Case Report: Family's Role in Mentoring Adolescent Pregnancy

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Abstract
Introduction: Adolescent pregnancy negatively affects maternal and infant health, leading to preterm birth, low birth weight (LBW), and intrapartum hemorrhage, all of which contribute to increased maternal and neonatal mortality. It is also associated with unintended pregnancies and unsafe abortions. Deliveries by mothers under 20 years old are associated with higher neonatal, infant, and under-five mortality rates and a greater risk of stunting. Infant health outcomes are heavily influenced by maternal nutritional status.
Case Report: A 15-year-old adolescent (Mrs. S) was brought by her aunt to Ahmad Ripin District Hospital, Muaro Jambi, on November 10, 2022, for antenatal assessment. Initial examination showed a body mass index (BMI) of 16 (underweight; <18.5), for which a total gestational weight gain target of 12.5–18 kg was recommended. Her MUAC was 21 cm and hemoglobin (Hb) 9 g/dL. The case underscores the crucial role of a strong family support system in achieving adequate weight gain in pregnant adolescents, given its significant association with maternal health during pregnancy and infant birth weight.
Conclusion: this case highlights the importance of healthcare education and monitoring in adolescent pregnancy. It shows that when combined with the family's role as a supporter, these factors can effectively protect maternal and infant health, resulting in positive outcomes.

Keywords: adolescent pregnancy; family role; maternal and infant health

Laporan Kasus: Peranan Keluarga dalam Pendampingan Kehamilan Remaja

Abstrak
Pendahuluan: Kehamilan remaja berdampak negatif pada kesehatan ibu dan bayi. Beberapa dampak negatif tersebut adalah bayi prematur, berat badan lahir rendah (BBLR), dan perdarahan persalinan yang berujung pada kenaikan kematian maternal–neonatal. Kehamilan pada remaja juga berkaitan dengan kehamilan tidak diinginkan dan aborsi tidak aman. Persalinan pada ibu <20 tahun berkontribusi pada tingginya kematian neonatal, bayi, dan balita, serta meningkatkan risiko stunting. Luaran bayi sangat dipengaruhi status gizi ibu.
Laporan Kasus: Seorang ibu Ny.S berusia15 tahun, pertama kali dibawa oleh bibinya ke Rumah Sakit Daerah Ahmad Ripin, Kabupaten Muaro Jambi, pada tanggal 10 November 2022 untuk memeriksakan kehamilannya. Setelah dilakukan pemeriksaan, Ny.S memiliki Indeks Massa Tubuh (IMT) 16 yang berarti kurang dari 18,5 (gizi kurang) harus meningkatkan berat badannya sebesar 12,5 sampai 18 kg. Ny.S memiliki nilai LILA 21 cm, dan kadar Hemoglobin 9 gr/dl. Dalam menyukseskan pertambahan berat badan remaja yang hamil diperlukan peranan keluarga yang berkualitas untuk menjadi *support system* terbaik karena berhubungan dengan kesehatan ibu selama kehamilan serta berat badan bayi saat lahir.
Kesimpulan: Berdasarkan laporan kasus ini, peran keluarga sebagai pendamping kehamilan remaja terbukti efektif menjaga kesehatan ibu dan bayi. Di samping itu, pengetahuan tentang kesehatan ibu dan bayi pada tingkat individu (faktor pengetahuan ibu) serta dukungan tenaga kesehatan juga berkontribusi signifikan terhadap luaran yang baik.

Kata kunci: kehamilan remaja; kesehatan ibu dan bayi: peran keluarga

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Introduction

Adolescence is a stage of life experienced by individuals between the ages of 10 and 19. During this time, teenagers undergo hormonal, physical, psychological, and social changes. The onset of significant physical changes and sexual characteristics leads to increased sexual attraction and desire for the opposite sex. This is indirectly related to adolescent behavior, such as sexual activity, which can result in a teenage pregnancy.[1]

