception of motherhood related to pregnancy (7 items) and perception of body related to pregnancy (5 items). The first subdimension measures how women perceive their maternal role during pregnancy, with higher scores indicating a more positive perception of motherhood, while lower scores indicate a weaker perception. The second subdimension evaluates body perception during pregnancy, where higher scores indicate a more negative perception and lower scores indicate a more positive perception. Responses are scored on a four-point Likert-type scale (4=always, 3=most of the time, 2=sometimes, 1=never), and subdimension scores are interpreted separately. The scale has been validated in populations similar to the present study, and in this study, Cronbach's α was 0.69, indicating acceptable reliability for the sample.

Traumatic Birth Perception Scale (TBPS): The TBPS, developed by Yalınz et al. (2016), measures the level of traumatic birth perception among women of reproductive age. The scale consists of 13 items, with responses scored on a 0-10 scale, ranging from "none" to the maximum. Total scores range from 0 to 130 and are interpreted across five levels: 0-26 indicates a very low level, 27-52 indicates a low level, 53-78 indicates a moderate level, 79-104 indicates a high level, and 105-130 indicates a very high level of traumatic birth perception. The original scale demonstrated high reliability, with Cronbach's $\alpha=0.895$ (Yalınz et al., 2016). In the current study, Cronbach's α for the scale was 0.88, indicating excellent internal consistency.

Data Collection

The data of the study were collected from pregnant women who came to Sarıkamış State Hospital between July 2021 and July 2022 for prenatal control and who were asked for NST. Firstly, the researcher informed the adolescent pregnant women, the parents/guardians of adolescent pregnant women and the adult pregnant women about the study. Written and verbal consent was obtained from the adolescent pregnant women, parents/guardians of adolescent pregnant women and adult pregnant women who agreed to participate in the study and met the study criteria. Data were collected in 15-20 minutes by face-to-face interview method in the NST room, taking into account the privacy of the pregnant women.

Statistical Analysis

The data were analyzed using the Statistical Package for Social Sciences (SPSS) version 26. Descriptive statistics were presented as frequencies (f) and percentages (%). Normality of the data was assessed using the Shapiro-Wilk test. Chi-square analysis was applied for categorical variables. Independent Samples t test and One-Way ANOVA were used for comparing group means, with effect sizes reported as Cohen's d for t-tests and eta squared (η^2) for ANOVA. Tukey's HSD test was applied for post-hoc comparisons where significant differences were found. Pearson correlation analysis was conducted to examine the relationship between scale scores. In cases where normality assumptions were violated, non-parametric alternatives (Mann-Whitney U test or Kruskal-Wallis test) were applied. Additionally, a priori power analysis was conducted to ensure adequate sample size for detecting medium effect sizes ($\alpha=.05$, power=0.80).

RESULTS

The findings of the groups participating in the study are presented in [Tables 1-4](#).

Among adolescent pregnant women, all participants (100%) were aged 15-19 years, and 50% had spouses aged 20-24 years. More than half (56.7%) had secondary education, while 73.3% of their spouses also had secondary education. All adolescent pregnant women were not working. The majority (66.7%) lived in villages, and 56.7% lived in extended families. Most participants (76.7%) reported that their income was equal to their expenses, and 83.3% had social security. Consanguineous marriage was reported by 16.7%, and all were married between the ages of 14-18 years.

Among adult pregnant women, 58% were aged 20-24 years, and 20% had spouses aged 20-24 years. Regarding education, 46% had secondary education and 42% had university education, while 44% of their spouses had secondary education. A total of 76% were not working. More than half (52%) lived in villages, and 34% lived in extended families. Half of the participants (50%) reported income equal to expenses, and 82% had social security. Consanguineous marriage was reported by 18%, and 66% were married between the ages of 20-24 years.

A statistically significant difference was found between the groups in terms of age, spouse's age, education level, spouse's education level, employment status, family type, income perception, and age at marriage ($p<0.05$) ([Table 1](#)).

The obstetric characteristics of the participants are presented in [Table 2](#). Among adolescent pregnant women, 86.7% were experiencing their first pregnancy and 13.3% had two or more pregnancies. Similarly, 86.7% had no history of miscarriage, while 13.3% had experienced at least one miscarriage. The majority (90.0%) had planned pregnancies, and 66.7% reported attending regular prenatal check-ups. Additionally, 43.3% received prenatal education, and 43.3% experienced problems during pregnancy, whereas 56.7% did not.

