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The Prenatal Experience: Perspectives of Adolescent/Young Adult Couples
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Purpose: Prenatal care programs for low-income pregnant adolescents/young adults that engage male partners may increase long-term male involvement as a parent and partner, leading to improved mental health and economic outcomes for mother and child. This study sought to understand, from the perspective of pregnant adolescents/young adults and male partners, the perceived benefits of participating in a group-based prenatal care program, and obtain input about possible modifications that could strengthen engagement in community-based programs.

Methods: Focus groups included English-speaking adolescents/young adults and their partners who participated in a previous group-based prenatal program. Groups were held at a community-based reproductive health clinic serving primarily low income, minority adolescents/young adults. Written parental consent was obtained for those < 18 years of age. Focus groups lasted 1.5-2.0 hours, a meal was provided and participants received a gift card worth $40. Groups were conducted by two investigators (CW, RB) using a question guide and tape-recorded. Audiotapes were transcribed and verified. Five investigators independently reviewed/coded all transcripts, using an interpretative phenomenological approach. This involved four connected and overlapping steps: familiarization with the text, identification of preliminary themes, grouping themes as clusters, and tabulating final themes in a summary table.

Results: 29 adolescent/young adults participated in 4 focus groups: 12 African-Americans, 15 Latinos and 2 Caucasians; 13 males and 16 females, averaging 23.1 (range 17-36) and 20.6 (range 17-23) years, respectively. Several broad themes, with distinct male and female perspectives, emerged: male involvement; couple communication; opportunities to share experiences and learn from others; and the importance of finances. Males were more likely to attend if told to do so by a male facilitator (repeatedly, if necessary, to demonstrate “that they care”) and if they knew they would be around other males. Providing additional resources, such as help with job placement or school completion, allowed male partners to connect to the program and feel like they could take responsibility as a parent/provider. Group sessions on birth control options, pregnancy mood swings and couple relationships helped many couples mature and strengthen their ability to communicate, skills that ultimately helped them through the more difficult times and provided a basis for informed birth control decisions. It was important to be in a group where they could learn from other pregnant teens and partners. Males wanted a chance to have their own group, where they could talk about their own stuff, learn how to handle things the “man” way. The receipt of gift cards to help pay for gas/food made a big
difference in their ability to travel to group sessions. At times, the gift card was their only source of income and the group meal only source of food.

**Conclusions:** Pregnant adolescents/young adults and their male partners perceived many important benefits of participating in a group-based prenatal care program. A combination of male role models, financial assistance and being around other couples greatly enhanced the male experience and increased engagement in providing support to females.

**Sources of Support:** Funded by the DHHS Office of Adolescent Pregnancy Programs, the Simmons Foundation, and Madison Charitable Foundation.

63.

**Reading and Adolescent Parents: A Clinical Reading Intervention**
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**Purpose:** Parent-child reading is associated with improved language achievement and reading skills in children, and may have additional benefits for infants. The Reach Out and Read campaign, in which families receive books and reading-related anticipatory guidance during well child checkups, has been successful in promoting literacy with particularly positive effects among low-income families. Teenage mothers often live in poverty, and their children may have an elevated risk of language delay; however, the Reach Out and Read intervention has not been evaluated specifically in this population. The purpose of this study was to pilot a clinical reading intervention, based on the principles of Reach Out and Read, among adolescent mothers and their children.

**Methods:** This randomized controlled trial was piloted in a teen-tot clinic in downtown Toronto. Adolescent mothers with children aged 6-20 months were eligible for inclusion. The following baseline characteristics were obtained: maternal age, race, and education level; child’s age; child daycare attendance; and number of other adults and adolescents at home. Dyads were randomized into an intervention or control group. Control families received routine care. At each of 3 consecutive well child checkups, intervention families received 1) a new children’s book, 2) reading-related anticipatory guidance from their clinician, and 3) an individual session with a librarian who encouraged reading and provided a public library card. Anticipatory guidance was customized to the developmental stage of the young mothers. At baseline and at study completion, all mothers completed the Beck Depression Inventory (BDI) and a 3-question survey: “1) What are your child’s 3 favorite things to do? 2) What are your 3 favorite things to do with your child? 3) How many days each week do you or another caregiver read to your child?” The primary outcome, defined as the proportion of families reading together at least 3 days per week at the end of the study, was compared between groups.

