

Who are the women who think they could have become pregnant without wanting it?

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Introduction

While contraceptive use is widespread in France, with only 3% of women with an unmet need for contraception and high levels of modern method usage (1), unintended pregnancies remain frequent with more than one in three pregnancies reported as such in 2010 (2). Most of these accidental conceptions are due to lack of use of contraception, errors of use or inconsistent use of contraception (3-4). Emergency contraception has the potential to address many of these shortcomings and prevent unintended conceptions, yet research has repeatedly shown that wider availability of the method has not translated in reduced rates of unintended pregnancies at the population level (5-6). The primary reason for the lack of a public health impact of EC, is that women do not take advantage of this backup option after unprotected intercourse because they do not perceive themselves as being at risk of pregnancy (6-7). Indeed, as clinical trials have shown, women given advanced supplies of EC to take at home rarely take advantage of using the method when they need it. Likewise, many studies exploring the reasons for unmet need for contraception suggest many women believe they have very limited chances of becoming pregnant despite having unprotected intercourse. While misperceptions of pregnancy risk may be a critical target for family planning interventions, there is limited knowledge about the frequency and correlates of women's perceptions of being at risk of an unintended pregnancy at the population level. Thus, the aim of this study is to assess the women who perceive themselves as having been at risk of an unwanted pregnancy over the last 4 weeks and identify the correlates of such perceptions.

Population and methods

Data are drawn from the Fecond survey, a national survey on sexual and reproductive health carried out in France in 2010. Random digit dialing was used to identify 5272 women ages 15-49 years residing in France. The refusal rate was estimated at 20%. The survey received approval from the relevant French government oversight agency (Commission Nationale de l'Informatique et des Libertés).

We restricted our sample to the 3932 women who had sexual intercourse in the last 4 weeks, in order to study current perceptions of pregnancy risk. Women who were pregnant or trying to conceive (n=478) and women who were sterile, had a tubal ligation or whose partner's were sterile or had a vasectomy (n=423) were not asked about their perception of becoming pregnant without wanting to do so in the last 4 weeks. We further excluded women who abandoned the survey before responding to the question (n=79) or did not provide an answer to the question (n=5). Thus, our final study population comprised 2979 women who had had heterosexual intercourse in 4 weeks prior to the survey, and who were at potential risk of an unintended pregnancy.

Women responded by phone to a multi-thematic questionnaire, which lasted on average 41 minutes. They provided information on their socio-demographic background and were questioned on a number of sexual and reproductive health topics including their pregnancy history, recent sexual activity and current contraceptive usage. Specifically, women were asked to describe their current method of contraception, how satisfied they were with the method they were using, and if they had a problem with their method in the last 4 weeks (missed pills, condom slippage or breakage). Additionally, they were asked if they had had unprotected intercourse in the last 4 weeks and if they had used subsequent protection or had used emergency contraception.

In another section of the questionnaire (the sexual health module), women were asked if they thought they might have become pregnant over the last 4 weeks, without wanting to do so. This question was used to define our outcome measure of “perception of a unwanted pregnancy risk”.

First, we used bivariate statistics to describe women’s perception of their risk of becoming pregnant without wanting to do so in the last 4 weeks according to their socio-demographic characteristics (age, country of birth, level of education, cohabitation status, professional and financial situation, and health insurance), as well as their past and current sexual and reproductive behaviors (parity, history of unintended pregnancy or STIs on the last 5 years, frequency of sexual intercourse in the last 4 weeks, contraceptive usage and errors of use/non protected intercourse in the last 4 weeks). We then conducted a multivariate logistic regression to assess the independent effects of these factors on women’s perception of becoming pregnant unintentionally. We present the results of the most parsimonious model, including factors that remained significant in the multivariate model.

Results:

The socio-demographic characteristics of women who were sexually active in the last 4 weeks and potentially at risk of an untended pregnancy are presented in Table 1. The mean age of these women was 32.6 years [27.3-37.8], with 10% who were adolescents and almost a third who were over the age of 40 years. Three quarters of the women were living with a partner at the time of the survey and two thirds had at least one child. A significant proportion of women had not finished high school (41%), 18.6% reported being in a very difficult financial situation and 8% were unemployed at the time of the survey.

A third of the women reported a history of unintended pregnancy and 8 % indicated they had had a sexually transmitted infections (STIs) in the last 5 years (Table 2). Half of women were on the pill at the time of the survey, a quarter was using long acting methods (IUD or implant)

and 18% relied on barrier or natural methods of contraception (condom, withdrawal, spermicides or fertility awareness method). Less than 2% of women had an unmet need for contraception at the time of the survey, while 8% indicated that they had missed a pill, had a problem with a condom or had unprotected intercourse in the last 4 weeks.

A total of 15% of women thought they might have become pregnant in the last 4 weeks without wanting to do. Perceptions of unwanted pregnancy risk were higher among women under the age of 30 years, among those in difficult financial situation, and among women from foreign countries or born in French overseas territories (Table 3).

