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Self-report of health problems and health care use among maltreated and comparison adolescents

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ABSTRACT

The study aims were to compare maltreated and comparison adolescents' health problems and to identify how individual, family and home characteristics and maltreatment status affect adolescents' self-report of health status and health care use. The sample was 224 maltreated adolescents (mean age = 18.3 years) and 128 comparison adolescents (mean age = 18.15 years). Comparison adolescents reported more cold and pain symptoms during the previous 30 days but no differences in other physical health problems, self-assessment of their physical and mental health or health care use compared to maltreated adolescents. Girls were more likely to have had a dental checkup, to have seen a psychological counselor, and to self-identify their physical health as poor compared to boys. Older adolescents were less likely to have had a medical checkup or seen a psychological counselor than younger adolescents. A history of maltreatment was not related to health or health care disparities for adolescents growing up in the same low-income environment as adolescents without a maltreatment report. The environmental context and geographical location in which these adolescents grew up may be the primary driver in their health behaviors and health problems and not the experience of maltreatment.

1. Introduction

Maltreated adolescents experience physical and mental health challenges to a greater degree than their peers. Maltreated adolescents may have been exposed to less supportive environments and more stress, often have complex health care needs, and can have less family assistance readily available when they are at the age to transition into their role as users of adult health care (Christian & Schwarz, 2011). As adolescents transition to young adulthood, the health challenges they faced during adolescence can affect their ability to engage in self-care, manage chronic illnesses, and access and use health care resources (American Academy of Pediatrics [AAP], 2011). This study compared the health problems and health care use of maltreated versus comparison of adolescents (average age of 18 years) growing up in similar low-income urban environments and identified how their individual, family, and home characteristics were associated with health care use and self-identified health status.

1.1. Maltreated adolescents and health problems

Maltreated children, regardless whether they are in foster care or remain at home, have poorer health than children in the general population. Some of the chronic health conditions prevalent among maltreated children who enter foster care include asthma, skin infections, and obesity (Ringeisen, Casanueva, Urato, & Cross, 2008; Steele & Buchi, 2008). Adolescents who retrospectively report that they have been maltreated have more health risks, including self-reported poor health, depression, and substance use compared to adolescents without maltreatment (Hussey, Chang, & Kotch, 2006). Almost half of a national sample of adolescents being investigated for maltreatment by child protective services (CPS) identified at least one health risk behavior, such as delinquency, risky sexual behaviors, and suicidality (Leslie et al., 2010).

1.2. Maltreated adolescents and health care

For maltreated adolescents, especially those in foster care, health care access has been problematic. The American Academy of Pediatrics has published guidelines to increase the adequacy of health care for children in foster care (Task Force on Health Care for Children in Foster Care, 2005). Maltreated youth who are not removed from their birth home have similar physical problems and mental health symptoms as children who are in foster care, and thus can have many of the same difficulties with health care access (Mennen, Brensilver, & Trickett, 2010; Schneiderman, Leslie, Arnold-Clark, McDaniel, & Xie,

Abbreviations: CPS, child protective services.

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2011). Adolescent health care use and outcomes are also affected by family factors. Residential instability negatively affects adolescent behavioral and emotional outcomes (Leventhal & Brooks-Gunn, 2000). Parental involvement is an important protective factor that reduces adolescent health risk behaviors and improves health outcomes among adolescents (AAP, 2011; DiClemente et al., 2001).

1.3. Socioecological approach to health behavior

The socioecological approach to health behavior integrates multiple levels of influence on the health behaviors of populations, stressing the environmental context of health behavior (community and organizational factors) while incorporating social and psychological influences (intrapersonal and interpersonal factors) (Robinson, 2008; Sallis, Owen, & Fisher, 2008). The environmental context affects health behaviors and subsequent health status for families and individuals (Cohen, Scribner, & Farley, 2000). The environmental context includes the geographical area in which families live. Shared geography can affect access to health care, physician quality, and even environmental toxins. For example, both social environmental influences and physical environmental influences affect adolescents' eating patterns (Story, Neumark-Sztainer, & French, 2002). Social influences includes the adolescents' friends and peer networks and physical influences includes accessibility and availability of foods. Both of these influences affect adolescents' health by impacting food choices, perceived norms, and availability of foods.

1.4. Present study

In this study, the geographical and community environment in which adolescents grew up was similar, yet some psychological factors (e.g., maltreatment status) differed. Thus, the purpose of this study was to examine whether maltreatment or the geographical environment was the driving force for self-reported health and health care use after controlling for other individual, family, and home risk factors. We hypothesized that the maltreatment experience would be the primary risk factor and result in health and health care disparities for the maltreated youth versus the comparison youth. The two aims of this cross-sectional analysis were to (a) identify differences in health problems and health care use in maltreated versus comparison adolescents; (b) identify how individual characteristics (age, sex, ethnicity), family and home characteristics (living with a caregiver, changes in residence during the previous year), and maltreatment status affect the adolescents' self-report of health status and health care use.