Among adult pregnant women, 82.0% were experiencing their first pregnancy and 18.0% had two or more pregnancies. Likewise, 82.0% had no history of miscarriage, while 18.0% had experienced at least one miscarriage. Planned pregnancies were reported by 90.0% of participants. A higher proportion (86.0%) attended regular prenatal check-ups. Furthermore, 42.0% received prenatal education. It was found that 20.0% experienced problems during pregnancy, while 80.0% did not.

No statistically significant differences were found between the groups in terms of number of pregnancies, history of miscarriage, pregnancy planning, regular prenatal check-ups, or receiving prenatal education ($p>0.05$). However, a statistically significant difference was observed in terms of experiencing problems during pregnancy ($\chi^2=3.91$, $p=0.048$), with adolescent pregnant women reporting a higher rate of problems compared to adult pregnant women ([Table 2](#)).

The comparison of the participants' PSPS and TBPS scores is presented in [Table 3](#). The mean score of the PSPS was significantly higher in adolescent pregnant women compared to adult pregnant women (36.80 ± 3.47 vs. 34.88 ± 4.03 ; $t=2.249$, $p=0.028$). Similarly, the mean score of the TBPS was significantly higher among adolescents (77.26 ± 19.84 vs. 64.96 ± 28.99 ; $t=2.249$, $p=0.027$).

Table 1. Socio-demographic characteristics of participants

Characteristics	Group	Adolescent (n=30)		Adult (n=50)		χ ²	p
		n	%	n	%		
Woman age	15-19	30	100	0	0	80.00	0.000
	20-24	0	0	29	58.0		
	25-35	0	0	21	42.0		
	Mean±SD	17.53±0.68		23.9±3.64			
Husband age	20-24	15	50	10	20.0	9.56	0.008
	25-29	13	43.3	27	54.0		
	30-38	2	6.7	13	26.0		
	Mean±SD	24.80±2.83		27.38±3.84			
Women's educational status	Primary school	13	43.3	6	12.0	20.78	0.000
	Secondary education	17	56.7	23	46.0		
	University	0	0	21	42.0		
Husband's educational status	Primary school	8	26.7	8	16.0	16.00	0.000
	Secondary education	22	73.3	22	44.0		
	University	0	0	20	40.0		
Working status of women	Working	0	0	12	24.0	8.47	0.014
	Not working	30	100	38	76.0		
Living place	Province	2	6.6	3	6.0	1.93	0.381
	District	8	26.7	21	42.0		
	Village	20	66.7	26	52.0		
Family type	Nuclear family	13	43.3	33	66.0	3.07	0.047
	Extended family	17	56.7	17	34.0		
Income perception	Income less than expenditure	7	23.3	16	32.0	8.11	0.017
	Income equal to expenditure	23	76.7	25	50.0		
	Income more than expenditure	0	0	9	18.0		
Social security	Yes	25	83.3	41	82.0	0.02	0.879
	No	5	16.7	9	18.0		
Consanguineous marriage	Yes	5	16.7	9	18.0	0.03	0.984
	No	25	83.3	41	82.0		
Marriage age of woman	14-18	30	100	4	8.0	64.94	0.000
	19-24	0	0	33	66.0		
	25-31	0	0	13	26.0		
χ ² : Chi-square, SD: Standard deviation							

 χ^2 : Chi-square, SD: Standard deviation

Table 2. Obstetric characteristics of participants

Obstetric characteristics	Group	Adolescent (n=30)		Adult (n=50)		χ^2	p
		n	%	n	%		
Number of pregnancies	1 pregnancy	26	86.7	41	82.0	0.06	0.814
	≥ 2 pregnancies	4	13.3	9	18.0		
Number of involuntary abortions	No miscarriage	26	86.7	41	82.0	0.06	0.814
	≥ 1 miscarriage	4	13.3	9	18.0		
Pregnancy planning	Planned pregnancy	27	90.0	45	90.0	0.00	1.000
	Unplanned pregnancy	3	10.0	5	10.0		
Regular prenatal check	Yes	20	66.7	43	86.0	3.11	0.078
	No	10	33.3	7	14.0		
Receiving prenatal education	Yes	13	43.3	21	42.0	0.00	1.000
	No	17	56.7	29	58.0		
Having problems in pregnancy	Yes	13	43.3	10	20.0	3.91	0.048
	No	17	56.7	40	80.0		

PSPS: Pregnant's Self-perception Scale, PMP: Perception of motherhood in pregnancy, BPP: Body perception of pregnancy, TBPS: Traumatic Birth Perception Scale

Table 3. Comparison of the participants' PSPS and TBPS scores

Scales	Groups	n	Mean	SD	t	p
PSPS	Adolescent	30	36.80	3.47	2.249	0.028
	Adult	50	34.88	4.03		
PMP	Adolescent	30	26.33	2.29	0.025	0.980
	Adult	50	26.32	2.35		
BPP	Adolescent	30	10.46	3.07	2.652	0.010
	Adult	50	8.56	3.18		
TBPS	Adolescent	30	77.26	19.84	2.249	0.027
	Adult	50	64.96	28.99		