Adolescent pregnancy is defined as pregnancy occurring in individuals under 20 years old. Globally, the adolescent birth rate (ABR, ages 15–19) decreased from 64.5 per 1,000 in 2000 to approximately 41.3 per 1,000 in 2023. However, the overall burden remains high and is mainly concentrated in sub-Saharan Africa.[2] In the Asia–Pacific region, an estimated 3.7 million adolescent pregnancies happen each year. The region has the highest rates in the Pacific (~51 per 1,000) and Southeast Asia (~43 per 1,000), surpassing South Asia (~26 per 1,000) and East Asia (~7 per 1,000).[3] Each year, in developing countries, about 21 million girls aged 15 to 19 experience pregnancy, with around 10 million cases being unintended. In Indonesia, the rate of adolescent pregnancy is still declining but remains a public health concern, at roughly 26 births per 1,000 girls aged 15–19 in 2023.[4] Approximately 2.52% of Indonesian adolescents marry before age 16, and out of 100 adolescent girls under 20, about 6 have given birth. Although only 5.70% of women give birth during adolescence, this remains a concern because it affects the health of teenage girls during pregnancy and the developing fetus.[5,6]

Some factors contribute to adolescent pregnancy, including education level or knowledge, economic status, parental supervision, marital status, peer influence, and use of contraception. Lack of knowledge about safe times to have sex leads to adolescent pregnancies, most of which are unwanted.[7] Adolescent pregnancy negatively affects maternal and infant health. Physically, most girls aged 15 to 19 are not prepared for pregnancy and childbirth, increasing their risk of health problems such as premature birth, low birth weight (LBW), sexually transmitted diseases, anemia, and postpartum hemorrhage, which can result in maternal and neonatal death.[8] Adolescent pregnancy also has adverse psychological and socio-emotional effects. This crisis can significantly affect teenagers due to financial pressures, social stigma, or lack of support from family and community.[9]

Furthermore, stunting in children is one of the indirect effects of adolescent pregnancy.[10] This is affected by the mother's knowledge of Body Mass Index (BMI) and nutritional status during pregnancy. Mothers with a BMI of less than 18.5 are advised to gain 12.5 to 18 kg. However, for those with a BMI of 18.5 to 24.9, the recommended weight gain is 11.3 to 16 kg. For mothers with a BMI of 25 to 29.9, a gain of 7 to 11.5 kg is recommended. And finally, for those who are overweight or obese, the suggested weight gain is 5 to 9 kg.[11]

Several factors influence maternal and infant health during adolescent pregnancy, including teenagers' knowledge about maintaining their own health and that of their fetuses.[12] However, for mothers who are still adolescents with limited education, poor nutritional knowledge, and unstable incomes, support from their environment, especially parents, remains essential. Therefore, family-level assistance during adolescent pregnancy is vital for safeguarding the health of both mothers and babies.

Case

Patient Mrs. S, a 15-year-old girl, was brought by her aunt to Ahmad Ripin Regional Hospital in Muaro Jambi Regency

for her first prenatal check-up on November 10, 2022. She became pregnant following premarital sex and subsequently married her partner, who is the baby's biological father. The patient is a housewife with a junior high school education. Interview results revealed her husband's name is Mr. A, 17 years old, working as a private driver, with a junior high school education. The initial antenatal care (ANC) examination showed no history of pre-existing illnesses such as hypertension, diabetes mellitus, asthma, heart disease, HIV, syphilis, hepatitis B, or drug/food allergies. Family history was also negative for these conditions. Her menstrual history includes menarche at age 12, regular cycles of 28 days, menstrual duration of 6 days, no dysmenorrhea, with bright red blood and a typical fishy odor. Obstetric history indicates G1P0A0, with the last menstrual period (LMP) on August 11, 2022, estimated due date (EDD) on May 18, 2023, and a gestational age of 12 weeks. Mrs. S has never had ANC before, no history of contraception or surgery. Physical exam showed a patient in moderate condition and alertness. Vital signs included GCS of E4V5M6, blood pressure 100/60 mmHg, pulse 84 beats per minute, temperature 36.1°C, respiratory rate 22 breaths per minute, and oxygen saturation 99%. Anthropometric measurements were a body weight of 36 kg, height of 150 cm, and MUAC of 21 cm. Laboratory results showed hemoglobin at 9 g/dL, leukocytes at 8.6 thousand/mm³, platelets at 237 thousand/ mm³, hepatitis B negative, and syphilis negative.

