



Teenage Pregnancy and Its Outcome: A Scoping Review

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ABSTRACT

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Pregnant teenagers are deemed high risk and detrimental to motherhood and birth, as well as one of the world's major health issues, contributing to maternal and infant mortality and migration. Pregnancy Teenagers account for 11% of all births worldwide, with some large occurrences occurring in countries with intermediate income levels due to a variety of circumstances. Study The goal of this study is to learn about the effects of pregnancy on teenagers. Study This is a study scoping review that uses search tactics utilizing the keywords "teenage pregnancy, maternal, outcome, complications" in PubMed, Scopus, and other search databases for the time period 2018—2023. This study involves 19 publications with results risk maternal complications in pregnant teenagers like preeclampsia, eclampsia, anemia, postpartum hemorrhage, perineal tear, hyperthyroidism, oligohydramnios, infection channel urinary tract infection, condylomatosis, vaginal infection, HIV infection, infection syphilis, childbirth congestion, amniotic fluid broke premature birth, abortion, premature birth, and degree of maternal morbidity heavy. In newborns, outcomes included IUGR, low birth weight, preterm, needed bag valve mask resuscitation at birth, stillbirth, and neonatal mortality. Finally, pregnant teenagers have negative outcomes _ good for the mother or kid. That can become a vicious circle of negative consequences for health and the economy, so we must make an effort to reduce the impact of unfortunate pregnancies on youths.

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INTRODUCTION

Pregnancy is a process that is not easy for every Woman Good in a way physique as well as mentally. Condition physically and mentally not yet ripe can give rise to impact negative on the health of mother^{1,2}.

Pregnancy teenagers take a role amounting to 11% of amount number of births in the world³. As big as six mercy million teenage Women aged 15—19 years and two million teenage Women aged <15 years giving birth². In 95% of cases found in countries that have income lower middle. In developing countries, the number of findings cases keeps increasing⁴.

Teenage pregnancy is caused by influence from multifactorial like problem social and economic as well as level low education⁵. Besides that's demand to get married and give birth early as well as the opportunity to go through education and opportunities there are also limited work possible factors _ that push its height case pregnancy teenager. Other factors contributing are activity sexual without condoms and lack of awareness of needs and choices of contraception¹.

Pregnancy teenagers have higher risk to various complications until death³. Possible complications _ experienced by mothers during pregnancy teenager is hypertension in pregnancy, preeclampsia and eclampsia, childbirth congestion, anemia, endometritis, perineal tears, amniotic fluid broken, bleeding, infection chronic, as well impact bad for society and the economy¹⁻³. Incontinence, bleeding post-childbirth, even sepsis can also occur in teenage pregnancy. ⁶ Besides that a risk of poor delivery was also associated with pregnancy teenager like born death, premature birth, and low birth weight⁶. So, goal of study This is To explain the impact from pregnancy on teenagers Good during pregnancy, childbirth, etc. post labor¹⁻³.

METHODS

The keywords "teenage pregnancy, maternal, outcome, complication" were used in search techniques for this study's scoping review in PubMed, Scopus, and other search databases. Limited search with dates between 2018 and 2023. Read-title articles were used to filter the articles that were obtained. Then, after screening initially based on the title, read the article's abstract and the evaluation article in line with the issues raised by the researchers. The inclusion criteria for this study are a national or international journal or article published in 2018–2023, using Indonesian or English, a journal discussing the effects of teenage pregnancies, and a journal discussing the keywords "Teenage Pregnancy, Maternal, Outcome, Complication." Articles that cannot be obtained in a complete manner or that are unrelated to the variables examined are excluded from the study's criteria.

RESULTS

Based on keywords used in PubMed, Scopus, and search databases more obtained results 94 publications. Then, all articles were screened until resulting in 19 articles were submitted to the research (Figure 1).

According to the search article's findings, risk maternal complications in pregnancy among teenagers include preeclampsia, eclampsia, hypertension during pregnancy, anemia, postpartum hemorrhage, perineal tear, hyperthyroidism, oligohydramnios, infection channel urinary tract infection, condylomatosis, vaginal infection, HIV infection, infection syphilis, childbirth congestion, amniotic fluid broken premature IUGR, low birth weight, prematurity, the requirement for bag valve mask resuscitation at birth, stillbirth, and neonatal mortality were among the outcomes in newborns (table 1).

