Journal of Adolescent Health 57 (2015) 164–168

ELSEVIER

JOURNAL OF ADOLESCENT HEALTH

www.jahonline.org

Original article

More Than Poverty: The Effect of Child Abuse and Neglect on Teen Pregnancy Risk

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Article history: Received January 22, 2015; Accepted May 5, 2015
Keywords: Unplanned pregnancy; Child abuse and neglect; Health disparity; Prospective study; Poverty

A B S T R A C T

Purpose: The purpose of the study was to compare risk for teen pregnancies between children living in poverty with no child protective services (CPS) report history and those in poverty with a history of CPS report.
Methods: Children selected from families in poverty, both with and without CPS report histories were prospectively followed from 1993 to 2009 using electronic administrative records from agencies including CPS, emergency departments, Medicaid services, and juvenile courts. A total of 3,281 adolescent females were followed until the age of 18 years.
Results: For teens with history of poverty only, 16.8% had been pregnant at least once by the age of 17 years. In teens with history of both poverty and report of child abuse or neglect, 28.9% had been pregnant at least once by the age of 17 years. Although multivariate survival analyses revealed several other significant factors at the family and youth services levels, a report of maltreatment remained significant (about a 66% higher risk).
Conclusions: Maltreatment is a significant risk factor for teen pregnancy among low income youth even after controlling for neighborhood disadvantage, other caregiver risks and indicators of individual emotional and behavioral problems.

IMPLICATIONS AND CONTRIBUTION

This study supports initiatives to target pregnancy prevention for youth who have experienced childhood abuse and/or neglect. The increased risk associated with runaway history suggests that screening for sexual risk behaviors as a part of juvenile court or shelter processes followed by effective intervention may be another target of opportunity.

Teen birth rates reached a 40-year low in 2013, with a rate of 26.6 births per 1,000 for females aged 15 through 19 years. Despite this progress, the United States continues to have the highest teen birth rate of any developed country [1]. Reduction in teen pregnancy rates remains a priority for multiple reasons. The public cost of teen pregnancy amounted to $9.4 billion in 2010 alone [2]. Evidence shows both infants and their teenage mothers have increased risk of poorer health and well-being [3]. Adolescent mothers are more likely to leave school and less likely to attend secondary education, which impacts economic opportunity [4].

Certain subpopulations of youth with histories of trauma seem to be at increased risk of pregnancy. For example, youth in foster care have persistently higher rates of adolescent pregnancy, as much as twice that of the general population [5]. Retrospective findings suggest that even youth suspected of being victims of maltreatment face increased risk. In a study using linked birth and child protective services (CPS) records in California, Putnam-Hornstein et al. [6] demonstrated that adolescent mothers had higher rates of both alleged and substantiated maltreatment reports. Studies show that a range of childhood adversities significantly contribute to the risk of teen pregnancy, abortion, and rapid repeat pregnancy [7–9]. Males with adverse childhood

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1054-139X/
http://dx.doi.org/10.1016/j.jadohealth.2015.05.004

experiences are more likely to father children born to teenage mothers; this association was found over four successive birth cohorts [10]. Thus far, however, there is little prospective work to guide our understanding of the unique role of adversity in the context of other behavioral and environmental factors that may moderate or mediate the association between parenthood and child abuse and neglect (CAN). In contrast, the association of poverty with teenage pregnancy has been well described. Poverty has been identified as both an outcome and a correlate of teen pregnancies [11] and is associated with higher rates of multiple child maltreatment reports [12].

Teen pregnancy risks are complex and multifactorial. Although the federal government could spend up to eight times current spending levels to break even with the costs of teen pregnancy, targeted programs addressing teens with the greatest risk factors would have the highest yield [13]. This study helps to fill the gaps in our understanding of the prospective relationship between child maltreatment and later teen pregnancy taking into account poverty and the other indicators of nonsexual risk behaviors that can be used to better target prevention and intervention.

