

Unintended Pregnancy

Introduction:

Unintended pregnancy has typically been defined as pregnancy that is either mistimed or unwanted at conception. Mistimed is generally defined as “a pregnancy that is desired later in life but not at conception” and unwanted is defined as “not wanted then or at any time in the future”. The most recent national figures show that approximately 49% of pregnancies are unintended in the United States and about 31% of pregnancies resulting in a live birth are unintended¹. The Healthy People 2010 goal is to increase the proportion of pregnancies that are intended to at least 70%².

Higher rates of unintended pregnancy occur among the following groups: adolescents (<20 years old), women with less education, women of low socioeconomic status or low income, African American women, single women and unemployed women^{1,3}.

Women who have unintended pregnancies are more likely to engage in risk-taking behaviors during the first few weeks of pregnancy that can harm the fetus, such as alcohol use and abuse, cigarette smoking and not taking multivitamins with folic acid^{3,4}. Women who have unintended pregnancies are less likely to get adequate prenatal care, more likely to experience intimate partner violence during their pregnancy, more likely to have a premature or low birthweight infant, and are less likely to initiate breastfeeding^{2,3,4,5}. Unintended pregnancy is also a risk factor for child maltreatment².

The cost to the health care system for unintended pregnancy is immense. To reduce these serious and costly consequences, it is imperative that Oklahoma work to significantly increase the proportion of women who report that their pregnancy is planned or intended.

This PRAMISGRAM will describe the characteristics of women with live births in Oklahoma who reported unintended pregnancies between 2000 and 2003.

Methods:

To classify pregnancy intention, this analysis used the Oklahoma state-specific PRAMS question, “Just before you became pregnant with your new baby, would you say you probably wanted to become pregnant at that time or

In Oklahoma:

- Thirty-seven percent of women did not want to become pregnant at the time they became pregnant.
- Approximately thirty percent of women did not mind becoming pregnant at the time of conception.
- Only 35.1% of mothers indicated that their pregnancies were intended at conception.
- Unintended pregnancies were most common among women who were less than 20 years of age, African American, unmarried, had less than a high school education, or were low income and received Medicaid funded services.
- Almost two-thirds of all women reporting unintended pregnancies utilized Medicaid funds for prenatal and/or delivery care.

probably not?” Mothers are instructed to select one of the following options: (a) I probably did not want to become pregnant at that time, (b) I didn’t mind if I became pregnant at that time, or (c) I probably wanted to become pregnant at that time. Response options (a), (b), and (c) are classified as unintended, did not mind, and intended, respectively. Mothers who report their pregnancies as unintended or stated they did not mind are then asked, “Did you become pregnant with your new baby sooner than you wanted?” Those giving an affirmative response are asked to give the number of months or years by which the pregnancy was mistimed.

Use of this configuration of questions is a departure from the traditional PRAMS question, which does not include an option for those who did not mind becoming pregnant even though they were not intending a pregnancy, nor does it inquire further about the mistiming of the pregnancy. In the customary question structure, mothers are asked, “Thinking back to just before you got pregnant, how did you feel about becoming pregnant?” The choice of response includes: (a) I wanted to be pregnant sooner, (b) I wanted to be pregnant later, (c) I wanted to be pregnant then, and (d) I didn’t want to be pregnant then or at any time in the future. Response items (a) and (c) are considered intended, while responses

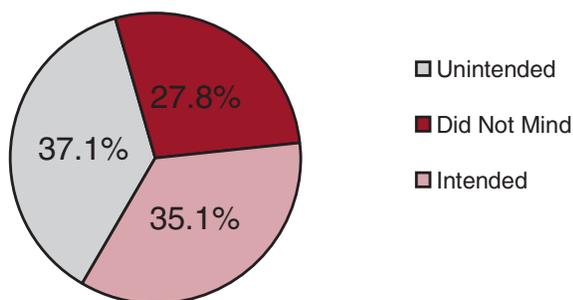
(b) and (d) are classified as unintended.

Using SUDAAN software, the prevalence and 95% confidence intervals were calculated for intention of pregnancy. Prevalence estimates by demographic and pregnancy-related characteristics were described. The chi-square statistic was used to determine significant associations using a significance level of $p \leq .05$.

Results:

Thirty-five percent of women with a recent live birth in Oklahoma intended to become pregnant, 27.8% did not mind becoming pregnant and 37.1% did not intend to become pregnant (Figure 1). This suggests that only about one-third of the maternal population in Oklahoma were planning to become pregnant at the time of conception.

