Addressing the Mental Health Needs of Pregnant and Parenting Adolescents

This is the 2nd in our series on Adolescent Health.

abstract

Adolescent parenthood is associated with a range of adverse outcomes for young mothers, including mental health problems such as depression, substance abuse, and posttraumatic stress disorder. Teen mothers are also more likely to be impoverished and reside in communities and families that are socially and economically disadvantaged. These circumstances can adversely affect maternal mental health, parenting, and behavior outcomes for their children. In this report, we provide an overview of the mental health challenges associated with teen parenthood, barriers that often prevent teen mothers from seeking mental health services, and interventions for this vulnerable population that can be integrated into primary care services. Pediatricians in the primary care setting are in a unique position to address the mental health needs of adolescent parents because teens often turn to them first for assistance with emotional and behavioral concerns. Consequently, pediatricians can play a pivotal role in facilitating and encouraging teen parents' engagement in mental health treatment. *Pediatrics* 2014;133:114–122

AUTHORS: Stacy Hodgkinson, PhD, Lee Beers, MD, Cathy Southammakosane, MD, and Amy Lewin, PsyD

Children's National Medical Center, Washington, District of Columbia

KEY WORDS

teen pregnancy, teen parenting, mental health, mental health interventions

ABBREVIATION

AAP—American Academy of Pediatrics

Dr Hodgkinson drafted sections of the manuscript and arranged and edited contributions prepared by the coauthors; Drs Beers and Southammakosane drafted sections of the manuscript and reviewed and revised the manuscript; Dr Lewin drafted sections of the manuscript and critically reviewed and edited the manuscript; and all authors approved the final manuscript as submitted.

www.pediatrics.org/cgi/doi/10.1542/peds.2013-0927

doi:10.1542/peds.2013-0927

Accepted for publication Aug 29, 2013

Address correspondence to Stacy Hodgkinson, PhD, Diana L. and Stephen A. Goldberg Center for Community Pediatric Health, Children's National Medical Center, 111 Michigan Ave NW, Washington, DC 20010. E-mail: shodgkin@childrensnational.org

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this manuscript to disclose.

FUNDING: The preparation of this manuscript was supported by the National Institute on Minority Health and Health Disparities (NIMHD) of the National Institutes of Health, under award 5P20MD000198. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. Funded by the National Institutes of Health (NIH).

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

Adolescent childbearing is a remarkably common occurrence in the United States, seen across all geographic, racial, ethnic, and socioeconomic groups. Medical providers often struggle to provide comprehensive care to young families, many of whom face a wide variety of barriers to optimal health and development. Because teen mothers often face significant environmental and psychosocial stressors and are at risk for a number of mental health concerns that can affect them and their children, primary care for young mothers and their children must include attention to these problems. Indeed, in recent years there has been a growing call for pediatric primary care providers to become more engaged in the early detection and treatment of mental health concerns in the primary care setting, and models of integration have been developed and disseminated.[1,2] Additionally, the prevalence and implications of postpartum depression have garnered significant attention in the fields of clinical medicine and public health, leading to advocacy for maternal mental health screening during the infant's well child visits.[3–6] This increasing attention to the need for mental health awareness, assessment, and management within primary care is very relevant for clinicians caring for adolescent mothers and has driven the development of this review.

This article summarizes the current literature on the prevalence and severity of mental health disorders in adolescent mothers, barriers to care, and recommendations for interventions that address the mental health needs of this vulnerable population. Although the mental health of teen fathers also has an important influence on fathers, mothers, and children, there is little research on the mental health of adolescent fathers. Thus, for the purpose of this review we will focus on teen mothers, but we strongly encourage the field to investigate the mental health needs of young fathers also.

PREVALENCE OF MENTAL HEALTH CONCERNS AMONG TEEN MOTHERS

In addition to navigating the developmental tasks of adolescence, teenage mothers must also adjust to the responsibilities and demands of parenting, often in the context of economic and social disadvantage. Such stressors may contribute to a range of mental health problems that can adversely affect the functioning and parenting behavior of adolescent mothers and increase the risk of behavioral problems in their offspring.

A number of studies suggest that adolescent mothers experience significantly higher rates of depression, both prenatally and postpartum, than adult mothers and their nonpregnant peers.[7–11] Among adolescent mothers, rates of depression are estimated to be between 16% and 44%. In contrast, the lifetime prevalence of major depression among nonpregnant adolescents and adult women is between 5% and 20%.[9] Depression symptoms among young mothers are also more likely to persist well after the birth of their child.[12] Although there are few prospective, longitudinal studies on the long-term mental health outcomes of adolescent mothers, 1 study of African American adult women who became mothers during adolescence found a twofold increase in depression 20 years after the birth of their first child.[13]

Completed suicides are rare among pregnant women, but the few studies that exist in this area suggest that adolescent mothers may be at elevated risk for suicidal ideation. Approximately 19% of all 15- to 19-year-olds report having thoughts of suicide, and ~9% have made a suicide attempt.[14] The few available studies of suicidality in adolescent mothers found rates ranging from 11% to 30%.[15,16]

Early childbearing is also associated with an elevated risk of substance abuse. Estimates of drug use among pregnant adolescents range from 11% to 52%.[17,18] However, these rates may be an underestimate because it is not uncommon for pregnant women to underreport their drug use to medical providers and on self-report surveys.[19,20] Studies have found that substance use among pregnant adolescent women often declines during pregnancy but then resumes after delivery and continues well into adulthood,[21,22] coinciding with the chronic and persistent mood symptoms described in this population.

