ORIGINAL ARTICLE

Maternal and neonatal outcomes of adolescent pregnancy at a tertiary university clinic

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Summary

Introduction/Aim: Pregnancy in adolescents increases the risk of numerous complications. The study aimed to investigate maternal and neonatal outcomes of adolescent pregnancies as well as the factors that can impact these outcomes.

Materials and Methods: The Study included all viable singleton pregnancies of adolescent patients (14 to 19 years) and an equal number of adult patients (20 to 25 years) delivered during 2022 at the Clinic for Obstetrics and Gynecology, University Clinical Center of Serbia. We analyzed the patients' age, comorbidities, parity, pregnancy controls, gestational complications, mode of delivery, complications during delivery, and in the early postpartum period, as well as the week of gestation at delivery, gender, birth weight, and Apgar score of newborns, and neonatal intensive care use.

Results: The study included 234 patients (117 adolescents and 117 adults). The majority of patients from both groups did not have any comorbidities or gestational complications. Adolescent patients control their pregnancy less often. Spontaneous vaginal deliveries were more frequent among adolescents. Apart from obstetric ruptures (30%), delivery complications were rare in both groups. Adolescents had preterm deliveries more often than adults.

Nevertheless, almost all the children were born alive and healthy, regardless of the maternal age. Children of adolescents spent more time in intensive care. Regression analysis revealed that different parameters influenced the outcomes of adolescent and adult patients, while neonatal outcomes had the same predictors.

Conclusion: Most of our adolescents do not regularly control their pregnancies. However, pregnancy complications in adolescents are not frequent.

Key words: pregnancy, adolescents, complications, outcomes

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INTRODUCTION

Adolescent pregnancy is defined as pregnancy in girls aged between 10 and 19 years. Despite the downward trend, it is estimated that adolescent pregnancies account for 11% to 25% of all pregnancies worldwide. Out of these pregnancies, 50% are unplanned. Nevertheless, the majority of adolescent pregnancies end in childbirth (1, 2).

Adolescent pregnancy is a complex issue that can have adverse socioeconomic and health outcomes. Pregnancy in adolescent age represents a risk factor for a variety of complications for both mothers and children, including preeclampsia-eclampsia, pelvic floor injuries during delivery, postpartum hemorrhage and anemia, puerperal infections, depression, preterm delivery, low birth weight, and Apgar score of newborns, etc. Currently, complications during pregnancy and childbirth are the second leading cause of mortality of young women aged 13 to 19 years (generally in middle and low-income countries) (3, 4).

The pregnancy rate among adolescent girls in Serbia is one of the highest in Europe, around 50 out of 1,000 girls aged 15 to 19 per year. Out of these adolescent pregnancies, every sixth ends in induced abortion. Data regarding adolescent pregnancies that are continued until delivery and complications occurring during pregnancy, delivery, and the early postpartum period in our country are insufficient (5). Therefore, the study aimed to investigate maternal and neonatal outcomes of adolescent pregnancies, as well as the factors that can impact these outcomes.

MATERIAL AND METHODS

A retrospective study of all viable singleton pregnancies in adolescent patients aged 14 to 19 years, delivered during the period of one year (January 1, 2022 - December 31, 2022), was conducted at the Clinic for Gynecology and Obstetrics of the University Clinical Center of Serbia.

The control group was formed by including the first adult patient aged 20 to 25 years who gave birth after the delivery of an adolescent patient during the study period at our Clinic.

For both groups of patients, we analyzed the age, comorbidities, and parity (number of previous deliveries, abortions, miscarriages, and deliveries – vaginal or by Caesarean Section - CS). We noted how the pregnancy was controlled (regularly, i.e., monthly or not), all gestational illnesses and/or complications, and which medications were used during pregnancy.

Assessed parameters of the delivery were its mode (vaginal spontaneous, stimulated, or induced or by CS along with the indications for CS), use of epidural analgesia, performance of mediolateral episiotomy and complications such as occurrence of obstetric ruptures (cervix, vagina, perineum and labia), hematoma, uterine atonia, and the need for uterine cavity revision and blood transfusion. The duration of hospitalization and early postpartum complications (during hospitalization) were also recorded.

Finally, we assessed parameters of the newborn, such as the week of gestation at delivery, gender, birth weight, Apgar score, and the need and duration of neonatal intensive care (NICU).

The study adheres to legal standards and was approved by the UKCS Ethical Committee (No. 420/17).