Risk perceptions of unwanted pregnancy risks were also related to past sexual and reproductive health experiences. Perceptions of risk were higher among women with history of unintended pregnancy or women reported a recent STI (Table 3). While pregnancy risk perception was not related to the frequency of sexual intercourse in the last 4 weeks, it was strongly associated with current contraceptive usage as well as inconsistent or errors of use. More than a third of women who reported a problem with their method or an act of unprotected intercourse in the last 4 weeks thought they might have become pregnant unintentionally in the same period of time versus 13% of those who did not report such events.

Perceptions of pregnancy risk were strongly associated with type of contraception, with more than a third of women using no method or using barrier/natural methods (except condoms) thinking they might have become pregnant unintentionally (Table 3). Interestingly, this fear was also present among 8% of LARC users.

Results from the multivariate logistic model confirmed many of the results from the bivariate analysis. Specifically, the odds of perceiving oneself as being at risk of unwanted pregnancy

were higher among women in a very difficult financial situation [OR=1,9 (1,4-2,6)], and among women who were foreign born [OR=1,5 (1,0-2,3)]. Likewise the perception of a risk was higher in women who had experienced an unintended pregnancy and or had an STI in the last 5 years. In the final model controlling for contraceptive usage, women using no method or less effective methods of contraception were equally likely believe they may have become pregnant unintentionally as compared to those using more effective methods of contraception. Controlling for the type of method used, the odds of perceiving oneself as being at risk of unwanted pregnancy were 3 times as high among women who identified an error using their method or reported an act of unprotected intercourse in the last 4 weeks.

Conclusions

This study indicates significant levels of pregnancy risk perceptions in the general population in France, mostly informed by contraceptive practices and errors of use of contraception. Yet, a majority of women who have an unmet need for contraception or report errors of use believe they can become pregnant accidentally, which calls for better SRH educational programs to improve pregnancy awareness.

References

1. Moreau C; Bohet A; Trussell J; Bajos N. Estimates of unintended pregnancy rates over the last decade in France as a function of contraceptive behaviors. *Contraception*. 2014;89(4):314-321.
2. Bajos N; Le Guen M; Bohet A; Panjo H; Moreau C and the FECOND group
3. Effectiveness of family planning policies: The abortion paradox *PLoS ONE*. 2014;9(3).
4. Goulard H; Moreau C; Gilbert F; Job-Spira N; Bajos N. Contraceptive failures and determinants of emergency contraception use. *Contraception*. 2006;74(3):208-213.

5. Moreau C; Trussell J; Desfreres J; Bajos N. Patterns of contraceptive use before and after an abortion: Results from a nationally representative survey of women undergoing an abortion in France. *Contraception*. 2010;82(4):337-344.
6. Polis CB, Schaffer K, Blanchard K, Glasier A, Harper CC, Grimes DA. Advance provision of emergency contraception for pregnancy prevention: a meta-analysis. *Obstet Gynecol*. 2007;110:1379-88.
7. Raymond E, Trussell J, Polis C. Population Effect of Increased Access to Emergency Contraceptive Pills. *Obstet and Gynecology* 2007 ; 109 : 181-188

Table 1: Sociodemographic characteristics of women in the study population (n=2977)

Sociodemographic characteristics		Distribution of women in the sample
Age (in years)	15-19	10.1%
	20-24	11.6%
	25-29	13.7%
	30-34	15.7%
	35-39	18.2%
	40 or more	30.8%
Cohabitation status	No partner	7.6%
	Non cohabitating partner	18.2%
	Cohabitating partner	74.3%
Type of Partner at last sex	Regular partner	96.8%
	Casual partner	3.2%
Level of education (highest diploma)	<High school	40.8%
	High school graduation (Professional track)	10.2%
	High school graduation (general track)	11.3%
	>High school graduation	37.8%
Professional situation	Works	69.8%
	Student	14.6%
	Unemployed	8.5%
	Other	7.1%
Financial situation	No problem	30.4%
	Tight	50.9%
	Very difficult	18.6%
Health Insurance	Social security alone	4.8%
	Social security and private insurance	89.9%
	Government plan for low income	5.3%
Country of birth	France mainland	88.2%
	French overseas territories	1.2%
	Foreign country	10.6%

Table 2: Sexual and reproductive health characteristics of women in the study population (n=2977)

Sexual and reproductive health characteristics		Distribution of women in the sample
Sexual orientation	Heterosexual	97.7%
	Bisexual	2.3%
Number of births	0	35.9%
	1	15.4%
	>1	48.7%
History of unintended pregnancy	Yes	33.1%
STI in last 5 years	Yes	8.0%
Forced sex in the last 12 months		1.9%
Satisfied with current sexual life	Very	54.0%
	Rather yes	41.2%
	Rather not	3.9%
	Not at all	0.8%
Number of acts of sexual intercourse in last 4 weeks	<5 acts	29.1%
	5-9 acts	27.5%
	10 +	43.4%
Current use of contraception	No contraception	1.8%
	LARC methods	26.4%
	Ring/patch	1.5%
	Pill	52.2%
	Condom	12.3%
	Other natural or barrier method	5.8%
Reports Errors of use or unprotected intercourse in the last 4 weeks		8.3%
Used a condom at last sex		20.1%
Satisfied with current method	Very satisfied	80.6%
	Rather satisfied	15.6%
	Not very satisfied	2.8%
	Not at all satisfied	0.9%
Contraception has adverse effects on health		35.2%

