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Tailoring Clinical Services to Address the Unique Needs of Adolescents from the Pregnancy Test to Parenthood

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Abstract

Clinicians across disciplines and practice settings are likely to encounter adolescents who are at risk for a pregnancy. In 2010, 34.2/1000 15–19 year old teens had a live birth in the United States, many more will seek care for a pregnancy scare or options counseling. Teen mothers are also at risk for a second or higher order pregnancy during adolescence. This paper provides clinicians with adolescent-friendly clinical and counseling strategies for pregnancy prevention, pre- and post-pregnancy test counseling, pregnancy-related care, and a review of the developmental challenges encountered by teens in the transition to parenthood. Clinicians are in a better position to approach the developmental, health and mental health needs of adolescents related to pregnancy if they understand and appreciate the obstacles adolescents may face negotiating the health care system. In addition, when clinical services are specially tailored to the needs of the adolescent, fewer opportunities will be lost to prevent unintended pregnancies, assist teens into timely prenatal services, and improve outcomes for their pregnancies and the transition to parenthood.

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Additional Resources

Child Trends: www.childtrends.org

Healthy Teen Network: <http://www.healthyteennetwork.org/>

Planned Parenthood: www.plannedparenthood.org

The Guttmacher Institute: www.alanguttmacherinstitute.org

The National Campaign to Prevent Teen and Unplanned Pregnancy: www.teenpregnancy.org

<http://www.thenationalcampaign.org/>

The Society for Adolescent Health and Medicine: www.adolescenthealth.org

US Department of Agriculture, My [Food] Pyramid Plan for Moms: www.mypyramid.gov/mypyramidmoms/pyramidmoms_plan.aspx#

US Department of Agriculture, The Food Guide Pyramid Pamphlet: www.cnpp.usda.gov/Publications/MyPyramid/OriginalFoodGuidePyramids/FGP/FGPPamphlet.pdf

#xml=<http://65.216.150.153/texis/search/pdfhi.txt?query=food+guide>

+pyramid&pr=MyPyramid&rdepth=0&sufs=2&order=r&cq=&id=4aba7f607

Zero to Three: www.zerotothree.org

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Keywords

adolescents; pregnancy; prevention

Introduction

The teen birth rate in the United States achieved an all time low in 2010 with a rate of 34.2.¹ Despite this achievement, the U.S. continues to have the highest teen birth rate of all industrialized countries.² The strides made in successfully reducing the number of teen pregnancies and births have been attributed to the impact of sex education, increased access to contraceptive services, more effective use of contraception by adolescents, and strong public service messages.^{1,3–7} Annually, an estimated \$9.1 billion is spent on teen childbearing in the United States.² The current economic uncertainty in the United States has the potential to significantly impact access to contraceptive services and sex education programs available to teens thus threatening the strides made since 1991 in decreasing teen childbearing rates.^{3,4}

Developmentally sensitive preventative care of these young women, their infants, and their family members continues to be a major public health concern.^{8–10} The mental health, developmental, educational, social, and financial ramifications of early motherhood are enormous, for the child, the mother, and the family.¹¹ Add to this the fact that the 451,000 teens who are bearing children each year in the United States are more likely to be living in communities and environments where they experience the many stressors associated with poverty.^{12–13} Thus, the vast proportion of teenagers bearing children are at risk in multiple domains: (1) they are often children themselves and not yet equipped for the tasks of motherhood,^{14–16} (2) many teen mothers have significant mental health issues and academic failures that predate their pregnancies and stem from personal histories of abuse, depression, and posttraumatic stress, and (3) they are struggling with the many risk factors that go hand in hand with poverty and disadvantage.^{12–13,17–19}

Clinical Care at the Time of a Pregnancy Test

Adolescent-Friendly Health Care

There are several key aspects that have been identified in the literature that are important to successfully providing health care to adolescents. Services designed to be adolescent friendly are easily accessible, confidential, affordable, allow for frequent follow-up, and provide care to partners.^{20–30} [CALL OUT] Adolescent-friendly care allows a teen to have the majority of her primary care needs, physical examinations, immunizations, acute visits, and reproductive care, including pregnancy testing, contraception, sexually transmitted infection (STI) screening and treatment, human immunodeficiency virus (HIV) counseling and testing, health education, and anticipatory guidance, addressed by a consistent clinician in one place.³¹ The staff at these clinics, including the receptionist, patient care associates, and clinicians need to be aware of normal adolescent development, the common health concerns of this group, and the ways in which they may request or access care.

From a cognitive and neurobiological standpoint, adolescents are undergoing many changes in the way they think and make decisions. The timing and tempo of these changes vary from person to person. Cognitively, adolescents are transitioning from concrete thought patterns, being able to reason about simple concepts in the present, to more abstract or complex “formal operations” that allows them to think about multiple possibilities, abstract concepts, multiple dimensions, and different perspectives as well as to think about thinking.^{32–35} These new thought patterns lead to egocentrism and the imaginary audience,³² which is the

adolescent's belief that everyone is thinking about her (because the teen is thinking about herself constantly). The imaginary audience often leads the teen to believe that she is so special that she is invulnerable to harm.³² Simultaneously, new brain research has demonstrated that the teen's "executive decision-making center" or prefrontal cortex is developing throughout adolescence and will continue to do so until early adulthood.^{36–38} Therefore, a teen's ability to plan, make decisions, and perform other executive functions are not yet fully developed.³⁶ These neurobiological changes contribute to teens being more vulnerable to stress and participation in risky behaviors. Understanding a teen's thought process assists clinicians to tailor services in a way that will have more of an impact. It is also important for the clinician to be aware that stressful situations, like a pregnancy scare or diagnosis of a STI, may cause teens to resort to less sophisticated thought patterns, and interactions need to be tailored in a more concrete manner to accommodate the teen.³⁹

The health care office is also a great place to provide accurate, appropriate health education materials focused on the concerns, risks, and curiosities of this age group. Materials can be displayed in examination rooms in the form of pamphlets, posters, and tear-off sheets. These materials can facilitate conversations between the teen and clinician and often help to begin conversations. An additional benefit these materials can have is to show the teen the wide range of topics that can be discussed and services that are available. Condoms also are made readily and discreetly available to all teens using the clinic with clear directions for proper use, storage, and what to do if the condom breaks.^{26, 40}

Accessibility is another key factor in the provision of adolescent health services. Offices and clinics in places that teens can get to without a parent or guardian facilitate access to services. The office or clinic needs to be in a location where teens access services with or without a parent. The hours of operation also need to be at convenient times in the afternoon and early evening when teens are not in school. School-based health centers are particularly unique in their availability during the school day to see teens for medical and mental health needs. They are also able to provide easy follow-up opportunities and teach adolescents how to more independently access and interact with the clinician.²⁷ Barriers, real or perceived, may increase the likelihood of teens missing appropriate opportunities for care. A consistent and developmentally aware receptionist will make it easier for teens to call for appointments or leave messages for clinicians. For example, teens may often call for an acute problem later in the afternoon and want to be seen immediately. This does not necessarily mean that this was a "last minute" need or that they are being inconsiderate; rather it may reflect that they have been in school all day and this was the first opportunity they have had to call the office. Therefore, services that are designed to be as flexible as possible accommodate these requests and help to prevent missed opportunities for care.²⁴ Complicated telephone systems and lack of a relationship with a consistent clinician may also contribute to lost opportunities. Partners of teens are an important aspect of reproductive care. Most clinicians will treat partners for STIs⁴¹; however, if partners have broader access to clinical services, it may aid them in obtaining better health education, more consistent use of condoms, and other contraceptive methods, as well as screening and treatment for STIs and HIV. Identifying and interacting with the partner of an adolescent can present many challenges. The legal ramifications for the adolescent and her partner can be devastating if issues around statutory rape involve legal or other child protective social services. The clinician needs to be cognizant of the particular state statute that governs this issue in order to provide seamless care to the adolescent and her partner.^{42–43} Confidentiality is of utmost concern for most teens, especially when they have reproductive concerns.²⁴ In many states, teens are allowed by law to access preventative health services without the consent of a parent. Many also allow teens to seek reproductive care independently.^{42,–43} It is important for clinicians to be aware of their state statutes regarding the provision of care to adolescents. The confidentiality agreement is discussed in detail at the first interaction and repeated as

needed. The discussion includes examples of what is considered confidential and what issues would require notification of a parent/guardian, child protective services, or the police. Suicidality, homicidality, and abuse are all examples of issues that are considered outside the scope of adolescent-provider confidentiality. . . Additional circumstances may vary depending on the state health law.⁴³ The teen is assured that she would be told first if their issue cannot be kept confidential. It is helpful to provide examples: *“Your care is confidential, which means what we discuss is between the two of us. In some circumstances I will need to discuss your care with the other clinicians I work with to better address your health care needs. Part of my role as your clinician is to keep you safe from harm, so if you told me you were so sad you were going to hurt yourself, someone was hurting you, or you intend to hurt someone else—I would need to tell someone, like your mother/guardian, in order to keep you safe. I would tell you first and then we would tell the appropriate person. On the other hand, if your mother called and asked if you were sexually active, I would not be able to tell her and suggest that she talk to you. Do you have any questions?”* Parents are also be informed of the confidentiality agreement and reassured that they are important in the care of their adolescents. If an adolescent wants to discuss or disclose health information to her parent/guardian, the clinician may serve as a facilitator in this exchange. Preparation in advance with the adolescent is recommended to determine what information will be discussed with the parent/guardian.