2. Materials and methods

2.1. Participants

Data were from the fourth assessment ($M = 7.2$ years after baseline) of an ongoing longitudinal study examining the effects of maltreatment on adolescent development. The sample at Time 1 was 454 adolescents aged 9–12 years (241 boys and 213 girls; 303 maltreated and 151 comparison youth). Of the Time 1 sample, 78% completed the Time 4 assessment ($N = 352$). Participants not surveyed at Time 4 were more likely to be in the maltreatment group ($OR = 2.45$, $P < .01$) and male ($OR = 1.86$, $P < .01$). The sample for this analysis at Time 4 included 224 maltreated adolescents (107 boys and 117 girls) and 128 comparison adolescents (72 boys and 56 girls).

2.2. Recruitment

The inclusion criteria at Time 1 were: (a) a new substantiated referral to CPS during the preceding month for any type of maltreatment; (b) 9 to 12 years old; (c) Latino, African American, or Caucasian (non-Latino); and (d) residing in one of 10 zip codes at the time of referral to CPS. The areas in which the youth lived were low-income neighborhoods of an urban California city (Trickett, Mennen, Negriff, & Horn, 2011). CPS, the institutional review board of the affiliated university, and the juvenile court approved the study. CPS referred potential participants and of those contacted, 77% agreed to participate.

The comparison group was recruited using school lists of children aged 9 to 12 years residing in the same 10 zip codes as the maltreated sample. Contact procedures were similar for both comparison and maltreated groups, and 50% of the comparison families agreed to participate. Comparison families were cross-checked in the CPS database to ensure they had no previous or ongoing experience with child welfare agencies.

2.3. Procedures

Assessments were conducted at a research university. After assent and consent were obtained from the adolescent and caregiver, respectively, the adolescent completed questionnaires and tasks during a 4-hour protocol. Both the child and caregiver were paid for their participation based on the National Institutes of Health standard compensation rate for healthy volunteers.

2.4. Measures

2.4.1. Demographics

Caregivers reported the sex, birth date (to calculate age), and race and ethnicity of their child at Time 1. At Time 4, adolescents reported whether they lived with their caregiver during the previous 30 days and how many residence changes they experienced during the previous year.

2.4.2. Health problems and health care use

Questions regarding symptoms and illnesses were adapted from a health update questionnaire from a previous study of sexually abused girls (Sickel, Noll, Moore, Putnam, & Trickett, 2002).

Adolescents were asked about their symptoms (cough, earache, sore throat, headache, stomachache, and other pain) during the previous 30 days using a 5-item scale of *never*, *almost never*, *sometimes*, *almost always*, and *always*. Symptoms were evaluated as the total number of symptoms and the frequency of each symptom. For the former, symptoms were categorized as *no* if the youth did not report experiencing the symptom and *yes* if they reported any instance of the symptom. The possible range for the number of symptoms was 0 to 6. For the frequency measure, the symptoms were divided into two categories based on the type of health problem: colds (average score for ratings of cough, earache, and sore throat) and pain (average score for ratings of headache, stomachache, other pain). Each of the two categories of symptoms had a range of 0–4 (0 = never; 1 = almost never; 2 = sometimes; 3 = almost always, and 4 = always).

Adolescents were asked if they had any of the following illnesses during the previous year: (a) cold or flu; (b) bladder or urinary tract infection; (c) asthma; (d) sinus trouble; (e) tonsillitis; (f) ear infection; (g) stomachache with vomiting, diarrhea, or fever; (h) bronchitis; (i) skin infection; and (j) pneumonia. The frequency of illnesses during the previous year was reported using a 5-item scale of *none*, *once*, *twice*, *three times*, or *four or more times*. If adolescents reported the frequency of the illness as anything other than none, they were considered to have experienced the illness. The number of illness types was summed to provide an illness count for the previous year. The possible number of illnesses was 0 to 10. The illnesses were classified in 5 categories based on body systems: respiratory (including cold and flu, bronchitis, asthma, and pneumonia); gastrointestinal (stomachache with vomiting, diarrhea, or fever); ear, nose, and throat (including sinus problems, tonsillitis, and ear infection); urinary (bladder or urinary tract infection); and skin infection. For the respiratory and ear, nose, and throat categories, the scores for each illness were averaged to provide a