Teen mothers are also at risk for developing symptoms of posttraumatic stress disorder, mainly because of their high risk for community and interpersonal violence exposure.[23,24] One study found that on average, teenage mothers had experienced >5 traumatic events, including physical attacks by a partner, neglect, abuse by a parent, incarceration, and traumatic loss. Almost 50% of the adolescent parents in this study met full criteria for posttraumatic stress disorder.[25] Compared with adult mothers, adolescent mothers are 2 to 3 times more likely to be victimized by their partner, the father of their child, or a family member.[26,27]

Although adolescent childbearing is associated with an elevated risk of adverse mental health outcomes,[28,29] there is significant variability in outcomes for individual families. The majority of teen mothers and their children can have positive outcomes equal to those of their peers who bear children later, particularly when they are provided with strong social and functional supports. Therefore, primary care and other interventions for

adolescent families should maintain a strength-based focus.[30]

UNDERSTANDING THE RELATIONSHIP BETWEEN TEEN MOTHERHOOD AND MENTAL HEALTH

The direction of causality in the relationship between teen parenthood and mental health problems is complex and not elucidated by existing research. Adolescent mothers are more likely to be poor and disproportionately African American and Latina, live in low-income communities, be born to parents with low educational and employment attainment, have a history of child abuse, reside in chaotic home environments characterized by poor interpersonal relationships, and have limited social support networks.[24,31,32] These are also factors that have been strongly and independently associated with adverse mental health outcomes.[12,24,31–33] Additionally, the stressors of caring for an infant may exacerbate the psychological distress experienced by young mothers. Thus, it is unclear whether the stressors and experiences of early childbearing lead to mental health problems or whether the mental health outcomes among adolescent mothers are a result of the adverse life circumstances that often precede and predict teen pregnancy.

In studies examining the influence of sociodemographic factors on outcomes, the association between early parenting and adverse mental health was either diminished or no longer significant once potentially confounding factors such as socioeconomic status, parental education, and family functioning (eg, abuse history, parental mental health history, single-parent household) were controlled.[6,12,28,33] It is important to note that these studies were conducted with aggregated data, and although there is a significantly greater risk for mental health difficulties among adolescent mothers, not all adolescent mothers have mental health problems. Additional research is needed to explain these variations in mental health outcomes among teenage mothers.

Mental Health and Parenting Behavior

Abundant research links maternal depression and other forms of distress to impairments in parenting and to problem behavior in children.[34–39] The impact of maternal mental health on parenting and child behavior is often understood through the lens of attachment theory,[40] which posits that infants develop expectations about the availability and responsiveness of their caregivers based on repeated experiences with them. Numerous studies have found an association between maternal depression and insecure attachment in young children.[41–45] Because adolescent mothers, more often than adult mothers, may lack the cognitive or social–emotional resources to provide the sensitive and responsive parenting necessary for a secure attachment,[46] pediatricians working with adolescent mothers should attempt to assess and foster attachment behaviors in the context of well child care and anticipatory guidance.

A positive and supportive relationship between the teen mom and her mother and the infant's father has been repeatedly found to be a protective factor for teen mothers and their children.[28,35,47] Thus, pediatricians may also use their contact with a child's father or grandmother to foster the quality of these important relationships and to talk with teen mothers about these relationships and their potential for support.

Mental Health Service Use Among Teen Mothers

There are few data on mental health service use among pregnant and parenting adolescents. Available data on mental health service use among low-income women in general and families from diverse ethnic backgrounds suggest that vulnerable groups, such as teenage mothers, face significant barriers in accessing mental health services.

Up to 50% of pediatric visits address some behavioral or psychosocial concern.[48] However, of the 15 million children and adolescents with a diagnosed mental health disorder, 25% or less receive ongoing mental health services.[49] Rates are often much lower for youth who are poor, of ethnic minority status, or from disadvantaged backgrounds.[50,51]

Youth and families from impoverished communities face many barriers to treatment, which may explain the disparities in access to mental health care. First, mental health services in urban and rural communities are often inadequate or insufficient to meet the mental health needs of low-income youth, particularly those from families that rely on public or community-based health care services. As a result, many youth receive mental health services in the primary care setting; however, primary care providers vary in their expertise and ability to treat mental health disorders in adolescents.[50,51] Lack of insurance, time availability, and transportation, which are especially salient issues for teenage parents, may also impede access to mental health services. Although some states allow adolescents to consent for mental health care, teens may still refuse or avoid services out of fear that their parent or guardian will discover their help seeking.[52] The structure of mental health appointments may also be a barrier. Teenage parents may be more likely to engage in treatment when appointments are flexible and accommodating to their school schedules and allow them to discuss

their problems at their own pace, instead of through an intake process that can appear intrusive and insensitive.[25]