The cost of health care services, especially in this economic climate, may also represent a significant barrier for teens, especially if they do not have insurance or wish to keep their care confidential. Alternate billing services, including assistance in obtaining insurance, sliding scales, and free care, are important considerations for maintaining clinical services to this population. Box 1 provides a quiz that can be used to determine if an office is adolescent friendly. Integrating an understanding of adolescent development, the manner in which teens may access care, the importance of confidentiality, and the removal of barriers will prevent foregone opportunities for teens to maintain their health and avoid risky behaviors[CALL OUT].^{24, 44–46}

BOX 1

IS YOUR OFFICE ADOLESCENT FRIENDLY?

Does your office have a separate space for teens to wait?

Are there posters, pamphlets and other literature that are of interest to teens in the waiting room and examination rooms?

Does your office schedule appointments at times that teens are available, for example after school or on Saturdays?

Is your office accessible via public transportation?

Will you see a teen alone?

If a teen calls with an urgent concern, can they be scheduled for an appointment on the same day?

Are teens able to see the same clinician for all their visits?

If a teen has a question, can they leave a message for their clinician?

Does the teen's clinician return the call?

If the teen patient has a concern after hours or on the weekend, is a clinician available to return the call?

Is the wait for an appointment more than 2 weeks?

Does your office have a mechanism for handling the billing for confidential visits?

Does your office provide reproductive care?

Which of the following services are available?

Abstinence counseling

Pregnancy tests
 Pelvic examinations
 STI testing and treatment
 Pap smears
 Contraceptive counseling
 Prescriptions for hormonal contraception
 Condoms
 HIV counseling and testing
 Pregnancy counseling
 Emergency contraception

Is your office staff, including receptionists, familiar with adolescent development?

Does your office mail reminders for appointments?

Do you see teens more than once a year for well-child visits?

If you answered Yes to ALL of the questions above, your office is teen-friendly.

If you answered No to any of the questions above, your office has areas to consider improving.

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Pregnancy Tests

Clinicians working with teens across settings will likely encounter adolescents who are sexually active, need comprehensive reproductive care, and need counseling regarding whether a pregnancy or contraception. Adolescents present for pregnancy tests in a variety of ways.²⁵ For example, a teen may have had unprotected sex preceding her visit and want a pregnancy test “to be sure” she is not pregnant. Many teens use home pregnancy tests (HPTs) and need to confirm the result. This is important because many HPTs are performed and/or read incorrectly⁴⁷ and may lead to a delay in entering appropriate care. Alternately, the clinician may offer a test because of a late, missed, or undetermined last menstrual period (LMP) or because of a menstrual cycle that was different from others: lighter, heavier, or mistimed. Teens may also present for care for a seemingly unrelated complaint and during the visit the clinician uncovers the “hidden agenda” or need for a test. Mothers of teens may also be concerned about their daughters and request a pregnancy test.

History

In all of these situations, a detailed history to determine the date, length, type of flow, regularity, accompanying symptoms (real or perceived), age of menarche, history of sexual activity, and use of contraception, including emergency contraception, will help the clinician determine the risk of pregnancy. A calendar with holidays and school vacations identified on it can be helpful in determining when a period likely occurred. Many teens may have the date of their LMP recorded in their telephone or on a calendar as well as the date of protected and unprotected sexual encounters. The presence of pregnancy symptoms like nausea, vomiting, and breast tenderness and the presence of symptoms associated with STIs (vaginal discharge, pruritis, lesions, dysuria, lower abdominal pain, dyspareunia) as well as a past history of STIs are also be elicited by the clinician.

Next the clinician asks the teen about her desire for a pregnancy now versus her desire to prevent pregnancy through the use of an appropriate contraceptive method. Some teens will be actively trying to conceive and others will be ambivalent. Teens who are ambivalent

about the possibility of pregnancy are at significant risk for pregnancy.^{48–50} The desire of the partner is also discussed because the perceived desire for pregnancy by a male partner is a significant risk factor for teen pregnancy.⁵¹ Once the need for a test is determined, a balanced unbiased discussion regarding her options regarding a positive pregnancy test follow. The role of the clinician is to guide the discussion; not make the decision for the teen. Teens who are coerced into a decision regarding their pregnancy (e.g., to have an abortion when they want to continue their pregnancy) will often become pregnant again within a short period of time. The clinician can be helpful in assisting the teen to identify a supportive adult or family member who would be helpful in deciding how to proceed with a pregnancy in the event that it is a positive pregnancy test or to ascertain if the teen wishes to keep the outcome confidential. The available options of pregnancy/motherhood, abortion, and adoption need to be discussed (Box 3). Regardless of the choice a teen makes about her pregnancy, the role of the clinician is to present accurate and unbiased information from which the teen can make a decision that is best for her and her current situation [CALL OUT]. The clinician can ask questions to help the teen problem solve and better anticipate the manner in which her life will change as a mother. How will she finish or continue school? Where will she live? Who will be supportive? Support systems are also important to successful outcomes for teens; the clinician can help the teen decide who will be helpful in her decision. For clinicians, it is important to emphasize to the teen that she needs to make a thoughtful decision and that the role of the clinician is to support her by answering questions and guiding her to the appropriate services. It is emphasized that the decision is hers and she is allowed to change her mind from what she wanted to do initially. If the clinician is not able to provide appropriate, unbiased counseling regarding the pregnancy, the teen is referred immediately to someone who can provide this care. These services may be limited in some areas.⁴²

BOX 3

Pregnancy Options Counseling

Key components:

Determination of pregnancy risk and gestational age

LMP, regularity of cycle, and sexual history

Consider bimanual exam or ultrasound if history unknown or exam is not consistent with her history

If taking birth control, what type(s), how long? Did she forget to take it, start late etc.?

Has she been pregnant or had a negative pregnancy test in the past?

Discussion of the accuracy of a pregnancy test today

"It has been about 6 weeks since the beginning of your last period, so the pregnancy test will be accurate today"
OR

"It has only been a few days since you last had unprotected sex and your period was 20 days ago, if the test is negative today, we will need to repeat it in 2 weeks if you do not get your period at the expected time."

Meaning of a positive and negative test

"While we are waiting for your pregnancy test result let's talk about your options if your pregnancy test is positive today. A positive pregnancy test means that you are pregnant."

Assessment of the teen's knowledge of available options

"Do you know what your options are if your pregnancy test is positive? Have you thought about what you might do if your test is positive today?"

Discussion of all available options: motherhood, abortion, adoption

"You have three options which include continuing the pregnancy and becoming a mother, terminating or ending the pregnancy with an abortion, or continuing the pregnancy and then releasing the child for adoption" (these options may need to be modified based on the gestational age or availability of services as well as state statutes specific to parental involvement or judicial bi-pass).

OR

Timely referral to someone else for unbiased options counseling “I am going to send you to another medical professional who will be able to discuss what options you have related to your pregnancy test.”

Identification of a supportive adult to discuss options

“Is there an adult who can talk with you and help you with your decision?”

Discussion of her readiness for motherhood, ability to complete school, support of family and partner

Assessment of the safety of adolescent related to a positive result

“How do you think your parent(s)/guardian will react to your pregnancy? What about your partner?”

Contraceptive options if not pregnant or following delivery/termination

“Let’s talk about contraception and what is available for you after the pregnancy or if you are not pregnant today.... What has and has not worked in the past? What does your partner think about condoms? Contraception?”

STI screening and condom use for prevention

“Have you ever been tested for sexually transmitted infections like chlamydia, gonorrhea or HIV?” We offer that testing here, would you like to be tested? Have you ever had an STI? Do you know what symptoms you may experience if you had a STI?”

Follow-up plan to further discuss decision about pregnancy and provide timely referral for prenatal care or abortion

“I would like to schedule an appointment for you in the next few days so you can think about your decision. If you have any questions please call me. If you have any pain or bleeding please call the office and tell the receptionist that you are having these symptoms and that you are pregnant or go to the Emergency Room.”

Once the adolescent has made her decision, referral to appropriate services in the community

Following this discussion, the teen is asked what option she thinks will be the best for her if the test is positive. This discussion can occur while the urine pregnancy test is being done and prior to giving her the pregnancy test result.