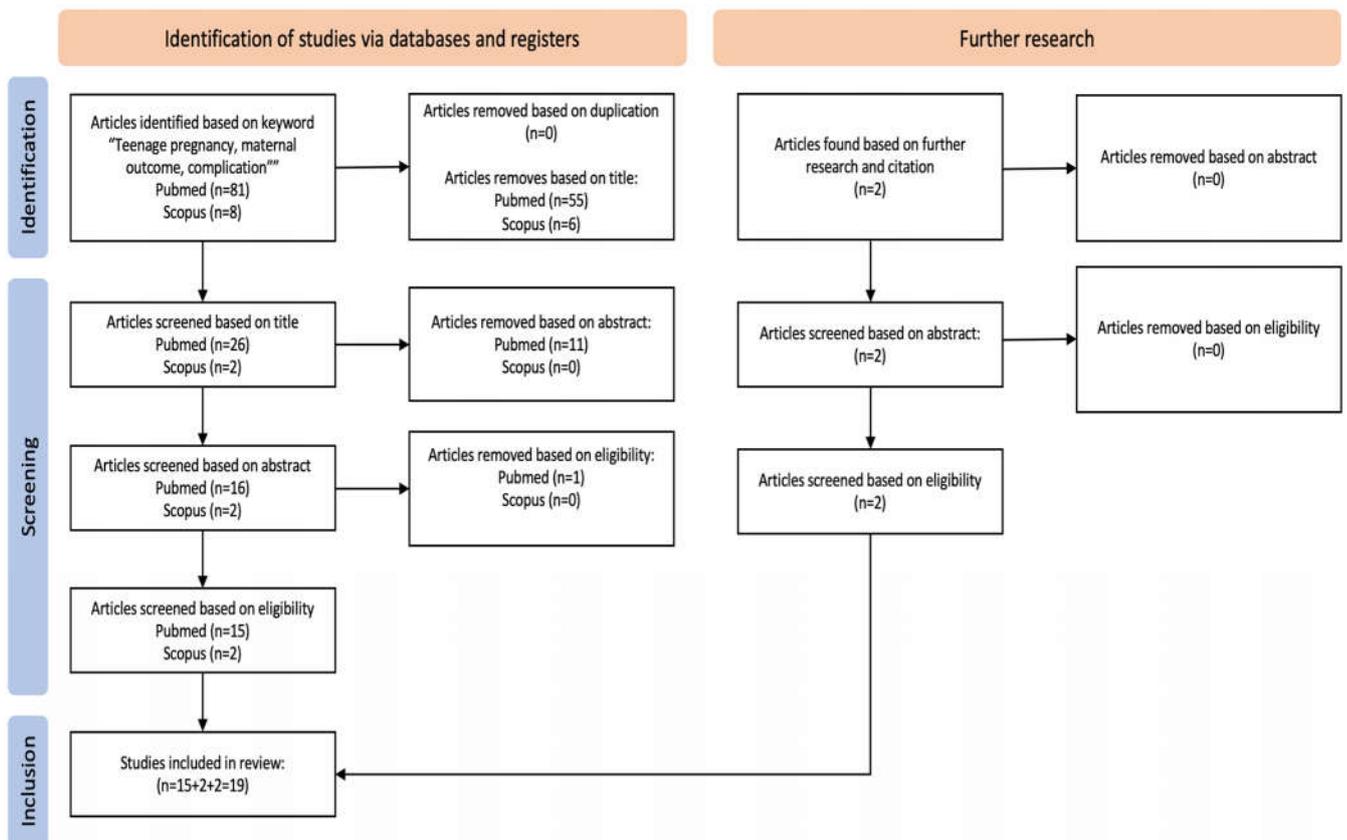


Figure 1. Publication Article Screening

DISCUSSION

Adolescent pregnancy is a global issue that requires serious attention. It can result in poor health, intergenerational cycles of poverty, and birth defects. The WHO states that teenage pregnancy is a concern for global health in both developed and developing countries. Pregnancy in a child aged 10 to 19 is referred to as teenage pregnancy²². The social and environmental context undergoes numerous changes during adolescence²³. Moreover, changes were made to the anatomical, structural, psychological, and physiological components. Teenage under

preparedness, both physically and mentally, is the root cause of pregnancy and birthing issues as well as poor outcomes²².