Visits to the second and subsequent hospitals, patient Mrs. S was accompanied by her parents. The patient's mother is 36 years old, a housewife, and her highest level of education is junior high school. In contrast, the patient's father, who is 38 years old, is a farmer with a previous education of elementary school. A doctor who routinely examines patients educates the patient's family so they can support the patient with adequate nutritional needs for pregnant women, provide financial assistance, and be the best support system for pregnant adolescent patients.

During her second ANC visit on December 8, 2022, the examination showed that the fetus had a gestational age of 16 weeks, sufficient amniotic fluid, and a weight of 100 g. The mother's measurements were a weight of 37 kg and a MUAC of 22 cm. On her third visit on January 5, 2023, the fetus was estimated to be 20 weeks of gestation, with sufficient amniotic` fluid and a body weight of 400 g. The mother weighed 40 kg with a MUAC of 22 cm. During her fourth visit on February 2, 2023, the fetus was about 24 weeks of gestation, with sufficient amniotic fluid and a body weight of 600 g. The mother's weight was 42 kg, and MUAC was 23 cm. On her fifth visit on March 2, 2023, the fetus was estimated to be 28 weeks of gestation, with enough amniotic fluid and a weight of 1,200 g. The mother's weight was 47 kg, and her MUAC was 25 cm. At the fifth ANC visit, laboratory results showed her hemoglobin (Hb) level at 9.8 g/dl, leukocytes at 9.0 thousand/mm³, and platelets at 246 thousand/mm³. During her sixth visit on March 30, 2023, the fetus was approximately 32 weeks of gestation, with sufficient amniotic fluid and a weight of 1,900 g. The mother's weight was 49 kg, and her MUAC was 26 cm.

The ANC examination during the patient's seventh visit on April 27, 2023, showed that the fetus was at 36 weeks of gestation, with adequate amniotic fluid and a body weight of 2,700 grams. The results also indicated that the mother weighed 50 kg with a MUAC of 26 cm. On May 21, 2023, during her third laboratory examination, when the mother was about to give birth at 40 weeks of gestation at the hospital, her Hemoglobin (Hb) level was 11 g/dl, leukocyte count was 10,000/mm³, and platelets were 327,000/

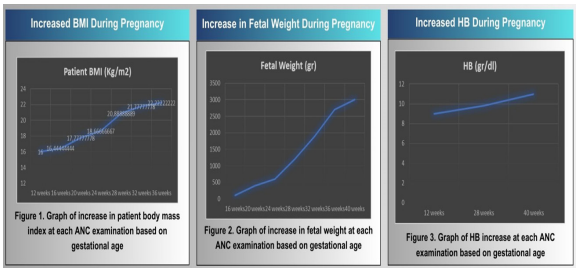

Figure 1 Graph showing the increase in (a) patient body mass index, (b) fetal weight, and (c) hemoglobin at each ANC examination based on gestational age.

mm³. At 8:15 AM WIB, the baby was born normally, weighing 3,000 grams, measuring 50 cm in length, with an APGAR score of 7/9.

The primary intervention in this study was family-centered mentoring for adolescent pregnancy, which included the following steps: (1) Family Education by the Attending Physician. The physician provided routine education to the family (the patient's parents) on the importance of maternal weight gain during pregnancy, proper nutrition, anemia management (including iron supplementation), and the family's role as a support system throughout adolescent pregnancy. (2) Monitoring of Maternal Nutrition and Health Status. The family was instructed to track the patient's daily nutritional intake, provide financial support for dietary needs, ensure adherence to supplement intake, and supervise the patient's daily activities and rest. (3) Psychosocial Counseling. The family was actively involved in offering emotional support, reducing stigma, and boosting the pregnant adolescent's motivation.

The intervention lasted from the first ANC visit on November 10, 2022, until delivery on May 21, 2023. The mentoring period was approximately 7 months, involving seven visits before delivery, each lasting 20 minutes. It covered pregnancy from 12 to 40 weeks of gestation. This duration exceeded the standard ANC schedule recommended by the Ministry of Health, which advises six visits. The intervention methods included: (1) Repeated Education Approach, with the physician conducting at least seven educational sessions according to the ANC schedule. (2) Face-to-Face Counseling, where the physician provided direct education and counseling to the family at each ANC visit. (3) Continuous Monitoring, which involved assessing maternal body weight, mid-upper arm circumference (MUAC), hemoglobin levels, and fetal weight at each visit. (4) Active Family Involvement, with the family participating in meal planning, providing financial support, and conducting daily monitoring at home.