The obtained data were statistically analyzed. To describe the sample, the mean, standard deviation, numbers, and percent were used. The chi-square test and ANOVA were used to compare the frequencies and means, respectively, of the obtained data between the study group of adolescent patients and the control group of adult patients. Finally, regression analysis was performed to investigate which parameters could impact the outcomes for mothers and children (duration of hospitalization for mothers and NICU days for children).

RESULTS

The study included 234 patients (117 in the adolescent group and 117 in the control group). The average age of adolescent patients was 17.18 ± 1.37 years, and that of adult patients was 22.07 ± 1.36 years. The majority of investigated patients from both groups did not have any comorbidities. Still, hypothyroidism was the most common

Table 1. Descriptive parameters of the investigated mothers and children

Parameters	Adolescent study group	Adult control group	F	p
	Mean ± Standard Deviation	Mean ± Standard Deviation		
Mother's age	17.18 ± 1.37	22.07 ± 1.36	17.142	0.001
Previous miscarriages	0.05 ± 0.23	0.09 ± 0.32	0.855	0.356
Previous abortions	0.01 ± 0.13	0.04 ± 0.20	1.322	0.252
Previous vaginal delivery	0.31 ± 0.54	0.41 ± 0.80	1.532	0.217
Previous Caesarean section	0.04 ± 0.21	0.18 ± 0.55	7.049	0.008
Hospitalization days	5.35 ± 3.45	5.97 ± 3.68	1.740	0.188
Baby Apgar score	8.43 ± 1.72	8.81 ± 0.96	4.222	0.041
Baby birth-weight	2827.69 ± 733.14	3217.43 ± 586.41	20.164	0.001
Neonatal intensive care days	0.53 ± 2.21	0.23 ± 1.06	1.729	0.190

comorbidity regardless of age group. Descriptive data of the investigated mothers and children are presented in **Table 1**. **Table 2** shows the frequency of assessed characteristics of the investigated mothers and children.

Table 2. Frequency of characteristics of the investigated women and children

Parameters		Adolescent study group		Adult control group		χ^2	p
		number	%	number	%		
Previous pregnancy	No	75	64.1	62	53.0	5.322	0.021
	Yes	42	35.9	55	47.0		
Comorbidities	No	99	84.6	84	71.8	4.029	0.045
	Yes	18	15.4	33	28.2		
Pregnancy controls	No	40	34.2	15	12.8	14.792	0.001
	Regular	77	65.8	102	87.2		
Pregnancy complications	No	79	67.5	64	54.7	3.024	0.082
	Chronic HTA	1	0.9	1	0.9		
	PIH	6	5.1	8	6.8		
	preeclampsia	1	0.9	0	0		
	GDM	0	0	4	3.4		
	Obesity	4	3.4	2	1.7		
	anemia	7	6.0	7	6.0		
	contractions	9	7.7	15	12.8		
	Other	10	8.6	16	13.7		
Medications in pregnancy	No	77	65.8	59	50.4	4.128	0.042
	Tocolysis	8	6.8	18	15.4		
	Other	32	27.4	40	34.2		
Delivery mode	spontaneous	13	11.2	6	5.2	0.405	0.524
	stimulated	75	64.1	80	68.4		
	Induced	6	5.1	6	5.1		
	CS	23	19.7	27	23.1		
Caesarean section indications	fetal asphyxia	10	8.5	8	29.6	3.484	0.062
	disproportion	5	4.3	4	14.8		
	placental abruption	1	0.9	0	0		
	pelvic present	3	2.6	1	3.7		
	previous CS	4	3.4	14	51.9		
Epidural analgesia	No	93	98.9	81	90.0	7.197	0.007
	Yes	1	1.1	9	10.0		
Episiotomy	No	45	47.9	34	37.8	1.902	0.168
	Yes	49	52.1	56	62.2		
Obstetric ruptures	No	62	66.0	75	64.7	0.242	0.623
	Yes	32	34.0	41	35.3		
Hemathoma	No	93	98.9	90	97.8	0.359	0.549
	Yes	1	1.1	2	2.2		
Uterine atonia	No	117	100	116	99.1	1.012	0.317
	Yes	0	0	1	0.9		
Blood transfusion	No	109	93.2	113	96.6	1.399	0.237
	Yes	8	6.8	4	3.4		
Uterine cavity revision	No	62	53.0	51	43.6	1.264	0.261
	Manual	47	40.2	61	52.1		
	instrumental	8	6.8	5	4.3		
Early postpartum complications	No	72	61.5	83	70.9	2.302	0.129
	Febricity	2	1.7	0	0		
	Residua	1	0.9	1	0.9		
	Anemia	38	32.5	33	28.2		
	Other	4	3.4	0	0		
Delivery time	Preterm	31	26.5	9	7.7	14.532	0.001
	Term	86	73.5	108	92.3		
Live-born child	No	2	1.7	1	0.9	0.336	0.562
	Yes	115	98.3	116	99.1		
Neonatal intensive care	No	92	78.6	110	94.0	4.128	0.042
	Yes	25	21.4	7	6.0		
Baby gender	Male	57	48.7	59	50.4	0.267	0.606
	Female	60	51.3	58	49.6		
Baby weight for gestational age	Small	31	26.5	9	7.7	11.084	0.001
	Adequate	82	70.1	105	89.7		
	Large	4	3.4	3	2.6		