Pregnancy in teenagers is at risk for a variety of reasons, including low socioeconomic position, inadequate schooling, and early marriage²³. Teenagers can become pregnant as a result of weddings that occur frequently and early²⁴. In addition, some large teenage pregnancies occur outside of marriage and are considered normal pregnancies. According to a study, mothers of teenagers frequently have no legal partners²². According to additional studies, young marriages, domestic or sexual violence, and peer pressure from friends and peers to enter into early sexual relationships are the main causes of teenage pregnancies, particularly in nations with intermediate income levels. Except during the third trimester, teenage women typically don't have prenatal care¹².

One important factor that raises the risk of maternal morbidity and mortality is teenage pregnancy. Pregnant teens have higher rates of anemia when compared to pregnancies at a later age and the complications associated with them, according to a number of literary works. That is allegedly based on the mother's low social status, her poor diet, and the teen's inclinations towards the lower middle class social economy. Numerous studies have shown that the younger the mother, the lower the hemoglobin levels. Poor obstetrics is caused by anemia, which is the leading cause of maternal death. The connection between maternal anemia and preterm birth is supported by a multitude of studies. Low birth weight and restricted fetal development are further consequences of anaemia²⁵.

Pregnant teenagers are more likely than older mothers to experience hypertension during their pregnancy. According to a study, inadequate prenatal care is associated with incident hypertension in pregnancy, which occurs in teen pregnancies. High blood pressure during pregnancy can lead to premature birth and complications like placental abruption and intrauterine growth restriction. Persistent hypertension also raises the risk of preeclampsia and gestational hypertension²⁶.

Preeclampsia cases were more frequently reported in the group of pregnant teenagers than in adults²⁶. Pathology Preeclampsia, fetal growth restriction, and premature birth are all affected by uteroplacental vasculature from the start of pregnancy. A cohort test explains that as the mother's age decreases, the impact of a bad pregnancy grows. The uterus is found to be the primary risk factor for problems in teenage mothers. Aside from preeclampsia, another

risky pregnancy outcome in teenagers is placental abruption. The mother's smoking is one of the underlying risk incident solution placenta factors in teen pregnancy²⁶.

Premature birth happens more frequently in teenage pregnancies than in those of pregnant mother adults. This is an uncertain reason at this time. It is insufficient to link that with prenatal care. In addition to that, preterm labor may also be caused by immaturity on a biological, low-level social, and economic scale. Clinical problems including linked intrauterine growth limitation and situations of maternal maltrusion might lead to premature delivery. Due to anatomical factors, a mother who is a teenager often has a short cervix and a small, immature uterus, which increases the risk of preterm labor and infection²².

Teenage pregnancy was found to be associated with greater rates of infection from *E. coli* vaginal infections, HIV, syphilis, and channel urinary tract infections²⁷. That is a potential result of inadequate education, poor cleanliness, and bad health. The relationship between infection channel urine in the mother and premature of birth and early amniotic fluid rupture is what causes the general morbidity and mortality of the mother and fetus. According to a study, teenagers who are pregnant have a higher prevalence of sexually transmitted illnesses than the general population²⁸. This had to do with sexual conduct involving multiple couples²⁹.

Teenager mothers frequently have labor snarls due to an imbalance in the head and pelvis. That issue may have been brought on by adolescent mothers' smaller hips. In addition, women who are teenagers have a lower overall birth risk than mothers who are adults. The function of the myometrium, the flexibility of the connective tissue, and a stronger physique may have contributed to that phenomenon¹⁹.