PSPS: Pregnant's Self-perception Scale, TBPS: Traumatic Birth Perception Scale, SD: Standard deviation, PMP: Perception of motherhood in pregnancy, BPP: Body perception of pregnancy

Table 4. Comparison of the relationship between the participants' TBPS and PSPS

Groups	Scale	TBPS	PSPS	n	p
Adolescents	TBPS	1	0.41	30	0.024
	PSPS	0.41	1		
Adult	TBPS	1	0.234	50	0.101
	PSPS	0.234	1		
All participants	TBPS	1	0.168	80	0.135
	PSPS	0.168	1		

TBPS: Traumatic Birth Perception Scale, PSPS: Pregnant's Self Perception Scale

Regarding subdimensions, the body perception of pregnancy (BPP) score was significantly higher in adolescent pregnant women (10.46 ± 3.07 vs. 8.56 ± 3.18 ; $t=2.652$, $p=0.010$). However, no statistically significant difference was found between the groups in terms of perception of motherhood in pregnancy (PMP) (26.33 ± 2.29 vs. 26.32 ± 2.35 ; $t=0.025$, $p=0.980$) (Table 3).

Effect size analysis indicated that the differences in PSPS and TBPS scores were of moderate magnitude (Cohen's $d \approx 0.50$), while the difference in BPP scores was also moderate ($d \approx 0.60$).

The correlation between the participants' self-perception levels (PSPS) and their perceptions of traumatic birth (TBPS) is presented in Table 4. Among adolescent pregnant women, a positive, moderate correlation was observed between PSPS and TBPS scores ($r=0.41$, $n=30$, $p=0.024$), indicating that higher self-perception levels were associated with higher perceptions of traumatic birth.

For adult pregnant women, no statistically significant correlation was found between PSPS and TBPS scores ($r=0.234$, $n=50$, $p=0.101$).

When all participants were analyzed together, the correlation between PSPS and TBPS was not statistically significant ($r=0.168$, $n=80$, $p=0.135$).

These results suggest that the relationship between self-perception and traumatic birth perception is present only in adolescent pregnant women, while no significant association is observed in adult pregnant women or in the combined sample (Table 4).

DISCUSSION

The findings of this study indicate that adolescent and adult pregnant women experience pregnancy and childbirth in

markedly different ways, influenced by social, psychological, and obstetric factors. Adolescent participants had lower educational levels, married at younger ages, and faced more challenges related to prenatal care and pregnancy management, which aligns with prior studies highlighting adolescents' vulnerabilities in physical, emotional, and social domains (Çırak & Özdemir, 2015; Panova et al., 2016; Rodríguez-Almagro et al., 2019). From a developmental perspective, the heightened self-perception observed in adolescents may reflect the dual role of pregnancy as both a developmental milestone and a life-defining event, amplifying emotional intensity and potential stress during childbirth.

Developmental and Psychosocial Mechanisms

Adolescent pregnancies occur during a critical period of incomplete psychosocial, cognitive, and emotional maturation (Ayanaw Habitu et al., 2017; UNFPA, 2020). This incomplete development may limit coping strategies, emotional regulation, and problem-solving abilities, resulting in higher perceived trauma during childbirth. Social vulnerabilities, including lower educational attainment, financial dependence, and weaker social support networks, further exacerbate stress and feelings of helplessness, contributing to heightened traumatic birth perceptions (Koç & Özkan, 2022; Aksoy Derya et al., 2024). The current study extends this understanding by demonstrating a moderate positive correlation between adolescents' self-perception and traumatic birth perception, suggesting that heightened emotional awareness and self-focus may amplify perceived trauma during labor (Siegel & Brandon, 2014; Smith Battle, 2013).

Educational and Socioeconomic Influences

Education emerged as a key determinant of both pregnancy experiences and perceptions of childbirth. Adolescents' lower educational attainment may reduce health literacy, limit utilization of prenatal services, and impair effective coping strategies (Kassa et al., 2018; UNFPA, 2022). Such deficits can heighten vulnerability to psychological stress during childbirth. Interventions that enhance education and health literacy, particularly those addressing reproductive health and prenatal care, may therefore mitigate perceived birth trauma and improve maternal outcomes.

