

AMERICAN ACADEMY OF PEDIATRICS

Committee on Adolescence and Committee on Early Childhood, Adoption, and Dependent Care

Care of Adolescent Parents and Their Children

ABSTRACT. Many children live with their adolescent parents, alone, or as part of an extended family. This statement updates a previous statement on adolescent parents and addresses specific medical and psychosocial risks specific to adolescent parents and their children. Challenges unique to the adolescent mother and her partner, as well as mitigating circumstances and protective factors that have been identified in the recent literature, are reviewed, along with suggestions for the pediatrician on models for intervention and care.

Adolescent parents and their children represent populations at increased risk for medical, psychological, developmental, and social problems, as previously described.¹ In 1997, there were 489 210 live births to 15- to 19-year-old females in the United States.² The myriad concerns associated with adolescent pregnancy and potential obstetric and perinatal complications are summarized in a separate statement.³ Prevention of adolescent pregnancy and identification of factors that improve outcomes for parenting adolescents and their offspring are gaining increased visibility as the numbers of younger adolescents in our population are increasing.⁴

MEDICAL AND PSYCHOSOCIAL RISKS TO THE ADOLESCENT MOTHER

Medical complications associated with adolescent pregnancy include poor maternal weight gain, anemia, and pregnancy-induced hypertension.⁵ These complications seem to be the greatest for the youngest adolescents. Poverty, lack of education, and inadequate family support seem to contribute to a lack of adequate prenatal care, which may account for the majority of negative health outcomes for the adolescent mother and her child.⁶ There is growing evidence that pregnant adolescents are at increased risk for domestic violence.^{7,8} Younger adolescent mothers are more likely to be single parents and to receive no prenatal care or care only during the third trimester. These mothers are also less likely to finish high school.⁹

Developmentally immature adolescent mothers may put more time and energy into their relationships with partners than with their children and have less knowledge about child development and appropriate parenting practices, increasing the risk of child

neglect or maltreatment.⁶ Although pregnant adolescents have been shown to decrease their use of alcohol, cigarettes, marijuana, and crack cocaine during gestation, the use of cigarettes and alcohol, in particular, has been shown to increase steadily during the first 6 months postpartum.¹⁰⁻¹² The tendency of the adolescent mother to reduce substance use during pregnancy may provide a window of opportunity in the immediate postpartum period for the clinician to emphasize healthy choices by the mother.

RISK OF REPEAT ADOLESCENT PREGNANCY

Repeat births in adolescents have been linked to decreased educational achievement, increased dependence on governmental support by the adolescent mother, increased infant mortality, and low birth weight.¹³ These negative outcomes result in increased societal expense and contribute to the continuation of the adolescent pregnancy cycle. In contrast with adult women who seek care earlier in a second pregnancy, adolescents with a repeat pregnancy tend to delay care.¹⁴ A repeat or second pregnancy occurs in 35% of adolescent mothers within 2 years of the first birth, with 17% of those adolescents going on to deliver a second child in that time frame.⁶

Several factors are associated with repeat adolescent pregnancy. Risk factors for repeat pregnancy within 18 months of a previous birth include the following: 1) not returning to school within 6 months; 2) being married or living with a male partner; and 3) receiving major child care assistance from the adolescent's mother.⁶ An adolescent who drops out of school may choose to remain at home in a parenting role, reflecting a conscious decision not to return to school in the near future, if at all.¹⁵ Significant amounts of child care assistance by the adolescent's mother increase the likelihood of repeat pregnancy, perhaps by not allowing the adolescent daughter to shoulder the true responsibilities and challenges of parenthood.⁶ While the grandmother's participation in the care of the infant may ease an adolescent's transition to parenthood by providing child care instruction and assistance, this support may complicate the adolescent's ultimate transition to parenthood with the establishment of an independent household.¹⁶

Because adolescents themselves often report that their second pregnancies are intentional, repeat pregnancy prevention programs need to focus on defining and supporting an adolescent's educational goals and on providing motivations for delaying a second pregnancy.⁶ Knowledge and access to contraceptive

The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

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services alone will not decrease repeat pregnancy rates.⁶ Cultural norms for extended family roles in child rearing or for early parenting may vary. Not all ethnic or cultural subpopulations in the United States share the dominant cultural assumptions about adolescent childbearing. The use of long-acting contraceptive methods, such as subdermal levonorgestrel implants or depot medroxyprogesterone acetate, is associated with significantly lower rates of pregnancy than is the use of oral contraceptives.¹⁷⁻¹⁹ Programs that help adolescent mothers return to school combined with intensive psychosocial postpartum care tend to successfully prevent early repeat pregnancy.²⁰