**Results:** Recruitment is ongoing; since the study’s launch, 10 intervention families and 10 control families have completed the study. Mothers were predominantly black or Latina with a mean age of
17.7 years. Baseline characteristics were similar between groups. After completing the study, the proportion of families reading at least 3 days a week was 0.40 in the control group and 0.80 in the intervention group. Additionally, by the end of the study period: 1) intervention families reported reading more days per week than controls; 2) intervention families increased their reading frequency over the study period while control families decreased their reading frequency; 3) intervention group mothers more frequently reported that reading was one of their favorite activities and one of their child’s favorite activities; and 4) fewer intervention group mothers had evidence of depressed mood (BDI score > 10). Sample size is currently too small to determine statistical significance.

**Conclusions:** Although larger studies are required, this clinical reading intervention shows promise in encouraging adolescent parents to read to their children. Providers should consider customizing reading-related anticipatory guidance to the parent’s developmental stage.

**Sources of Support:** The Hospital for Sick Children Research Institute

64.

**Reducing Teenage Pregnancy: Lessons Learned From the UK Government's Teenage Pregnancy Strategy for England**

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**Purpose:** To reflect on the implementation and effectiveness of the policies introduced to reduce England’s historically high rates of teenage pregnancy

**Methods:** In 1999, the UK Government cited teenage pregnancy as a key issue of public health and socio-economic inequality. A ten-year strategy was launched to halve the under-18 conception rate in England, from 46.6 conceptions per 1000 15-17 year old females, to 23.3. The Strategy was informed by a literature review of the international evidence and visits to successful national and international projects. The Strategy had a 30 point action plan, organised in four themes: joined up action; better prevention – improving sex and relationships education at school and home, and easy access to contraception; a national communications campaign to reach young people and parents; and better support for teenage parents. In 2005, a mid-strategy evaluation found wide variation in local progress. An in-depth review was undertaken comparing 6 areas with similar demographics but contrasting progress in reducing rates. One to one interviews and focus groups were conducted with key stakeholders to assess the local strategies. Ten key factors were identified in high performing areas. More prescriptive guidance was published, with a self-assessment toolkit for areas to review their strategies and identify and address any gaps. In 2008, local areas received additional funding to increase young people’s access to contraception, particularly long acting reversible contraception. Conception data to measure progress were provided by the National Statistics Office.
Results: By 2005, there was an 11% reduction in the under-18 conception rate, significantly behind the trajectory needed for the 2010 target. Progress in local areas ranged between declines of 42% to increases of 43%. If all areas had achieved the reductions of the top 25% of areas, the national reduction would have doubled. Following the actions of the mid-strategy review and the additional contraception investment, progress accelerated. By 2010 the national reduction had increased to 27%. 2011 data showed a further decline to 34%. This significant progress has reduced England’s rate to 30.7, the lowest level for over 40 years. Both abortions and maternities are declining but there has been an even greater reduction of 42% in conceptions leading to teenage births. However, further reduction is needed to reach the original 50% target.

Conclusions: High teenage pregnancy rates are not inevitable. With concerted effort, a clear goal and the right actions, rates can be reduced, even in deprived areas. Research evidence on what works needs translating into clear guidance for local areas, with all agencies and practitioners understanding their role in preventing teenage pregnancy. Good data and use of local intelligence from service providers are essential for monitoring and improving local performance. Senior, visible leadership at national and local level is critical for prioritising action. A hub and spoke structure is important for supporting local areas and maintaining momentum. The lessons of the Teenage Pregnancy Strategy are vital for delivering the further progress needed in England.

Sources of Support: The Teenage Pregnancy Strategy for England was funded by the UK Government.

65.

Depression Among Pregnant Adolescents: A Socio-Ecological Perspective
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Purpose: Depression has negative effects on pregnant adolescents and their children. The present study used a socio-ecological framework to examine individual, interpersonal, family and community risk factors associated with depressive symptoms among pregnant adolescents.

Methods: The sample consisted of 249 primarily African American and Hispanic pregnant adolescents ages 15-18 years who were recruited to participate in a community-based intervention to promote educational attainment and child immunizations while reducing the risk of repeat pregnancy, intimate partner violence and depression. The current analysis focused on data collected during the baseline assessment, conducted using audio computer-assisted self-interview. Individual risk factors examined included limited resources, unplanned pregnancy, repeating a grade, lifetime drug use, and race/ethnicity. Interpersonal risk factors were prior physical, sexual and verbal abuse, and limited contact with the father of the baby. The family risk factor was family criticism while community risk factors included community violence and general support. Moderate-to-severe depressive symptoms
were defined as a score \( \geq 16 \) on the Center for Epidemiologic Studies Depression Scale (CES-D). Multivariate logistic regression analyses using simultaneous entry was employed to identify factors significantly associated with the outcome.