Legend: GDM – gestational diabetes mellitus; PIH – pregnancy-induced hypertension; HTA – hypertension; CS – Caesarean Section

Patients of both groups were mostly nulliparous. Still, adult patients had significantly more previous pregnancies, as expected. Investigated adolescent patients had up to 3 (7 patients had miscarriages, 2 abortions, 42 deliveries), while patients from the control group had up to 4 previous pregnancies (10 women had miscarriages, 5 abortions, 55 deliveries). Previous pregnancies of all investigated patients mainly ended with the term delivery of a healthy child. Moreover, significantly more patients from the control group compared to the study group had a history of previous Caesarean Sections (14 vs. 4 patients).

Significantly more adolescent patients did not regularly control their pregnancy compared to patients from the control group. However, the majority of patients from both groups did not have gestational illnesses or pregnancy complications. Still, it should be noticed that contractions and anemia were the most common pregnancy complications in both groups. At the same time, preeclampsia was registered only in adolescent patients, and gestational diabetes mellitus was registered only in adult patients. Patients from the study and control groups received medications during pregnancy with similar frequency.

Delivery was stimulated with Syntocinone in the majority of patients regardless of the age group. Moreover, there were no significant differences between groups in the frequency of induced deliveries and/or delivery by CS. Contrary to spontaneous deliveries, they were more frequent among adolescent patients. The most common indication for CS for investigated adolescent patients was fetal asphyxia, while for the patients from the control group, it was having a previous CS.

Table 3. Factors that impacted the hospitalization days of mothers

Parameters		Unstandardized coefficient B	Standardized coefficients	p	Low 95% CI for B	High 95% CI for B
Overall sample	Constant	1.497		0.021	-1.472	4.467
	Parity	-0.682	-0.158	**0.027**	-1.288	-0.077
	CS before	1.105	0.126	0.118	-0.281	2.491
	Controls	0.374	0.045	0.540	-0.828	1.577
	Preg complic.	0.950	0.240	**0.001**	0.393	1.508
	Medications	-0.034	-0.031	0.632	-0.172	0.105
	Delivery mode	0.273	0.031	0.686	-1.055	1.601
	Delivery time	1.529	0.162	**0.016**	0.293	2.764
	Delivery complications	0.674	0.124	0.069	-0.053	1.401
	Postp complic	0.563	0.081	0.046	-0.029	1.314
	Group (study/control)	0.066	0.009	0.893	-0.902	1.034
Adolescent mothers	Constant	2.667		0.111	-0.624	5.958
	Parity	-1.054	-0.194	**0.032**	-2.017	-0.091
	CS before	2.627	0.155	0.117	-0.665	5.919
	Controls	0.667	0.092	0.360	-0.772	2.105
	Preg complic	2.034	0.277	**0.003**	0.716	3.352
	Medications	0.671	0.173	0.102	-0.134	1.475
	Delivery mode	-0.743	-0.086	0.382	-2.421	0.936
	Delivery time	-1.407	0.181	**0.049**	0.005	2.809
	Del complic	0.371	0.471	0.602	-0.101	2.675
	Postp complic	-0.090	-0.013	0.887	-1.335	1.156
Adult mothers	Constant	3.444		0.306	-3.187	10.075
	Parity	-0.696	-0.183	0.104	-1.538	0.146
	CS before	0.922	0.138	0.274	-0.739	2.582
	Controls	0.024	0.002	0.983	-2.188	2.236
	Preg complic	0.877	0.219	**0.028**	0.098	1.657
	Medications	0.552	0.122	0.209	-0.504	2.277
	Delivery mode	-0.079	-0.009	0.940	-2.135	1.977
	Delivery time	0.937	0.068	0.488	-1.730	3.605
	Del complic	0.362	0.312	0.361	0.014	2.451
	Postp complic	-0.086	-0.011	0.909	-1.589	1.416