Poor obstetrics in the mother teenager has a negative effect on the babies. Low birth weight and intrauterine growth restriction result in a terrible pregnancy in the baby from pregnancy teens. Anemia is one of the underlying causes in teenage moms. Furthermore, stillbirth and infant mortality are the most serious risks of pregnancy in teenage moms. According to one study, children with a history of intrauterine growth restriction and tiny gestational age have significantly worse cognitive than normal children. Because the aforementioned situation leads to intergenerational poverty and poor health, efforts to avoid teenage pregnancy and other preventative measures are required¹.

Table 1. Search Results for Publication Articles

No	Writer	Title	Year	Results	Conclusion
1.	Assis TSC, Martinelli KG, Gama SGND, Santos Neto ETD. ⁷	<i>Recurrence of Teenage Pregnancy: Associated Maternal and Neonatal Factor Outcomes</i>	2022	Results and consequences pregnancy juvenile recurrence in mother and baby, only _ hypertension (p=0.029) and IUGR (p=0.002) were associated with incident Primiparous pregnancy in adolescents. Analysis results connection between parity with results and consequences detrimental to mother and baby, primipara related with hypertension (OR=1.54; 95%CI=1.01-2.35) and IUGR (OR=1.90; 95%CI=1.23 - 2.91) even after factor confounder controlled.	Pregnancy primiparous adolescents tend to pointed out adverse effects and complications _ compared to pregnancy multiparous teenagers.
2.	Indarti J, <i>et al.</i> ⁵	<i>Teenage Pregnancy: Obstetric and Perinatal Outcome in a Tertiary Center in Indonesia</i>	2020	A total of 1,676 samples fulfils criteria on one period research. Prevalence pregnancy teenager is amounting to 11.40%. Prevalence eclampsia found taller (AOR: 4.03; 95% CI: 1.73-9.39), birth prematurity (AOR: 1.5; 95% CI: 0.88-2.53), anemia at delivery (AOR: 2.42; 95% CI: 1.60-3.67), postpartum hemorrhage (AOR: 2.59; 95% CI: 0.86-7.37), and heavy born low (AOR: 2.28; 95% CI: 1.60-3.25) in pregnancy teenager. However, operation <i>sectio caesarean</i> found in a way significantly lower among _ pregnancy teenager.	Pregnancy teenager own adverse obstetric effects for mother. Antenatal program holistic, comprehensive, and action preventive must be done as effort prevention detrimental impact on pregnancy teenager.
3.	Maharjan M, <i>et al.</i> ⁸	<i>Prevalence of Teenage Pregnancy in a Community Hospital of Rural Nepal: A Cross-sectional study</i>	2019	A total of 7054 births recorded in ten in 2050 of them (29.06%) are labor teenager with CI 95%. Between labor juvenile, significant tearing _ found in 157 (7.9%), as complications in the mother. Perinatal death was found in 27 cases childbirth (1.4%).	Heavy baby born low, childbirth prematurity, perineal and cervical tears is common complications _ found in pregnancy teenager.
4.	Ogunwale OI, Rangiah S. ⁹	<i>Profile and Obstetric Outcome of Teenage Pregnancies Compared with Pregnant Adults at a District Hospital in KwaZulu-Natal</i>	2021	Average age of the group age teenager is 17.6 years old and in the group age mature is 26 years old. No there is difference significant in anemia, childbirth <i>sectio caesarean section</i> , and complications obstetrics found in both _ group. However, there are risk disturbance hypertension significant pregnancies in the group age Adolescence and risk episiotomy taller done during group births _ age teenager.	Group age teenager own risk similar obstetrics _ with group age mature However own more risk _ high on distractions hypertension in pregnancy.
5.	Nagalda K, Kumar K. ¹⁰	<i>Prevalence of Teenage Pregnancy in 2015-2016 and its obstetric outcome</i>	2020	Prevalence pregnancy teenager is 2.8%. Age group teenager is 17.9 and group control is 26.4. Mother with age teenager own increased risk of anemia tall significant	Prevalence pregnancy teenager in study This relatively low However