**Results:** A total of 115 (46.1%) participants met criteria for moderate-to-severe depressive symptoms. Multivariate analyses revealed that participants who reported depressive symptoms were more likely than those who did not to be African American (versus Hispanic: adjusted odds ratio [AOR]=2.17; 95% Confidence Interval [CI]=1.14-4.16; \( p=.019 \)), and to report limited contact with the father of the baby (AOR=2.18; 95% CI=1.16-4.13; \( p=.016 \)), prior verbal abuse (AOR=2.23; 95% CI=1.11-4.47; \( p=.023 \)), and physical or sexual abuse (AOR=1.84; 95% CI=1.04-3.28; \( p=.038 \)). Depressed adolescents also experienced higher levels of family criticism (AOR=1.67; 95% CI=1.07-2.60; \( p=.025 \)) and lower levels of general support (AOR=1.81; 95% CI=1.24-2.64; \( p=.002 \)). The Hosmer and Lemenshow Goodness of Fit Test = 8.370(8), \( p=.398 \), indicating an acceptable fit to the data.

**Conclusions:** The results of the study indicated that pregnant adolescents are confronted with many environmental challenges that affect their mental health and well-being. Interventions that incorporate partners and families to address the multiple needs of this priority population are sorely needed.

**Sources of Support:** This project was funded by the Department of Health and Human Services, Office of Adolescent Pregnancy Programs (OAPP).

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**66.**

**School-based Health and Supportive Services for Pregnant and Parenting Teens: Associations with Birth Outcomes of Infants Born to Adolescent Mothers**

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**Purpose:** Although infants born to adolescent mothers are at increased risk of preterm birth and low birth weight, little is known about factors that can affect birth outcomes in this group. Given the importance of the school context to adolescent health and development, health services and social supports that are available in-school may be important resources for pregnant teens. The purpose of this study is to investigate the associations between school-based health and supportive services and the birth outcomes of infants born to adolescent mothers.

**Methods:** Data from the National Longitudinal Study of Adolescent Health Waves I and IV were analyzed. Adolescent mothers’ first singleton live births were included if they occurred after Wave I and before the mother left high school. Live births from 402 adolescent mothers attending 104 schools were included. Birth weight and gestational age of the infants were reported by mothers at Wave IV interview. School services details came from the Wave I school administrator survey. On-site school health services included diagnostic screening (including STDs), treatment for STDs, family planning counseling, rape counseling, and prenatal/postpartum health services. Supportive services included for-
credit courses in parenting, counseling offered during pregnancy, and day care for children of enrolled students. Control variables included age at pregnancy, BMI, and parent education at the individual level, and socioeconomic disadvantage, school quality, number of past year pregnancies, enrollment options after pregnancy, public/private, and school size at the school level. We implemented multilevel OLS models with random intercepts for schools, regressing birth outcomes on school services and controlling for individual and school-level demographic traits.

**Results:** The average birth weight of included infants was 3.28 kg, and the average gestational age was 39.5 weeks. On-site reproductive health services were offered in less than 15% of the schools: diagnostic screening (7.7%), treatment for STDs (2.9%), family planning counseling (8.7%), prenatal/postpartum health care (3.9%), and rape counseling (12.5%). Supportive services were relatively more common than reproductive health services (for-credit courses in parenting [20.2%], counseling for pregnant teens [88.5%]), except day care for children of enrolled students (4.8%). In multilevel analyses including controls, availability of family planning counseling (Est. β=0.22), for-credit courses in parenting (Est. β=0.23), counseling services (Est. β=0.22) and day care (Est. β=0.28) were all significantly (p<0.05) associated with increased infant birth weight. Family planning counseling (Est. β=0.90, p<0.05) was also significantly associated with increased gestational age after controlling for individual and school-level characteristics.

**Conclusions:** Family planning counseling offered on-site at schools was associated with greater birth weight and gestational age among adolescent mothers, while other supportive services were only associated with increased birth weight. Such on-site services may signal openness for a teen to discuss and receive support for reproductive health issues, and thus improve birth outcomes through the social support a pregnant teen feels. Future analyses that study mechanisms by which these services impact birth outcomes are warranted.

**Sources of Support:** This study was supported by National Institute of Child Health and Human Development grant R03 HD067240.

67.