The intervention's outcomes included maternal weight gain from 36 kg (BMI 16) to 50 kg (+14 kg), an increase in hemoglobin levels from 9 g/dl to 11 g/dl, and a full-term delivery (40 weeks) of an infant weighing 3,000 grams and measuring 50 cm in length. The newborn's Apgar score was 7/9 (good).

Discussion

A case has been reported of a 15-year-old G1P0A0 female teenager who was 12 weeks pregnant and accompanied by her aunt to check on her unwanted pregnancy. Based on the results of the ANC examination when the patient first presented, there was no history of previous illness and no family history of illness. Interpretation of the patient's physical examination findings indicates that her general condition was moderate, and her vital signs were typical. According to the

anthropometric measurements, the patient had a BMI of 16 (<18.5), categorizing her as underweight. The recommended weight gain during pregnancy for such patients should reach 12.5-18 kg.[11] The initial laboratory examination revealed she had mild anemia with an Hb level of 9 g/dl.

On the second and subsequent visits, her parents accompanied the patient. The results of the ANC examination during her second visit showed the fetus had a gestational age of 16 weeks and a weight of 100 grams. One of the key indicators for fetal development is its weight relative to gestational age. In theory, fetal weight is estimated based on gestational age. Based on this data, the fetal weight remains within the normal range, while the mother's examination results show a BMI of 16.4 (<18.5), which is classified as underweight with poor nutritional status.[11,13]

A previous study revealed a link between teenage pregnancy and stunting. Adolescent girls under 20 years old can give birth to babies with LBW, affecting malnutrition issues in toddlers. Adolescent pregnancy is an indirect cause of stunting. This relates to parental traits such as low maternal education, limited knowledge about nutrition, and unstable family income.[14,15]

A doctor responsible for examining a patient approaches the patient's family, specifically the patient's parents, to discuss the examination results and the patient's condition. The doctor explains to the family the importance of gaining sufficient weight during pregnancy, emphasizing benefits for both the mother's and the fetus's health. Since the patient is underweight, the doctor recommends a weekly weight gain of about 0.5 to 0.6 kg. This can be achieved by meeting pregnant women's nutritional needs through nutritious foods and additional supplements.[16] The family is also advised to monitor the patient's diet to support successful weight gain.

Considering the background of the patient and her husband, who are teenagers with only a junior high school education and an unstable income source, financial support from the patient's family is crucial to help improve the health of the pregnant mother and her fetus. The doctor on duty also emphasizes the importance of family as the best support system for pregnant teenage patients. This aligns with the theory that the quality of family support is connected to weight gain during pregnancy and the baby's birth weight.[17]

After the patient was evaluated, the mother's weight decreased from normal to low, and there was an increase in the mother's upper arm circumference. The standard weight category was achieved during her fourth visit at 24 weeks of pregnancy. However, the patient still had mild anemia with an Hb level of 9.8 g/dl, as determined during laboratory examination at her fifth visit.

The fetal weight was monitored normally at each visit according to gestational age. The patient's total weight gain during pregnancy, which was 14 kg, aligned with the doctor's initial recommendation that she should gain between 12.5 and 18 kg. At the final visit, as she prepared to give birth, the patient was not anemic, with an Hb level of 11 g/dL. She delivered a baby at 40 weeks of gestation with normal weight and length, and a good APGAR score.

The doctor advises the family to provide practical daily support during the postpartum period: ensure adequate rest, nutritious meals (three main meals, two snacks, plenty of fluids), and adherence to prescribed supplements; assist with exclusive breastfeeding (positioning/latch, seek lactation help for pain, nipple cracks, or low supply); keep perineal or cesarean wounds clean and dry; monitor mood and sleep with calm, respectful communication; and keep a clean, smoke-free home with limited visitors. Seek urgent care for maternal danger signs—heavy bleeding (≥1 pad/hour or large

clots), foul-smelling lochia, fever ≥38°C, severe abdominal or head pain, shortness of breath, seizures, or calf swelling or pain—and newborn warning signs such as poor feeding, temperature instability, lethargy, worsening jaundice, breathing difficulty, or convulsions; arrange transportation immediately if any warning signs occur. The doctor also recommends that Mrs. S have an immediate postpartum IUD insertion and continue her education through senior high school completion. A subsequent pregnancy should be considered only after she finishes her studies, with healthy birth spacing of approximately 18–24 months.

