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Choice of Postpartum Contraception: Factors Predisposing Pregnant Adolescents to Choose Less Effective Methods Over Long-Acting Reversible Contraception

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A B S T R A C T

Purpose: The purposes were to determine contraceptive methods pregnant adolescents intend to use postpartum and to understand factors that predispose intention to use less effective birth control than long-acting reversible contraception (LARC).
Methods: Participants were 247 pregnant minority adolescents in a prenatal program. *Intention* was assessed by asking "*Which of the following methods of preventing pregnancy do you intend to use after you deliver?*" Multinomial logistic regression analysis was used to determine factors associated with intent to use nonhormonal (NH) contraception (male/female condoms, abstinence, withdrawal and no method) or short-/medium-acting hormonal (SMH) contraception (birth control pill, patch, vaginal ring, injectable medroxyprogesterone acetate) compared with LARC (implant and intrauterine device) postpartum.
Results: Twenty-three percent intended to use LARC, 53% an SMH method, and 24% an NH method. Participants who intended to use NH or SMH contraceptive methods over LARC were significantly more likely to believe that LARC is not effective at preventing pregnancy, to report that they do not make decisions to help reach their goals and that partners are not important when making contraceptive decisions. Other important factors were having a mother who was aged >19 years at first birth and had not graduated from high school, not having experienced a prior pregnancy or talked with parents about birth control options, and the perception of having limited financial resources.
Conclusions: Distinct profiles of factors associated with intending to use NH or SMH contraceptive methods over LARC postpartum were identified and may inform future interventions to promote the use of LARC to prevent repeat pregnancy.

IMPLICATIONS AND CONTRIBUTION

Factors associated with pregnant adolescents' intentions to use less effective methods of contraception compared with long-acting reversible contraception (LARC) underscore the importance of parents, making decisions to reach goals and perceived effectiveness of LARC at preventing pregnancy. Interventions to promote LARC use should address these modifiable influences.

Before the availability of long-acting reversible contraception (LARC), the pill was the most common (53%) prescription birth control method initiated by adolescent mothers immediately after delivery or at the first postpartum visit, followed by intramuscular medroxyprogesterone acetate (32%) [1]. The emergence of LARC (implant and intrauterine device [IUD]) has

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radically changed prevention of unintended pregnancy and is now recommended as a first-line contraceptive method for all adolescents [2]. Repeat pregnancy was delayed for at least 1-year postpartum in 86% of adolescent mothers who had LARC insertions immediately postpartum or within 4 weeks after delivery [3]. Likewise, initiation of an LARC method within 8 weeks of delivery was associated with an 88% decrease in repeat pregnancy in adolescent mothers over 2 years [4].

Although the use of LARC has helped reduce the national pregnancy and birth rates for teenagers 15–19 years old, unintended and repeat teen pregnancy continue to be public health issues in the United States [5,6]. Teen pregnancy rates in Texas in particular have declined but continue to rank among the highest in the nation [7]. Nearly 17% of births to teenagers aged 15–19 years in the United States are repeat births [6], and up to 42% of adolescent mothers in a Texas study experienced a repeat pregnancy in 24 months, the majority being second pregnancies [8].

Lack of contraceptive use and repeat pregnancy are more common among teen mothers who resumed sexual intercourse by 3 months postpartum, are 3 years younger than the father of their first child, lived with a male partner, are not in a relationship with the father of their first child 3 months after delivery, had a preterm delivery, had an intended teen pregnancy, have experienced intimate partner violence (IPV) within 3 months after delivery, and are not in school [8,9]. Repeat pregnancy leads to poor medical, social, educational, and economic outcomes in the long term. Delay and prevention of repeat unintended teen pregnancy would make a significant difference in the life of a teenage mother.

Despite LARC being the most effective contraceptive method, its use in the United States lags behind other developed countries [10]. Recent literature has focused predominantly on provider- and systems-related barriers that impact the low use of LARC (especially IUD) in adolescents [9–17]. According to the Theory of Reasoned Action (TRA) [18], a pregnant adolescent's intention during the prenatal period to use postpartum hormonal contraception would be a prerequisite to initiating effective postpartum hormonal contraception.