FACTORS ASSOCIATED WITH IMPROVED OUTCOMES FOR ADOLESCENT MOTHERS

Several studies in the literature address the outcome of adolescent parenting. A 20-year follow-up study of adolescent mothers from the late 1960s defined *long-term success* as high school completion and employment or support by a spouse at the time of follow-up.²¹ Factors positively associated with this definition of long-term success included having completed school before becoming pregnant, active participation in a program for pregnant adolescents, remaining in school with no subsequent pregnancy at 26 months postpartum, a sense of control over one's life, little social isolation, and having only 1 or 2 subsequent children after the first adolescent pregnancy.²¹

Another study involving a 17-year follow-up of African American adolescent mothers documented that the universally negative outcomes for the mothers previously suggested in the literature were not substantiated.²² More than two thirds of the women in that study had completed high school, had regular employment, and were not dependent on the government for income. In contrast, however, their offspring displayed greater rates of difficulties at school and behavioral problems at home than did the offspring of adult mothers.²²

Family factors associated with improved outcomes for the adolescent mother include early child care for the infant of the very young adolescent mother provided by the infant's grandmother, family support that allows the adolescent to finish school, playful interaction between infant and father, and stability of marital status.²³ The mere presence of the father did not improve outcomes for the adolescent mother.⁶ Initially, adolescents living with their parents had children with improved outcomes; however, problems occur with older adolescents when the adolescents or their mothers want to renegotiate family responsibilities.⁶ Such conflicts can have a negative effect on the quality of the home environment for the child. The complexity of this issue is only beginning to emerge, with a fine balance between appropriate child care assistance from the grandmother and baby's father and their giving so much "help" that repeat pregnancy occurs.

FATHERS OF INFANTS BORN TO ADOLESCENT MOTHERS

Of pregnancies to an adolescent mother, 30% to 50% involve a father younger than 20 years at the time of the child's birth.²⁴ Therefore, there are fewer adolescent fathers than adolescent mothers. Adult men who father a child with an adolescent girl tend to be more socioeconomically and psychologically similar to adolescent fathers than to adult men who father a child with an adult mother.²⁵

Adolescent fathers are more likely to live in poverty, with adolescent fatherhood, like adolescent motherhood, often repeated from one generation to the next.^{6,26} Adult men who father children with adolescent mothers are also more likely to be impoverished.⁶ One study found that 64% of unwed fathers ages 19 to 26 years lived with a parent or close relative, most likely reflecting low socioeconomic status.²⁷ Although more than 80% of unwed fathers in their late teens and early 20s live away from their children, from one third to one half of these fathers visit their children weekly.²⁷ Some fathers may be incarcerated and, therefore, unavailable or unable to be involved. One study found that at least 30% of fathers of children born to adolescent mothers were in jail.⁶

Although social support in general correlates positively with improved outcomes for adolescent mothers, support by the father has been linked with increased maternal risk for not completing school.²⁸ However, partner support has been related to decreased distress and depression in the adolescent mother, along with improved self-esteem.²⁹ Marital status improves socioeconomic status for adolescent mothers, but a paucity of long-term marriages exists in this population.⁶ Most marriages precipitated by pregnancy in the adolescent age group end in divorce.⁶ Single status for the mother at 5 years postpartum has been associated with a threefold increased risk of receiving governmental assistance, at least in the short term.²⁸

MEDICAL AND PSYCHOSOCIAL RISKS TO THE INFANT

Infants of adolescent mothers have an increased incidence of low birth weight, prematurity, developmental disabilities, and poorer developmental outcomes than the offspring of older mothers.^{22,30} Deficits in cognitive and social development in the children of adolescent mothers may persist into adolescence.^{30,31} Compared with older mothers of similar parity and socioeconomic status, adolescent mothers tend to vocalize, touch, and smile at their infants less, to be less sensitive to and accepting of their infants' behavior, and to hold less realistic developmental expectations.³² Adolescent mothers who have more social support exhibit less anger and use less punitive methods of parenting than adolescent mothers with fewer social supports.³³

