Article

Unintended Pregnancy and the Psychosocial Well-Being of Pregnant Women

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A recent report by the Institute of Medicine focused attention on the problem of unintended pregnancy in the United States.[1] Unintended pregnancies are those that are either not wanted at all (unwanted) or those that occurred earlier than desired (mistimed). The Institute of Medicine report estimated that 60% of all pregnancies in the United States are either mistimed or unwanted.[1]

Prior research has demonstrated that unintended pregnancy has important negative health consequences for infants. Women with unintended pregnancies are more likely to initiate prenatal care late in the pregnancy and to have increased risk of poor pregnancy outcomes such as low birth weight.[1,2] Women with unintended pregnancies are also more likely to use alcohol and cigarettes during pregnancy than their counterparts with intended pregnancies.[1,3–6]

Little is known about the consequences for the physical and psychosocial health of women with unintended pregnancies. Clearly, engaging in deleterious health behaviors, such as smoking and alcohol use, is harmful to women. Beyond these behavioral risks, unintended pregnancy may be associated with psychosocial risks. An unintended pregnancy may create problems in many areas of a woman's life, including family relationships, work, education, and finances. An unintended pregnancy may, therefore, increase overall exposure to psychosocial stressors, decrease support provided to her by the father of the baby, increase her level of depressive symptoms, and decrease her overall life satisfaction.

We conceptualized and defined, for this research, psychosocial stressors as a set of life conditions that necessitate some adaptive or coping behavior on the part of the affected individual. As noted by Pearlin and Schooler, exposure to

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psychosocial stressors among women can be chronic because it occurs within the context of critical social roles such as parent, worker, spouse, and family economic manager.[7] For low-income women, especially those of minority status, exposure to psychosocial stressors (such as housing problems or unemployment) is not acute or short-term but is very often chronic, or recurrent. Psychosocial stressors are generally the enduring demands and burdens that characterize their lives.[7] The epidemiologic literature clearly demonstrates important associations between exposure to stressors and deleterious health outcomes.[8–16]

An unintended pregnancy is also likely to disrupt a woman's relationship with the father of the child, reducing both the emotional and instrumental (task-oriented, such as financial help or help with children) support he provides during the pregnancy. Because diminished social support clearly is linked to deleterious health outcomes,[8,17–20] the disruption of support from the father likely contributes to negative health consequences for the mother.

An unintended pregnancy and associated social disruption also may cause a woman to feel sad or hopeless or to experience other symptoms of depression. Despite the importance of such psychosocial factors as exposure to stressors, depressive symptoms, and social support to the well-being of pregnant women, almost no prior studies have examined the relationship of these factors with the intendedness of pregnancy.

One particular problem is that most prior investigations of unintended pregnancy have inquired about the intendedness of pregnancy after the birth of the child.[1] Recall, after the birth of the child, of psychosocial factors present during pregnancy may introduce biases dependent on the pregnancy outcome.

In the study that is reported in this article, we assessed maternal psychosocial factors and intendedness of pregnancy at the first prenatal visit. Using this prospective design, we analyzed circumstances for pregnant women, hypothesizing an association linking unintended pregnancy with exposure to stressors, depressive symptoms, and reduced social support and well-being for pregnant women. The study hypotheses were that women with unintended pregnancies would have, compared with women with intended pregnancies, increased levels of exposure to psychosocial stressors, decreased social support from the father, increased levels of depressive symptoms, and decreased overall well-being.

METHODS

Women were enrolled in the study in four hospital-based prenatal care clinics and one off site hospital-affiliated prenatal clinic in Baltimore city. These clinics serve low-income areas of the city with high rates of low birth weight, preterm birth, and infant mortality.

Pregnant women were identified at their first prenatal care visit during a defined time period and were asked by a trained research assistant to complete the study questionnaire. All African American women ages 18 years and older presenting for a first prenatal visit during the months of enrollment in the study (June 1994–September 1995) were asked to participate in the study. Fewer than 5% of the women refused to participate.

A self-administered questionnaire to assess demographic and psychosocial data was completed by each woman in the sample at the time of enrollment in the study. The questionnaire contained an item to measure intendedness of the pregnancy. This item was developed based upon the conceptualization of intendedness from the National Survey of Family Growth (NSFG). The NSFG is a comprehensive survey of pregnancy and contraception, conducted by the National Center for Health Statistics in 1973, 1976, 1982, and 1988.[21–24] In the

NSFG, unintended pregnancy is defined as being either mistimed (occurred earlier than desired) or unwanted.[25,26]

The item we developed asks each respondent if, at the time of conception, she wanted to be pregnant then, sooner, later (in the future), or not then or in the future. This item was used to classify each pregnancy as mistimed, unwanted or intended. As in other research, pregnancies that were either mistimed or unwanted were classified as unintended.[1,25–27]

Exposure to stressors was assessed using the Prenatal Social Environment Inventory (PSEI). The PSEI instrument was developed specifically for use among pregnant women and has been shown in prior research to be both reliable and valid.[28,29] The PSEI has been used in a large prospective study of exposure to stressors and low birth weight, in which PSEI scores were demonstrated to be significantly associated with low birth weight risk.[29] The 40 items on the PSEI assess exposure to chronic stressful life conditions in areas such as family relationships, parenting, employment, finances, and neighborhood/housing.[28] Sample PSEI items are shown in Table 1. The PSEI is self-administered. For these analyses, scores were divided into tertiles of low, moderate, and high exposure to stressors.