Management with a Negative Pregnancy Test Result

If the pregnancy test is negative and the teen wishes to avoid pregnancy, education about consistent correct condom use and appropriate contraceptive options are provided. However, the same level and intensity of services provided to teens with a positive pregnancy test should be provided to those with negative pregnancy tests.²⁶ Several studies have identified a negative pregnancy test as a significant risk factor for pregnancy within 18 months and many of those with positive pregnancy tests report a previous negative test.^{25, 52–54} All too often, this critical opportunity for education and prevention is missed.³¹ Contraception, STI screening and treatment if necessary, and any other services are provided at this visit to avoid missing this opportunity for intervention. A return visit in 2 weeks can be helpful to determine if she in fact menstruated or if a repeat pregnancy test needs to be done. This visit will also provide the opportunity for additional questions and to check-in on the appropriate use of condoms and contraception.

Teen C.A.R.E. (Comprehensive Adolescent Reproductive Education) is a clinical intervention²⁶ that blends adolescent-friendly health care services, the Transtheoretical Model (TM) or stages of change,^{55–56} and social cognitive theory.⁵⁷ The TM is used by the clinician to determine the readiness of a teen to change risky sexual behaviors in order to avoid unintended pregnancy and STIs. This model also considers the degree of desire for pregnancy that a teen may have herself or that of a partner or family.^{26, 28, 58–61} The use of the Teen C.A.R.E. intervention allows the clinician to more precisely pinpoint where a teen is on the pregnancy desire continuum and tailor counseling to meet her individual health education needs.²⁶ Movement along the continuum is directly related to increased levels of self-efficacy.⁵⁷

Management with a Positive Pregnancy Test Result

If the pregnancy test is positive, the clinician delivers the result by stating, “Your pregnancy test is positive, which means you are pregnant,” and may wish to show the positive pregnancy test to the teen. The clinician can then wait for a reaction and offer support. An assessment of the gestational age, by LMP, bimanual examination, or ultrasound, will aid the clinician to counsel the teen appropriately about her options. The options available for adolescents with a positive pregnancy test include elective termination/therapeutic abortion or continuing the pregnancy, with the latter choice offering several possibilities. These possibilities include adoption, foster care, or raising the child on her own or in a defined support system. Regardless of the choice made by the adolescent, there are essential screening objectives and services that would be important to provide, in order to promote overall health and well-being of the adolescent both during and after her pregnancy. These objectives include both clinical care and psychosocial support around the issues that the pregnancy has provoked as well as counseling about the implications of any of the options the adolescent has chosen. For example, the clinician can assist the teen in determining how and when she will tell her parent/guardian and partner about the pregnancy if she desires to inform them. Role-playing may be a useful tool to help the adolescent prepare for disclosing her pregnancy to key people in her life. The clinician determines if she will be safe following disclosure and, if not, refer her to social work for assistance. A return appointment for further discussion about the pregnancy can be made within a week.

Abortion—The decision to have an abortion is preceded by pregnancy options counseling. Following this counseling and prior to the abortion, evaluation of the adolescent includes a complete psychosocial history; family, medical, surgical, and gynecologic histories; and complete physical examination. Recommended laboratory tests are outlined in Box 2. Additional laboratory tests, such as hepatitis C, are based on the adolescent’s history. Anticipatory guidance related to the expected course for whatever option she chooses is provided to the adolescent.

BOX 2

LABORATORY TESTS FOR PREGNANT TEENS

Complete Blood Count
 Hemoglobin electrophoresis
 Blood type and Rh factor
 Venereal Disease Research Laboratory (VDRL)/ Rapid Plasma Reagin (RPR)
 Human Immunodeficiency Virus (HIV)
Hepatitis B surface antigen (HbSAg)
 Hepatitis C *
N. gonorrhea/Chlamydia
 Pap smear

* Consider based on history.

Data from American Academy of Pediatrics and American College of Obstetricians and Gynecologists: *Guidelines for perinatal care* (6th Ed.), Washington, DC, 2007, American College of Obstetricians and Gynecologists.

Contact information for abortion services in the community can be given directly to the teen. The clinician may wish to rehearse the telephone conversation or be in the room for support when the teen makes the appointment. The gestational age is established by calculating the number of weeks and days from the first day of the last menstrual period (LMP) or by the

teen's sexual history. The gestational age is an important step in determining what facilities would provide abortion services. For example, some abortion facilities only offer first-trimester services, while others may provide services in a later gestational age. If the determined gestational age is beyond the legal range for termination in a specific location, then the discussion should include other available options such as keeping the infant, adoption, or foster care. An unbiased discussion about medical (if applicable) and surgical procedures and what the teen can expect follows. It is important to explore how she will get to the appointment, who will accompany her, the possibility of protestors at the clinic where the abortion services are provided, and how she can expect to feel both physically and emotionally.

Post-abortion Management: Arrangements for follow-up care are made for 2 to 4 weeks after the abortion. This post-procedure visit includes assessment of the teen's well-being, both emotionally and physically; a urine pregnancy test to confirm resolution of the pregnancy; and a pelvic bimanual examination to assess the cervical os for closure, for discharge, and for uterine size, shape, and any tenderness that may be a sign of infection. If contraception has not been provided at the site where the abortion was performed, family planning options are discussed and provided at this time.

Prenatal Care of the Adolescent—If the teen says she will continue the pregnancy, prenatal vitamins can be prescribed by the primary care clinician prior to her initial visit to the women's health nurse practitioner, midwife, obstetrician, or other obstetrics provider. The clinician also provides the teen with information on the importance of avoiding alcohol, tobacco (including second-hand exposure), illicit/prescription drugs, over-the-counter medications, certain fish, and unpasteurized foods. Prescription medications for existing health conditions should be reviewed with the teen and evaluated for their safety during pregnancy by the clinician. A list of medications generally viewed as safe during pregnancy can be found in Table 1. Though guaifenesin is no longer recommended for use in children, it is safe to use in the pregnant adolescent at the recommended dosages.^{62–63} The common symptoms of nausea (with relief measures) and other pregnancy changes including fatigue and breast tenderness are also discussed as well as warning signs that may indicate a need for immediate medical care, like lower abdominal pain or bleeding, along with directions for how to reach the clinician or if she needs to go directly to the emergency department. If the pregnancy test was done in the primary care setting, it may be beneficial to make suggestions about who are the teen-friendly clinicians in the community for the teen to continue her care during the pregnancy. The primary care clinician remains involved in the pregnant teen's care for other non-pregnancy-related issues and for support. The first prenatal visit can be scheduled with the clinician's assistance if desired by the teen.

When the adolescent elects to continue her pregnancy, it is important to link her as soon as possible to prenatal care services. If the teen is interested in adoption, referral to the appropriate services in the community can be initiated. With early and continuous prenatal care, the perinatal outcomes of the adolescent are improved. The standard prenatal care model as recommended by the U.S. Public Health Service's Expert panel report, "Caring for our future: the content of prenatal care,"⁶⁴ may well serve the adolescent if provided in a teen-friendly environment. As recommended by this expert panel, the goals of prenatal care are early and continuing risk assessment, health promotion, and health, medical, and psychosocial interventions and follow-up.

Given the developmental, psychosocial, and health issues/risks particular to adolescents, it is important that prenatal care be tailored to address these issues [CALL OUT]. In the traditional model of prenatal care, for low-risk women, the American College of Obstetricians and Gynecologist (ACOG) recommends monthly (every 4 weeks) visits until

28 weeks, then visits every 2 to 3 weeks up to 36 weeks' gestation, then weekly until delivery.⁶⁵ Under certain circumstances such as psychosocial stress, medical complications, or educational needs/deficits, the adolescent may need to be seen more frequently so these needs can be addressed. Adolescent pregnancy programs have existed for decades in the United States and have used a number of formats to meet the educational and social needs of the adolescent. Many of these programs have used a group model of care for education that is distinct from the prenatal physical examination.⁶⁶ Centering Pregnancy is an innovative group model of care that integrates the educational, support, and physical examination components of the prenatal visits. Centering was developed by Sharon Schindler Rising, a nurse midwife, in the 1990s and serves as an excellent prenatal care model for all women and especially for pregnant adolescents. A randomized controlled trial (RCT) conducted on this model in comparison to individual care with primigravidas aged 14 to 25 demonstrated its efficacy in improving key perinatal outcomes. In this RCT, women who received care in group showed an equivalent 33 % reduction in preterm delivery, had significantly better prenatal knowledge ($P < .001$), had greater satisfaction with care ($P < .001$), and had higher breastfeeding initiation rates (66.5% in group care compared with 54.6% in individual care, $P < .001$).⁶⁷ Other studies of this model support its efficacy in lowering risk for preterm birth, both in populations at at-risk and at low risk for preterm delivery.^{68–70}