Legend: Preg complic – pregnancy complications; Del complic – delivery complications; Postp complic – early postpartum complications; CS – Caesarean Section

Table 4. Factors that impacted NICU days for children

Parameters		Unstandardized Coefficients B	Standardized Coefficients	p	Low 95% CI for B	High 95% CI for B
Overall sample	Constant	4.295		0.001	2.672	5.917
	Preg complic	-0.334	-0.081	0.168	-0.809	0.142
	Delivery mode	0.642	0.151	**0.010**	0.156	1.127
	Delivery time	-0.956	-0.207	**0.016**	-1.731	-0.181
	Birth-weight	0.011	-0.152	0.117	-0.001	0.038
	Apgar score	-0.242	-0.196	**0.011**	-0.427	-0.057
	Baby gender	0.198	0.059	0.307	-0.184	0.580
	Group (study/control)	0.179	0.051	0.401	-0.240	0.598
Adolescent mothers	Constant	3.707		0.005	1.151	6.264
	Preg complic	-0.416	-0.088	0.289	-1.191	0.358
	Delivery mode	-0.315	-0.063	0.627	-1.596	0.967
	Delivery time	1.220	0.220	**0.012**	0.279	2.161
	Birth-weight	-0.001	-0.248	0.105	-0.302	0.101
	Apgar score	-0.255	-0.198	0.085	-0.545	0.036
	Baby gender	0.214	0.048	0.558	-0.509	0.937
Adult mothers	(Constant)	4.046		0.001	2.312	5.780
	Preg complic	-0.020	-0.010	0.905	-0.353	0.313
	Delivery mode	0.221	0.088	0.294	-0.194	0.637
	Delivery time	-2.011	-0.506	**0.004**	-3.352	-0.671
	Birth-weight	-0.118	-0.035	0.829	-1.199	0.963
	Apgar score	-0.035	-0.032	0.733	-0.238	0.168
	Baby gender	0.223	0.107	0.170	-0.097	0.543

Legend: Preg complic – pregnancy complications

Episiotomy was performed in the majority of patients from both groups. Around 30% of patients from both groups had vaginal and/or perineal ruptures. Other complications of delivery, such as uterine atony and hematomas, were infrequent in both groups of patients. The majority of patients from both groups did not require uterine cavity revision either. Peridural analgesia was rarely given to adolescent patients.

Out of all early postpartum complications, anemia was most frequent (around 30% of patients from the study and control groups). Still, blood transfusions were indicated in a similar number of patients from both the study and control groups. There were no significant differences in the duration of hospitalization between adolescent and adult patients.

Significantly more adolescent patients had preterm deliveries than patients from the control group. Nevertheless, almost all the children were born alive and healthy, regardless of the maternal age. The average Apgar score was good in both groups (above 8), but children born to adolescent mothers had significantly lower average birth weights than those from the control group. Around 21% of children born to adolescent patients needed intensive care compared to 6% of children from the study group. Moreover, children born to adolescent patients spent significantly more time in the NICU than children from the control group.

Regression analysis revealed that different parameters influenced maternal outcomes in both the study and control groups, while fetal outcomes had the same predictors. Hospitalization duration of adolescent patients was associated with lower parity, more pregnancy complications, and/or gestational illnesses, and preterm delivery. In contrast, hospitalization duration of adult patients was associated only with having more pregnancy complications and/or gestational diseases **(Table 3)**. The number of days spent in the NICU for children of both adolescent and adult patients depended solely on the time of delivery (preterm or term) **(Table 4)**. Finally, it is worth noting that the mother's age was not associated with either the number of days of her hospitalization or the child's NICU days **(Tables 3 and 4)**.

