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## Contraceptive Service Needs of Women with Young Children Presenting for Pediatric Care

Krishna K. Upadhyia, M.D., M.P.H.<sup>a,b</sup>, Anne E. Burke, M.D., M.P.H.<sup>b,c</sup>, Arik V. Marcell, M.D., M.P.H.<sup>a,b</sup>, Kamila Mistry, Ph.D., M.P.H.<sup>a,d</sup>, and Tina L. Cheng, M.D., M.P.H.<sup>a,b</sup>

Krishna K. Upadhyia: kupadhy2@jhmi.edu; Anne E. Burke: aburke@jhmi.edu; Arik V. Marcell: amarcel2@jhmi.edu; Kamila Mistry: kmistry2@jhmi.edu, kamila.mistry@ahrq.hhs.gov; Tina L. Cheng: tcheng2@jhmi.edu

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b

c

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### Abstract

**Objective(s)**—The primary objective of this study is to characterize the need for contraceptive services and contraceptive method use among women with young children presenting to child health clinics. A secondary objective is to characterize the factors, including access to care and health needs, that exist in this population and to evaluate their association with contraceptive method use.

**Study Design**—This is a cross-sectional study of women with children under age 36 months presenting to four child health practices in the Baltimore, Maryland area. Participating women completed a survey to assess desire for pregnancy, contraceptive method use and related characteristics.

**Results**—A total of 238 participants (82%) were in need of contraceptive services (fertile and not desiring pregnancy). Overall, 59 (25%) of women in need were not using a contraceptive method (unmet need) and 79 (33%), were using a highly effective method (implant or intrauterine device). Factors associated with lower odds of unmet need for contraceptive services included attendance at a routine post-partum visit and visiting a healthcare provider to discuss contraception after pregnancy. Approximately half of index pregnancies were unintended and this was the only health factor associated with greater odds of using of a highly effective contraceptive method.

**Conclusion(s)**—Most women presenting with young children for pediatric care indicated they were not currently trying to become pregnant and reported current methods of pregnancy prevention that ranged from none to highly effective. Women who had not sought post-pregnancy contraceptive care were more likely to have unmet need for contraceptive services.

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Corresponding Author: Krishna K. Upadhyia, MD, MPH, Assistant Professor of Pediatrics, Johns Hopkins School of Medicine, 200 N. Wolfe St, Room 2060, Baltimore, MD 21287, USA, Phone: (443)-287-8947, Fax: (410) 502-5440, Kupadhy2@jhmi.edu.

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## Keywords

Contraception; Family Planning; Preconception Health; Pediatrics; Health Services

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## 1. Introduction

Approximately half of pregnancies in the United States are intended [1]. Unintended pregnancies are associated with a number of undesirable outcomes including short inter-pregnancy intervals, late entry into prenatal care and low birth weight [2–4]. Healthy People 2020 goals set objectives to increase the proportion of pregnancies that are intended in the United States by 10%, to increase the proportion of pregnancies spaced at least 18 months from prior birth, and to increase the proportion of sexually experienced females who receive reproductive health services annually [5]. Achievement of these objectives requires new approaches to improve pregnancy planning and reproductive health service delivery.

Use of contraception, particularly long acting and hormonal methods, has proven efficacy to reduce unplanned pregnancy and improve birth spacing. Programs in California, Missouri and Colorado that offer free or low cost contraception in order to increase access to highly effective methods (intrauterine devices (IUDs) and implants) demonstrate significant decrease in unintended pregnancy rates and increased inter-pregnancy intervals [6–8].

In contrast to funded projects where women receive equal access to all contraceptive methods at no cost, real world provision of contraceptive services varies based on many factors, including having a usual source of care and health insurance [9–11]. Young, poor women who are statistically most likely to experience unplanned pregnancies [12] also undergo transitions in their use of health services as they move into their reproductive years [13] and are significantly less likely to have received reproductive health services in the last 12 months than women with advanced degrees [14]. Finally, underlying health conditions also influence the acceptability and availability of contraceptive methods [15].

Child health clinics may present a novel site to deliver reproductive health care for women, particularly those who may not be seeking care for themselves. A recent study from India, for example, suggested that child immunization clinics are a potential site of contraceptive care for mothers [16]. In the United States, pediatric guidelines recommend that child health providers discuss pregnancy planning and spacing with their patients' mothers at certain visits [17] and some recommend offering contraception [18]. To our knowledge, no U.S. studies have assessed the extent of contraceptive service needs among women presenting with children for pediatric care and whether this has been incorporated into standard of care.