The health issues experienced by many pregnant adolescents are related to a number of developmental and psychosocial conditions. Because the adolescent may delay seeking prenatal care she is more likely to experience increased rates of preterm delivery, low-birth weight (LBW) infants, and infant mortality.^{71–73} Recognition of the pregnancy, fears about parental response to pregnancy, poor or lack of financial resources, as well as denial of pregnancy/delay in the diagnosis of pregnancy all contribute to the adolescent's delay in seeking prenatal care.^{74–75} Once the adolescent is engaged in prenatal care, those aspects of adolescent health behaviors that contribute to poor perinatal outcomes are addressed promptly. These include nutritional status, psychosocial stress, substance use, and underlying/preexisting medical issues. All of these topics can be addressed particularly well in the Centering Pregnancy model of care. Since rapid subsequent pregnancy (e.g. a second pregnancy within 24 months of delivery of first pregnancy) may be as high as 30% to 50% in adolescents, it is important that family planning/contraception use be addressed during the pregnancy and throughout the postpartum period.^{76–77}

Nutrition: Given the lifestyle choices common to many adolescents, it is important to pay special attention to the pregnant adolescent's nutritional needs that are central to a healthy pregnancy. The propensity for adolescents to frequent "fast food" restaurants, eat on the go, skip meals, and increase their intake of sweetened carbonated and noncarbonated beverages, while decreasing healthier options (low-fat milk, water) in their diet, puts them at serious nutritional risk especially during pregnancy.⁷⁸ Adolescents have their own unique growth needs, and when these are combined with the additional nutritional requirements of pregnancy, it may place them at nutritional risk. Clinicians need to monitor and address the special nutritional challenges of the pregnant teen. The Food Guide Pyramid provides a basis for offering recommendations on food choices for a healthy pregnancy. As with all medications prescribed in pregnancy, it is important to validate if the pregnant teen is actually taking the medication as directed. Difficulty swallowing the large sized prenatal vitamins is common, so alternative preparations such as chewable or liquid vitamins may be preferred.

Healthy People 2020 identifies obesity as one of the top 10 health indicators that need to be addressed.⁷⁹ According to the most recent National Health and Nutrition Examination Survey (NHANES), obesity in adolescents is a growing problem with an increase from the 1976–1980 survey of 6.1% to 17.6% in the 2003–2006 survey in children aged 12 to 19

years.⁷⁷ Women who are obese are at increased risk for early and late pregnancy loss as well as increased risk for metabolic syndrome; thus, it is important for the obese adolescent to be carefully monitored during pregnancy to assess and address both maternal and fetal well-being along with weight changes^{80–83} (Table 2). Many teens may find it interesting to use the U.S. Department of Agriculture's website to plot out their pregnancy nutritional pyramid based on their individual activity, height, and weight (<http://www.mypyramid.gov/mypyramidmoms/>).

Substance Use: More than one third of teens and young adults have engaged in sexual behaviors while using alcohol and drugs.⁸⁴ Sexual activities often occur while under the influence of alcohol and/or drugs; thus, appropriate assessment, counseling, and intervention is routinely included in care for pregnant teens. The Youth Risk Behavior Survey (2011)⁸⁵ data indicate that adolescents continue to use both illicit and legal drugs at significant rates (Table 3). Careful screening for current or ongoing alcohol, tobacco, and drug use is important given the morbidity associated with their use for both the adolescent and the developing fetus. Access and referral to drug treatment programs are important components of care for adolescents with drug use and misuse issues. More frequent prenatal visits with this population may be important to assess maternal and fetal well-being.

Underlying/Pre-existing Medical Issues: Although adolescents are at increased risk for pregnancy-related conditions such as preeclampsia and intrauterine growth restriction, management of these conditions is no different for the pregnant adolescent than for the adult pregnant woman.^{72, 86–87} Any underlying medical problem that predates the pregnancy can be exacerbated by the pregnancy and or may complicate the pregnancy. These problems, as mentioned earlier, are managed in teens just as they are with adult pregnant women. Careful assessment and monitoring of signs of pregnancy-related conditions are done at each prenatal visit as well as educating the adolescent about warning signs for these complications.

Intimate Partner Violence: Intimate partner violence (IPV) is a major public health issue and is known to persist during pregnancy.^{88–89} IPV, pregnancy coercion and partner sabotage of birth control methods (eg. poking holes in a condom), have been found to increase the risk of unintended pregnancy in adolescents.⁹⁰ ACOG has recommended routine and continuous screening of women, especially during pregnancy, to assess for IPV and to provide options and resources for women who are experiencing IPV.⁶⁵ Likewise, Miller and colleagues⁹⁰ encourage clinicians to ask teens about their experience with pregnancy coercion and contraceptive method sabotage by their partners. Pregnant adolescents are as likely to experience IPV and its associated negative perinatal outcomes such as spontaneous abortion (miscarriage), intrauterine fetal death, STIs, death, and preterm delivery as adult women.^{65, 91–92}

Adolescent Parenthood

The outcomes of adolescent parenthood vary from family to family and are often linked with several critical variables. These variables include the age of mother (with teens younger than 15 years having more difficulty), the availability and perceived helpfulness of social support (especially family and specialized programs), the teen's ability to delay subsequent pregnancies and births until after the adolescent years, her engagement in school and completion of an educational plan, the availability of stable housing, and the availability of economic resources for basic needs for her and her child.^{11–12, 93–95} Incomplete schooling among teen mothers is related to interrupted learning and to less economic security as well as greater risk for social isolation, depression, and substance abuse.^{18,22} Most risks for teen

parents and their children are enhanced by effects of poverty, since these young families are more likely to live in under resourced urban or rural communities and neighborhoods.^{11–12}

With support, many adolescent mothers do as well as older mothers living in similar contexts; however, without support from family or specialized programs, many teens experience an array of adverse outcomes and risks¹³ [CALL OUT]. In teen mothers, poorer pregnancy outcomes are often associated with late entry into (or no) prenatal care, which may occur for a variety of reasons related to fear of family reactions and/or of denial of the pregnancy.^{74–75} Among teen mothers there is a heightened risk of domestic violence and there may be patterns of intergenerational cycles of difficult parenting and family stress, which may also contribute to harsher parenting styles. Adolescent mothers have been observed to have less vocalization/touching/smiling behaviors with infants and to head families who are more likely to have truncated educational levels and longer periods of reliance on economic assistance programs.^{11, 93}

Despite the risks and adversity, there are also several factors that have been associated with better outcomes in these young family systems. These include co-residence with the maternal extended family for a period of at least 2 years after the birth of the adolescent's child, the age of the mother being greater than 15 years, the mother being able to stay enrolled in school and either attain a general equivalency diploma (GED) or high school diploma, and the mother successfully delaying subsequent child births at least 24 months after the first birth.^{8,11, 12} The issues around the involvement of the teen's partner are more complex, since involvement of the baby's father for emotional support and help with childcare and support is usually associated with better outcomes for both mothers and children; however, this positive effect is most apparent when the teen mother and child continue to live with her own parent or adult family member and do not move out to live with or marry the father of the baby (FOB).^{11, 13, 93}

As a function of these multiple risk factors, intervention with these young families is complex and should involve comprehensive and adolescent-friendly approaches, since teen mothers do not necessarily think and behave similarly to most adult mothers. This section begins with the complex risks and developmental challenges facing young mothers and their babies. Next is a review of current models for intervening with adolescent parents, focusing specifically upon community-based, school-based, and home visiting programs. Finally, specific teen-friendly clinical strategies for providing primary care for teen mothers and their children are discussed.

The Transition to Parenthood in Adolescents—Teenagers are inherently less prepared for motherhood than are women in their 20s or 30s, because they have yet to complete the developmental tasks that are crucial to the healthy transition from adolescence to young adulthood. These tasks are emotional, relational, and cognitive and involve the young girl's move from the relative egocentrism of adolescence to the more mature and reflective stance of adulthood.^{14–15} Adolescent parents, similar to pregnant teens, are subject to behaviors that are often difficult and unpredictable because of their cognitive developmental capacities, their incomplete brain development, their changes in hormonal balance and physical development, and their shifting relationships with family, adults, and peers.^{33,39,96} Only as they move toward late adolescence do some of these changes become less pronounced and their relationships deepen and become more genuinely intimate. The development of the capacity to see beyond the self, to plan in a coherent way for the future, to fully understand the ramifications of one's actions, to form and sustain relationships, and to keep another in mind are crucial to healthy parenting, and these perspectives are not commonly seen in most adolescent parents.^{15–16}

Adolescent mothers experience many challenges when their transition to parenthood overlaps with their developmental stage of adolescence. [CALL OUT]. These developmental challenges are clustered around identity issues, independence and individuation, cognitive development, sexual development, and attachment issues.¹⁵

Identity Issues—Adolescents work on their emerging identity and sense of self through experimentation with multiples roles and immersion with peers and peer groups.³³ This experimentation is seriously compromised by the many specific parental roles and responsibilities that accompany the tasks and challenges of caring for an infant or young child on a 24-hours-a-day/7-days-a-week basis. Reliance on family members and friends for babysitting allows for some flexibility; however, teens may use up this social capital fairly quickly (especially as they often do not realize the need to reciprocate or show thanks for babysitting) and may take their infants with them to various venues such as clubs or parties, which are usually not the best environments for infants.

