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Brief Report

Prevalence of physical health issues of youth with school identified disabilities in residential settings: A brief report

Alexandra L. Trout, Ph.D.[a,*], Matthew C. Lambert, Ph.D.[a], Timothy D. Nelson, Ph.D.[a], Michael H. Epstein, Ed.D.[a], and Ronald W. Thompson, Ph.D.[b]

[a]*University of Nebraska – Lincoln, USA*
[b]*Boys Town, Boys Town, NE, USA*

Abstract

Background: Each year a number of youth with a school identified disability are placed in residential care. It has been well documented that these youth enter with elevated rates of behavioral, emotional, educational, mental health, and familial challenges. However, the physical and medical condition of these youth remains unstudied.

Objective: The purpose of the present study was to determine the prevalence of health and medical problems among a group of youth with school identified disabilities at entrance to a residential care center.

Methods: Archival medical, demographic, and disability status data were obtained for 346 youth served in a large residential care center in the Midwest. Chi-square and correlation tests, and relative risk ratio estimates, were used to evaluate the relationship between medical condition and hypothesized correlates.

Results: Findings revealed that over one-third of the sample had at least one medical condition, with asthma being the most prevalent (15.6%). Rates of medical condition differed by disability type and prevalence of asthma differed by race/ethnicity.

Conclusions: Youth with a school identified disability in care demonstrate health care needs that need to be addressed while in care and following community reintegration. Intervention programs and targeted curriculum are needed to teach youth how to manage their health specific needs and how to independently navigate the health care system.

Keywords: Residential care; Special education; Health

Approximately 200,000 youth are living in residential programs in the United States. These placements are thought to be among the most restrictive, and youth often enter with broad risks including academic deficits, maladaptive behaviors, family instability, and mental health disorders.[1–3] While much has been reported of the educational, behavioral, family, and mental health of these youth, less well studied is their physical health or medical condition. The lack of research on the health functioning of youth in care is troubling given the association between physical health and mental health wellbeing.[4]

Recently Nelson and colleagues documented in a series of studies the physical health of youth in a residential facility in the Midwest. In their first study, Nelson et al[5] reported on 1744 youth at entry to care. The authors found that 33.7% were diagnosed with at least one medical condition, almost four times the prevalence reported in national surveys of youth. Asthma was the most prevalent (15.3%), with rates significantly greater than those reported in the national population (6.2%). In a second study with the same sample, Nelson et al[6] found that 48% were obese or overweight at intake, significantly greater than the prevalence in the general youth population (31%). Finally, in a third study with a subset of their sample ($N = 606$), Nelson and colleagues[7] assessed the relationship between mental and physical health problems of youth, finding that youth with higher levels of psychopathology were more likely to be diagnosed with a medical condition and prescribed medication. While these studies inform us of the general population of youth in care, they do not provide information on the health of those with a school identified disability.

Approximately 30% of youth in care are school identified as having a disability and receiving special education services.[9] Given the elevated challenges faced by youth with disability in care, researchers have begun to study the unique needs and characteristics of this population.

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* Corresponding author. Center for Child & Family Well-Being, 247F Barkley Memorial Center, University of Nebraska-Lincoln, Lincoln, NE 68583-0738, USA.

E-mail address: alex.trout@unl.edu (A.L. Trout).

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For example, in a study of youth with ($N = 34$) and without ($N = 89$) school identified disability, Trout and colleagues reported that youth with disability in care had higher levels of problem behavior, lower academic skills, and more substance abuse and mental health problems than their peers without disability.[9] In a related study, Chmelka, Trout, Mason, and Wright compared youth with ($N = 159$) and without ($N = 344$) school identified disability at entry and discharge to care.[10] At entry, youth receiving special education services had significantly lower IQ scores, more intensive and longer placements, and greater externalizing problems. At departure, youth with disability were more likely to transition to restrictive placements and prescribed psychotropic medications, and were less likely to transition to home or independent living. These studies underscore the academic, behavioral, and social challenges that youth with school identified disability in residential care present; however, the physical health or medical condition of these youth has not been documented.