Given that teenage parents are disproportionately African American or Latino, physicians should consider some of the factors that may affect mental health service use in these groups, particularly African Americans. Available studies suggest that African Americans are at greater risk of underusing mental health services than other racial and ethnic groups. In some studies, African American mothers were half as likely to use mental health services, and when they did engage in mental health treatment, they received fewer sessions and were more likely to terminate services prematurely.[53,54] This is consistent with more widespread data on African American disparities in medical care in general.[55] In addition to these obstacles to care, there are additional access considerations for African Americans such as trust, privacy and safety concerns, and perceptions of low participation in decision-making. Specific to mental health treatment, greater pessimism about antidepressant and psychotherapeutic efficacy, preference for care by a professional of the same race or ethnicity, greater value of spiritual factors, and greater concern for stigma are also salient factors.[56–60]

Unfortunately, need does not correlate with service use; however, linkage to gateway agencies can be an important facilitator of service access and use.[61] Effective gateway agencies include schools, churches, and juvenile justice agencies. For example, many school districts have mental health providers that can serve as critical point people in identifying and treating mental health problems.[62] There is evidence for success of 1 school-based program for teen mothers that included access to a school social worker, weekly peer groups, and direct coordination with the teen's primary care provider. Notable mental health outcomes of participants in this program included greater motivation and hopefulness.[63]

The adolescent parent's pediatrician also has the potential to be an important gateway to mental health care. There is abundant and ongoing evidence for successful mental health integration in the primary care office. Existing models for collaborative care include colocated pediatricians and child psychiatrists or psychologists; telephone mental health consultation services, including telepsychiatry (staffed by child psychiatrists, psychologists, social workers, or mental health coordinators); formal cross-educational sessions between mental health clinicians and pediatricians; and implementation of care managers on site.[64–71] Pediatricians who do not have colocated mental health services can support teen mothers with mental health needs by facilitating referrals to gateway organizations, such as the department of health, outpatient mental health programs, and community-based organizations with wraparound services that include mental health care.

Although these models of care are not tailored solely to adolescent parents, 1 program described in the literature offers a comprehensive service delivery model. A multidisciplinary team of clinicians (eg, obstetrician–gynecologist, pediatrician, social worker, and health educator) are colocated in a multiservice center that also includes social service agencies.[72] Adolescent parent participants had more regular clinic attendance; had better health outcomes (as did their offspring); were more consistent in their use of contraception, with lower repeat pregnancy rates; and had better school attendance and matriculation rates. Expansion of such a program to include mental health services would improve access to mental health care.

MENTAL HEALTH SCREENING IN TEEN MOTHERS

Although the critical significance of mental health screening in the pediatrician's office has recently gained attention in the field, there is a dearth of literature on mental health screening of adolescent mothers.[73] However, the evidence to date suggests the utility of in-office screening of all adolescents with various mental health screening tools (eg, Diagnostic Predictive Scales–8, Columbia Depression Scale, and select items from the Youth Risk Behavior Survey, Center for Epidemiologic Studies Depression Scale for Children, Beck Depression Inventory, and Postpartum Depression Screening Scale).[74–76] Furthermore, mental health screening of mothers at pediatricians' offices during infants' well child visits is a stated concern of the American Academy of Pediatrics (AAP) Task Force on the Family and Bright Futures and has been found feasible and effective with various mental health screening measures, such as the Edinburgh Postnatal Depression Scale and the Patient Health Questionnaire.[3–6,77–79] This emerging evidence suggests the great potential for effective mental health screening of teen mothers.

MENTAL HEALTH INTERVENTIONS FOR TEEN MOTHERS

Mental health interventions targeting adolescent parents are limited. In our review of the literature on mental health interventions relevant to teen mothers, we found that interventions are typically nontraditional and integrated into other settings, primarily primary care or other clinical contexts, home visits, and schools. We focused our review on interventions delivered in the home and in the primary care setting, because

they would be most relevant to primary care physicians. Specific interventions discussed in each category were selected if they had empirical support and published findings. Emergent interventions and practice guidelines are also discussed.

Pediatric Primary Care: The Pediatrician's Role

The role of the primary care physician in directly addressing the mental health needs of teen mothers has not been rigorously studied. However, the AAP has highlighted the critical role of pediatric providers and provided practice guidelines. By establishing rapport; assessing mental health concerns, providing individual or group-based counseling around parental stress, positive parenting techniques and infant care and development, and facilitating referrals to services in the community, physicians can help address the mental health concerns of adolescent mothers.[80]

General Mental Health Interventions in the Medical Setting

Mental health interventions for children and adolescents administered in the general medical setting are scarcely described in the literature; 1 study described mental health training for nurses in a practice over 4 months with additional ongoing supervision. The nurses provided psychoeducation and brief therapy and collaborated with school and community mental health resources.[81] The pediatric participants receiving the study intervention experienced greater access to and completion of mental health care compared with control patients receiving usual care. Another successful trial involving adolescent subjects implemented clinician-administered motivational interviewing in the office and referral to an Internet cognitive behavioral therapy program.[82] Engagement in the Internet program was substantial, and participants experienced a reduction in thoughts of self-harm, hopelessness, and depression. Yet another study reported the benefits of motivational interviewing in the emergency department to target adolescent alcohol abuse.[83] Motivational interviewing is a recent, rapidly expanding intervention focused on increasing motivation for change by working through ambivalence. The interview may be brief, $<$45 minutes, with a conversational and collaborative approach. The ultimate goal of this intervention is to effect behavioral change.[84]

With regard to general interventions for teen mothers, 1 study described the benefits of scheduled social work visits during clinical appointments, waiting room education, clinician inquiries into education and family planning, and regular appointment reminder calls and letters. Teen dropout and repeat pregnancy rates and infant immunization rates and emergency department usage were all improved compared to a control group.[85] Again, modification of such a program to more specifically include attention to mental health could optimize the psychological well-being of adolescent mothers.