DISCUSSION

Adolescent pregnancy is considered high-risk mainly because of several medical and socio-demographic factors. The role and responsibilities of a mother are typically suited for adults, rather than adolescent girls who have not yet completed their physical and psychological development and still exhibit childhood characteristics. Being a good mother to a child often requires great sacrifices that are unrealistic to be expected from a girl who is still a

child herself. Emotional immaturity, potentially causing denial of unexpected pregnancy and motherhood, fear of stigma, and lack of general health awareness, makes adolescents less likely to regularly and adequately control their pregnancies (1, 3, 6).

In addition, the immaturity of the adolescent mother's body can lead to obstetric complications for her and the newborn. An insufficiently grown and developed uterus may not be able to adequately support placental implantation, which can affect placental function and lead to preterm labor and low birth weight of the newborns. Moreover, uterine immaturity can be a potential reason for the fact that significant blood loss and a higher number of blood transfusions were associated with deliveries (both vaginal and by Caesarean Section) among adolescent patients from the literature (2, 5, 7).

According to the available literature, the most common complications of adolescent mothers are premature rupture of the membrane (around 20%), followed by preeclampsia (7%), thyroid diseases (7%), heart diseases (3%), and urinary tract infections (2%). Among the neonatal complications, prematurity (up to 40%), low birthweight (around 30%), and intrauterine growth restriction (12%) were the most common, while the rate of stillborns in previous studies was around 5%. This all can lead to the increased need for NICU admission of adolescent mothers' newborns (4, 8, 9).

Literature shows that rates of infection (cervicovaginal infections, urinary tract infections, puerperal endometritis, and systemic infections) were also increased during the pregnancy and postpartum periods of adolescent mothers, primarily due to inadequate antenatal care (less than four check-ups during pregnancy) (4, 10).

Studies showed that the risks of infant, neonatal, and postnatal mortality were significantly greater if mothers were aged 12 to 17 years than 20 to 34 years. After adjustment for race, marital status, educational level, smoking, prenatal care, and income, the risk of postnatal mortality in adolescent pregnancy remained significantly higher than in pregnancy of adult mothers (4, 11).

Numerous studies showed that the rate of maternal heart disease, pregnancy-induced hypertension, and preeclampsia was found to be higher in pregnancies of adolescents than in those of adult women. The risk of preeclampsia was increased 3.5-fold in adolescence, most probably due to placental implantation issues. Regression analyses showed that this was true for both older (16-19 years old) and younger (≤15 years old) adolescent primigravidas. Acute heart failure due to hypertensive disorders in pregnancy was found to be the leading cause of death in adolescent girls. The risk of preeclampsia among adolescents is even higher in the case of maternal obesity and excessive gestational weight gain. On the other hand, when compared with adult mothers, adolescents have a lower risk of chronic hypertension and venous thromboembolism. Moreover, the incidence of gestational diabetes mellitus in an adolescent population is low (up to 5.5%), as well as some other gestational and chronic comorbidities (2, 3, 10).

Adolescent mothers could have an increased risk of obstructed labor and Caesarean Section due to cephalopelvic disproportion caused by the insufficiently developed pelvic bones of young girls (12). On the contrary, some previous studies indicate that, even though the rates of labor induction and delivery by Caesarean Section are similar or even lower among adolescent mothers than in adults, this difference persists after adjusting for confounding factors such as adequate healthcare. Potential reasons could be more frequent preterm births and less common placenta previa in adolescent than adult mothers. Additionally, the use of uterotonics and antibiotics for Caesarean Section is also lower in adolescent pregnancies (3, 5, 13). In our study, adolescent mothers more often had spontaneous vaginal deliveries, while induced deliveries and/or delivery by CS were registered with similar rates in adolescent and adult patients.

The young and still-developing bodies of adolescents require a healthy diet rich in nutrients. The diet of a pregnant adolescent should be even better to avoid malnutrition and consequent maternal anemia, fetal growth abnormalities, or even congenital anomalies, low birth weight of the child, and/or fetal immaturity. Studies showed that, compared to pregnant adult women as well as non-pregnant adolescent girls, pregnant adolescents are more likely than their peers to abuse nicotine, alcohol, and marijuana (1, 2). All of these substances can negatively affect pregnancy and cause miscarriage, low birth weight, or preterm birth. Meta-analyses of available literature showed that anemia was present in 33% of pregnant adolescents, while around 16% of children born to adolescent mothers had low birth weight. The risk of intrauterine growth restriction can be twice as high in adolescent pregnancies as in adult pregnancies. Extensive population-based studies have shown that maternal age and gestational age at birth are positively correlated. Moreover, children of adolescent mothers usually have lower 5-minute Apgar scores (4, 6, 15).