As with an older mother, an adolescent's attitude toward parenting influences her parenting style; mothers who place inappropriate expectations on the child are likely to use harsh and rejecting discipline

strategies.³⁴ Such strategies are linked with child anger, low self-esteem, and social withdrawal.⁶ Furthermore, mothers with intense feelings of inadequacy and failure in the parenting role tend to withdraw emotionally and physically from the infant. This withdrawal has been linked to angry and resistant infant behaviors and troubled mother-child relationships.⁶

Adolescent mothers, particularly younger adolescents, may lack the maturity and skills necessary for giving appropriate infant care.³⁵ Maternal substance use before and after delivery may further affect infant development owing to physiologic or anatomic changes in the infant's brain or the parents' ability to nurture appropriately. Maternal age alone has not been shown to be a risk factor in sudden infant death syndrome, injuries, child abuse, or infections; factors such as substance abuse and socioeconomic status do appear to have a role.²¹ One study found that the rare occurrences of infant homicide, which tend to occur during the first 4 months of life, are associated with having an adolescent parent, especially one who has given birth previously.³⁶

CHILDREN AND YOUNG ADULT OFFSPRING OF ADOLESCENT MOTHERS

During the first 3 to 4 years of life, the anatomic brain structures and physiologic response patterns that determine a child's learning processes, coping skills, and personality traits become established, encoded, and strengthened.^{37,38} These neuronal structures have the potential to atrophy if unused.³⁹ Negative environmental conditions, including lack of stimulation or close and affectionate interaction with primary caregivers, child abuse, violence within the family, or even repeated threats of physical and verbal abuse during these critical years can have a profound influence on these nerve connections and neurotransmitter networks, potentially resulting in impaired brain development.⁴⁰ Since adolescent mothers may not be trained in appropriate stimulation techniques and may be coping with stress in their own lives, ongoing education and support by the pediatrician and other nurturing adults is imperative to help prevent negative sequelae in their offspring.

Children of adolescent mothers who continue to have close ties with the child's biological father have better outcomes in employment and education, are less depressed, and are at less risk for adolescent parenting themselves.²² However, children of adolescent parents, with or without paternal involvement, remain a group at risk, with a 33% rate of school dropout, 31% incidence of depression, 16% incidence of incarceration, and a 25% risk of adolescent parenthood.²²

Adolescent or adult fathers who maintain active participation in the prenatal, neonatal, and immediate postpartum processes with an adolescent mother have a greater likelihood of ongoing involvement with their children.⁴¹ Such interactions include playing with their children, giving them gifts, or feeding them but are less likely to involve diapering, bathing, and caring for the child alone. Parenting interven-

tions can help teach such skills to adolescent fathers, as well as to adolescent mothers. Several successful father programs exist, and all adolescent parenting programs should make a more concerted effort to engage the fathers.^{6,42,43}

MODELS OF INTERVENTION FOR ADOLESCENT PARENTS

Many models of intervention and support for adolescent parents exist. These programs predominantly have focused on adolescent mothers and their children. Not all programs have been evaluated rigorously.

School-Based Programs

Specialized school-based programs can provide a means of providing multidisciplinary services to pregnant and parenting adolescents while keeping them in school. A student's prepregnancy academic achievement affects the outcome of such interventions; low-achieving students require longer and more intensive interventions than do students who are doing well academically before pregnancy.⁴⁴ For the marginally achieving student, specialized educational programs with a small student-teacher ratio can foster a sense of achievement and help the adolescent feel capable of completing school. The concept of a "school-within-a-school," or consistent peer group placement within a larger school, has been useful for academically challenged pregnant and nonpregnant adolescents.⁴⁴ Getting the parenting adolescent back to school remains a key element for long-term success for the adolescent and her child.⁶ Quality school-based child care programs facilitate the participation of the adolescent in school, provide support and education to the parent, and can assist in improved health and development in their children.

Multidisciplinary and Non-School-Based Programs

Multidisciplinary programs provide medical care, psychological support, and a comprehensive life skills approach to adolescent parents. These programs have shown that participating female adolescents are more likely to be employed, work more hours, earn more money, and report a better home environment at 5 years after the intervention than socioeconomically matched adolescents in cities without this comprehensive approach.⁴⁵ These adolescents were also less likely to be receiving Aid to Families With Dependent Children (now relabeled as Temporary Assistance to Needy Families, or TANF).

Teen Tot programs (in which adolescent parents and their children receive care simultaneously) have been developed in many medical centers and ambulatory clinic settings to provide structured medical visits and support. Such use of time and space creates access to multidisciplinary services. When all visits are scheduled in a clinic on a consistent day each week, teaching sessions specifically addressing adolescent parenting issues can be timed with clinic visits. This model for care often provides the adolescent with a peer support group.