The primary objective of this study is to characterize the need for contraceptive services and contraceptive method use among women with young children presenting for care at child health clinics. A secondary objective is to characterize the factors, including access to care and health conditions, that exist in this population and to evaluate their association with contraceptive method use. Andersen's Behavioral Model of Health Services Use [19] informed the framework for this objective. The Andersen model suggests that predisposing

factors that provide motivation, enabling factors that provide resources, and health needs that provide actual stimulus to engage in care, all influence health care use.

## 2. Materials and Methods

We conducted a cross-sectional survey with a sample of women bringing children for care to four child health clinics in the Baltimore, Maryland area. We selected clinics to include a variety of practice types (academic, community, private practice), and facilitate recruitment of low-income, minority (African-American and Latina) women at risk for poor birth outcomes and limited access to health care. Providers of pediatric care at the clinics were primarily pediatricians, but also included combined internal medicine-pediatric physicians and pediatric nurse practitioners.

Women were eligible to participate in the survey if they had a child aged 36 months or younger who was a patient in one of the participating practices. We excluded women who did not speak English or Spanish or who were not the biological mother of the child. Research assistants approached women in the clinic waiting room or in examination rooms after introduction by clinic staff, to assess interest in participation and eligibility. After informed consent, women completed a 30–45 minute survey either in-person or by phone depending on their preference and space availability in the clinic. Participants received a \$25 gift card for completing the survey. Study procedures were approved by the Johns Hopkins Hospital Institutional Review Board.

The primary outcome measure of interest was "in need of contraceptive services," defined as not currently pregnant or planning pregnancy in the next 6 months and neither she nor her partner were sterile [20]. The secondary outcome was effectiveness of contraceptive method used. We classified effectiveness as Tier 1 (IUD, implant), Tier 2 (injectable or combined hormonal method), Tier 3 (barrier methods, fertility awareness) or Tier 4 (withdrawal, spermicides) [21]. If a woman reported use of more than one method (e.g. condoms plus hormonal method) we used the most effective method for classification. We defined unmet need for contraceptive services as women classified as in need but not currently using a contraceptive method.

Drawing on the Andersen model [19] and prior literature [9, 11], we included the following covariates as "predisposing factors" for contraceptive service use: age (years), race, Hispanic ethnicity, level of education (coded as high school or less vs. more than high school) and relationship status (coded as married or living with partner vs. single or not living with partner). We also included obstetric history, including parity and time since last birth (months).

Enabling resources considered for our analysis included current insurance coverage/type; whether respondent had a usual source of health care (yes/no) and location of usual source (coded as: clinic, doctors office, urgent care/ER); attendance at a routine post-partum visit (coded as yes/no); preventive care visit in the 12 months prior to the survey, excluding care related to their pregnancy (coded as yes/no); and healthcare visit to discuss contraception after their pregnancy (coded as yes/no).

We evaluated several health needs that might provide stimulus to engage in care. Women indicated their perceived health status by response to the question “How would describe your own health? Would you say: Excellent, Very Good, Good, Fair, or Poor?” Responses were coded as “Fair/Poor” vs. “Excellent/Very Good/Good.” Chronic health conditions included self-reported asthma, high blood pressure, depression/anxiety, and diabetes. Body mass index (BMI) was calculated as kg/m<sup>2</sup> based on self-reported height and weight. We classified women as being obese if they had a BMI  $\geq$  30 kg/m<sup>2</sup>.

The final health factor we evaluated as a potential stimulus for seeking contraceptive care was intendedness of the index pregnancy. We assessed intendedness with two questions: “Thinking back to just before you got pregnant with your most recent child, how did you feel about becoming pregnant? Did you want to be pregnant...” with response choices including sooner, then, later or never; and “When you got pregnant with your most recent child, were you trying to get pregnant?” with response choices including yes, no or unsure. We classified the index pregnancy as intended if the woman reported that at the time of her pregnancy she wanted to be pregnant “at that time” or “sooner”, or if she reported that at the time of her pregnancy she was trying to become pregnant.