Adolescent pregnancy has negative effects on maternal and infant health, such as the risk of premature birth, low birth weight (LBW), sexually transmitted diseases, anemia, and postpartum hemorrhage, which can lead to maternal and neonatal death.11 Teenage pregnancy also negatively impacts psychological and social-emotional well-being. This crisis can significantly affect adolescents due to financial pressure, social stigma, or lack of support from family and community. As a result, a young mother may experience mental health issues, including stress, sadness, and suicidal thoughts. Pregnant adolescent girls often face loneliness, guilt that causes stress, hopelessness, and low self-esteem, which can lead to them losing interest in continuing their education, limited career opportunities, and a lack of a support system.[9,18]

The issues and consequences faced by pregnant teenagers are certainly greater than those encountered by adult women. This can hinder their growth and development, steal their teenage years and education, and worsen the health conditions of the country's population overall. The community environment, health workers, and most importantly, the family play crucial roles in supporting teenage pregnancies to ensure they are healthier, more responsible, and result in a healthy new generation. This support can be provided through health workers' knowledge of reproductive health and family planning, along with the family's monitoring of balanced nutrition and financial support. Since parents are the closest family members with the most time to supervise their teenagers, their role is vital in protecting maternal and neonatal health during teenage pregnancy.

This case report has several strengths. First, it used a comprehensive intervention approach that not only addressed medical aspects but also included family education, nutritional monitoring, and psychosocial support, which are essential in managing adolescent pregnancy. Second, the innovative family-centered mentoring approach actively engaged the family as a support system, enhancing maternal and neonatal health outcomes. Third, consistent and thorough monitoring was conducted at each ANC visit, including assessments of maternal weight, mid-upper arm circumference, hemoglobin levels, and fetal weight. Fourth, the duration of the intervention exceeded the national standard ANC visit recommendations set by the Ministry of Health, allowing for better monitoring and support. Fifth, the intervention led to positive clinical outcomes, such as significant maternal weight gain, improvement in anemia, and the full-term delivery of a healthy newborn with normal birth weight. Lastly, the study highlights a highly relevant public health issue in Indonesia, where adolescent pregnancy and related health risks remain major challenges.

However, this study also has several limitations. Being a single-case report, it lacks generalizability to the broader population. The absence of a control group makes it difficult to definitively attribute the observed outcomes solely to the intervention provided. The level of family involvement may vary depending on individual motivation, which could differ in other settings. Socioeconomic

factors such as family income, access to nutritious food, and psychological stability were not systematically analyzed. There is also a potential for observer bias, as the same physician conducted both the intervention and the evaluations.

Moreover, although psychosocial aspects were examined qualitatively, standardized psychological assessments of the mother's mental health were not conducted during the intervention period. Notably, we did not gather postnatal follow-up data on the infant beyond observations during pregnancy and at birth, which limits our ability to assess early neonatal and infant outcomes (e.g., feeding patterns, growth trajectories, morbidity, readmissions) or to connect maternal interventions with long-term child health indicators. This lack of longitudinal infant data could lead to outcome misclassification and limit external validity; future research should include prospective follow-up throughout the postpartum and infancy periods using standardized assessments to clarify causal pathways and lasting effects of family-centered interventions.

Conclusion

The role of the family in supporting adolescent pregnancy significantly affects maternal and neonatal health. This is demonstrated by the patient's evaluation results, such as an increase in the patient's weight from low to normal, rising Hb levels from low to normal, and the patient being able to deliver a baby with normal weight, length, and a good APGAR score. Family assistance in adolescent pregnancy includes monitoring the nutritional needs of pregnant women, providing financial support, and being the strongest support system for pregnant teenage patients.

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