On the contrary, some studies showed that if regularly controlled and adequately treated, adolescent pregnancies can be uneventful and that a healthy child of appropriate birth-weight for gestation age can be born. Investigations showed that there was no difference in the risk of delivering a child with low birth weight if adolescent mothers received dietary supplementation during pregnancy. Some investigations found a significant correlation between adolescent pregnancy complications and the late start of prenatal care and a lower number of visits. It was demonstrated that prematurity and low birth weight of infants were reduced if adolescent mothers had regular pregnancy controls. Another study revealed that appropriate prenatal care decreased the rate of fetal deaths (4, 7, 16).

Obstetric care of adolescent pregnancy necessitates a multidisciplinary approach according to the protocol for high-risk pregnancies. It should therefore be conducted in a tertiary referral center or a center specialized in the treatment of adolescents with obstetric facilities. The first and most important approach to adolescent pregnancies must be preventing them. In situations where they cannot be prevented, the detection of adolescent pregnancies and the initiation of antenatal care as soon as possible, along with proper planning for delivery, are crucial requirements for maternal and infant health (1, 4, 17).

CONCLUSIONS

Our study confirms that most of our adolescent patients do not regularly control their pregnancies. However, gestational illnesses and complications in adolescents were not frequent. On the other hand, significantly more adolescents had preterm delivery than adult patients. Most of the children were in good condition upon birth. Still, children born to adolescent mothers had lower birth weight and Apgar scores and consequently needed intensive care more frequently than children of adult mothers. Achieving a term delivery was the most critical factor for a good outcome of children born to both adolescent and adult patients.

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REFERENCES

1. Pietras J, Jarzabek-Bielecka G, Mizgier M, Markowska A. Adolescent pregnancy - medical, legal and social issues. J Matern Fetal Neonatal Med. 2024;37:2391490. doi: 10.1080/14767058.2024.2391490.
2. Varmaghani M, Pourtaheri A, Ahangari H, Tehrani H. The prevalence of adolescent pregnancy and its associated consequences in the Eastern Mediterranean region: a systematic review and meta-analysis. Reprod Health. 2024;21:113. doi: 10.1186/s12978-024-01856-4.
3. Fleming N, O'Driscoll T, Becker G, Spitzer RF; CANPAGO COMMITTEE. Adolescent Pregnancy Guidelines. J Obstet Gynaecol Can. 2015;37:740-756.doi: 10.1016/S1701-2163(15)30180-8.
4. Azevedo WF, Diniz MB, Fonseca ES, Azevedo LM, Evangelista CB. Complications in adolescent pregnancy: systematic review of the literature. Einstein (Sao Paulo). 2015;13:618-626. doi: 10.1590/S1679-45082015RW3127.
5. Blic vesti. www.blic.rs/vesti/novi-sad/stopa-trudnoca-kod-adolescentkinja-u-srbiji-jedna-je-od-najvisih-u-evropi/llpmztq
6. Duran MN, Pek E, Demir SS, Karacaer KO, Demir B. Maternal and foetal risks associated with teenage pregnancy - a comparative retrospective study in Turkey. J Obstet Gynaecol. 2024;44:2364787. doi: 10.1080/01443615.2024.2364787.
7. Staniczek J, Manasar-Dyrbus M, Stojko R, Jendyk C, Sadlocha M, Winkowska E, *et al*. Adolescent Pregnancy: A Comparative Insight into the Prevalence and Risks of Obstetric Complications in a Polish Cohort. J Clin Med. 2024;13:5785. doi: 10.3390/jcm13195785.
8. Mann L, Bateson D, Black KI. Teenage pregnancy. Aust J Gen Pract. 2020;49:310-316.doi: 10.31128/AJGP-02-20-5224.
9. Amerjee A, Shahwar D, Sheikh S, Ahmed I, Mohammed N, Baig IA, *et al*. Pregnancy outcomes amongst adolescents/young adults at a tertiary-care hospital in a low-middle-income country: Ten-year retrospective record review. J Pak Med Assoc. 2020;70:2147-2153. doi: 10.47391/JPMA.1181.
10. La-Orpipat T, Suwanrath C. Pregnancy outcomes of adolescent primigravida and risk of pregnancy-induced hypertension: a hospital-based study in Southern Thailand. J Obstet Gynaecol. 2019;39:934-940. doi: 10.1080/01443615.2019.1581736.
11. Serunjogi R, Barlow-Mosha L, Mumpe-Mwanja D, Williamson D, Valencia D, Tinker SC, *et al*. Comparative analysis of perinatal outcomes and birth defects amongst adolescent and older Ugandan mothers: evidence from a hospital-based surveillance database. Reprod Health. 2021;18:56. doi: 10.1186/s12978-021-01115-w.
12. Fleming N, Ng N, Osborne C, Biederman S, Yasseen AS 3rd, Dy J, *et al*. Adolescent pregnancy outcomes in the province of Ontario: a cohort study. J Obstet Gynaecol Can. 2013;35:234-245.doi: 10.1016/S1701-2163(15)30995-6.
13. IsguderCK, Arslan O, Gunkaya OS, Kanat-Pektas M, Tug N. Adolescent pregnancies in Turkey: a single center experience. Ann Saudi Med. 2024;44:11-17.doi: 10.5144/0256-4947.2024.11.
14. Matasariu DR, Dumitrascu I, Bujor IE, Cristofor AE, Boiculese LV, Mandici CE, *et al*. Mirroring Perinatal Outcomes in a Romanian Adolescent Cohort of Pregnant Women from 2015 to 2021. Diagnostics (Basel). 2023;13:2186. doi: 10.3390/diagnostics13132186.
15. Todhunter L, Hogan-Roy M, Pressman EK. Complications of Pregnancy in Adolescents. Semin Reprod Med. 2022;40:98-106. doi: 10.1055/s-0041-1734020.
16. Ganchimeg T, Ota E, Morisaki N, Laopaiboon M, Lumbiganon P, Zhang J, *et al*. Pregnancy and childbirth outcomes among adolescent mothers: a World Health Organization multicountry study. BJOG. 2014;121 Suppl 1:40-48.doi: 10.1111/1471-0528.12630.
17. Sedlecky K, Rasevic M, Topic V. Family planning in Serbia - the perspective of female students from the University of Belgrade. Eur J Contracept Reprod Health Care. 2011;16:469-479.doi: 10.3109/13625187.2011.614027.

