

Eating Disorders Referral Rates Improved by Community-Led Nationwide Screening in U.S. High Schools

S. Bryn Austin, ScD

Najat J. Ziyadeh, MA, MPH

Sara Forman, MD

Anne Keliher, MMHS

Douglas Jacobs, MD



Acknowledgments

The National Eating Disorders Screening Program (NEDSP) was funded by the McKnight Foundation. S.B. Austin and S. Forman were supported by the Leadership Education in Adolescent Health Project grant T71 MC 00009 from the Maternal and Child Health Bureau, Health Resources and Services Administration, Department of Health and Human Services. The authors would like to thank Jillian Barber, Nancy Conlon, S. Jean Emans, Barbara Kopans, Lisa A. Prokop, Lauren P. Nichols, Joelle Riezes, Sarah A. Wiley, Anne Zachary, the Massachusetts Eating Disorder Association, and the NEDSP advisory board for their contributions. We would also like to thank the thousands of students, faculty, and staff from high schools across the country who made the screening program possible.

S. Bryn Austin is with the Division of Adolescent and Young Adult Medicine, Children's Hospital, Department of Pediatrics, Harvard Medical School, and Department of Society, Human Development and Health, Harvard School of Public Health, Boston, MA. Najat J. Ziyadeh and Sara Forman are with the Division of Adolescent and Young Adult Medicine, Children's Hospital, Boston, MA. Anne Keliher is with the National Eating Disorders Screening Program and Natick Service Council, Natick, MA. Douglas Jacobs is with the National Eating Disorders Screening Program, Screening for Mental Health, Wellesley, MA, and the Department of Psychiatry-McLean Hospital, Harvard Medical School, Boston, MA.

Report design: Annabel Chang, BA

Contact:

S. Bryn Austin, ScD
Division of Adolescent and Young Adult Medicine
Children's Hospital
300 Longwood Ave.
Boston, MA 02115
bryn.austin@childrens.harvard.edu

Citation: Austin SB, Ziyadeh NJ, Forman S, Keliher A, Jacobs D. Eating Disorders Referral Rates Improved by Community-Led Nationwide Screening in U.S. High Schools. Children's Hospital, Boston, MA: November 2011.

Executive Summary

Fifty-one U.S. high schools in the community-led initiative National Eating Disorders Screening Program (NEDSP) carried out a pilot evaluation to assess effects on referral rates. Mean number of students referred for eating disorder symptoms by school staff increased by 2.2/1000 students per month from prescreen to postscreen ($P < 0.0001$). As a community-led initiative, NEDSP is noteworthy in identifying an unmet need and providing a model for public health agencies to step up efforts to address the widespread problem of eating disorders and disordered weight-control behaviors.

Introduction

Eating disorders present a significant threat to the physical and mental health of adolescents,⁽¹⁾ and only a minority of people with eating disorders receive treatment.⁽²⁾ Furthermore, U.S. federal public health agencies do not conduct systematic surveillance or screening for eating disorders. To address these gaps at the national level in surveillance and screening, the national nonprofit Screening for Mental Health (SMH; <http://mentalhealthscreening.org/>) implemented the National Eating Disorders Screening Program (NEDSP) in the spring of 2000⁽³⁾. NEDSP was the first, and though more than a decade has passed since then, it is still the only nationwide eating disorders screening initiative conducted in U.S. high schools to date. The goal of this community-led initiative was to increase schools' rates of student referral for eating disorder symptoms.

Methods

High schools throughout the nation were notified about NEDSP via direct mail and email sent to national professional groups for school counselors, nurses, and psychologists. A total of 270 high schools from 34 states registered to carry out NEDSP. Schools were provided with a student self-report survey that included the 26-item Eating Attitudes Test (EAT-26), a validated eating disorders assessment tool,⁽⁴⁾ and technical assistance for school staff to help them refer symptomatic students for clinical evaluation. Staff at 152 of the registered schools administered the screening form onsite in classrooms and assemblies, reaching over 35,000 students, as described previously.⁽³⁾ School counselors/nurses were asked to complete 3 program evaluation surveys prior to, immediately after, and approximately one month after the screening to gather data on school-level sociodemographics and number of students receiving eating disorder referrals from the school counselor or nurse in the month prior to and the month after the screening.

With data provided by SMH (AK, DJ), Children's Hospital Boston consultants (SBA, NJZ, SF) conducted analyses to assist program evaluation. We standardized referral rates to be the number of referrals per 1,000 students enrolled in a school. The distribution of rates across

schools was positively skewed, therefore we used the nonparametric Wilcoxon signed rank and Kruskal-Wallis tests to compare prescreen and postscreen rates of eating disorder referrals in schools and examined multivariate Poisson regression models to identify school-level sociodemographics associated with postscreen referral rates, controlling for baseline referral rates.