		compared to non-teenage pregnancy at Hospital Tuanku Ja'afar Seremban (HTJS), Negeri Sembilan, Malaysia: A Retrospective Case-Control Study based on The National Obstetric Registry		($p < 0.05$), episiotomy ($p < 0.001$), premature labor (0.001), and childbirth baby heavy born low ($p < 0.001$). No found significant difference _ between two group in method delivery, antenatal complications, outcomes birth, and APGAR scores at minutes to 5, or neonatal complications.	linked with enhancement risk a number of perinatal complications.
6.	Abebe AM, <i>et al.</i> ¹¹	Teenage Pregnancy and Its Adverse Obstetric and Perinatal Outcomes at Lemlem Karl Hospital, Tigray, Ethiopia, 2018	2020	Research results This show that 17.5% of teenagers and 6.8% of adults give birth to baby heavy born low. Of the total mother's teenager, approx. three twenty- five (11.3%) experienced hypertension consequence pregnancy, meanwhile around three twelve (4.2%) adults experience hypertension consequence pregnancy. About labor <i>caesarean section</i> four twenty (12.9%) of Mother teenager the give birth to through <i>sectio Caesarea</i> , while 58 (18%) mothers mature give birth to through <i>sectio caesarean</i> . Pregnancy teenager in a way significant related with results adverse obstetric and perinatal, childbirth <i>sectio caesarean section</i> (AOR: 0.57; 95% CI, 0.36-0.90), episiotomy (AOR: 2.01; 95% CI, 1.25-3.39), and severe born low (AOR: 2.22; 95% CI, 1.13-4.36), and delivery premature 2.87 (1.49-5.52).	Study This show impact adverse obstetrics _ in a way significant in older mothers _ teenager than old mother _ adult.
7.	Anupma A, <i>et al.</i> ¹²	Assessment of Risk Factors and Obstetric Outcome of Adolescent Pregnancies Through a Prospective Observational Analysis	2022	A total of 133 women with age teenagers who follow research . Current average age give birth to is 18.4 years old. Mostly _ from they suffering from anemia. Hypertension in pregnancy, hyperthyroidism, restrictions growth fetus, and oligohydramnios is complications found in pregnancy _ teenager. After done counseling, only 33.8% of mothers received it contraception postpartum.	Pregnancy own consequence worrying health _ for old mother _ teenagers and their babies. Example possible complications _ found is hypertension in pregnancy, childbirth traffic jams, even sepsis.
8.	Rexhepi M. <i>et al.</i> ¹³	Hospital-Based Study of Maternal, Perinatal and Neonatal Outcomes in Adolescent Pregnancy Compared to Adult Women Pregnancy	2019	Of the total 5643 births, 128 (2.27%) were originating birth _ from pregnancy teenager. A total of 115 births is nulliparous. Teenager own level infection channel urinary tract, incidence of anemia, birth premature, heavy babies baby born low, and more prenatal care high. Labor spontaneous more often found in teenagers.	The result of study shows that more maternal and perinatal complications tall discovered at birth Mother teenager.
9.	Ursache A, <i>et al.</i> ³	Epidemiology of Adverse Outcomes in Teenage Pregnancy-A Northeastern	2023	Degree of malformation significant fetus _ in a way statistics, birth premature, condition growth fetus <i>fetal growth restriction</i> and <i>small gestational age</i> ,	Pregnancy teenager Still become problem health main burden _ all countries in the world regardless from

