

## **THE TEXTING 2 INITIATE (T2I) STUDY: A PILOT RANDOMIZED CONTROLLED TRIAL USING TEXT MESSAGING FROM THE PEDIATRIC EMERGENCY DEPARTMENT TO INCREASE CONTRACEPTION INITIATION AMONG ADOLESCENT FEMALES AT HIGH PREGNANCY RISK**

LAUREN CHERNICK, MD

Despite widespread efforts, teenage pregnancy rates in the United States remain among the highest in the industrialized world. Those at highest pregnancy risk frequently use the emergency department (ED). Our group recently demonstrated that an estimated 20% of female adolescents seen in our ED are expected to become pregnant in the following year, three times the national average. Since many of these females lack a primary care provider, the ED is an important place to identify those adolescents at highest risk of pregnancy and to intervene. We also found that adolescents in our ED are receptive to contraception initiation but few went to the Family Planning Clinic (FPC) for follow-up, suggesting that a more directed, intensive intervention is needed. One promising and feasible intervention is text messaging (TM). Adolescents prefer texting for communication and sexual health promotion. While text messaging has successfully changed certain health behaviors, it is unknown if it can motivate contraception initiation or behavior change amongst patients in the ED.

The objective of this application was to develop and test an innovative ED-based intervention which used text messages to facilitate contraception initiation for females at high pregnancy risk. Our hypothesis was that adolescent females at high pregnancy risk who received TM reminders and motivational messages that promoted contraception and referral to FPC were more likely to initiate effective contraception than those who receive standard referral to FPC alone. The specific aim was to determine the feasibility and effect size of an ED-based intervention using TM to improve contraception initiation among underserved adolescent females at high risk of pregnancy.

We conducted a pilot randomized controlled trial and assigned eligible patients to a Text Messaging (TM) Arm or the Standard Referral (SR) Arm. The TM Arm received 3 months of messages that included reproductive health information and strong, consistent promotion to go to the FPC; the SR arm received written information regarding the FPC. We assessed feasibility factors such as lost to follow-up rates and TM failures. We measured contraception initiation rates (the primary outcome) by review of the electronic health record and telephone follow-up calls at 3 months after the ED visit.

We enrolled 100 participants (50 intervention; 50 control) and obtained follow-up data on 87 (12% were lost to follow up). Eight participants did not receive any of the intervention and six patients in the intervention group opted out. Of the 1654 texts sent to the intervention group, 482 texts were not delivered due to the participants' phones; the majority of this problem was due to a single mobile carrier. Adolescents in the intervention group found TM acceptable and clicked on links. At follow up, there was no significant difference between the number of females who initiated contraception in the intervention (6/42; 14%) and control group (12/45; 26%) in the control group. Age did modify the effect of the intervention, with younger adolescents who received the intervention more likely to initiate contraception than younger adolescents who did not.

This study adds to the literature in that it is the first to assess the feasibility and effect of an automated text message intervention to increase contraception initiation among adolescent females in the ED. We found that the TM intervention was feasible and acceptable among patients. Although the intervention did not increase contraception initiation rates, the intervention showed promise in

the younger adolescent females. Limitations included the high number of TM failures. Future studies should consider these results when designing ED-based pregnancy prevention interventions, with particular attention to mobile platform selection, targeting of younger adolescents, and the addition of interactive, tailored, motivational TM.