Peer Group and Role Model Programs

Using adolescent parents as role models may enhance self-efficacy in the adolescents serving as instructors *and* in adolescents being instructed about parenting. Innovative approaches have shown promise in enhancing parenting skills of adolescent mothers using technology and the media.⁴⁶ From a developmental perspective, use of peer groups makes sense in getting a message across. Unfortunately, there is no evidence that peer group and role model programs effectively reduce adolescent pregnancy or improve adolescent parenting skills. Many programs still use this technique. In the future, positive outcome data may become available. Programs such as Head Start and Early Head Start are designed to address the needs of both parent and child. Prenatal and early childhood home visitation has been associated with reduction in the number of subsequent pregnancies, use of governmental assistance, child abuse and neglect, and criminal behavior in the adolescent mother. These visitations also have been associated with reduced risk of serious antisocial behavior and substance abuse by adolescent offspring followed up during the first 15 years of life.^{47,48}

Special Education Initiatives

Low intellectual ability or functioning is a serious risk factor for adolescent pregnancy.⁹ Adolescents in some special education programs become pregnant in disproportionate numbers and drop out of school at earlier ages than adolescents in regular education.⁴⁹ School-based care for these adolescents should include sexuality education and discussions on safety for the adolescent mother and her child.⁹ These discussions should focus on self-efficacy and assist her to acquire decision-making and concrete, task-oriented skills. This task-centered approach also can be used to strengthen the adolescent's ability to access external support systems and to develop supportive family relationships, which directly and indirectly can improve the adolescent's self-esteem. Such programs can successfully integrate higher functioning, older adolescents with mental retardation with younger adolescent mothers with normal intelligence. The focus on concrete life skills can benefit both groups.

RECOMMENDATIONS

1. Pediatricians should provide continuity of care and a "medical home" for adolescent parents, as well as for their children. Specific attention to anticipatory guidance, early childhood education, and the teaching of basic care-giving skills should include the adolescent mother and the infant's father, when possible.
2. Care for parenting adolescents should be multidisciplinary and comprehensive using community resources, such as social services and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Early Periodic Screening, Diagnosis, and Treatment (EPSDT) and Title XXI should be used to include medical and developmental services to low income adolescent parents and their children. The pediatrician should facilitate coordination of these varying services.
3. The pediatrician should help promote breastfeeding by all adolescent mothers. The pediatrician can also be the advocate for the breastfeeding adolescent in the school setting.
4. Contraceptive counseling should be initiated during pregnancy and continued after the pregnancy with an emphasis on long-acting methods coupled with condom use.
5. Pediatricians should emphasize to the adolescent mothers the importance of completing high school.
6. Pediatricians should encourage the continuation of healthy lifestyles that may have been initiated during pregnancy. Information on the effect of maternal substance use and cigarette smoking on infant and child health and development should be provided at mother and infant visits.
7. The pediatrician should assess for risk of domestic violence during and after pregnancy.
8. Pediatricians should stress the importance of the adolescent parent caring for the child even if other adults are involved in the caregiving (eg, grandmothers and great-grandmothers). These other caregivers need support and education to allow optimal infant development while helping the adolescent to achieve her own developmental milestones.
9. Pediatricians should adapt their counseling to the developmental level of the adolescent, using office-based and school-based interventions that incorporate intensive instruction on infant care and development, discipline, and the stress associated with parenting. Use of support groups in the office, clinic, or school setting; home visits; and creative use of videos and the media can improve skills.
10. Pediatricians should maintain a heightened sense of awareness to attend to the development of both infant and adolescent parent. The pediatrician should ensure that both quality community resources are available and that quality programs are used by adolescent parents such as competent home visits, sensitive and effective preterm and infant classes, quality child care giving programs, and well-managed programs supported by Head Start and Individuals with Disabilities Education Act-Part C (for children ages 0 to 3 years with disabilities or at risk) when available and appropriate.
11. Pediatricians should provide positive reinforcement for success, including praising adolescents who are successful (eg, graduating from high school or college; abstaining from use of drugs, alcohol, and nicotine; continuing breastfeeding; keeping the child's immunizations current; and attending all well-child visits).
12. Further studies are needed on interventions involving fathers of infants born to adolescents and on the influence of grandmothers assisting in child rearing or as primary caretakers.