		Romanian Tertiary Referral Center		preeclampsia , condylomatosis , and vaginal infections with <i>E. coli</i> is found in pregnancy teenager . The rate of premature pregnancy by age pregnancy not enough from 32 weeks 3.26 times more high and 3.25 times more tall For condylomatosis .	the country 's income. Required exists solution For prevent pregnancy teenagers and for increase results pregnancy Good for mother and fetus.
10.	Chaura T, Mategula D, Gadama LA. ¹⁴	Adolescent pregnancy outcomes at Queen Elizabeth Central Hospital, Malawi: a cross-sectional study	2021	Found as many as 20.4% (N=5035) of cases pregnancy teenager from all over cases found _ during research. In pregnancy teenager found infection infectious highly sexual _ with 12% testing for HIV and 10% for syphilis sero reactive. Neonatal and asphyxia outcomes, birth weight low birth weight, prematurity, and neonatal death statistics No different from group age older. Reason main morbidity Mother determined by level section cesarean, infection channel intrapartum urinary tract infection, malaria, and disorders high hypertension in the mother teenager.	Teenager own enhancement risk in a few complications' pregnancy and peripartum are compared with Woman with older age _ old. However, results study This Possible influenced by the peripartum care received and not simply Specific age mother.
11.	de la Calle M, <i>et al.</i> ¹⁵	Younger Age in Adolescent Pregnancies Is Associated with Higher Risk of Adverse Outcomes	2021	Percentage pregnancy teenager between in 2013 and 2018 it was 0.9%. Risk all complications analyzed mother _ decrease in a way significant with every year age mother (hyperemesis, pain back lower, anemia, diabetes mellitus gestational, threat premature birth, and amniotic fluid broken early). Every year enhancement age mother, prevalence complications fetus, bleeding obstetrics, risk hysterectomy obstetrics and risk operation cesarean decreased 0.8 times.	Teenager young risky more tall experience complications during pregnancy and childbirth.
12.	Bas EK, <i>et al.</i> ⁴	Maternal Characteristics and Obstetric and Neonatal Outcomes of Singleton Pregnancies Among Adolescents	2020	Complications pregnancy noted in 19.5% (preeclampsia in 5.8%) and delivery cesarean performed in 44.8% of pregnancies teenager. Delivery rate premature was 27.0% (20.3% were at >34 weeks). By overall, 13.3% neonates treated in the care unit neonatal intensive care unit (NICU) in the postpartum period (prematurity in 28.1%), while 25.3% were admitted back in NICU in 1 month post out (hyperbilirubinemia in 55.7 %). Pregnancy teenager linked with its height level terrible fetus moment birth (28.7%), delivery premature (26.9%), and admission return to the NICU after go out from House sick (25.3%).	Along with its height level poor antenatal care, maternal anemia and delivery cesarean, pregnancy adolescents are also associated with its height level terrible fetus moment birth, childbirth premature, and in return to the NICU after go out from month First

13.	Xie Y, <i>et al.</i> ¹⁶	Characteristics and adverse outcomes of Chinese adolescent pregnancies between 2012 and 2019	2021	Proportion child Woman rural with pregnancy teenager increase return after 2015 though _ marriage custom in the countryside experience decline. Risk more eclampsia _ high (adjusted odds ratio (aOR) 1.87, 95% confidence interval (CI) 1.57 ~ 2.23), severe anemia (aOR 1.18, 95% CI 1.09 ~ 1.28), maternal almost died (MNM; aOR 1.24, 95% CI 1.12 ~ 1.37), and small For age pregnancy (SGA; aOR 1.30, 95% CI 1.28 ~ 1.33) was observed when age pregnancy > 37 weeks .	Pregnancy teenager in a way independent related with enhancement risk other perinatal outcomes
14.	Pineles BL, <i>et al.</i> ¹⁷	Adverse Maternal and Delivery Outcomes in Children and Very Young (Age ≤13 Years) US Adolescents Compared with Older Adolescents and Adults	2022	Pregnancy in mother 10—13 years old has more risk labor prematurity and sectio caesareans compared to with older mother. This finding shows that very young patients who are pregnant and giving birth Possible face more risk compared to with others.	More study needed to carry on to determine reason risk birth more at the age of 10 to 13 years compared to with ages 14 to 17 years or older.
15.	Tembo T, <i>et al.</i> ¹⁸	The association of maternal age with adverse neonatal outcomes in Lusaka, Zambia: a prospective cohort study	2020	Studies the involving 11,501 women, 15.6% of them is teenager aged 10-19 years. Generally, teenagers have no significant relationship _ in a way statistics with bad result. However, there are risks experience labor congestion, amniotic fluid broken early and more postpartum hemorrhage in teenagers compared to Woman aged 20-24 years whereas risk infection heavy lower and no significant. Teenagers also have 1.36 times the odds give birth to low born baby and risky give birth to premature. New baby born need resuscitation <i>bag valve mask</i> at the birth moment. Age mother carry on in a way significant related with enhancement possibility hypertension / pre- eclampsia and labor premature	Pregnancy teenager have no connection in a way significant with health bad results, however , have a number of risk .
16.	Amerjee A, <i>et al.</i> ¹⁹	Pregnancy outcomes among adolescents/young adults at tertiary-care hospitals in a low-middle-income country: Ten-year retrospective record review	2020	Teenager has possibility decline operation <i>sectio caesarean</i> compared to Woman 20—25 years old. Difference results mothers /neonates are not significant between group on analysis univariate and multivariate.	Maternal and neonatal outcomes in pregnancy teenager are not far different with Woman adult. Good antenatal care, protocol-based evidence, and support strong family _ can reduce risk mother and baby in pregnancy teenager
17.	Shrestha DB, <i>et al.</i> ¹	Teenage Pregnancy and Associated Risk Factors and Outcomes in Nepal from	2022	This study systematic involving 14 studies. Mostly _ teenager give birth to vaginally (75.4%). Preterm labor (12.0), labor post term (8.2%), abortion (11.1%, perineal tear (52.9%), labor congestion (4%), amniotic fluid	Prevalence pregnancy teenagers in Nepal is 13.2%. Majority from they No use tool contraception whatever; and have low education. _ Several