Table 3: Socio-demographic and sexual and reproductive characteristics associated with women's perceptions of their risk of becoming pregnant without wanting to do in the last 4 weeks

		% thought they might have become pregnant unintentionally	<i>p</i>	Model 1 (socio-demographic factor)			Model 2 (socio-demographic & SRH history factors)			Model 3 (socio-demographic & SRH history & contraceptive factors)		
				OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>
Age	15-19 years	18.5%	<i>0.11</i>	1						1		
	20-24 years	12.5%		0.6	0.3 1.0	<i>0.06</i>	0.5	0.3 0.9	0.02	0.5	0.3 0.9	0.02
	25-29 years	19.0%		0.9	0.5 1.7	<i>0.70</i>	0.8	0.4 1.5	<i>0.53</i>	0.8	0.5 1.4	<i>0.41</i>
	30-39 years	14.3%		0.6	0.3 1.2	<i>0.14</i>	0.8	0.4 1.5	<i>0.41</i>	0.7	0.4 1.2	<i>0.15</i>
	40+ years	14.3%		0.7	0.3 1.2	<i>0.18</i>	1.0	0.5 2.0	<i>0.92</i>	0.7	0.4 1.3	<i>0.29</i>
Cohabitation status	No partner non cohabitating	15.2%	<i>0.47</i>									
	cohabitating	17.1%										
Type of last partner	regular	15.0%	<i>0.37</i>									
	casual	18.9%										
Level of education	<High school	17.2%	<i>0.13</i>									
	High school professional track	13.5%										
	High school general track	14.2%										
	>High school	13.6%										
Professional situation	works/on	14.9%	<i>0.17</i>	1			1			1		
	Student	16.0%		0.9	0.5 1.6	<i>0.78</i>	0.9	0.5 1.5	<i>0.63</i>	0.8	0.5 1.2	<i>0.27</i>
	Unemployed	19.4%		1.1	0.7 1.7	<i>0.71</i>	1.1	0.7 1.7	<i>0.79</i>	1.0	0.6 1.4	<i>0.80</i>
	Other	10.4%		0.6	0.3 1.0	<i>0.04</i>	0.5	0.3 1.0	<i>0.04</i>	0.6	0.3 1.0	<i>0.05</i>
Financial situation	no problem	12.2%	<i>0.00</i>	1						1		
	Tight	14.7%		1.3	1.0 1.7	<i>0.08</i>	1.3	1.0 1.7	<i>0.07</i>	1.2	0.9 1.5	<i>0.20</i>
	very difficult	21.1%		2.0	1.5 2.8	0.00	1.9	1.4 2.7	0.00	1.9	1.4 2.6	0.00
Place of birth	France mainland	14.1%	<i>0.00</i>	1			1			1		
	France overseas	26.2%		2.2	0.9 5.5	<i>0.09</i>	2.2	0.9 5.6	<i>0.08</i>	1.6	0.6 3.9	<i>0.32</i>
	Foreign country	22.7%		1.8	1.2 2.6	0.00	1.8	1.2 2.6	0.01	1.5	1.0 2.3	0.04
Importance of religion	Not important	14.0%	<i>0.01</i>	1			1			1		
	Important	18.9%		1.3	1.0 1.7	<i>0.07</i>	1.3	1.0 1.7	<i>0.11</i>	1.2	0.9 1.5	<i>0.23</i>
Intends to have more children	Yes						1			1		
	No						0.5	0.4-0.8	0.00	0.6	0.5 0.9	0.01
STI in last 5	No	14.7%	<i>0.05</i>				1			1		

years	Yes	20.0%		1.5	1.0	2.1	0.06	1.3	0.9	1.9	0.17
History of unintended pregnancy	No	13.6%	0.01	1				1			
	Yes	18.2%		1.3	1.0	1.8	0.03	1.2	0.9	1.5	0.20
Forced sex in the last year	No	15.2%	0.86								
	Yes	14.0%									
Number of births	0	14.8%	0.43								
	1	17.4%									
	>1	14.6%									
Sexual satisfaction	Not satisfied	21.6%	0.06								
	Satisfied	14.9%									
Number of sexual acts in the last 4 weeks	1-4acts	16.4%						1			
	5-9 acts	12.5%						0.8	0.6	1.0	0.08
	10+ act	15.9%						1.1	0.9	1.4	0.46
Condom at last sex	Yes	17.9%	0.15								
	No	14.4%									
Current Contraception	No method	35.2%	0					1			
	LARC	8.5%						0.2	0.1	0.3	0.00
	Ring/patch	15.7%						0.2	0.1	0.6	0.00
	Pill	12.7%						0.2	0.1	0.4	0.00
	Condom	25.2%						0.4	0.2	0.8	0.01
	Other natural or barrier method	39.5%						0.9	0.5	1.8	0.79
Error of use/unprotected intercourse in the last 4 weeks	No	13.1%	0					3.4	2.5	4.7	0.00
	Yes	37.5%						1			