Trends in initiation and continuation of long-acting reversible contraception among adolescent females in North Carolina

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Introduction: Despite high North Carolina (N.C.) adolescent birth rates, with persistent geographic and racial disparities, there is no literature on long-acting reversible contraception (LARC) initiation and continuation in N.C. adolescents. This study examined statewide rates, and associated patient and provider factors, of adolescent LARC use.

Methods: We conducted a retrospective cohort study of N.C. Medicaid claims data from 2013-2018. Eligible patients were 13-19 years old, self-identified as women, and continuously enrolled in Medicaid (defined as received Medicaid for at least 1 month of each of the study years). ICD-9, ICD-10, CPT, and HCPCS codes were used to identify insertion or removal of LARC [i.e., subdermal implants or intrauterine devices (IUDs)]. Extracted variables included those of individual patients (i.e., age, insurance type, race/ethnicity, county of residence, pregnancy history, presence of LARC complication codes) as well as the provider/clinic variables during the insertion encounter (i.e., clinical specialty, type of clinical setting, county code). Bivariable analysis assessed differences in LARC-using adolescents vs. non-LARC using adolescents. Kaplan-Meier curves were created to assess risk of discontinuation, by adolescent variables.

Results: During the study period, 33,847 (9.0%) adolescents used LARC with a mean age of 17.4 years. LARC-using adolescents were more often non-Hispanic, non-White, and lived in rural regions (all p<0.001). LARC was frequently placed by OBGYNs (64%), providers in rural regions (40%), and in outpatient clinics (75%) (all p<0.001). When looking at continuation, younger adolescents had higher continuation of implants (HR 0.90 for 14–16-year-olds, and 0.56 for 17–19-year-olds, compared to 13–14-year-olds; p<0.001) though similar for IUDs (p=0.5 and 0.2 respectively). Black adolescents had higher continuation of IUDs (HR 0.91, p<0.001) though similar for implants (p=0.3). Rural adolescent had higher discontinuation for both IUD and implant compared to urban adolescents (HR 1.24 and HR 1.14, respectively, both p<0.001).

Conclusions: Our study found that adolescent females at highest risk for unintended pregnancies (i.e., older adolescents, racial minorities, and those living in rural counties) more commonly initiated LARC; however older and rural adolescents were less likely to continue LARC. Black adolescents more often continued LARC; further research is needed to understand the roles of patient choice, inadequate healthcare access for removal, or perceptions of reproductive coercion from providers.