Pediatric Primary Care: The Teen–Tot Model

The core component of the Teen–Tot model is the provision of comprehensive primary care for both teen parents and their children together in the medical home. In this model, case management, social work, and mental health services are also integrated into medical care visits. The interdisciplinary team assists adolescent-headed families in accessing needed community-based services and teaches and empowers them to access such resources themselves. By doing this work in the context of an ongoing relationship, the team is also providing empathy, support, and modeling of parenting and healthy relationships. The team also facilitates the involvement of a mental health professional when more substantial intervention is needed (eg, in cases of trauma or interpersonal partner violence). Ideally, the mental health providers would be colocated in the primary care setting so that they are available during clinic sessions, can interact with families, and can have regular contact with the clinic staff. A rigorous evaluation of the Teen–Tot model, including its effectiveness at addressing the mental health needs of adolescent mothers, is being conducted by the authors. The few preliminary studies of the model have found declines in the number of repeat pregnancies and more positive outcomes in education for teen mothers and infant health.[86,87]

Home Visiting

As early as 1975, Selma Fraiberg and colleagues[88] first described a home-based intervention with mothers and infants in which the mother's own childhood experiences of trauma, deprivation, or conflict limited her ability to psychologically provide competent care to her child. Although mental health services are not a primary focus of most current home visiting interventions, Fraiberg's theory suggests that the relationship between the home visitor and the mother is an important influence on the mother's mental health. The home visitor engages and gains the trust of the teen parent by being empathic and attentive to her emotional and concrete needs, which enables the mother to better attend to those needs in her child. The home visitor also serves as a model for the mother, teaching her experientially and didactically about the importance of

empathy, support, and appropriate limit setting.

The best-known and most rigorously evaluated home visitation program was developed and studied by David Olds and colleagues.[89] The Nurse Home Visitation Program provided regular home visits by nurses to a group of largely poor unmarried mothers (approximately half were adolescents) before and after the birth of their first child. Fifteen years later the women receiving this intervention had fewer subsequent pregnancies and births, less time on welfare, fewer arrests, fewer problems resulting from substance abuse, and fewer substantiated reports of child abuse and neglect compared with a control group.[89–92]

Numerous other home visiting programs, including Healthy Start and Healthy Families America, have been implemented and evaluated with a range of at-risk mothers and young children, with mixed results. It is noteworthy that these programs have generally demonstrated their greatest benefits for low-income, first-time adolescent mothers.[93]

Coparenting

Two interventions to strengthen positive coparenting in teen parents have been developed and implemented collaboratively with health care providers. The Young Parenthood Program[94] is a 10-session intervention for individual teen parent couples focused on building communication, self-regulation, and other interpersonal skills related to coparenting. More positive parenting was observed among fathers who participated in this intervention than among those in a control condition.[94] Strong Foundations[95] is an intervention that includes 5 prenatal group sessions for expectant adolescent couples followed by 9 individual postpartum sessions integrated into well child pediatric visits during the child's first year. Sessions teach communication and conflict management skills and work toward developing an identity as a coparenting team. Strong Foundations outcome data have not yet been published. Because resources such as these are rare in most communities, providers should be alert to the coparenting relationship and sensitive to ways in which they can provide support and encouragement for young parents to work together, regardless of the status of their romantic relationship.

CONCLUSIONS AND RECOMMENDATIONS FOR PEDIATRIC PROVIDERS

The pediatric primary care setting is a universal, nonstigmatizing source of services to teen mothers and their children. As such, it is likely to be the first place teen mothers turn for assistance with mental health concerns, and there are a number of ways in which pediatricians can facilitate or directly address mental health needs. Not all young mothers will be able to articulate their experiences and concerns directly to providers. Therefore, pediatricians must also spend time during primary care visits to assess the psychological and emotional well-being of both mother and child. Such an assessment does not have to be a lengthy, formal clinical evaluation. Rather, regular use of brief and effective screening tools is an efficient means of eliciting information and initiating conversations about mothers' stressors, symptoms of depression, history of trauma, and experiences in parenting.

The pediatrician's ability to establish relationships with teen mothers and appropriately refer to community mental health agencies, including home visiting programs, schools, and other agencies providing services to adolescent parents, is critical to service use and optimization of care for adolescent mothers and their children. Furthermore, when pediatricians directly facilitate and encourage access to mental health services, mothers are more likely to use them.[50]

Perhaps the best method for engaging teen mothers in behavioral health services is to integrate them directly into a primary care setting with a multidisciplinary treatment team. Mothers who are reluctant to seek services for themselves might be more amenable to dyadic work with a focus on their child. If mothers are not interested in meeting with a mental health professional or one is not available in a community, pediatric providers who do not have specific mental health training can provide important assistance and meaningful support to young mothers who are isolated or lack models of positive coping skills. Primary care providers can offer parent coaching and education and facilitate mothers' ability to seek positive support from others in their lives and community.