Depressive symptoms were assessed using the Center for Epidemiologic Studies Depression Scale (CES-D). The CES-D is a 20-item self-administered questionnaire developed by the National Institute of Mental Health to measure depressive symptoms in community-based epidemiologic studies of mental illness.[30] It has been used widely in epidemiologic research and has been shown to be both valid and reliable.[31,32] Sample items are shown in Table 2. Scores range from 0 to 60, with a customary cut-point of 16 or greater indicating "significant" levels of depressive symptoms.[30] However, among pregnant women, CES-D scores tend to be higher than among other groups, with about 50% achieving scores of 16 or greater.[33,34] This is partially because some symptoms of pregnancy (such as fatigue, appetite, and sleep changes) are similar to those of depression. Thus, we raised the cut-point so that only women with scores in the upper 10% were considered to have "high" levels of depressive symptoms. This created a group with clearly elevated levels of depressive symptoms.

The questionnaire also contained three items to assess social support from the father of the baby. These items focused upon the provision of instrumental (eg, help with transportation, money, and other tangible aid) and emotional support from the father at the current time, anticipated support after the birth of the child, and anticipated support during labor and delivery. Responses to these three items were dichotomized as present or absent, and were scored by assigning a value of one to present and zero to absent. The three items were

Table 1. PSEI SAMPLE QUESTIONS

Please check "Yes" or "No" for each problem listed. Check "Yes" if the problem occurred in your life during the past 12 months, and check "No" if the problem did not occur for you during the past 12 months.	
Someone close to you was in trouble with the law	Yes ____ No ____
Your house or apartment is too crowded	Yes ____ No ____
You were worried about the possible bad influences of other children upon your children	Yes ____ No ____
You became separated/divorced from your husband/boyfriend	Yes ____ No ____
You were worried about having enough money to pay your bills now or in the future	Yes ____ No ____

PSEI, Prenatal Social Environment Inventory.

Table 2. CES-D SAMPLE QUESTIONS

	Please Circle the Number for Each Statement that Best Describes How Often You Felt or Behaved This Way During the Past Week.			
Statement	*Rarely or None of the Time (<1 day)*	*Some or a Little of the Time (1–2 days)*	*Occasionally or a Moderate Amount of the Time (3–4 days)*	*Most All the Time (5–7 days)*
I felt that I was just as good as other people	0	1	2	3
My sleep was restless	0	1	2	3
I felt hopeful about the future	0	1	2	3
I had crying spells	0	1	2	3

CES-D, Center for Epidemiologic Studies Depression Scale.

also summed into a total support score, ranging from zero (totally absent) to three (support present for each item).

Finally, the last item on the questionnaire inquired about the woman's overall life satisfaction. This item was worded as, "Overall, thinking about your life, how satisfied would you say you are: very satisfied; somewhat satisfied; or not at all satisfied?"

Data were analyzed using contingency tables and the χ^2 statistic to evaluate the statistical significance of associations between unintended pregnancy and each of the psychosocial variables.

RESULTS

The sample comprised 1,163 socioeconomically disadvantaged African American women. As shown in Table 3, almost three-quarters of the women had at least a high-school education, and slightly more than one-third were employed outside of the home. Approximately 73% of the women reported their marital status as single, whereas 26.7% reported that they were married or living with a man who is like a husband to them (Table 3).

Approximately one-third of the women in the sample reported that they wanted to be pregnant now or sooner. The remainder reported that they wanted to pregnant either later (33.2%), not now or in the future (10.8), or that they were unsure (23.8%) (Table 4).

As has been reported elsewhere,[1] unintended pregnancy was associated with maternal education, marital status, and age. Those women with lower levels of education, unmarried women, and younger women were more likely than their counterparts who had more education, were married, or were older to report unintended pregnancy ($P < .05$).

As shown in Table 5, unintended and especially unwanted pregnancies were statistically significantly associated with several important psychosocial variables. Those women with unwanted pregnancies were more likely than those with intended pregnancies to report higher levels of exposure to stressors (56.0% versus 43.7%, $P < .01$). Among those with mistimed pregnancies, 51.6% reported higher exposure to stressors, whereas 55.9% of those who were unsure of the intendedness of the pregnancy reported higher stressor exposure.