ISHODI ADOLESCENTNIH TRUDNOĆA U TERCIJARNOJ UNIVERZITETSKOJ KLINICI

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Sažetak

Uvod/Cilj: Trudnoća kod adolescentkinja povećava rizik od brojnih komplikacija. Studija je imala za cilj da istraži ishode adolescentkih trudnoća za majke i novorođenčad, kao i faktore koji mogu da utiču na ove ishode.

Materijal i metod: Studija je obuhvatila sve održive jednoplodne trudnoće adolescentkinja (14 do 19 godina) i isti broj odraslih pacijentkinja (20 do 25 godina) porođenih tokom 2022. godine na Klinici za ginekologiju i akušerstvo Univerzitetskog kliničkog centra Srbije. Analizirali smo starost pacijentkinja, komorbiditete i paritet, kontrolisanje trudnoće, gestacijske komplikacije, način porođaja, komplikacije tokom porođaja i u ranom postpartalnom periodu, nedelju gestacije u vreme porođaja, pol, porođajnu težinu i Apgar skor novorođenčadi i korišćenje neonatalne intenzivne nege.

Rezultati: Studija je obuhvatila 234 pacijentkinje (117 adolescentkinja i 117 odraslih). Većina pacijentkinja iz obe grupe nije imala komorbiditete i gestacijske komplikacije. Adolescentkinje su ređe kontrolisale trudnoću. Spontani vaginalni porođaji bili su češći kod adolescentkinja. Osim akušerskih ruptura (30%), komplikacije porođaja su bile retke u obe grupe. Adolescentkinje su imale prevremeni porođaj češće od odraslih. Ipak, skoro sva deca su bila živorođena i zdrava bez obzira na starost majke. Deca adolescentkinja su više vremena provela na intenzivnoj nezi. Regresiona analiza je pokazala da su različiti parametri uticali na ishode adolescentkinja i odraslih pacijentkinja, dok su ishodi novorođenčadi imali iste prediktore.

Zaključak: Većina naših adolescentkinja ne kontroliše redovno trudnoću. Međutim, komplikacije trudnoće kod adolescentkinja nisu česte.

Ključne reči: trudnoća, adolescentkinje, komplikacije, ishodi

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