Figure 1: Percent of Intention of Pregnancy: Oklahoma PRAMS, 2000-2003



Women most likely to have an unintended pregnancy were those who were less than 24 years of age, were African American, had lower levels of education, or were unmarried (Tables 1 and 2). Adolescents had the highest percent of unintended pregnancy (63.7%) followed by young adult women 20-24 (43.1%). Although not statistically significant, women in the age group 20-24 (30.4%) had the highest percentage of mothers who indicated that they did not mind becoming pregnant at conception. Women aged 25-29 and those aged 30 and older had the highest levels of intended pregnancy (45.3% and 48%, respectively).

Independently, race and ethnicity have an association with pregnancy intention. White women (34.4%) were least likely to have an unintended pregnancy when compared to American Indian mothers (44.7%) and African American mothers (55.4%). American Indian and African American mothers were not statistically different for pregnancy intention. A close examination of their respective confidence intervals (they overlap marginally) suggests that larger samples of each racial group may yield a significant finding. Oklahoma's principal racial groups did not differ in the "Did Not Mind" category. Women who were Hispanic were more likely to have intended pregnancies (42.7% vs. 34.2%) and were less likely to state they did not mind becoming pregnant (22.1% vs. 28.4%) when compared to Non-

Hispanic women.

Married women (48.7%) were more than three times more likely to report an intended pregnancy than were unmarried women (15.8%). No difference in marital status was found among those stating they did not mind.

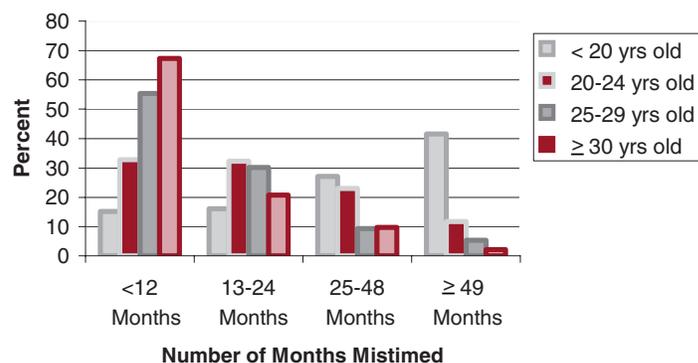
Table 1. Pregnancy intention by selected maternal characteristics: Oklahoma PRAMS, 2000-2003

Characteristic	Unintended		Did Not Mind		Intended	
	%	95%CI	%	95%CI	%	95%CI
Age[†]						
<20	63.7	59.0, 68.2	23.4	19.6, 27.7	12.9	10.0, 16.4
20-24	43.1	39.9, 46.3	30.4	27.5, 33.4	26.6	23.8, 29.5
25-29	26.8	23.8, 30.0	27.9	24.9, 31.0	45.3	42.0, 48.7
≥ 30	24.9	21.9, 28.0	27.1	24.2, 30.3	48.0	44.6, 51.4
Race[†]						
White	34.4	32.5, 36.4	27.5	25.8, 29.4	38.0	36.1, 40.0
African Am.	55.4	49.2, 61.5	26.4	21.4, 32.2	18.1	13.8, 23.5
Am. Indian	44.7	38.9, 50.6	29.8	24.8, 35.3	25.5	20.8, 30.9
Ethnicity[†]						
Hispanic	35.2	29.7, 41.1	22.1	17.5, 27.5	42.7	36.9, 48.6
Non-Hispanic	37.3	35.5, 39.2	28.4	26.8, 30.2	34.2	32.5, 36.0
Marital Status[†]						
Married	22.7	20.8, 24.7	28.6	26.6, 30.7	48.7	46.4, 51.0
Other	57.5	54.6, 60.4	26.7	24.2, 29.3	15.8	13.7, 18.1

† $p < 0.0000$, ‡ $p = 0.0138$

The socioeconomic factors of educational attainment, Medicaid recipient status (having prenatal care, delivery or both paid for by Medicaid), and federal poverty level were included in the analysis. Separately, each socioeconomic factor was found to be strongly associated with pregnancy intention status (Table 2). Women with less than a high school education (53.6%), who were recipients of Medicaid benefits (49.3%), and who had a household income less than the federal poverty level (50.9%) were most likely to have

Figure 2: Pregnancies occurring sooner than wanted by maternal age, by number of months mistimed: Oklahoma PRAMS, 2000-2003



an unintended pregnancy. Mothers with less than a high school education were significantly less likely than mothers with a high school education to report that they did

not mind becoming pregnant (23.3% vs. 31.3%, respectively). Among the variables included in this analysis, education was the single variable for which mothers differed in the “Did Not Mind” category. Intended pregnancy was more common among women who had greater than a high school education (47.7%), who were non-Medicaid (47.1%), and who were in the highest income category (50.8%).

