

Virtual schooling during the COVID pandemic: The effect on high school retention for adolescent mothers

Beatrice R. Soderholm, DO¹, Jara Crawford, BA¹, Tracey A. Wilkinson, MD¹, David M. Haas, MD, MS¹

1. Indiana University School of Medicine, Indianapolis, IN, USA

Abstract

BACKGROUND: Adolescent mothers have higher rates of maternal and infant morbidity. Education has a protective effect on maternal and infant health. Despite this, pregnant adolescents have lower rates of high school completion. Virtual schooling allows for flexibility and personalization of coursework that may benefit adolescent mothers and was offered ubiquitously to pregnant and parenting adolescents during the COVID pandemic. This study compares the high school retention rate in adolescent mothers in the year immediately before and after the COVID pandemic and to identify educational goals and experiences among adolescent mothers during the pandemic.

METHODS: We conducted a retrospective mixed-methods cohort study of adolescent mothers who were between the ages of 14-19 years-old and enrolled in high school at the time of the delivery of their liveborn infant between March 1, 2019, and February 28, 2021, who delivered at a midwestern state-wide health system or county hospital in a medium-sized midwestern city. The control group consisted of those who delivered prior to March 1, 2020, as they participated in traditional in-person curriculum. The exposure group included those who delivered after March 1, 2020, as they experienced a shift to virtual curriculum along with their peers, because of the COVID pandemic. Participants were contacted via information in the electronic medical record between November 2021 and March 2022. They were able to complete the 15-minute survey over the phone with research personnel, or via text or email at their convenience. They were asked questions regarding high school retention rate, education experiences, academic plans and goals, perceived support, and functional status, were compared between those who delivered before and after the COVID pandemic. The survey incorporated the Family Affluence Scale and the Columbia Impairment Scale, as low socioeconomic status, behavioral issues, anxiety/depression, and low interest in school itself are risk factors for high school dropout outside of pregnancy and were seen as confounding variables. Participants received a \$20 gift card for completion of the survey. Participants were excluded if they did not speak English or Spanish as a preferred language, chose the option of adoption, participated in non-traditional curriculum prior to the study period, were never enrolled in public or private education systems, graduated high school prior to pregnancy, or dropped out of high school prior to pregnancy. We defined retention as enrolling in subsequent grade along with peers in the year following delivery of the child. We defined traditional schooling as in-person education, while non-traditional was defined as online, hybrid, alternative, or home schooling.

RESULTS: Statistical analysis included frequency and percent for categorical variables for each group. The Fishers' exact test was used to determine an association between rate of high school retention and curriculum type. A p-value of less than 0.05 was considered statistically significant. Of the 723 potential participants, 568 (75.8%) could not be reached via contact information in the EMR, 90 (12.4%) were excluded, and 31 (4.3%) agreed to participate. Eighteen adolescent mothers

(2.5%) completed the survey, thirteen (72.2%) from the traditional curriculum group, and five (27.8%) from the virtual schooling group. Demographic characteristics were similar between groups, including number of children, age at time of first pregnancy, school grade during studied pregnancy, and family affluence. Regardless of group, most participants indicated some level of social impairment with decreased functioning either with peers, parents, or authority figures. Twelve (92.3%) of the participants in the control group and 1 (33.3%) participant in the exposure group remained enrolled in high school in the year following delivery ($p=0.17$). Overall, there was a 4.4% dropout rate among our participants and pregnancy negatively affected retention in 57.9% of participants. Reasons pregnancy affected ability to stay in school included physical illness or discomfort, negative interactions with peers, lack of school support, and financial responsibilities. 16% of our participants indicated an intention to enroll in some college or vocational training after high school, and two-thirds of those were already enrolled in a program. COVID affected retention in 31.6% of participants and 38.8% of participants reported the COVID pandemic changed their decision to return to attending school in-person. Only participant reported being asked about status in school by a healthcare provider during her prenatal care.

CONCLUSION: Our preliminary results show that the ubiquitous transition to virtual curriculum during the COVID pandemic did not significantly affect high school retention in adolescent mothers in the year following the birth of their child, although our survey response rate was low. Pregnancy itself affects the ability for adolescent mothers to continue schooling. The COVID pandemic impacted academic decisions for adolescent mothers. Our data highlighted the limitations of studying the adolescent population retrospectively. More research is needed to determine the best model to maximize high school retention in adolescent mothers and address school retention during prenatal visits.