This article is intended to augment the AAP's "Clinical Report: Care of Adolescent Parents and Their Children," which highlights the responsibilities of the pediatrician in the medical home to include anticipatory guidance, knowledge of community resources, mental health screening, and advocacy.[80] Because a full review and discussion of the pediatrician's role in mental health care are beyond the scope of this article, the reader is also directed to the AAP for resources and practice parameters on improving mental health care in pediatric practice.[80,96–101]

There remains a need for a broad range of research to more fully elucidate how pediatricians can contribute to improved mental health outcomes for teen mothers and their children. In addition, other factors influencing mental health warrant investigation. The role of grandmothers, other family

members, and young fathers in the lives of teen mothers and their children is complex and not well understood. Future research should specifically work to clarify causal relationships and identify modifiable factors that influence outcomes. Finally, research is needed to elucidate the effectiveness of different forms of intervention for this population. Standards of care for teen parents and their children have not been established.

REFERENCES

1. Keller D, Sarvet B. Is there a psychiatrist in the house? Integrating child psychiatry into the pediatric medical home. *J Am Acad Child Adolesc Psychiatry.* 2013;52(1):3–5
2. Sarvet B, Gold J, Straus JH. Bridging the divide between child psychiatry and primary care: the use of telephone consultation within a population-based collaborative system. *Child Adolesc Psychiatr Clin N Am.* 2011;20(1):41–53
3. Chaudron LH, Szilagyi PG, Kitzman HJ, Wadkins HI, Conwell Y. Detection of postpartum depressive symptoms by screening at well-child visits. *Pediatrics.* 2004;113(3 pt 1):551–558
4. Feinberg E, Smith MV, Morales MJ, Claussen AH, Smith DC, Perou R. Improving women's health during internatal periods: developing an evidenced-based approach to addressing maternal depression in pediatric settings. *J Womens Health (Larchmt).* 2006;15(6):692–703
5. Olson AL, Kemper KJ, Kelleher KJ, Hammond CS, Zuckerman BS, Dietrich AJ. Primary care pediatricians' roles and perceived responsibilities in the identification and management of maternal depression. *Pediatrics.* 2002;110(6):1169–1176
6. Patel PH, Sen B. Teen motherhood and long-term health consequences. *Matern Child Health J.* 2012;16(5):1063–1071
7. Hodgkinson SC, Colantuoni E, Roberts D, Berg-Cross L, Belcher HM. Depressive symptoms and birth outcomes among pregnant teenagers. *J Pediatr Adolesc Gynecol.* 2010;23(1):16–22
8. Kessler RC, Walters EE. Epidemiology of DSM-III-R major depression and minor depression among adolescents and young adults in the National Comorbidity Survey. *Depress Anxiety.* 1998;7(1):3–14
9. Kessler RC. Epidemiology of women and depression. *J Affect Disord.* 2003;74(1):5–13
10. Schoenbach VJ, Garrison CZ, Kaplan BH. Epidemiology of adolescent depression. *Public Health Rev.* 1984;12(2):159–189
11. Troutman BR, Cutrona CE. Nonpsychotic postpartum depression among adolescent mothers. *J Abnorm Psychol.* 1990;99(1):69–78
12. Boden JM, Fergusson DM, John Horwood L. Early motherhood and subsequent life outcomes. *J Child Psychol Psychiatry.* 2008;49(2):151–160
13. Deal LW, Holt VL. Young maternal age and depressive symptoms: results from the 1988 National Maternal and Infant Health Survey. *Am J Public Health.* 1998;88(2):266–270
14. Dopheide JA. Recognizing and treating depression in children and adolescents. *Am J Health Syst Pharm.* 2006;63(3):233–243
15. Bayatpour M, Wells RD, Holford S. Physical and sexual abuse as predictors of substance use and suicide among pregnant teenagers. *J Adolesc Health.* 1992;13(2):128–132
16. Liu LL, Slap GB, Kinsman SB, Khalid N. Pregnancy among American Indian adolescents: reactions and prenatal care. *J Adolesc Health.* 1994;15(4):336–341
17. Ebrahim SH, Gfroerer J. Pregnancy-related substance use in the United States during 1996–1998. *Obstet Gynecol.* 2003;101(2):374–379
18. Teagle SE, Brindis CD. Substance use among pregnant adolescents: a comparison of self-reported use and provider perception. *J Adolesc Health.* 1998;22(3):229–238
19. Kokotailo PK, Adger H Jr, Duggan AK, Repke J, Joffe A. Cigarette, alcohol, and other drug use by school-age pregnant adolescents: prevalence, detection, and associated risk factors. *Pediatrics.* 1992;90(3):328–334
20. Ostrea EM Jr, Brady M, Gause S, Raymundo AL, Stevens M. Drug screening of newborns by meconium analysis: a large-scale, prospective, epidemiologic study. *Pediatrics.* 1992;89(1):107–113
21. Gilchrist LD, Hussey JM, Gillmore MR, Lohr MJ, Morrison DM. Drug use among adolescent mothers: prepregnancy to 18 months postpartum. *J Adolesc Health.* 1996;19(5):337–344
22. Gillmore MR, Gilchrist L, Lee J, Oxford ML. Women who gave birth as unmarried adolescents: trends in substance use from adolescence to adulthood. *J Adolesc Health.* 2006;39(2):237–243
23. Kennedy AC, Bennett L. Urban adolescent mothers exposed to community, family, and partner violence: is cumulative violence exposure a barrier to school performance and participation? *J Interpers Violence.* 2006;21(6):750–773
24. Mitchell SJ, Lewin A, Horn IB, Valentine D, Sanders-Phillips K, Joseph JG. How does violence exposure affect the psychological health and parenting of young African-American mothers? *Soc Sci Med.* 2010;70(4):526–533
25. Leplatte D, Rosenblum KL, Stanton E, Miller N, Muzik M. Mental health in primary care for adolescent parents. *Ment Health Fam Med.* 2012;9(1):39–45
26. Gessner BD, Perham-Hester KA. Experience of violence among teenage mothers in Alaska. *J Adolesc Health.* 1998;22(5):383–388
27. Wiemann CM, Agurcia CA, Berenson AB, Volk RJ, Rickert VI. Pregnant adolescents: experiences and behaviors associated with physical assault by an intimate partner. *Matern Child Health J.* 2000;4(2):93–101
28. Lewin A, Mitchell SJ, Ronzio CR. Developmental differences in parenting behavior: comparing adolescent, emerging adult, and adult mothers. *Merrill-Palmer Q.* 2013;59(1):23–49
29. Savio Beers LA, Hollo RE. Approaching the adolescent-headed family: a review of teen parenting. *Curr Probl Pediatr Adolesc Health Care.* 2009;39(9):216–233
30. Klein JD; American Academy of Pediatrics Committee on Adolescence. Adolescent pregnancy: current trends and issues. *Pediatrics.* 2005;116(1):281–286
31. Irvine H, Bradley T, Cupples M, Boohan M. The implications of teenage pregnancy and motherhood for primary health care:

unresolved issues. *Br J Gen Pract*. 1997;47 (418):323–326

32. Woodward L, Fergusson DM, Horwood LJ. Risk factors and life processes associated with teenage pregnancy: results of a prospective study from birth to 20 years. *J Marriage Fam*. 2001;63(4):1170–1184
33. Crosier T, Butterworth P, Rodgers B. Mental health problems among single and partnered mothers. The role of financial hardship and social support. *Soc Psychiatry Psychiatr Epidemiol*. 2007;42(1):6–13
34. Cox JE, Buman M, Valenzuela J, Joseph NP, Mitchell A, Woods ER. Depression, parenting attributes, and social support among adolescent mothers attending a teen tot program. *J Pediatr Adolesc Gynecol*. 2008;21(5):275–281
35. Black MM, Papas MA, Hussey JM, Dubowitz H, Kotch JB, Starr RH Jr. Behavior problems among preschool children born to adolescent mothers: effects of maternal depression and perceptions of partner relationships. *J Clin Child Adolesc Psychol*. 2002;31(1):16–26
36. Knoche LL, Givens JE, Sheridan SM. Risk and protective factors for children of adolescents: maternal depression and parental sense of competence. *J Child Fam Stud*. 2007;16:684–695
37. Pilowsky DJ, Wickramaratne PJ, Rush AJ, et al. Children of currently depressed mothers: a STAR*D ancillary study. *J Clin Psychiatry*. 2006;67(1):126–136
38. Spieker SJ, Larson NC, Lewis SM, Keller TE, Gilchrist L. Developmental trajectories of disruptive behavior problems in preschool children of adolescent mothers. *Child Dev*. 1999;70(2):443–458
39. Weissman MM, Feder A, Pilowsky DJ, et al. Depressed mothers coming to primary care: maternal reports of problems with their children. *J Affect Disord*. 2004;78(2): 93–100
40. Bowlby J. *Attachment and Loss*. New York, NY: Basic Books; 1969
41. Campbell SB, Brownell CA, Hungerford A, Spieker SI, Mohan R, Blessing JS. The course of maternal depressive symptoms and maternal sensitivity as predictors of attachment security at 36 months. *Dev Psychopathol*. 2004;16(2):231–252
42. Cicchetti D, Rogosch FA, Toth SL. Maternal depressive disorder and contextual risk: contributions to the development of attachment insecurity and behavior problems in toddlerhood. *Dev Psychopathol*. 1998;10(2):283–300
43. Cicchetti D, Toth SL, Rogosch FA. The efficacy of toddler–parent psychotherapy to increase attachment security in offspring of depressed mothers. *Attach Hum Dev*. 1999;1(1):34–66
44. Coyl DD, Roggman LA, Newland LA. Stress, maternal depression, and negative mother–infant interactions in relation to infant attachment. *Infant Ment Health J*. 2002;23(1–2):145–163
45. Teti DM, Gelfand DM, Messinger DS, Isabella R. Maternal depression and the quality of early attachment: an examination of infants, preschoolers, and their mothers. *Dev Psychol*. 1995;31(3):364–376
46. Flaherty SC, Sadler LS. A review of attachment theory in the context of adolescent parenting. *J Pediatr Health Care*. 2011;25(2):114–121
47. Sellers K, Black MM, Boris NW, Oberlander SE, Myers L. Adolescent mothers' relationships with their own mothers: impact on parenting outcomes. *J Fam Psychol*. 2011;25(1):117–126
48. Weitzman CC, Leventhal JM. Screening for behavioral health problems in primary care. *Curr Opin Pediatr*. 2006;18(6):641–648
49. Masi R, Cooper J. *Children's Mental Health: Facts for Policymakers*. New York, NY: National Center for Children in Poverty, Mailman School of Public Health, Columbia University; 2006