Individuation—The individuation process that occurs during adolescence generally is marked by a lengthening of emotional ties with family, especially parents, as other social relationships such as friends, peers, and other adults become increasingly important.^{33, 96} While adolescent individuation is highly influenced by culture and social context, adolescents, especially during the middle and later stages, desire to spend more social time outside of the parental household, with their peers and friends. This developmental process is often hampered by the increased family dependence experienced by adolescent mothers because of their need for tangible assistance, economic support, and childcare for themselves and their children. Therefore, just at the time in life when they want to be out more with friends, many teen mothers find themselves often staying home and relying more on family members because of the baby. This circumstance can create family conflict and difficult crowded conditions; however, some families take the opposite perspective and describe the teen's childbearing experience as a "lifesaving" opportunity that served to bring the teen in off the streets and restored her back into the family.⁹⁷ In most cases (except when there is severe conflict or abuse in the family), teen mothers and their children fare better when they can remain in their parents' household for the first several years after the birth of the child.^{11, 13, 93}

Cognitive Development—Adolescent cognitive development plays an important role in understanding the unique characteristics of adolescent mothers, since they are still experiencing brain development³⁹ and their thinking and reasoning often vacillates between the more present-oriented concrete thinking of childhood and more mature thinking with the ability for future planning, hypothetical reasoning, and the ability to take multiple perspectives.^{32,33} In particular, egocentric thinking, as previously described in this chapter,³² in which adolescents are very focused on themselves and believe in their "imaginary audience" and "personal fable" create particular risks for the infants or toddlers they may be raising. It is often difficult for teen mothers to separate their own thoughts, needs, and motivations from those of their child. They may confuse their own ability to reason with that of their infant, resulting in difficulties in seeing the child as separate or unique from themselves. Many aspects of the parental role involve future planning, thinking about consequences, and anticipating the child's behavior, especially in the area of infant and toddler safety/injury prevention, and these cognitive skills are often under-developed in teen parents.

Examples of these cognitive issues are seen in simultaneous parent/child tantrums especially since both adolescents and toddlers are facing issues of separation and individuation and this struggle often becomes overwhelming and entangled for teen mothers. Adolescent mothers commonly attribute their own perspectives and capacities to their children: "He's a brat just

like me” (referring to her 3-month-old infant); “She should know better than to fall off the bed; it’s her own fault” and “My baby loves coming to parent class. She sees her *friends* there.” This developmental issue can also be played out in issues of infant discipline, such as unrealistic expectations that infants will understand and remember what they are not supposed to do, and debates about spoiling or holding babies too often.

Sexual Development—Adolescence is a time of rapid physical transformation and sexual developmental that accompany the changes of puberty and adolescent mothers must also try to integrate the recent and dramatic physical and emotional changes of pregnancy and the postpartum period.^{15, 33} adolescent mothers may still be relatively uncomfortable with their changing bodies and relatively uninformed about their sexuality and sexual health, despite having been sexually active and having delivered a child. This potential conflict can be seen in the reluctance on the part of some teen mothers (especially when sexual abuse may have been part of their experience) to consider breastfeeding their infants.^{17, 98} Some teen mothers react to the idea of breastfeeding as “nasty” and may feel embarrassed, especially if they would need to feed the baby in a public space. If family and friends have had positive breastfeeding experiences and if the young mother is in a supportive environment where others are choosing to breastfeed, it may be successful; however, her personal decision should be respected and teens, especially, should not be pressured or made to feel guilty if they choose to feed their infants with formula.

It can also be difficult for teen mothers to confront the realities of their return to fertility and the need for contraception. If they are still in contact with their infant’s father or have a new partner, they may feel sexual pressure in the postpartum period, and especially if there is an age difference, they may not be able to assert their own wishes to delay sex or be abstinent after delivery.⁷⁶ It is therefore critically important to not only provide teen mothers with a reliable method of contraception in the immediate post partum period, but also to counsel them concerning potential sexual coercion from their partners.⁹⁰

Attachment Issues—Attachment issues surface both during the period of adolescence and during early parenthood.⁹⁹ For many teen parents, there may have been difficult attachment histories and ongoing or unresolved issues of attachment with their own parents/caregivers, most often between the teen and her biological mother.^{100–101} It is not uncommon that with family cycles of teen parenthood, the teen may have been raised by multiple family members or, often, her grandmother. These issues come to the forefront when the teen moves into the role of parent and enters into a relationship with her own infant.⁹⁹ Attachment issues are complex and some teens may have expressed their desire for a baby as “someone who will be mine and who will love me.” However, the period of early parenthood also offers an opportunity for re-working past relationships and feelings, since pregnancy and early parenthood both present great vulnerability as well as openness for focusing on the new infant and “falling in love.”^{102, 105}

Attachment is described as a unique and powerful relationship that develops between an infant and caregiver during the child’s first year of life.^{103–104} The quality of the caregiver-infant attachment influences how the infant experiences emotion, relationship quality, self-esteem, and eventually the ability to take on parenting roles in the future.¹⁰⁵ It is possible for infants to have multiple attachment figures, depending on who spends time with the infant, and these may include biological parents, siblings, and grandparents.¹⁰⁶ In the case of children of teen mothers, maternal grandmothers are particularly important attachment figures as they are frequently involved in the infant’s care on a daily basis.¹⁰¹

Reflective parenting interventions help the teen mother reflect on her own mental states (feelings, needs, desires, etc.) while learning to recognize and understand her infant’s mental

states and individual needs, despite the teen's cognitive styles. The *reflective function* is the ability to understand and process emotional and internal states in oneself and in others. This is both a meta-cognitive and affective capacity that allows human beings to understand each other in terms of mental states, in order to make sense of and anticipate each other's actions.^{107–108} It is this capacity that allows the mother to provide for her child's physical health and safety and that sets the stage for the development of secure, reciprocal, and flexible attachment relationships.¹⁰⁹ Parental reflective functioning approaches and strategies such as recording and reviewing mother-child videotapes with young mothers, modeling and coaching reflective functioning techniques, and "speaking for the baby" are helpful both for enhancement of infant attachment and assisting the mother with interpretation of infant behaviors in the context of the child's mental state and developmental stage.¹¹⁰

Critical Factors in the Transition to Parenthood for Adolescent Parents

Positive outcomes of the transition to parenthood in adolescents depend upon young mothers' abilities to feel confident and competent in taking on the multiple tasks and responsibilities of caregiving. As predicted by human ecology theory,^{16, 111–112} parental competence is multiply determined, and can be linked to a number of factors: the personal resources of the mother, maternal mental health status, and the environmental sources of stress and support available to the new mother during pregnancy.^{13,16}

Personal Resources of Teen Mothers—Personal resources encompass both emotional and cognitive resources. Emotional resources include a sense of self-worth and self-efficacy. Self-esteem has been associated with mothers' abilities to relate positively to a child, positive mothering attitudes, and more favorable child behavior outcomes,^{113–114} as well as mother-infant interactions,¹¹⁵ maternal adjustment to parenting,¹¹⁰ and sense of parental competence.^{112, 117} Mothers' sense of self-efficacy has also been found to correlate with self-esteem and parental sense of competence in teen mothers.¹¹⁴

Cognitive resources also play a crucial role in adolescents' capacity to successfully take on the mothering role. Cognitive resources can be variously defined; there are the inherent limits of adolescent cognition and perspective taking, as well as individual variation in cognitive capacity.¹⁶ Typically measured by maternal IQ or school achievement, cognitive abilities have been found to play a role equal to that of self-esteem and self-efficacy in predicting parental competence, and in influencing the ways teen mothers view their children and make child-rearing decisions.¹⁶

Maternal Mental Health—Maternal mental health status necessarily intersects directly with the teen mother's sense of self-worth and competence, as both a person and a parent. Researchers have consistently found that maternal depression has many negative effects on the mothering process and the developmental and behavioral outcomes of children, among both adult and adolescent mothers.^{12,119–120} Panzarine and colleagues found that mothers with depressive symptoms reported less maternal gratification and confidence, had more negative feeding interactions with their infants, and were less satisfied with the social support available to them.¹²⁰ Leadbeater and colleagues found that adolescent mothers who were depressed manifested less maternal sensitivity and more maternal-child conflict when observed with their children.¹¹⁹