Students who were identified as having symptoms of eating disorders but who did not talk to an adult about their symptoms in the month following the screening were asked to indicate the reason(s) they did not seek help. They were offered a list of the following possible reasons to choose from:

- I thought getting help would interfere with my school work or other activities
- I was not sure who to talk to
- I did not trust any adults with the information
- I did not think anyone could help
- I did not think therapy or other treatment would work
- I was too embarrassed to discuss it with anyone
- I was afraid I might be put in a hospital
- I did not have transportation or a way to get to a place for help
- I feared being labeled mentally ill
- I felt I could handle my problems on my own
- I thought the problem would get better by itself
- I did not think my parents could afford to pay for treatment
- I did not want my parents to know I was going for help
- I did not want others to know I was going for help
- I decided I did not have a problem
- None of the above

Schools that did not provide both pre- and postscreen referral rates were excluded from analyses, leaving us with a geographically and sociodemographically diverse sample of 51 schools (33.5%). No statistically significant differences were found between schools excluded and those included in baseline student referral rates or school type, urbanicity, geographic region, or percent students eligible for free/reduced-price lunch (all $P > 0.05$), though excluded schools had higher percent students of color ($P=0.01$).

Results

From the month prescreen to the month postscreen, the mean number of students referred by school staff for eating disorder symptoms increased from 0.6/1,000 students (standard deviation [s.d.] 1.2; range 0 – 7.1) to 2.7/1,000 students (s.d. 3.9; range 0 – 22.4), resulting in a mean increase in referrals from prescreen to postscreen of 2.2/1000 students (s.d. 3.9; range -1.8 – 22.4; $P<0.0001$). A multivariate Poisson regression model that included all school sociodemographics indicated that, controlling for baseline rates, private (vs. public) schools, urban (vs. suburban) schools, and schools with $\geq 25\%$ of students eligible for free/reduced-price lunch (vs. other schools) reported greater increases in referral rates from

pre- to postscreen. Percent white students enrolled in a school was not associated with change in referral rates.

Among students who were identified as having symptoms of eating disorders but who did not talk to an adult about their symptoms in the month following the screening, the most common reasons given by girls for not seeking help were:

- 49% felt they could handle problems on own
- 48% decided they did not have a problem
- 25% were too embarrassed to discuss it with anyone
- 22% thought problem would get better by itself
- 21% were not sure who to talk to

The most common reasons given by boys for not seeking help were:

- 43% decided they did not have a problem
- 32% felt they could handle problems on own
- 16% did not trust any adults
- 14% did not think anyone could help
- 15% were too embarrassed to discuss it
- 34% said none of listed barriers applied to them

Discussion

Eating disorders are widely undertreated, with less than half of U.S. adults with eating disorders reporting ever in their lifetime seeking treatment for their condition.⁽²⁾ Among the over 35,000 students participating in NEDSP, we showed previously that between 83-86% of girls and 83-95% of boys with eating disorder symptoms had never received treatment.⁽³⁾ Encouragingly, our results suggest that NEDSP may have increased rates of student referrals for clinical evaluation and treatment.

Study limitations include: The sample was not representative of U.S. high schools, and many schools did not provide sufficient data for pilot program evaluation analyses, which may lead to bias in either direction. There may have been differences across schools in referral criteria used, and we did not have data on eventual outcome of treatment referrals. In addition, data were collected 10 years ago and a randomized-controlled evaluation design was not feasible for this community-led initiative. In addition, just over a third of schools that enrolled in NEDSP completed the program evaluation. Nevertheless, NEDSP remains the only nationwide eating disorders screening ever conducted in U.S. high schools, and still today, no federal agencies conduct nationwide population surveillance or screening for eating disorders. As a result, NEDSP provides the only data available that we are aware of to assess the potential effectiveness of large-scale eating disorders screening in U.S. high schools.

NEDSP used the EAT-26 and several behavioral items to screen students, and while the EAT-26 is validated and widely used, it may be too lengthy to administer for some school settings given time constraints. To develop a recommendation for a brief, validated screening measure that can be used in school settings, our team conducted a sensitivity

analysis of data gathered through NEDSP. As reported previously,(5) we assessed the sensitivity, specificity, positive predictive value, and negative predictive value of two behavioral questions assessing the frequency of vomiting and binge eating in the past 3 months and one attitudinal item from the EAT-26 that assessed preoccupation with thinness, finding that a screening measure that included all three items – the two behavioral and one attitudinal -- performed better than either the behavioral or attitudinal items alone.(5) Based on our findings, we concluded that brief measures that include both behavioral and attitudinal assessment can be appropriate for eating disorders screening in high school settings where time constraints prohibit the use of longer validated measures. We recommend that administrators, teachers, school nurses, or others seeking to implement eating disorders screening in high schools include on student health surveys items that assess both disordered weight-control behaviors as well as at least one attitudinal item assessing preoccupation with thinness or excessive weight or shape concerns.

School-based screening for eating disorders may offer a critical public health strategy to improve prognosis by shortening the interval between symptom onset and treatment.(6, 7) NEDSP is noteworthy as a community-led initiative that identifies an unmet need and provides a model for public health agencies to step up efforts to address the widespread problem of eating disorders and disordered weight-control behaviors.

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