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Reproductive Health Impact of a School Health Center

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A B S T R A C T

Purpose: Although school health centers (SHCs) may improve access to reproductive health care services and contraception, published data on SHC service use and reproductive health impact are limited.
Methods: Reproductive health indicators among students at four urban high schools in a single building with an SHC in 2009 were compared with students in a school without an SHC, using a quasi-experimental research design (N = 2,076 students, 1,365 from SHC and 711 from comparison school). The SHC provided comprehensive reproductive health education and services, including on-site provision of hormonal contraception.
Results: Students in the SHC were more likely to report receipt of health care provider counseling and classroom education about reproductive health and a willingness to use an SHC for reproductive health services. Use of hormonal contraception measured at various time points (first sex, last sex, and ever used) was greater among students in the SHC. Most 10th–12th graders using contraception in the SHC reported receiving contraception through the SHC. Comparing students in the nonintervention school to SHC nonusers to SHC users, we found stepwise increases in receipt of education and provider counseling, willingness to use the SHC, and contraceptive use.
Conclusions: Students with access to comprehensive reproductive health services via an SHC reported greater exposure to reproductive health education and counseling and greater use of hormonal contraception. SHCs can be an important access point to reproductive health care and a key strategy for preventing teen pregnancy.

IMPLICATIONS AND CONTRIBUTION

Access to school-based, comprehensive, reproductive health services was associated with increased use of hormonal contraception and exposure to reproductive health counseling and education. This study and prior research suggest that school health centers can improve access to reproductive health service and may contribute to preventing teen pregnancy.

School health centers (SHCs) can contribute to the prevention of teen pregnancy—by providing access to comprehensive reproductive health services including hormonal and long-acting reversible contraception, contraceptive counseling, and sexuality education. However, not all studies have found a significant impact of SHCs on contraceptive use or teen pregnancy rates [1–7]. These mixed results may reflect differences among communities in reproductive health needs of adolescents and access to reproductive health care from other community providers. Likewise, these results may reflect the scope of reproductive health services provided by the SHCs; many SHCs face restrictions on providing comprehensive reproductive health services, particularly in prescribing contraception and providing contraceptive services on site [8]. Other research has found high acceptance of SHCs by parents, students, and schools; strong parent support for reproductive health services provided in SHCs; and considerable student utilization of SHCs for reproductive health care [9–14]. Importantly, no studies have found an

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adverse impact of SHCs, such as increases in sexual activity [15]; one study found a significant delay in sexual initiation [1].

However, despite the establishment of the first SHCs in the United States over 40 years ago, the evidence remains limited of the impact of SHCs. In part, this lack of evidence reflects the challenges of evaluating SHC impact on reproductive health outcomes. SHCs are often implemented before evaluation is considered or baseline evaluation data are collected. Federal funding for rigorous evaluation has been limited. In contrast to school-based sexuality education, where considerable evidence of efficacy exists, relatively few studies of SHC impact have been conducted using quasi-experimental or experimental research designs. As a consequence of this limited evidence base, the U.S. Federal Office of Adolescent Health could not identify any effective SHC interventions and has declined to fund replications of SHCs as a means to prevent teen pregnancy [16].

To address this lack of evidence-based research, our study used a quasi-experimental research design (described below) developed by Santelli and Kirby to measure the reproductive health impact of an SHC providing comprehensive reproductive health care to four New York City (NYC) high schools (Grades 9–12) sharing the same building. The study measured the willingness of students to use the SHC for reproductive health care, receipt of reproductive health education and contraceptive counseling, and use of contraception—in comparison with a similar NYC high school without an SHC.

Methods

Ethical approval was obtained from the Institutional Review Boards at Columbia University Medical Center and the NYC Department of Education. Parents were mailed informational opt-out letters 3–4 weeks before the survey was conducted. Information letters were given to students 1 week before the survey; assent of adolescents was obtained on the day of the survey with a waiver of documentation.

Students under the age of 18 years of age needed written parental permission receive primary care services. Minor adolescents could consent for services covered under the New York State minor consent statute [17] for family planning, sexually transmitted infection (STI) treatment, and mental health care.

Research design

Our quasi-experimental research design simulated a cohort design but used cross-sectional data from students collected at the beginning of a single school year. In this research design, new ninth-grade students entering the intervention schools in the fall served as baseline research subjects; returning students had varying years of SHC intervention exposure. Therefore, 10th grade students had 1 year of intervention exposure, 11th grade students had 2 years of exposure, and 12th grade students had 3 years of exposure. This design assumes maturation changes (e.g., increasing involvement in risk behavior with age) were similar in intervention and comparison schools. Likewise, the design assumes that entering cohorts were similar over time (i.e., there were no marked temporal changes in behaviors or risk factors, such as increasing or decreasing risk involvement in sexual behavior).

An important assumption to our quasi-experimental design is that pre-existing nonintervention factors that influence the health outcomes of students can be measured via a proxy baseline. The assumption was evaluated by examining the equivalence of ninth grade students who are entering the intervention and comparison schools on health behaviors and prior use of health services. Our method provides improved precision over a post-only quasi-experimental design. A previous study—using the same data set and evaluation design—found that our design worked well in evaluating the impact of primary care services provided in an SHC [18].

In an ideal research design, baseline data should have been collected before school started or before students could access the SHC. Practically, we were unable to accomplish that for our study. Thus, although school started in early September, questionnaires were administered between September 29, 2009, and October 2, 2009, at the SHC and on October 5, 2009, at the comparison school. Based on survey responses, we estimated that approximately 7%–10% of ninth-grade students in the SHC were seen at the SHC before the surveys were conducted.

Health services at the school health center and in comparison school

The SHC was established in 1995 and services were similar to the self-center model [1], which combined reproductive health care, counseling in the health center, and classroom education. The SHC was located in a school building housing 2,700 students in four different high schools. (School buildings in NYC commonly contain multiple schools.) The SHC provided primary care and reproductive health services to all four high schools. Clinical staff included two-to-three full-time adolescent medicine trained physicians or nurse practitioners and two full-time mental health providers. Classroom-based education on pregnancy and sexually transmitted diseases/HIV prevention was delivered by two health educators who also provided individual reproductive health education and counseling in the SHC. During the year before our survey, the SHC registered 2,732 visits from 876 patients; of these, 59% included reproductive care. Students in the SHC were asked to complete an annual health assessment that screens for behavioral risk based on the Guidelines for Adolescent Preventive Services and Home, Education/employment, peer group Activities, Drugs, Sexuality, and Suicide/depression and service models [19,20]. Reproductive services included STI testing and on-site treatment, HIV counseling and testing as per New York State standards, urine pregnancy testing, and on-site dispensing of contraception including condoms, emergency contraception, a range of hormonal methods (including birth control pills, patch, ring, and injection), and referrals for IUDs and complicated reproductive health care. The SHC used a Quick Start method for starting contraception among female patients.

The comparison school was also housed in a school building with four separate schools and more than 5,000 students. We picked one comparison school (1,316 students), which had the best match on ethnicity and family poverty to the intervention schools, based on NYC Department of Education data on race/ethnicity and eligibility for free school lunch. Health services for the comparison high school included HIV education, a condom availability program, and a full-time nurse who provided first aid and referral to community care for the four high schools in the building. Intervention and comparison schools primarily served students from northern Manhattan and the Bronx.

Data collection

A 64-item paper-and-pencil questionnaire was created that could be completed in one 45-minute class period and modeled