Methods

Study sample

Data for this analysis were drawn from a larger longitudinal administrative data study that tracked a range of service system involvement and outcomes for children with histories of poverty or poverty and maltreatment during childhood. The larger study consisted of three groups of participants (one child randomly selected per family) born 1980–1994: those with a report of CAN, children with families who receive Aid to Families with Dependent Children (AFDC), and children with both CAN and AFDC (n = 12,409).

The sampling window was 1993–1994. All children from birth through the age of 11 years with a first report of alleged child abuse or neglect were matched to contemporary AFDC files. This created a group with a recent history of family poverty and also a report of maltreatment. One child was randomly selected per family and matched by birth year and city or county residence to children with similar histories of family poverty but no report of maltreatment. It should be noted that data were also available before the sampling period for (1) the index child's birth; (2) parental arrest and corrections from the late 1970s onward; (3) previous Medicaid files from 1987 to 1994 for the parent and the child; and (4) parent history of Medicaid reimbursed mental health (87–94). At the close of the parent study, subjects ranged in age from 16 to 27 years. The present study was restricted to female youth who were aged 17 years by June 2009 to insure complete coverage of health records of pregnancy before adulthood (n = 4,935). The present analyses are limited to the AFDC and the CAN and AFDC groups (n = 3,337). Finally, a small number of subjects had records of pregnancy before the age of 10 years. Although technically possible, this is both outside the range of statistical reports for teen births and less likely to be associated with contact outside the family; so, these subjects and any subject who died before the age of 10 years were also dropped from analyses (n = 56) for a final sample size of 3,281.

Data sources

All children were followed prospectively through 2009 using electronic administrative records from (1) income maintenance (AFDC then TANF); (2) children's division (includes CAN reports, report disposition, record of in-home services, records of foster care); (3) Missouri Medicaid 1993 onward; (4) all emergency room records not limited by payment type (1997 onward); (5) juvenile court (1993 onward); (6) highway patrol; (7) births; (8) death; (9) special education (matched in 2003 and again in 2006); and (10) department of mental health for parent and child (1999 onward). Case file data were included from the three largest providers of runaway services in 2006. Addresses at baseline were geocoded and linked to census data at the tract level. There are no gaps in coverage of data with the exception of the runaway shelters where we only have occurrence in 2006 or before. Although data are collected retrospectively, exact dates associated with system contacts with the child protection system, health, income maintenance, juvenile justice, mental health, runaway shelters, and special education are used.

Data were linked using a common state level identifier when possible, with matching on identifiers used and crosschecked with other data as well as any estimates of overlap available in the literature. Data cleaning was done by comprehensive review of data entry procedures and uses for each contributing agency (Department of Health, Mental Health, Social Services, Juvenile Court, Special Education) as well as reference to existing literature. Social services data included addresses which were geocoded to link to tract level U.S. Census information. All identifying information was removed before providing the data for analysis. Furthermore, all results are aggregated at a sufficient level to provide an additional protection against accidental identification. Human subject approval was granted by XXX (removed for blind review) and each participating agency.

Variables

Dependent variable. The dependent variable for the present study is a record of health care provided for pregnancy and/or a record of live birth before the age of 18 years.

Independent variable. The independent variable for this study is subject's history of childhood maltreatment. Childhood victimization of maltreatment was indicated by any report (substantiated or unsubstantiated) of child abuse or neglect before the age of 17 years. This is common practice because of the number of studies showing that unsubstantiated and substantiated cases are at similar risk of negative future outcomes [14–16].

Control variables. Control variables included family and community and subject demographic variables. Subject demographic variables included age and race (recoded as "white" vs. "nonwhite" because the demographics of the region at the time of sampling did not allow for more detailed categories). Family variables included information regarding caregiver's high-school graduation at study start, mother's age at the birth of the child, parent's history of mental health treatment, and period of receipt of starting income assistance (family poor at subject's birth but no income assistance later, childhood only not poor at birth, both [AFDC and later temporary assistance for needy families]). Community variables examined included % of children in tract who were below poverty level from the 1990 U.S. Census data.

Potential moderating variables. Moderating variables are conceptualized as indicators of behaviors or special needs that may impact teenage pregnancy separate from or combined with