This study sought to examine the physical health and medical condition of youth with school identified disability in a residential program at program entry. Based on previous research of youth with disability in care, it was hypothesized that this subpopulation would have elevated rates of physical health problems. In addition, we compared the status of youth with Behavior Disorders (BD) and Learning Disabilities (LD), two of the most prevalent school disability conditions found in youth in care.[10]

Method

Participants were a subset of 346 youth with school identified disability from the larger Nelson et al studies[5–8] (see above). The sample included 237 males (68.5%) and 109 females (31.5%). The majority were identified with BD (39.3%) or LD (32.1%), with other health impairment (OHI) representing the third largest group of youth (13.0%). Youth with speech or language impairments, intellectual disability, traumatic brain injuries among other disabilities constituted the remaining 15.6% of the sample. Age at admission ranged from 9 to 18 with a mean of 14.36 years (SD = 1.92). The sample was ethnically diverse with 50.6% Caucasian, 21.4% African American, 8.4% Hispanic, 10.4% Native American, 0.5% Asian/Pacific Islander, and 8.7% multiracial. Asian/Pacific Islander youth were excluded from the analyses that involved the race variable due to small sample size ($n = 2$). Overall, youth had experienced an average of 2.79 prior placements (SD = 3.47).

As part of the entry process, each youth was given an examination by a physician or nurse practitioner. The examination included a review of medical records, a detailed medical history, and a physical exam. Medical information was then entered into the Boys Town National Database (BTND). All youth with school identified disability entering the program were eligible for study inclusion, provided they had received a physical examination at intake and that the information had been recorded in the BTND. Of the 427 youth who entered the facility with a verified disability, complete data were available for 346 youth (81.0%). Analyses indicated that there were no significant differences between the youth with complete and incomplete data on demographic variables such as gender, race/ethnicity, age, or household income; however, youth without complete data had higher rates of conduct disorder (31.9% vs. 19.4%; $p = .04$) and attention deficit hyperactivity disorder (7.8% vs. 1.9%; $p = .03$) as identified by the National Institute of Mental Health Diagnostic Interview Schedule for Children[11] (DISC).

After data were received from the BTND, a research assistant using the International Classification of Diseases, 10th Revision[12] (ICD-10) coded each physician-diagnosed medical condition. Only medical conditions listed in the ICD-10 were coded (with the exception of acne due to inconsistent recording in the BTND). The Boys Town Institutional Review Board approved all procedures related to the study.

Data analysis

We used a series of chi-square and correlation tests to evaluate the relationships between medical conditions and the hypothesized correlates. All inferential tests were evaluated for significance at the 0.05 alpha level and exact *p*-values are reported except for tests where the value is exceedingly small (<0.001). In addition to reporting the statistical significance of each test, we also calculated the *relative risk ratio* (RR) effect size estimate which indicates the increase in the probability of being diagnosed with a medical condition for members of the focal group compared to members of the reference group.[13] If the focal group and the reference group have the same probability (i.e., rate) of being diagnosed, then the resulting RR would be 1.0. Values greater than 1.0 indicate that the focal group has a higher probability of being diagnosed with a medical condition compared to the reference group. Values less than 1.0 indicate the opposite.

Effect size estimates yielded from non-significant chi-square tests should be evaluated with caution since the null hypothesis cannot be rejected[14]; however, in accordance with APA reporting guidelines,[15] we have presented effect sizes regardless of the result of the null hypothesis significance test to "convey the most complete meaning of the results" (p. 33).[15] To aid in the interpretation of the effect sizes,[15,16] the 95% confidence intervals for the *RR*s[17] are presented in conjunction with the point estimates.

Results

Prevalence of medical conditions

Approximately 34.0% of the participants were diagnosed with at least one ICD-10 identified medical