We calculated descriptive statistics for all variables. Separate logistic regression models provided odds of unmet need for contraceptive services use of highly effective contraception by each enabling resource and need factor. For regression analyses, we dichotomized as highly effective methods (Tier 1) vs. less effective methods (Tier 2, 3, 4 or no method), and classified women as having a chronic health condition (coded yes/no) based on presence of at least one of the specific conditions listed above. Regression analyses were controlled for all predisposing factors and recruitment site. We analyzed data using STATA version 13 (StataCorp, College Station, Texas).

### 3. Results

Of 337 eligible women approached, 294 (87%) agreed to participate and completed the survey. We excluded three surveys that did not include the date of birth of the most recent child, leaving 291 participants. We did not collect demographic information from non-participants.

Participants ranged in age from 15–45 years (mean age 28 years) and were of mixed Race/Ethnicity (64% Black and 19% Hispanic) (Table 1). The majority of participants reported having a high school education or less (59%). About one quarter reported being married and approximately one third reported living with a partner but not being married. Most women in the sample had two or more children; mean time since last birth was just over 10 months.

Approximately 20% of participants reported they were currently uninsured. The majority reported having a usual source of healthcare (88%); the location of that usual source of care was a doctor’s office or clinic, as opposed to urgent care or emergency department. Most women attended a routine post-partum visit (75%) and had seen a healthcare provider for a check-up in the past year (78%). Approximately two thirds reported they had visited a healthcare provider to discuss contraception since their most recent pregnancy.

A minority of participants (17%) reported their current health status to be fair/poor. The most common chronic health condition identified was obesity (37%) followed by asthma (16%) and depression/anxiety (17%); only one participant reported prior history of blood clots (data not shown). Approximately half (49%) of all index pregnancies were unintended.

A total of 238 participants (82%) were in need of contraceptive services. Overall, 179 (75%) of women in need of contraceptive services were using a method, which included 79 (33%), 64 (27%) and 36 (15%) using Tier 1, Tier 2 and Tier 3 methods, respectively. No participants reported using Tier 4 methods. Table 2 reports the findings of the regression analysis to assess odds of having unmet need for contraceptive services and of using highly effective contraception. Of note, the 216 (75%) women who reported attending a post-partum follow-up visit and the 192 (66%) women who had a healthcare provider visit to discuss contraception since their pregnancy were significantly less likely to have unmet need for contraceptive services than participants not reporting these visits. The 141 (49%) women who reported their most recent pregnancy was unintended were more than twice as likely as women with an intended pregnancy to be using a highly effective method of contraception (Table 2).

#### 4. Discussion

This study suggests that a high proportion of women with young children presenting to child health clinics need contraceptive services (meaning they are fecund and not desiring pregnancy), that a minority report using highly effective methods, and that as much as a quarter have unmet need for contraceptive services. This proportion of women with potential need for contraception is higher than seen in the National Survey of Family Growth (NSFG), a representative household survey, which found that 11% of women at risk of an unintended pregnancy were not using a method of contraception [22].

We found a much higher proportion of women using Tier 1 methods than would be expected based on national data [23]. We did not identify the clinics where women received contraceptive care or capture the timing of contraceptive initiation following pregnancy; however, based on our knowledge of the study sites, we believe that the high rate of Tier 1 contraceptive use reflects provision of immediate postpartum IUDs and implants. In population based surveys, approximately half of women report having seen a provider for contraceptive services in the past 12 months [11, 24]. In contrast, most women in our sample reported that they discussed contraception with a health care provider after pregnancy. Most also had insurance and a usual source of care. These relatively high rates of care-seeking likely reflect our direct recruitment of women at health care clinics. Further, the survey question about a contraceptive visit could include up to 36 months since the birth of the woman's child. The number of women who can access contraceptive services may also be increasing in the general population due to the implementation of the Affordable Care Act.

Insurance coverage and visits to health care providers, however, do not guarantee receipt of recommended services. Our results, which include a high proportion of women with access to care, but also a higher than expected proportion with unmet contraceptive need, demonstrate this. A recent study using data from the National Ambulatory Medical Care

Surveys (NAMCS) showed that women's likelihood of receiving services recommended by the US Preventive Services Task Force varied by the type of clinician (obstetrician/gynecologist vs. internist/family medicine) they visited [25]. The NAMCS data, when combined with our findings, suggest the need to provide reproductive health services for women in a broader variety of clinical settings.