		2000-2020: A Systematic Review and Meta-Analysis		broken early (7.0%) found in pregnancy teenager. <i>Stillbirth</i> and neonatal death were found in pregnancy teenagers 1.7% and 1.4% respectively.	complications mother and baby reported occurs in pregnancy teenager.
18.	Ranjbar A, <i>et al.</i> ²⁰	Pregnancy, childbirth and neonatal outcomes associated with adolescent pregnancy	2023	Of 7033 births, 92.4% women are adults, and 7.6 % are teenager. Teenagers living in the area rural more general than adults (42.3% vs 33.7%). However, access to facility Prenatal care is the same with majority Woman make 6-10 visits prenatal care during pregnancy them. No There is difference in risk preeclampsia, abruption placenta, placenta previa, serious fetus, childbirth prematurity, shoulder dystocia, perineal laceration, birth trauma, malformations congenital, postpartum hemorrhage, admitted to the care unit intensive, death maternal, and neonatal outcomes are not profitable including born died, entered the treatment unit neonatal intensive care, neonatal death in pregnancy teenager compared to with adults. _ Teenager own remote risk of LBW higher (OR: 1.47, 95%CI: 1.01-2.73), IUGR (OR: 1.96, 95%CI: 1.31-2.45), and fluid meconium (OR: 1.74, 95%CI: 1.41 -2.32), however, did not There is significant difference _ in a way statistics after adapt factor confounding. Compared to with adults, teenagers _ own risk distant caesarean section more low (aRR : 0.67, 95 % CI: 0.51-0.77) and higher risk of gestational diabetes low (aRR : 0.78, 95% CI: 0.51-0.95).	Even though we don't find consequence Serious from pregnancy teenagers, required more Lots study for reach more conclusions _ accurate about pregnancy teenager.
19.	Staniczenko AP, <i>et al.</i> ²¹	Teen pregnancy and risk for adverse pregnancy outcomes	2021	Pregnancy teenagers risky premature birth compared to pregnancy at the age adult. Pregnancy in teenagers aged 11—14 years increases risk hypertension in pregnancy, postpartum hemorrhage, and degree of maternal morbidity heavy compared to Women aged 25—29 years. Mothers with age teenagers own risk labor more faults _ low and the risk is the same for happened solution placenta.	Pregnancy teenagers are linked with risk hypertension in pregnancy, birth prematurity, and degree of maternal mobility heavy in a way significant.

CONCLUSION

Teenage pregnancy has negative outcomes for the mother or the baby. That can lead to a cycle of setbacks in health and the economy, therefore, efforts must be made to prevent young pregnancy and decrease the consequences of disastrous pregnancy.

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