50. Murry VM, Heflinger CA, Suiter SV, Brody GH. Examining perceptions about mental health care and help-seeking among rural African American families of adolescents. *J Youth Adolesc*. 2011;40(9):1118–1131
51. Rosen D, Tolman RM, Warner LA, Conner K. Racial differences in mental health service utilization among low-income women. *Soc Work Public Health*. 2007;23(2–3):89–105
52. English A, Kenney K. *State Minor Consent Laws: A Summary, 2*. Chapel Hill, NC: Center for Adolescent Health and the Law; 2003
53. Crow MR, Smith HL, McNamee AH, Piland NF. Considerations in predicting mental health care use: implications for managed care plans. *J Ment Health Adm*. 1994;21 (1):5–23
54. Wierzbicki M, Pekarik G. A meta-analysis of psychotherapy dropout. *Prof Psychol Res Pr*. 1993;24(2):190–195
55. Institute of Medicine. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare*. Washington, DC: Institute of Medicine; 2002
56. Boulware LE, Cooper LA, Ratner LE, LaVeist TA, Powe NR. Race and trust in the health care system. *Public Health Rep*. 2003;118 (4):358–365
57. Cooper-Patrick L, Powe NR, Jenckes MW, Gonzales JJ, Levine DM, Ford DE. Identification of patient attitudes and preferences regarding treatment of depression. *J Gen Intern Med*. 1997;12(7):431–438
58. Cooper-Patrick L, Gallo JJ, Powe NR, Steinwachs DM, Eaton WW, Ford DE. Mental health service utilization by African Americans and whites: the Baltimore Epidemiologic Catchment Area Follow-Up. *Med Care*. 1999;37(10):1034–1045
59. Cooper LA, Gonzales JJ, Gallo JJ, et al. The acceptability of treatment for depression among African-American, Hispanic, and white primary care patients. *Med Care*. 2003;41(4):479–489
60. Millet PE, Sullivan BF, Schwebel AI, Myers LJ. Black Americans' and white Americans' views of the etiology and treatment of mental health problems. *Community Ment Health J*. 1996;32(3):235–242
61. Sarri R, Philips A. Health and social services for pregnant and parenting high risk teens. *Child Youth Serv Rev*. 2004;26 (6):537–560
62. Cornell KH, Lucio R. The role of school mental health services in addressing adolescent pregnancy. *Adv Sch Ment Health Promot*. 2010;3(3):36–47
63. Key JD, Gebregziabher MG, Marsh LD, O'Rourke KM. Effectiveness of an intensive, school-based intervention for teen mothers. *J Adolesc Health*. 2008;42(4):394–400
64. Gabel S. The integration of mental health into pediatric practice: pediatricians and child and adolescent psychiatrists working together in new models of care. *J Pediatr*. 2010;157(5):848–851
65. Gabel S. Innovations in practice: child and adolescent psychiatrists and primary care—innovative models of consultation in the United States. *Child Adolesc Ment Health*. 2012;17(4):252–255
66. Goodrich DE, Kilbourne AM, Nord KM, Bauer MS. Mental health collaborative care and its role in primary care settings. *Curr Psychiatry Rep*. 2013;15(8):383
67. Williams J, Shore SE, Foy JM. Co-location of mental health professionals in primary care settings: three North Carolina models. *Clin Pediatr*. 2006;45(6):537–543
68. Knapp PK, Foy JM. Integrating mental health care into pediatric primary care settings. *J Am Acad Child Adolesc Psychiatry*. 2012;51(10):982–984
69. Myers KM, Valentine JM, Melzer SM. Feasibility, acceptability, and sustainability of telepsychiatry for children and adolescents. *Psychiatr Serv*. 2007;58(11):1493–1496