This study has some limitations. Although we used an accepted definition of unmet need for contraceptive services [20, 26], it may not accurately reflect an individual woman's feelings about need for contraception. Some women who do not report planning/desiring a pregnancy may still choose not to use contraception, perhaps because of ambivalence toward pregnancy. Similarly, we classified women as having an index pregnancy that was "unintended" if they reported they were not trying to become pregnant, or reported they wanted to be pregnant later or not at all. Women who were "not trying" to become pregnant may not view their pregnancy as unintended. Additionally, we only asked women about the intendedness of the pregnancy resulting in their most recent birth, not about prior history of any unintended pregnancy. This study took place at four sites in one metropolitan area, and thus findings may not be generalizable to all women bringing children for pediatric care. Finally, all data are self-reported and we could not verify contraceptive method use.

The American Academy of Pediatrics recommends nine visits for well child care for children during the first three years of life [17]. These guidelines also suggest that during at least 2 of these visits, providers ask mothers about family planning, and future childbearing plans [17]. Women with young children have a range of contraceptive service needs and may not have sought contraceptive care after delivery. Child health providers have access to large numbers of mothers who may have family planning needs, and thus have opportunities to address gaps in women's reproductive healthcare. Future studies should explore different models for addressing women's family planning needs in child health clinics along with clinicians' and women's views on them.

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### Implications

Child health clinics may be a novel site for providing contraceptive care to women with children as part of a strategy to reduce unplanned pregnancies.

**Table 1**

## Characteristics of Participants (N= 291)

<b>Demographics</b>	
Age	28.2 +/- 6.4
Race/Ethnicity	
Black, Non-Hispanic	187 (64)
Hispanic	55(19)
Level of Education High School or Less	171 (59)
Relationship Status	
Married	76 (26)
Cohabiting	89 (31)
Parity	
1	113 (39)
2	83 (29)
3+	95 (33)
Time Since Last Birth in months	10.2 +/- 9.1
<b>Enabling Resources</b>	
Currently insured	237 (81)
Public insurance (among those insured)	189 (80)
Has usual source of healthcare	255 (88)
Location of usual source of care	
Doctors office	105 (41)
Clinic	128 (50)
Urgent Care or Emergency Room	22 (9)
Attended post-partum check-up within 8 weeks of delivery	216 (75)
Visited a doctor's office for a routine visit in past 12 months (not including prenatal care)	226 (78)
Visited healthcare provider to discuss contraception since pregnancy	192 (66)
<b>Health Needs</b>	
Perceived Health Status "Fair/Poor"	49 (17)
Chronic Health Conditions	
Obesity (BMI >30)	98 (40)
Asthma	49 (17)
High Blood Pressure	31 (11)
Depression/Anxiety	53 (18)
Diabetes	8 (3)
Index pregnancy unintended	141 (49)

Data are presented as mean +/- standard deviation or n (%).

**Table 2**

Odds of Unmet Need for Contraceptive Services and Highly Effective Contraceptive Method Use, by Enabling Resources and Health Needs

	Odds <sup>a</sup> of Unmet Need for Contraceptive Services <sup>b</sup>	95% CI	Odds <sup>a</sup> of Using Highly Effective Method <sup>c</sup>	95% CI
<b>Enabling Resources</b>				
Currently insured	0.7	0.2, 2.7	1.0	1.0, 1.1
Has usual source of healthcare	1.6	0.7, 3.9	1.0	0.5, 2.2
Attended post-partum check-up within 8 weeks of delivery	0.4*	0.2, 0.9	1.0	0.5, 2.1
Visited a doctor's office for a routine visit in past 12 months (not including prenatal care)	0.8	0.4, 1.6	1.3	0.6, 2.5
Visited healthcare provider to discuss contraception since pregnancy	0.3*	0.2, 0.6	1.6	0.8, 3.1
<b>Health Needs</b>				
Perceived health status fair or poor	1.3	0.5, 2.9	1.4	0.6, 3.0
Has chronic health condition	0.7	0.3, 1.4	0.9	0.5, 1.7
Index pregnancy unintended	0.6	0.3, 1.3	2.5*	1.3, 4.8

<sup>a</sup> Odds ratios generated by logistic regression analyses. All analyses controlled for age, race, Ethnicity, level of education, relationship status, parity, time since last birth and site of recruitment.

<sup>b</sup> Women not desiring pregnancy /not sterile but who were not currently using a contraceptive method were defined as having unmet need for contraceptive services.

<sup>c</sup> Highly effective contraceptive methods include implant and intrauterine device.

\* p<0.05