13. Short- and long-term outcome evaluations should be conducted on adolescent parenting programs.

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REFERENCES

1. American Academy of Pediatrics Committee on Adolescence. Care of adolescent parents and their children. *Pediatrics*. 1989;83:138–140
2. Ventura SJ, Mathews TJ, Curtin SC. Declines in Teenage Birth Rates, 1991–1997: National and State Patterns. In: *National Vital Statistics Reports*. Hyattsville, MD: National Center for Health Statistics, US Dept of Health and Human Services, Centers for Disease Control and Prevention; 1998:1–14. DHHS publication (PHS) 99–1120
3. American Academy of Pediatrics Committee on Adolescence. Adolescent pregnancy: current trends and issues. *Pediatrics*. 1999;103:516–520
4. National Center for Health Statistics. Advance report of final natality statistics, 1991. *Mon Vital Stat Rep*. September 9, 1993;42(suppl)
5. Carter DM, Felice ME, Rosoff J, Zabin LS, Beilenson PL, Dannenberg AL. When children have children: the teen pregnancy predicament. *Am J Prev Med*. 1994;10:108–113
6. East PL, Felice ME. *Adolescent Pregnancy and Parenting: Findings From a Racially Diverse Sample*. Mahwah, NJ: Lawrence Erlbaum Associates; 1996
7. Helton AS, McFarlane J, Anderson ET. Battered and pregnant: a prevalence study. *Am J Public Health*. 1987;77:1337–1339
8. Parker B, McFarlane J, Soeken K. Abuse during pregnancy: effects on maternal complications and birth weight in adult and teenage women. *Obstet Gynecol*. 1994;84:323–328
9. Levy SR, Perhats C, Nash-Johnson M, Welter JF. Reducing the risks in pregnant teens who are very young and those with mild mental retardation. *Ment Retard*. 1992;30:195–203
10. Gilchrist LD, Hussey JM, Gillmore MR, Lohr MJ, Morrison DM. Drug use among adolescent mothers: prepregnancy to 18 months postpartum. *J Adolesc Health*. 1996;19:337–344
11. Barnet B, Duggan AK, Wilson MD, Joffe A. Association between postpartum substance use and depressive symptoms, stress, and social support in adolescent mothers. *Pediatrics*. 1995;96(4 pt 1):659–666
12. 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;90:328–334
13. Santelli JS, Jacobson MS. Birth weight outcomes for repeat teenage pregnancy. *J Adolesc Health Care*. 1990;11:240–247
14. Scholl TO, Hediger ML, Belsky DH. Prenatal care and maternal health during adolescent pregnancy: a review and meta-analysis. *J Adolesc Health*. 1994;15:444–456
15. Stevens-Simon C, Kelly L, Singer D. Absence of negative attitudes toward childbearing among pregnant teenagers: a risk factor for a rapid repeat pregnancy? *Arch Pediatr Adolesc Med*. 1996;150:1037–1043
16. Furstenberg FF. Burdens and benefits: the impact of early childbearing on the family. *J Soc Issues*. 1980;36:64–87
17. Maynard R, Rangarajan A. Contraceptive use and repeat pregnancies among welfare-dependent teenage mothers. *Fam Plann Perspect*. 1994;26:198–205
18. Polaneczky M, Guarnaccia M, Alon J, Wiley J. Early experience with the contraceptive use of depot medroxyprogesterone acetate in an inner-city clinic population. *Fam Plann Perspect*. 1996;28:174–178
19. Polaneczky M. Adolescent contraception. *Curr Opin Obstet Gynecol*. 1998;10:213–219
20. Stevens-Simon C, Parsons J, Montgomery C. What is the relationship between postpartum withdrawal from school and repeat pregnancy among adolescent mothers? *J Adolesc Health Care*. 1986;7:191–194
21. Horwitz SM, Klerman LV, Kuo HS, Jekel JF. School-age mothers: predictors of long-term educational and economic outcomes. *Pediatrics*. 1991;87:862–868
22. Furstenberg FF Jr, Brooks-Gunn J, Morgan SP. *Adolescent Mothers in Later Life*. New York, NY: Cambridge University Press; 1987
23. Cooley ML, Unger DG. The role of family support in determining developmental outcomes in children of teen mothers. *Child Psychiatry Hum Dev*. 1991;21:217–234
24. Roye CF, Balk SJ. The relationship of partner support to outcomes for teenage mothers and their children: a review. *J Adolesc Health*. 1996;19:86–93
25. Nakashima II, Camp BW. Fathers of infants born to adolescent mothers: a study of paternal characteristics. *Am J Dis Child*. 1984;138:452–454
26. Dryfoos JG. *Putting the Boys in the Picture: A Review of Programs to Promote Sexual Responsibility Among Young Males*. Santa Cruz, CA: Network Publications; 1988
27. Lerman RI. A national profile of young unwed fathers: who are they and how are they parenting? Presented at the Catholic University Conference on Unwed Fathers; October 1, 1986; Washington, DC
28. Warrick L, Christianson JB, Walruff J, Cook PC. Educational outcomes in teenage pregnancy and parenting programs: results from a demonstration. *Fam Plann Perspect*. 1993;25:148–155
29. Unger DG, Wandersman LP. The relation of family and partner support to the adjustment of adolescent mothers. *Child Dev*. 1988;59:1056–1060
30. Brooks-Gunn J, Furstenberg FF. The children of adolescent mothers: physical, academic, and psychological outcomes. *Developmental Rev*. 1986;6:224–251
31. Furstenberg FF Jr, Levine JA, Brooks-Gunn J. The children of teenage