Prenatal Care, Obstetric Risks, and Support Systems

Although adult women in this study exhibited higher age-related obstetric risks, such as gestational diabetes and hypertension, adolescents attended prenatal visits less regularly. This discrepancy may reflect structural barriers, including limited access to healthcare, transportation difficulties, and insufficient social support (Londero et al., 2019). From a biopsychosocial perspective, inadequate prenatal preparation and social support may compound the psychological stress experienced during childbirth, amplifying traumatic perceptions among adolescents.

Psychological Dimensions and Traumatic Birth Perception

Adolescents scored significantly higher on both the PSPS and the TBPS. This dual elevation suggests that pregnancy serves as both a central aspect of identity development and a source of emotional vulnerability (Abdolalipour et al., 2023; Ünal,

2023). In contrast, adult women did not exhibit a significant correlation between self-perception and traumatic birth perception, likely reflecting greater psychosocial maturity, life experience, and resilience, as well as stronger support networks buffering emotional intensity (Ahmad et al., 2024; Al-Mutawtah et al., 2023; Kohan et al., 2023). These findings are consistent with international studies highlighting the protective role of emotional preparedness and social support in mitigating childbirth-related trauma (Isobel et al., 2023; Barrett et al., 2025).

Integration with International Literature

International research suggests that adolescent pregnancies are consistently associated with higher perceived birth trauma due to a combination of developmental immaturity, limited autonomy, and social vulnerability (SmithBattle et al., 2013; Koç & Özkan, 2022). The present study reinforces these findings in a Turkish context, highlighting cultural factors such as early marriage and regional disparities in adolescent pregnancy prevalence. By integrating these local and global perspectives, the study underscores the necessity of age-specific interventions that address both psychosocial and obstetric needs.

Implications for Practice

The results indicate the importance of designing targeted interventions for adolescent pregnant women, including prenatal education programs, psychosocial support, and childbirth preparation tailored to developmental and emotional needs. Strengthening health literacy, enhancing coping strategies, and ensuring access to supportive healthcare services may reduce the likelihood of perceiving childbirth as traumatic, ultimately improving maternal and neonatal outcomes.

Limitations

This study has several limitations that should be considered when interpreting the findings. First, the cross-sectional design restricts the ability to establish causal relationships between self-perception and traumatic birth perception. Second, the study was conducted in a single-center setting with a relatively small sample size, particularly for the adolescent group, which may limit the generalizability of the findings to other populations. Third, the use of self-report measures introduces the potential for response bias and may affect the accuracy of psychological assessments. Fourth, the PSPS used in this study had a Cronbach's alpha of 0.69, which is at the borderline of acceptability, representing a limitation in terms of measurement reliability. Fifth, selection bias may have occurred due to voluntary participation, potentially influencing the observed outcomes. Lastly, the relatively small number of adolescent pregnancies reflects their decreasing prevalence, which may have affected the statistical power and representativeness of the adolescent group.

Despite these limitations, the study also has notable strengths. It provides a comprehensive comparison of adolescent and adult pregnant women across social, obstetric, and psychological dimensions, offering valuable insights into factors influencing traumatic birth perceptions. The study employs validated scales for self-perception and traumatic birth perception, ensuring standardized measurement of

key constructs. Furthermore, by highlighting the significant relationship between self-perception and traumatic birth perception among adolescents, this study contributes evidence that can inform age-specific preventive strategies, educational interventions, and psychosocial support programs within maternal health services.

CONCLUSION

Based on the findings of this study, it can be concluded that adolescent pregnant women exhibit lower self-perception and higher levels of traumatic birth perception compared to adult pregnant women. The observed significant relationship between self-perception and traumatic birth perception among adolescents indicates that early pregnancies may carry important psychological and emotional consequences. Therefore, it is recommended that preventive strategies targeting adolescent pregnancy be implemented, alongside educational interventions aimed at strengthening self- and body-perception. Additionally, psychosocial support programs tailored to the needs of adolescent pregnant women should be developed and integrated into maternal health services to reduce potential negative outcomes and enhance overall well-being.

ETHICAL DECLARATIONS

Ethics Committee Approval

This study was conducted with the approval of the Ethics Committee of the Institute of Health Sciences at Marmara University (Date: 18.01.2021, Decision No: 06).

Informed Consent

Written informed consent was obtained from all individual participants prior to their inclusion in the study. Participants were fully informed about the study's aims, procedures, potential risks and benefits, and their rights-including the right to withdraw at any time without consequence. All participants voluntarily signed a written informed consent form.

Peer Review Process

This manuscript was subject to external peer review.

Conflict of Interest

The authors declare no conflicts of interest related to this study.

Financial Disclosure

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Author Contributions

Research Design: ZB, HE; Data Collection: HE; Analysis: ZB; Research Supervision: ZB, HE; Manuscript Writing: ZB, HE.

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