Table 2: Pregnancy intention by selected socioeconomic factors: Oklahoma PRAMS, 2000-2003

Factor	Unintended		Did Not Mind		Intended	
	%	95%CI	%	95%CI	%	95%CI
Education[†]						
<HS	53.6	49.6, 57.5	23.3	20.2, 26.8	23.1	19.9, 26.6
HS	40.5	37.5, 43.5	31.3	28.5, 34.1	28.3	25.6, 31.0
>HS	25.2	22.8, 27.7	27.1	24.8, 29.6	47.7	45.0, 50.4
Medicaid Recipient^{††}						
No	25.6	23.5, 27.9	27.2	25.1, 29.5	47.1	44.7, 49.5
Yes	49.3	46.6, 52.0	28.5	26.1, 31.0	22.2	20.0, 24.5
Poverty Level^{‡†}						
<100% FPL	50.9	46.9, 54.9	26.4	23.1, 30.0	22.7	19.6, 26.2
100-184% FPL	44.0	40.3, 47.8	28.2	24.9, 31.7	27.8	24.6, 31.2
≥185% FPL	19.3	17.0, 21.8	29.9	27.2, 32.7	50.8	47.8, 53.8

[†] Prenatal care or delivery paid for by Medicaid program

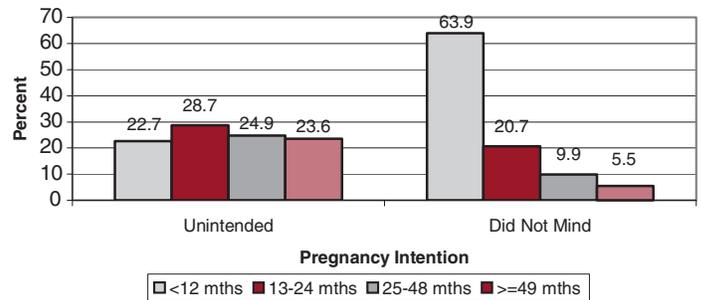
[‡] Federal Poverty Level as determined by DHHS poverty guidelines

†p<0.0000

A review of the relative distribution for the number of months for which the pregnancy occurred sooner than desired shows that approximately 36% were mistimed by 12 months or less. A larger percentage of mothers aged 30 or older (67.3%) and aged 25-29 (55.3%) considered their pregnancy mistimed by less than a year (Figure 2). Less than 18% of mothers mistimed their pregnancy by more than 48 months. Teen mothers dominate this category of mistimed pregnancy with 41.6% of them mistiming by more than four years. A much smaller proportion of mothers in all other age groups mistimed their pregnancy by more than four years.

Figure 3 displays the percentage distribution of the number of months for women who report that their pregnancy occurred sooner than expected. Mothers who reported that their pregnancies were unintended have a relatively uniform distribution across the number of months categories, while mothers that stated they did not mind were more likely to state that the pregnancy had occurred less than one year

Figure 3. Number of months mistimed for pregnancies occurring sooner than wanted by pregnancy intention: Oklahoma PRAMS, 2000-2003



early. Nearly 85% of mothers who were classified as “Did Not Mind” reported that the pregnancy occurred less than two years too soon, compared to just over half (51.4%) of the mothers who considered their pregnancies unintended.

Discussion:

By including a category for women who did not mind becoming pregnant at the time of conception, a group of women emerge who have been largely overlooked in research; those for whom pregnancy may not be perceived as a choice or as something either sought after or avoided. Twenty-eight percent of Oklahoma women stated that they did not mind becoming pregnant. These women were the most likely to mistime their pregnancies by less than one year. This indicates a need for a shift in how pregnancy intention is defined and emphasizes the importance of preconceptional health counseling for all women.

Adolescent females represent the group with the highest percentage of unintended pregnancies and births. This fact, coupled with Oklahoma’s high teen birth rates, highlights the critical need to expand evidence-based sexuality education and other teen pregnancy prevention efforts that have been proven effective in delaying the onset of sexual activity among teens, while also promoting contraception use among sexually active teens. Special attention needs to be focused on populations that have high rates of unintended births, including women and girls living in low-income neighborhoods, or those who are (or whose families are) receiving public assistance.

For the 37% of women with unintended pregnancies, approximately 64% have prenatal and delivery services that were paid for by Medicaid, costing the state millions of dollars. Research has documented that publicly funded family planning services save \$3 in Medicaid pregnancy and newborn care costs for every \$1 invested². In Oklahoma, SoonerPlan provides low-income women and men over the age of 19 who are not eligible for traditional Medicaid with family planning services. This program estimates a cost savings of \$3.7 million per year for Oklahoma taxpayers.

The Pregnancy Risk Assessment Monitoring System (PRAMS) is an ongoing, population-based study designed to collect information about maternal behaviors and experiences before, during and after pregnancy. On a monthly basis, PRAMS samples between 200 and 250 recent mothers from the Oklahoma live birth registry. Mothers are sent as many as three mailed questionnaires seeking their participation, with follow-up phone interviews for non-respondents. A systematic stratified sampling design is used to yield sample sizes sufficient to generate population estimates for groups considered at risk for adverse pregnancy outcomes. Information included in the birth registry is used to develop analysis weights that adjust for probability of selection and non-response. Initially, 9,736 mothers, in 2000-2003, were sampled and sent the survey. Of these, 7,680 responded yielding a response of 78.9 percent. There were 7,591 mothers with a valid response for pregnancy intention.