While a number of teen mothers may have endogenous or biologically based depression and other psychiatric disorders, many have or are currently being exposed to violence and abuse. Researchers have documented a strong correlation between a history of both sexual and physical abuse in the adolescent girl and an earlier onset of sexual activity, adolescent

pregnancy, and child bearing.^{121–124} Sexual abuse, partner abuse, and a history of child abuse are prevalent findings, with some history of past or present abuse occurring in 50% to 80% of various samples of pregnant adolescents.¹²⁵ The interactive and additive affects of mental disorder and trauma are powerful and far-reaching. Lesser and Koniak-Griffin described the interrelationship between past history of abuse and chronic depressive symptoms in their sample of 95 adolescent mothers.¹²² The incidence of posttraumatic stress disorder (PTSD), while not well-documented among samples of pregnant and parenting teen women, is theorized to be quite high in this group because of the general association between sexual abuse history and PTSD symptom development noted in the literature.^{17, 126} In addition to past abusive events, the events of labor and delivery are also seen as possible triggers for PTSD relapse in mothers who have a history of sexual abuse.¹²⁷ Clinical approaches for helping women manage their labor and delivery experiences have been developed to help prevent the recurrence of symptoms.^{128–129} Working with the adolescent prenatally to develop a labor plan helps her to understand what will likely happen and some of the physical care that she may experience during labor and delivery, as well as the choices that she can make (when feasible) about aspects of her care.¹²⁹ This allows for preparation and discussion before her actual labor begins and often helps the pregnant teen to feel more in control of the experience. The written labor plan is given to the teen and a copy is shared with the clinician who will be present at her delivery.

Social Support and Stressors—Researchers have for years documented the importance of social support for new mothers, and for teen mothers, these sources of support can often be variable and unstable.^{16, 130} Crucial in predicting positive outcomes is the adolescent's relationship with her own family, and particularly her mother, as research with teen mothers highlights the association of social support with the teen mother's parenting and relationship with her child.¹³⁰ The infant's grandmother in the maternal family often plays a critical role as she supports the young mother and her infant while she also acts as the mother of the young mother and often as the primary care clinician for the infant.^{112,118,131–134}

Often, the mothers of adolescent parents are young women in their 30s or early 40s who are still raising families with young children, perhaps balancing several jobs and also managing and organizing the care for the teen and her infant, which leads to great potential for role strain in these women. In studies of the roles that grandmothers play in the lives of teen mothers and their children, findings have shown that most grandmothers assume a coaching role (although there are many other less adaptive roles ranging from assuming total care to abdicating all care of mother and child) and that the grandmother's own personal resources (self-efficacy and self-esteem) are related to her daughter's ability to become a competent parent.^{112,131,134} When the relationship between adolescent and her own mother is not functional or if the teen's mother is incapacitated due to physical or mental health reasons, sometimes other family members such as the teen's grandparents, aunts, godmothers, or other fictive kin members may step into this pivotal role. When there is no support from any identified family member or paternal family member, the young family enters an extremely high-risk situation.

Partners of adolescent mothers play a complex role (with varying degrees of involvement) in the adjustment of the young mother and child.^{135–136} Fathers are rarely absent from the picture of adolescent parenthood, although most adolescent couples do not marry with the birth of a child¹³⁷ and male partners of teen mothers may have transient relationships with young mothers and their children. In 2007, 86% of teens who gave birth were not married.¹³⁷ The nature of the romantic relationship between the mother and father, the relationship between the partner and the teen's own mother, the age difference between mother and partner, and whether the young father is employed are all factors that influence his degree of involvement and support with the young family.^{138–140} The gatekeeping role

of the maternal family, as well as many other adverse contextual factors, may prevent the adolescent father's incorporation into the new family unit as well as his consistent involvement and support.

Approximately one half to two thirds of the fathers of children born to adolescent mothers are older than 20, and the average age difference between adolescent mothers and their partners is 3.3 years when the adolescent is older than 15; however, there is often greater than 4 years difference if the teen is younger than age 15.^{138,141–143} Agurcia and colleagues found that teen mothers with partners 5 or more years older were less likely to be enrolled in school or employed, received less social support, and had more subsequent pregnancies.¹⁴⁴ With greater age differences between partners come greater concerns for the coercive or exploitative nature of the couple's relationship. In the worst cases, abusive relationships may begin prior to pregnancy and continue after birth and abuse is often linked to first and subsequent unintended pregnancies.¹²³

Stressors and Maternal Life Course Outcomes

Added to the many personal and social stresses outlined here are those that come from living in chronic poverty. Urban poverty settings often compound the social, emotional, and health risks of young parents having and raising children because of issues associated with poor housing, unemployment, racism, poor schools, crime, drugs, domestic violence, and undernutrition.^{13,145} Rural poverty settings often add the risk factors of geographic isolation and fewer formal resources or programs for teen parents. Two outcomes that are particularly critical to the short- and long-term successes of teen mothers and their children include maternal educational completion and delay of subsequent child bearing until past the teen years.¹⁴⁶ For teen mothers who drop out of school, there are increased risks of isolation, depression, less optimal parenting practices, and poorer chances of economic and occupational stability, often reflecting poorer educational and social conditions that predated the pregnancy.¹³ Teen mothers are more likely than teens who delay childbearing to drop out of high school or to eventually obtain a GED rather than a diploma, and teen mothers are less likely to attend college.¹⁴⁷ Since teen mothers are more likely to have grown up in poverty, their poverty-related contextual stressors do not disappear once the teen has a baby, and thus, most young families with teen mothers also continue to suffer from the adverse influences of poverty.¹³

Rapid subsequent pregnancies and births in teen mothers are associated with increased stress on the adolescent mother, the extended family, and the offspring of the adolescent and contribute to the likelihood of the adolescent dropping out of school and experiencing longer-term economic dependency.^{13,50,117} Rates of subsequent pregnancies in teen mothers reported in the research literature vary from 35% to 50% in the 2 years following the birth of the baby,^{117–118, 148} which translates into 20% of teen births each year occurring in mothers who already have one child.^{12, 93} The risks for rapid subsequent pregnancy include marriage or living together with the FOB or partner (and not living with parent), school failure, dropping out of school, desiring the first birth, and there are mixed findings on the effects of poverty on this issue.⁹³ The consequences of rapid subsequent childbearing among teen mothers predict that they are less able to finish education and avoid economic dependency; they may be greater risk for LBW, preterm, and infant mortality; and their children experience lower levels of academic achievement and more behavior problems.

Child Development and Health Outcomes in the Children of Adolescent Mothers

The long-term effects of teen parenthood on child health and development are well documented. Reviews of existing literature on outcomes in children of adolescent parents find increased rates of infant morbidity and mortality, fewer verbal interactions between mothers and children, more developmental and behavioral problems once the children reach preschool and school age, and higher incidence of school and behavioral problems during adolescence.^{11,13} Children of teen parents have a greater chance of mental health problems, behavioral issues, substance abuse and of becoming a teen parent themselves.^{13, 16} There are mixed findings in the research literature about the link between child abuse and adolescent parents. The risk of teens abusing or neglecting their children seems to increase when there is a past history of abuse (especially sexual abuse) in the mother, the mother is 15 years of age or younger, there is more family conflict and fewer family (and financial) resources available, the mother has dropped out of school, the child was born prematurely or with LBW, or the mother had additional children during her teenage years.^{151–153} As is true for most research on adolescent parents, poverty, family constellation, and ethnic or racial minority status confound many of the findings on adverse outcomes for children, and poverty confounds many findings that are linked with mothers of minority racial or ethnic status.^{10,11,13} Children of teen parents experience increased levels of risk for neonatal morbidity and mortality (related to LBW, prematurity, sudden infant death syndrome [SIDS], accidents), greater likelihood for hospitalization, abuse, neglect, and behavioral and school problems persisting into the adolescent years.^{10–12}

Interventions with Teen Mothers and their Infants

Most successful support and treatment programs for teen mothers take a comprehensive approach and focus on helping the young woman develop a sense of herself as a competent parent and caregiver with the capacity to shape a life for herself and her baby. This approach is usually focused on helping her to rally the emotional and tangible resources that she needs to continue both along her own individual developmental trajectory, while learning to be a competent and nurturing parent. Many programs for teen parents have been developed but relatively fewer have been rigorously evaluated.¹¹⁸

Community-Based Programs for Teen Parents—Health care and supportive programs associated with positive outcomes include those with dedicated services for adolescent mothers prenatally through at least 2 years beyond the birth of the child.^{14,117,154} These programs often include mother-baby clinics where the same clinician is able to provide primary care for both mother and child, affording the opportunity for close follow-up of both the child's health and development as well as the teen's health and contraceptive care.^{154–155} Community programs also include advocate/mentor models, where trained older peers or lay members of the community provide assistance with less complex parenting issues or linkages with needed health or social services.¹⁵⁴

School-Based Supportive Programs—The creation of supportive teen-friendly parenting programs in high schools, especially programs including school-based child care for infants and toddlers of teen mothers, offer young mothers valuable and necessary services to help them become more competent parents, complete their high school education, delay subsequent childbearing, and have their children enrolled in safe, stimulating child care.^{77,118,148,156} School-based programs consist of specialized schools for pregnant and parenting teens or programs for teen parents located within mainstream high school settings with or without access to on-site child care and/or school-based health

centers. Some communities also have specialized GED or adult education programs tailored for teen parents and usually include childcare on site.