70. Spenser HR, Gillies A, Maysenhoelder H. The CHAT project: paediatricians and mental health clinicians: working together for the sake of the children. *J Can Acad Child Adolesc Psychiatry*. 2009;18(2):110–116
71. Ward-Zimmerman B, Cannata E. Partnering with pediatric primary care: lessons learned through collaborative colocation. *Prof Psychol Res Pr*. 2012;43(6):596–605
72. Card JJ, Benner TA. *Model Programs for Adolescent Sexual Health: Evidence-Based HIV, STI, and Pregnancy Prevention Interventions*. New York, NY: Springer Publishing Company; 2008
73. Foy JMAmerican Academy of Pediatrics Task Force on Mental Health. The case for routine mental health screening. *Pediatrics*. 2010;125(suppl 3):S133–S139
74. Husky MM, Miller K, McGuire L, Flynn L, Olfson M. Mental health screening of adolescents in pediatric practice. *J Behav Health Serv Res*. 2011;38(2):159–169
75. Stevens J, Kelleher KJ, Gardner W, et al. Trial of computerized screening for adolescent behavioral concerns. *Pediatrics*. 2008;121(6):1099–1105
76. Zuckerbrot RA, Maxon L, Pagar D, Davies M, Fisher PW, Shaffer D. Adolescent depression screening in primary care: feasibility and acceptability. *Pediatrics*. 2007;119(1):101–108
77. Schor EL; American Academy of Pediatrics Task Force on the Family. Family pediatrics: report of the Task Force on the Family. *Pediatrics*. 2003;111(suppl 2):1541–1571
78. Liberto TL. Screening for depression and help-seeking in postpartum women during well-baby pediatric visits: an integrated review. *J Pediatr Health Care*. 2012;26(2):109–117
79. Olson AL, Dietrich AJ, Prazar G, et al. Two approaches to maternal depression screening during well child visits. *J Dev Behav Pediatr*. 2005;26(3):169–176
80. Pinzon JL, Jones VF. Care of adolescent parents and their children. *Pediatrics* 2012;130(6). Available at: www.pediatrics.org/cgi/content/full/130/6/e1743
81. Kolko DJ, Campo JV, Kelleher K, Cheng Y. Improving access to care and clinical outcome for pediatric behavioral problems: a randomized trial of a nurse-administered intervention in primary care. *J Dev Behav Pediatr*. 2010;31(5):393–404
82. Van Voorhees BW, Fogel J, Reinecke MA, et al. Randomized clinical trial of an Internet-based depression prevention program for adolescents (Project CATCH-IT) in primary care: 12-week outcomes. *J Dev Behav Pediatr*. 2009;30(1):23–37
83. Segatto ML, Andreoni S, de Souza e Silva R, Diehl A, Pinsky I. Brief motivational interview and educational brochure in emergency room settings for adolescents and young adults with alcohol-related problems: a randomized single-blind clinical trial. *Rev Bras Psiquiatr*. 2011;33(3):225–233
84. Naar-King S, Suarez M. *Motivational Interviewing With Adolescents and Young Adults*. New York, NY: Guilford Press; 2011
85. O'Sullivan AL, Jacobsen BS. A randomized trial of a health care program for first-time adolescent mothers and their infants. *Nurs Res*. 1992;41(4):210–215
86. Akinbami LJ, Cheng TL, Kornfeld D. A review of teen–tot programs: comprehensive clinical care for young parents and their children. *Adolescence*. 2001;36(142):381–393
87. Omar HA, Fowler A, McClanahan KK. Significant reduction of repeat teen pregnancy in a comprehensive young parent program. *J Pediatr Adolesc Gynecol*. 2008;21(5):283–287
88. Fraiberg S, Adelson E, Shapiro V. Ghosts in the nursery. A psychoanalytic approach to the problems of impaired infant–mother relationships. *J Am Acad Child Psychiatry*. 1975;14(3):387–421
89. Olds DL, Henderson CR Jr, Tatelbaum R, Chamberlin R. Improving the delivery of prenatal care and outcomes of pregnancy: a randomized trial of nurse home visitation. *Pediatrics*. 1986;77(1):16–28
90. Olds D, Henderson CR Jr, Cole R, et al. Long-term effects of nurse home visitation on children's criminal and antisocial behavior: 15-year follow-up of a randomized controlled trial. *JAMA*. 1998;280(14):1238–1244
91. Olds DL, Henderson CR Jr, Chamberlin R, Tatelbaum R. Preventing child abuse and neglect: a randomized trial of nurse home visitation. *Pediatrics*. 1986;78(1):65–78
92. Olds DL, Eckenrode J, Henderson CR Jr, et al. Long-term effects of home visitation on maternal life course and child abuse and neglect. Fifteen-year follow-up of a randomized trial. *JAMA*. 1997;278(8):637–643
93. Howard KS, Brooks-Gunn J. The role of home-visiting programs in preventing child abuse and neglect. *Future Child*. 2009;19(2):119–146
94. Florsheim P, Burrow-Sánchez JJ, Minami T, McArthur L, Heavin S, Hudak C. Young parenthood program: supporting positive paternal engagement through coparenting counseling. *Am J Public Health*. 2012;102(10):1886–1892
95. Lewin A, Beers L, Feinberg M. Enhancing coparenting among pregnant, low-income teens: adaptation of family foundations. Platform presentation. In: American Public Health Association Meeting October 29 - November 2, 2011; Washington, DC
96. American Academy of Pediatrics Committee on Children with Disabilities and Committee on Adolescence. Transition of care provided for adolescents with special health care needs. *Pediatrics*. 1996;98(6 pt 1):1203–1206
97. *Addressing mental health concerns in primary care: a clinician's toolkit (CD-ROM)* [computer program]. Elk Grove Village, IL: American Academy of Pediatrics; 2010
98. Foy JM; American Academy of Pediatrics Task Force on Mental Health. Enhancing pediatric mental health care: report from the American Academy of Pediatrics Task Force on Mental Health. Introduction. *Pediatrics*. 2010;125(suppl 3):S69–S74
99. Foy JM, Perrin J; American Academy of Pediatrics Task Force on Mental Health. Enhancing pediatric mental health care: strategies for preparing a community. *Pediatrics*. 2010;125(suppl 3):S75–S86
100. Foy JM, Kelleher KJ, Laraque D; American Academy of Pediatrics Task Force on Mental Health. Enhancing pediatric mental health care: strategies for preparing a primary care practice. *Pediatrics*. 2010;125(suppl 3):S87–S108
101. Foy JM; American Academy of Pediatrics Task Force on Mental Health. Enhancing pediatric mental health care: algorithms for primary care. *Pediatrics*. 2010;125(suppl 3):S109–S125