Elevated CES-D scores were almost four times more likely among those with unwanted (20.7%) than those with intended pregnancies (5.4%) ($P < .001$). As shown in Table 5, higher levels of depressive symptoms were also reported

Table 3. DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

Variable	n	*Percent*
Maternal education*		
<12 yrs	323	27.8
⩾12 yrs	837	72.2
Maternal employment (outside the home)†		
Yes	409	35.9
No	730	64.1
Marital status‡		
Married or living with partner	309	26.7
Single, separated, divorced	848	73.3
Number of children§		
None	540	46.5
1	342	29.4
⩾2	280	24.1

*Three missing responses.
†Twenty-four missing responses.
‡Six missing responses.
§One missing response.

by 10.2% of those with mistimed pregnancies and by 14.7% of those who were unsure of the intendedness of the pregnancy.

Low emotional and instrumental support from the father was reported by almost twice as many women with unwanted as intended pregnancies (77.2% versus 42.3%, $P < .001$). More than one-half of the women with mistimed pregnancies also reported low support from the father, as well as 67.4% of those who were unsure of the intendedness of the pregnancy (Table 5).

Finally, one in five women with an unwanted pregnancy reported being not at all satisfied with her life. As shown in Table 5, this is markedly higher than for any other group. Among those with intended pregnancies, only 2.4% report being not at all satisfied with their lives, whereas for those with mistimed pregnancies, 5.7% report this level of dissatisfaction with their lives ($P <$ .001).

DISCUSSION

These data clearly demonstrate that women who have unintended pregnancies are more likely than those with intended pregnancies to experience high levels of exposure to psychosocial stressors and depressive symptoms. Those with unwanted pregnancies are particularly likely to report higher exposure to stressors and elevated levels of depressive symptoms. More than 50 percent of women with unwanted pregnancies report the highest stressor scores. Further,

Table 4. INTENDEDNESS OF PREGNANCY

*Wanted to be Pregnant**	n	*Percent*
Now or sooner	372	32.2
In the future	383	33.2
Not now or in the future	125	10.8
Unsure	274	23.8
Total responses	1154	100.0

*Nine missing responses.

Table 5. INTENDEDNESS OF PREGNANCY BY PSYCHOSOCIAL VARIABLES

Psychosocial Variable	Intendedness of Pregnancy: Wanted Pregnancy: Now (Intended) (%)	Future (Mistimed) (%)	Did Not Want Pregnancy Now or in Future (Unwanted) (%)	Unsure (%)	P
Respondents reporting high exposure to stressors	43.7	51.6	56.0	55.9	<.01
Respondents with high CES-D score	5.4	10.2	20.7	14.7	<.001
Respondents reporting low support from father	42.3	56.5	77.2	67.4	<.001
Respondents not at all satisfied with life	2.4	5.7	18.4	9.5	<.001

CES-D, Center for Epidemiologic Studies Depression Scale.

more than one in five women with an unwanted pregnancy has depressive symptom scores in the upper 10% of scores for women in the sample. These percentages of elevated stressor and depressive symptom scores are substantially higher than for those with intended and mistimed pregnancies.

Interestingly, women unsure of the intendedness of their pregnancies appear to be comparable in terms of psychosocial stressors and depressive symptom scores to those with mistimed pregnancies. Their ambivalence suggests that doubts about intendedness have adverse associations.

A large percentage of women with unintended pregnancies also reported receiving low support from the father of the baby and decreased overall life satisfaction.

One caution must be noted about the interpretation of these data, given their cross-sectional nature. It cannot be ascertained from these data if unintended pregnancy preceded the onset of psychosocial risks or if women with psychosocial risks such as high levels of depressive symptoms were more likely to interpret their pregnancies as unintended. Regardless of the sequence, our findings clearly indicate that the psychosocial environment of women with unintended pregnancies is problematic.

Taken together, results for the psychosocial factors included in our study demonstrate the increased exposure to stressors, elevated depressive symptoms, diminished support from the father, and decreased overall satisfaction with life associated with unintended pregnancy. These factors suggest significant risks to the well-being of women with unwanted or mistimed pregnancies, as well as to those who are unsure of the intendedness of the pregnancy. Adverse associations are particularly strong for women with unwanted pregnancies.

This study invites speculation that unintended pregnancy may be associated with adverse prospects for the health of women. Prior research has demonstrated the substantial health risks (in terms of morbidity and mortality) that are associated with higher levels of exposure to stressors,[8] decreased social support,[8,17,18] and increased depressive symptoms.[35,36] All of these conditions are associated in this study with unintended pregnancy.

The traditional medical focus during pregnancy has been on the outcome of the pregnancy: a healthy baby. The woman may be viewed as a vehicle to create a healthy infant. However, our results suggest significant risks to the well-being of women themselves associated with unintended pregnancy, especially unwanted pregnancy. The findings suggest that identification of health risks during prenatal visits should include attention to the intendedness of the pregnancy and its association with stressors, social supports, and depressive symptoms.

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