Specialized schools for pregnant and parenting teens have been associated with a range of positive outcomes for young parents and teens. One example of such a program is the Polly T. McCabe Center in New Haven, CT, which is a (voluntary) school setting for middle and high school students who attend the center for their academic courses as well as special classes in prenatal childbirth education, postpartum parenting classes, outreach and liaison with health care services for mothers and infants, and a child care assistance program with a transitional day care and nursery for young infants of the students.^{15,132,146,157} The services and faculty are focused on promoting success with the two most powerful predictors for teens and their children: completing school and preventing subsequent childbirths in adolescence. Evaluation research with this program has demonstrated fewer preterm and LBW births, better high school enrollment and graduation rates, less rapid subsequent childbearing, and children with more positive school achievement and who are less likely to become adolescent parents themselves.^{118,132,146,157}

Similar positive outcomes are seen with students who attend adolescent parent support programs with childcare programs available on-site in the high school setting.^{148, 156} One such program, *Chances for Children*, serves student-parents and their young children attending several high schools in New York City.¹⁵⁶ This approach provides teen mothers and their infants and toddlers with childcare, while also offering the opportunity for therapeutic interventions to strengthen the mother-child relationship. This program has demonstrated promising pilot study findings including positive mother-child interactions even when teen mothers manifested depressive symptoms.

A slight variation of this model is seen with the Elizabeth Celotto Child Care Center and the accompanying student-parent support program. Students attend their regular academic classes as well as a daily parenting class, and their children are cared for in a child care center located within the high school.^{77,148} The support program and childcare center staff and teachers provide case management and counseling, legal and housing assistance when needed, transportation, a nutritional program, a fully accredited infant and toddler childcare program, parenting classes, supervised time interacting with children in the center, and linkages with the school-based health center. Descriptive evaluation studies of this program have shown high levels of educational success, very low rates of rapid subsequent childbearing, good child health outcomes (immunization rates and pediatric visits up-to-date), and positive observed and coded parent-child interactions and parent-reported outcomes on measures of parental competence, despite relatively high levels of depressive symptoms and homelessness among the young mothers served by the program.^{77, 95, 148}

School-based programs, such as these, provide preventive services that enhance positive outcomes in these young families and promote better school success and prevention of rapid subsequent pregnancies (secondary teen pregnancy prevention). However, not all teen mothers are able to use school-based services. In some cases cultural expectations or economic stresses within the family may lead to the teen leaving school. Previous patterns of poor school achievement, individual emotional issues in teen mothers, family members with substance abuse problems, or conflicted relationships with key family members may become overwhelming, contributing to outcomes such as incomplete schooling, which then may also be linked with child neglect or abuse, homelessness, rapid subsequent pregnancies, and further problems with depression or substance abuse in the young mother and family. Young women who have left school and their children are more likely to become socially isolated and are less likely to have access to parenting information and support as well as guidance about personal, health, and adolescent issues. These are the young families for which

alternative community-based programs and especially home-visiting based programs can be particularly helpful.

Home Visitation Programs—Programs that bring health, parenting, and mental health services into the homes of teen parents have been linked with positive outcomes over the past several decades, and programs that involve nurses, that begin during pregnancy, and that deliver intensive theoretically sound services to young parents have had some of the most successful outcomes.¹⁵⁸ The Nurse Family Partnership (NFP) model has shown consistent positive findings with at-risk young families with over 20 years of follow-up data and the most promising cost-benefit analyses.^{158–161} Some of the more notable effects of this model have been less reported child abuse and neglect, better parent-child relationships, fewer behavior problems lasting into adolescence, and fewer teen parents in the next generation among the families who received the home visits starting in mid-pregnancy and going through 24 months of the families' first child's life. Other home visiting models that have shown positive outcomes also include Early Head Start¹⁶² and a public health nursing model similar to the NFP; focusing exclusively on teen parents.^{163–164} However, in-home maternal mental health services were not integrated into these models, and there is increasing evidence for this need among teen and older mothers.

The Minding the Baby® (MTB) home visiting program was developed to address maternal mental health concerns as well as the health, parenting, and infant mental health supports developed in previous models.^{54, 165} This program has a nurse practitioner and social worker involved in weekly home visits from mid pregnancy through the child's first birthday, when visits are tapered to every other week until program completion at 24 months. Reflective parenting approaches are central to the program and are integrated with health care and mental health treatment in the home. Preliminary findings from teen parent families in the pilot-testing stages of the program indicate positive outcomes with infant attachment and health, no child protective services involvement, and significantly less rapid subsequent childbearing among teen mothers.^{110, 165, 166}

Adolescent-Friendly Clinical Interventions: Individual Work with Adolescent Parents—Adolescent-friendly clinical care for teen parents and their children involves the same principles and approaches that are effective with all clinical or case management interactions with adolescents, as outlined previously in this chapter. During the many well-baby pediatric visits as well as any urgent care visits, there are several approaches that take into account the teen mother's (and father's if he is involved with caring for the child) developmental issues, family circumstances, and the evidence-based care that is known to be supportive of more positive outcomes (e.g., close follow-up with the teen's reproductive care plan). Adolescent-friendly approaches are possible during all phases of care including clinical interviewing, assessment of support, teaching and coaching, and advocating for individual and community services to support these vulnerable young families.

Assessment

Interviewing an adolescent mother in a well-child visit involves basic adolescent interviewing skills, where the clinician works to help the adolescent feel less nervous, develop trust, and talk about the easy topics (school, family, social history areas) that focus on the parent first before changing the focus to the baby. It is usually helpful to explain the parts of the interview and the well-baby visit as it progresses and for the clinician to briefly orient the teen parent about why the questions are being asked (since often questions related to health or behavior may be heard as being “nosy” or “in my business too much”). Often the clinician has to tactfully handle multigenerational issues between young mothers and grandparents who may also attend pediatric visits and run the risk of monopolizing the visit.

Acknowledging their support and care of the child (and answering their questions), while keeping the focus on the mother and/or father as the child's primary caregiver can be challenging, yet helps to avoid unhealthy alliances among the clinician and other family members. Areas of assessment that are particularly critical to working with teen mothers include finding out about her support system—who is her main helper and how they get along. Additional details that are addressed in the history include the adolescent's school situation including the details of her attendance, child care arrangements for the baby, and her negotiation with her helpers and how that is working for her. Attention should be paid to her relationship with the father of her baby and whether they are still seeing each other, his involvement in the daily life of the baby, as well as the mother's plans for her own sexual health and contraception. Assessment necessarily includes safety issues for the mother and child regarding their housing, environmental concerns (smoking or drugs or guns in the house), and relationships with partners and other household members

Management

Teaching—Teaching during the visit with an adolescent mother and infant should focus on concrete, useful, simple, present-oriented information about her child, health issues, development, and parenting. Use of teachable moments, demonstrations, and modeling parenting behaviors during the visit is optimal as well as asking for and answering the mother's questions with basic information free of medical jargon. Providing anticipatory guidance about child development and age-appropriate expectations with demonstrations, if possible, helps the young mother to begin to understand that her child thinks and reacts differently than she does. Particularly important areas for teaching and reinforcement include infant safety, child-proofing, and discipline. Infant feeding and breastfeeding patterns usually require fairly detailed conversations for adequate assessment of nutrition, growth, and safety (informing the mother about foods that she may like such as hot dogs or chips, etc., which are unsafe for infants and young toddlers).

Ways in which the clinician can make the information “come alive” for the teen parent will add to the effectiveness of anticipatory guidance counseling. In discussing development and behavior, borrowing strategies from infant mental health approaches can be useful in engaging the young mother, for example by taking the perspective of the baby by “... speaking for the baby”¹⁶⁷ also “speaking to the baby for the mother.” Rehearsing or role playing difficult negotiations with family members or outside agencies can be helpful and reassuring to the young mother, as can use of videotaping short mother-child playing, reading, or feeding interactions and watching them together if possible. These are all strategies to make more abstract parenting information and concepts come alive into more useable, concrete information for the teen parent.