Intentions to initiate postpartum hormonal contraception, including the IUD by adolescent mothers soon after delivery, vary by programs and populations from 62% to 95% [4,19]. One study found that 62% of pregnant adolescents in their third trimester planned to use hormonal contraception or the IUD; after delivery, 37.6% had no contraceptive plan documented, declined contraception, or planned condom use. Among those who planned to use hormonal contraception, 27.4% selected intramuscular medroxyprogesterone acetate, 20.2% LARC (19.6% IUD and .6% implant), 11.8% oral contraceptive pills (OCPs), 2% the vaginal ring, and 1.2% the patch [4].

There is a gap in the literature regarding factors that influence pregnant adolescents' intentions to choose less effective contraceptive methods postpartum compared with LARC. Thus, determining these factors will potentially help direct interventions during the prenatal period. Adult women who discussed family planning with their prenatal providers were more likely to use effective postpartum contraception compared with women who did not report such a discussion. Of note, the greatest benefit was observed for women with less than a high-school education [20]. Thus, the purpose of the present study was to (1) determine the type of postpartum contraceptive methods pregnant adolescents aged 15–18 years and under 20 weeks gestation, *intend* to use after delivery and (2) apply the TRA model and its constructs (Figure 1) to understand factors that predispose pregnant adolescents to choose less effective methods of contraception compared with LARC (implants, IUD) postpartum. We hypothesized that the profile of factors would differ for pregnant adolescents who intended to use nonhormonal (NH) methods (male and female condoms, abstinence, withdrawal, or no method) and short-/medium-acting hormonal (SMH) methods (OCPs, transdermal patch, vaginal ring, injectable medroxyprogesterone acetate [DMPA]) compared with pregnant adolescents who intended to use LARC. Results of this study may help practitioners target specific behaviors and attitudes that can facilitate intentions for postpartum LARC use.

Methods

Study population

Subjects were pregnant adolescents recruited to participate in a community-based intervention to promote educational attainment and child immunizations while reducing the risk of repeat pregnancy, IPV, and depression. Eligibility criteria included (1) pregnant and planning to carry pregnancy to term; (2) aged 15–18 years; (3) attending one of five community-based teen health clinics or referred by community, school, or agency; (4) English-speaking; (5) free of obvious cognitive impairment; and (6) <20 weeks in gestational age. These urban community-based clinics provide reproductive health care at little to no cost to low-income youth. A case manager or research assistant approached eligible adolescents about participating in a program for pregnant teens.

Procedures

Each participant was formally consented, and parent consent was obtained for participants who were minors. A total of 426 pregnant adolescents were asked to participate in the study, and 249 (58%) consented to participate. Reasons for not participating included refused or did not attend their scheduled recruitment visit (n = 74, 17%), transportation (n = 18, 4%), could not be reached to schedule a recruitment appointment (n = 65, 15%), and other reasons (e.g., miscarriage, n = 20, 5%). The current analysis was limited to data collected during the baseline assessment before the program implementation. Two adolescents with incomplete information were excluded.

All research protocols were approved by the affiliated Review Board for Human Subjects Research. A research assistant provided instructions on how to complete the baseline assessment using audio computer-assisted self-administered interview. Audio computer-assisted self-administered interview was used to enhance data accuracy, increase participants' comfort answering sexually explicit questions, and eliminate low literacy as a potential barrier. Participants received a $30 gift card and $10 to aid in transportation for completing the self-administered questionnaire.

The baseline survey queried participants on demographic and reproductive health information, intentions to use birth control following delivery, and constructs from the TRA, including attitudes and behavioral beliefs and normative beliefs and subjective norms, described below and in Appendix and Figure 1.

Selection and Definition of Variables

Primary outcome variable

The primary outcome variable was based on participants' response to the question: *Which of the following methods of*