Further analysis into the effects of maternal planning and of the father's role in pregnancy intention and postpartum support is needed. A future PRAMSGRAM on the health risks and behaviors associated with unintended pregnancy is being prepared that will detail the father's role in pregnancy intention.

Several limitations for this study exist. The analysis looked at variables independently and did not control for covariates. Adjusting for covariates may moderate these relationships. A second limitation is that PRAMS surveys only mothers with a recent live birth. Therefore, unintended pregnancies that result in miscarriages or abortions cannot be assessed. Additionally, the questions about pregnancy intention are subject to a variety of factors which cannot be fully explored with a retrospective survey.

Recommendations:

- Expand adolescent health services in school and community settings, especially in low-income neighborhoods and communities where the need for health education programs and services are the greatest.
- Institute preconception care and counseling as part of routine health and wellness checks for women.
- Increase awareness of family planning services available to both Medicaid and non-Medicaid low-income women, especially those at risk for an unintended pregnancy.
- Assist clients, who may be eligible, in completing the application for SoonerPlan, Oklahoma's Family Planning Medicaid Waiver.
- Increase access to, and utilization of, more effective contraceptive methods that have lower failure rates and are easier to be consistently and appropriately used, such as IUDs, Depo-Provera, Ortho-Evra (the Patch) and the Nuva Ring.
- Increase access to emergency contraception for women of child-bearing age.
- Reinforce the importance of correct and consistent use of a woman's chosen contraceptive method at every clinical encounter.
- Advocate for the research and development of a variety of contraceptive options for men.
- Increase public awareness and education about the role and responsibility of men in both contraception and parenting.

References:

1. Henshaw SK. Unintended Pregnancy in the United States. *Family Planning Perspectives*, 1998;30:24-29 & 46.
2. U.S. Department of Health and Human Services, Healthy People 2010. Focus Area 9: Family Planning. Washington, D.C. 2000. Accessed February 21, 2006. Obtained from <http://www.healthypeople.gov/Document/HTML/Volume1/09Family.htm>
3. Brown S, Eisenberg L, eds. *The Best Intentions: Unintended Pregnancy and the Well-being of Children and Families*. Washington, D.C.: National Academy Press, 1995.
4. Cubbin C, Braveman P, Marchi K, Chavez G, Santelli J, Gilbert B. Socioeconomic and Racial/Ethnic Disparities in Unintended Pregnancy Among Postpartum Women in California. *Maternal Child Health Journal* 2000; 6(4):237-246.
5. Goodwin M, Gazmararian J, Johnson C, Gilbert B, Saltzman L and PRAMS Working Group. Pregnancy Intendedness and Physical Abuse Around the Time of Pregnancy: Findings from the Pregnancy Risk Assessment Monitoring System, 1996–1997. *Maternal Child Health Journal* 2000; 4(2):85 – 92.

Acknowledgements

James M. Crutcher, MD, MPH
Commissioner of Health and
State Health Officer



Edd D. Rhoades, MD, MPH
Deputy Commissioner, Family Health Services

Suzanna Dooley, MS, ARNP
Chief, Maternal and Child Health Service

Special assistance for this edition was provided by James Allen, MPH; Mary Beth Cox, MSW, MPH; Becky Kimbell-Farris, RN, BSN; Joy L. Leuthard, MS, LSWA (Variety Health Center); Alicia Lincoln, MSW, MSPH; Dick Lorenz, MSPH; Jill Nobles-Botkin, MSN, CNM; Paul Patrick, MPH; Sharon Rodine, MEd (Oklahoma Institute for Child Advocacy); and Wanda Thomas.

Funding for the PRAMS Project is provided in part by the Centers for Disease Control and Prevention, Atlanta, GA (Grant No.U50/CCU613668-09), and the Title V Maternal and Child Health Block Grant, Maternal and Child Health Bureau, Department of Health and Human Services. The views expressed here are the responsibility of the authors and may not reflect the official views of the CDC or MCHB/HRSA.

The PRAMS GRAM is issued by the Oklahoma State Department of Health, as authorized by James M. Crutcher, Commissioner of Health and State Health Officer. Oklahoma Department of Central Services printed 5,000 copies in June 2006 at a cost of \$1,180. Copies have been deposited with the Publications Clearinghouse of the Oklahoma Department of Libraries.

This and other PRAMS publications can be found on the web at <http://www.health.ok.gov>, keyword PRAMS.