Advocacy

Clinical care of teen parents and their families also involves advocacy roles for the clinician. Often teen parents need help with negotiating the complex social and health service systems that they require for themselves or the child and, whenever possible, referrals should be limited to only those that are essential, since teens often have trouble beginning new relationships with adults and learning to trust. Advocacy also involves challenging stereotypes of teen parents as well as educating other health, social service, or policy professionals about the strengths as well as the vulnerabilities of teen parents and the promotion of evidence-based services and programs to prevent adverse outcomes in teen parents and their children. It is often necessary to speak on behalf of teen parents, and explain the benefits of the many support services these young families need in the service of prevention that saves both hardship and dollars over time.

The American Academy of Pediatrics has published a *Model of Pediatric Care for Adolescent Parents and their Children*¹⁶⁸ that covers the essentials of preventive pediatric care for these young families. This model describes care as being family-focused, including contraceptive care/counseling to reduce the risk of rapid subsequent childbearing, using a multidisciplinary model, promoting breastfeeding, encouraging parents to stay in school, monitoring safety and development of both mother and child, and monitoring and encouraging the support/involvement of the grandparents and father.

Central is helping the mother keep herself and her own feelings in mind as she negotiates her adolescent developmental pathway in tandem with the transition to parenthood and the development of a new, complex, and lifelong relationship with her child. Supportive, developmentally-based and teen-friendly parenting programs are critical to the healthy development of young mothers and their babies and may well reduce long-term costs of family distress, disruption, foster placement, and related problems.

Summary

The issues and outcomes regarding adolescents and pregnancy are complex. Clinicians are in a better position to approach these challenges if they understand and appreciate the obstacles that adolescents may face negotiating the health care system. In addition, when clinical services are specifically tailored to the unique needs of this population, fewer opportunities are lost to prevent unintended pregnancies, assist teens into early prenatal care services, and improve outcomes for their pregnancies and the transition to parenthood.

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Case Studies

Case Study 1

A.C. comes to the Adolescent Clinic for a pregnancy test. Her last menstrual period was 35 days ago. She has been sexually active for the past 6 months with one partner and they “usually use condoms.” A.C. is not using any other type of contraception.

1. Is a pregnancy test clinically warranted today? Why or why not?
2. Why would it be important to ask A.C. how her partner would feel about the result of the pregnancy test?
3. What counseling needs to be done prior to the pregnancy test result?
4. In what ways is the management plan similar and different depending on the pregnancy test result?

Case Study 2

T.L. is a 17-year-old who comes to clinic following a positive home pregnancy test. A pregnancy test is done in clinic today by her primary care clinician and it is also positive. By dates and examination, T.L. is 10 weeks’ gestation. When asked what she would like to do regarding the pregnancy, she states, “I’ll most likely keep the baby—I mean I will need to talk to my boyfriend and my mom—but I am pretty sure that is what they will want me to do.”

1. What questions can be asked to determine what T.L. wants regarding the positive pregnancy test?
2. What is the role of the clinician in this situation?
3. What supports are likely to assist T.L. in successfully continuing the pregnancy?
4. Are the dietary requirements similar or different for teens and adults during pregnancy?
5. How would you counsel T.L. to help her to realize the many ways in which becoming a parent and caring for a newborn/young infant would change her daily life?

Review Questions

1. In helping a 15-year-old patient consider her options concerning her positive pregnancy test, it is important to include all of the following clinical approaches *except*:
 - A. counsel her to discuss her pregnancy with her parents.
 - B. counsel her to discuss her pregnancy with her partner.
 - C. help her to arrive at a decision today.
 - D. ask her to make a list of the expenses of having and raising a baby.
 - E. help her to look at the three options and how each would affect her own life goals.
2. Teens with negative pregnancy tests (NPTs):
 - A. are at increased risk for a subsequent pregnancy within 18 months.
 - B. rarely become pregnant within 18 months following the NPT.
 - C. are sufficiently scared by the NPT to begin hormonal contraception.
 - D. are at an increased risk of sexually transmitted infections.
 - E. A and D
3. At the time of a NPT result, the clinician needs to:
 - A. determine the patient's desire for pregnancy versus willingness to consider contraception.
 - B. determine the need for a pelvic examination and STI testing.
 - C. provide contraceptive counseling.
 - D. give the patient condoms.
 - E. all of the above
4. For a teen who is ambivalent about pregnancy, the clinician will:
 - A. discuss the pros and cons of having a baby now.
 - B. have the teen return in 2 weeks for contraceptive counseling.
 - C. convince the teen that having a baby now is a mistake.
 - D. discuss her ambivalence with her boyfriend.
 - E. have the teen return in 2 months for a pelvic examination and sexually transmitted infection (STI) testing.
5. The role of the NP in management plan of a teen with a positive pregnancy test who intends to continue her pregnancy:
 - A. counsel the teen on avoiding alcohol, prescription/illicit drugs, OTC medications, and tobacco.
 - B. write a prescription for prenatal vitamins.
 - C. assist the teen to make a prenatal appointment.
 - D. discuss warning signs like vaginal bleeding and lower abdominal pain.

E. all of the above

TABLE 1**Selected Medications That Are Considered Safe for Use During Pregnancy**

Brand Name	Generic	Dosage	Indication for Use
Tylenol	Acetaminophen	325 mg 2 tabs by mouth every 4 hours. Maximum 12 tabs in 24 hours Or 500 mg (extra strength) 2 tabs by mouth every 6 hours. Maximum 8 tabs in 24 hours	Febrile illness or pain relief
Antacids: Maalox, Riopan, Tums		As directed	Relief of heartburn, indigestion
Benadryl	Diphenhydramine	25–50 mg every 4 to 6 hours by mouth as needed	As an antihistamine, relief of pruritis, allergic rhinitis
Robitussin	Guaifenesin	1 teaspoon every 4 hours by mouth as needed	<u>for cough</u>
Sudafed	Pseudoephedrine HCl	30–60 mg 1 tab by mouth every 8 hr prn	Nasal congestion
Metamucil	Psyllium husk	3.4 grams of powder in 8 oz of liquid by mouth prn	Constipation

Data from Briggs G, Freeman R, Yaffe S eds: *Drugs in pregnancy and lactation : a reference guide to fetal and neonatal risk edition (9th ed.)*, Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 2011.

TABLE 2**Body Mass Index (BMI) and Pregnancy Weight Gain Recommendations**

Classification per the World Health Organization (WHO) and the National Institutes of Health (NIH)	BMI, weight (kg)/height (m²)	Recommended Weight Gain in Pregnancy per Institute of Medicine (IOM) 2009
Underweight	<u><18.5</u>	28–40 lb
Normal	18.5–24.9	25–35 lb
Overweight	25–29.9	15–25 lb
Obesity Class I	30–34.9	11–20 lb
Obesity class II	35–39.9	11–20 lb
Obesity class III	>40	11–20 lb

Adapted from Institute of Medicine: *Weight gain during pregnancy: reexamining the guidelines, report brief* (website). <http://www.iom.edu/CMS/3788/48191/68004.aspx>. Accessed January 22, 2013; World Health Organization: Obesity: preventing and managing a global epidemic, *WHO Organ Tech Rep Serv*, 894:1–4, 2000.

TABLE 3

Adolescent Alcohol, Tobacco and Drug Use

Drug	% Total	% Females
Alcohol: lifetime use	70.8	70.9
Alcohol: current use	38.7	37.9
Episodic heavy alcohol use	21.9	19.8
Cigarette: lifetime use	44.7	42.9
Cigarette: daily use	10.2	9.2
Marijuana: lifetime	39.9	37.2
Marijuana: current use	23.1	20.1
Inhalant (aerosol spray cans, inhaled any paint or spray to obtain a high): lifetime use	11.4	12.3
Hallucinogenic drug (e.g., LSD, acid, PCP, angel dust, mescaline or mushrooms): lifetime use	8.7	5.9
Ecstasy (MDMA): lifetime use	8.2	6.5
Methamphetamine (speed, crystal, crank, or ice): lifetime use	3.8	3.0
Illegal steroids: lifetime use	3.6	2.9
Cocaine: current use	3	1.8
Heroin: lifetime use	2.9	1.8
Illegal injection drug use	2.3	1.6
Prescription drugs without a doctor's permission	20.7	19.8

Lifetime use, Used at least 1 time, on at least 1 day during their lifetime; *Current use*, used at least 1 time on at least 1 day during 30 days before the survey; *Episodic heavy alcohol use*, used drug 5 times in a row (within a couple of hours) on at least 1 day during the 30 days before the survey.

Data from: Centers for Disease Control and Prevention. Youth risk behavior survey, 2011. *MMWR*, 61(4):1–162, 2012. Retrieved from <http://www.cdc.gov/mmwr/pdf/ss/ss6104.pdf>