- mothers: patterns of early childbearing in two generations. *Fam Plann Perspect.* 1990;22:54-61
32. East PL, Felice ME. Outcomes and parent-child relationships of former adolescent mothers and their 12-year-old children. *J Dev Behav Pediatr.* 1990;11:175-183
 33. Crockenberg S. Predictors and correlates of anger toward and punitive control of toddlers by adolescent mothers. *Child Dev.* 1987;58:964-975
 34. Fox RA, Baisch MJ, Goldberg BD, Hochmuth MC. Parenting attitudes of pregnant adolescents. *Psychol Rep.* 1987;61:403-406
 35. Whitman TL, Borkowski JG, Schellenbach CJ, Nath PS. Predicting and understanding developmental delay of children of adolescent mothers: a multidimensional approach. *Am J Ment Defic.* 1987;92:40-56
 36. Overpeck MD, Brenner RA, Trumble AC, Trifiletti LB, Berendes HW. Risk factors for infant homicide in the United States. *N Engl J Med.* 1998;339:1211-1216
 37. Huttenlocher PR. Synaptogenesis, synapse elimination, and neural plasticity in human cerebral cortex. In: Nelson CA, ed. *Threats to Optimal Development: Integrating Biological, Psychological, and Social Risk Factors: The Minnesota Symposia on Child Psychology.* Vol 27. Hillsdale, NJ: Lawrence Erlbaum Associates; 1994:35-54
 38. Turner AM, Greenough WT. Differential rearing effects on rat visual cortex synapses, I: synaptic and neuronal density and synapses per neuron. *Brain Res.* 1985;329:195-203
 39. Greenough WT, Black JE, Wallace CS. Experience and brain development. *Child Dev.* 1987;58:539-559
 40. Perry BD, Pollard RA, Blakley TL, Baker WL, Vigilante D. Childhood trauma, the neurobiology of adaptation, and "use-dependent" development of the brain: how "states" become "traits." *Infant Ment Health J.* 1995;16(special issue):271-291
 41. Cox JE, Bithoney WG. Fathers of children born to adolescent mothers: predictors of contact with their children at 2 years. *Arch Pediatr Adolesc Med.* 1995;149:962-966
 42. Association of Maternal and Child Health Programs; School of Public and Environmental Affairs, Indiana University. *Adolescent Fathers: Directory of Services.* Washington, DC: National Center for Education in Maternal and Child Health; 1991
 43. Eklona A. *A Curriculum For Male Involvement in Prenatal Care (Healthy Start Initiative).* Baltimore, MD: The Baltimore City Health Department; 1994
 44. Seitz V, Apfel NH, Rosenbaum LK. Effects of an intervention program for pregnant adolescents: educational outcomes at 2 years postpartum. *Am J Community Psychol.* 1991;19:911-930
 45. Polit DF. Effects of a comprehensive program for teenage parents: five years after Project Redirection. *Fam Plann Perspect.* 1989;21:164-169,187
 46. Black MM, Teti LO. Promoting mealtime communication between adolescent mothers and their infants through videotape. *Pediatrics.* 1997;99:432-437
 47. 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;278:637-643
 48. Olds DL, 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;280:1238-1244
 49. Kleinfeld LA, Young RL. Risk of pregnancy and dropping out of school among special education adolescents. *J Sch Health.* 1989;59:359-361

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