**A Comparison of Adolescent and Adult Women's Use of Maternal Child Health (MCH) Services in Western Kenya**

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**Purpose:** Adolescent mothers have been shown to access MCH services less reliably than older mothers. However, limited data exist about MCH health service utilization by adolescents from Africa, and few studies contrast adolescent and adult usage. The purpose of this study was to compare use of antenatal, delivery and infant vaccines and risk factors for delayed vaccination between adolescent and adult mothers.
Methods: Data were utilized from the Mama-Salama Study, an observational cohort of HIV-negative pregnant women in Western Kenya, who were enrolled during pregnancy and followed for 9 months postpartum. Participant visits were aligned with the routine MCH schedule. Demographic, medical, lab and psychosocial data were collected at study visits. Median gestational age at presentation for care, use of facility delivery, and timing of infant immunizations were compared for adolescents (ages 14-21 years) vs. adults (25-42 years) using Chi-square, Wilcoxon, and Cox regression.

Results: Among 859 HIV-1 negative pregnant women who have completed the study, median age was 22 years: 388 (45.2%) were adolescents 14-21 years and 320 (37.3%) were adults 25-42 years. Adolescents and adults had similar education (median 8 years), socioeconomic indicators (24% resided in single rooms) and similar proportions of orphanhood (21% had both parents deceased). They differed in prevalence of stable partnerships: adolescents were less likely to be married (64% vs 94%; p<0.001) or to be in a stable partnership (1 year vs 7 years duration; p<0.001). Gestational age at enrollment was 27 weeks and did not differ significantly between groups. Rates of facility delivery were 63% vs. 61%, between adolescent vs. adult mothers, respectively, and similar between groups (p=0.82). Vaccination coverage by study termination for OPV and DPT vaccines through 14 weeks was 77% in the cohort overall and markedly lower for measles vaccine with 40% vaccinated at 9 months; however, coverage did not differ significantly between the two groups (p=0.23 and 0.30, respectively). Among infants with delayed vaccinations, the time to vaccination was more delayed among infants of adolescents (HR = 0.39; p=0.024). Analysis was limited by sample size but correlates of delayed vaccination varied for the two groups.

Conclusions: Both adolescent and adult mothers presented late for antenatal care and rates of facility delivery were low for the entire exited cohort, however higher than the Kenya average. Gestational age at antenatal enrollment and facility delivery prevalences did not differ significantly between adolescent and adult mothers, however postpartum retention was lower for adolescent mothers. Our findings suggest that adolescent mothers are less compliant with later immunizations and that interventions to increase compliance should be developed for adolescents.

Sources of Support: N/A
receive PCC however no studies have specifically compared PCC receipt between adolescents and older mothers. The objectives of this study were to evaluate receipt of PCC prior to most recent pregnancy, intendedness of pregnancy and current use of highly effective contraception in adolescent compared with older mothers. We hypothesized that adolescents would be less likely to have received PCC and would be more likely to use a hormonal method or IUD after pregnancy.

**Methods:** Mothers of young children (<3 years) presenting for well child care were recruited from four pediatric practices: two primary care clinics serving primarily urban, African American patients; an academic clinic serving primarily Hispanic immigrants; and a suburban private practice serving a diverse population including many low income patients during January-July 2013. A detailed needs assessment interview was conducted gathering information about receipt of PCC in addition to intendedness of most recent pregnancy and current contraceptive use. Receipt of PCC was assessed using a question from the Pregnancy Risk Assessment Monitoring Survey (PRAMS) asking whether a healthcare provider had advised her on how to have a health pregnancy prior to becoming pregnant. Descriptive statistics were calculated. Chi Squared test was used to determine statistical significance of frequency differences comparing adolescent vs. older mothers. The study was approved by the Johns Hopkins IRB.

**Results:** A total of 252 women were interviewed (Range 15-45). 35 women ages 21 and under were interviewed. Mothers were predominately African American (71.4%) and 9.9% were Hispanic. Adolescents were significantly more likely to report that their most recent pregnancy was unintended (mistimed or unwanted) than older mothers (74% vs. 52%, p=.01). There was no difference in report of PCC receipt between adolescent and older mothers (54% vs. 59%, p=0.76). Adolescents were more likely to report use of a hormonal contraceptive method or IUD after pregnancy than older mothers (74% vs. 48%, p <0.01).

**Conclusions:** While there was no significant difference in reported receipt of PCC between adolescent and older mothers, the overall rates are low and suggest the importance of implementing systematic preconception screening and intervention programs. The fact that adolescents reported significantly higher rates of unintended pregnancy along with higher rates of effective contraceptive use after their pregnancy suggests a need and opportunity for interventions targeted to primary prevention of adolescent pregnancy, including earlier promotion of highly effective contraceptives, in order to help adolescents’ to achieve their reproductive goals.

**Sources of Support:** Johns Hopkins Healthcare and the Aetna, Abell, Krieger and Straus Foundations