A randomized study of measurement approaches for pregnancy intentions: results French national fertility survey (FECOND study)

Objectives

Accurate measures of unintended pregnancy are essential in estimating unmet need for contraception and designing patient-oriented family planning programs. Confusion over the terms used to define pregnancy intentions, either based on attitudinal measures (such as wantedness) or behavioral measures (such as planning) has raised concern over the robustness of pregnancy intention scales in population-based surveys. Qualitative studies have also demonstrated the complexity of fertility intentions, which have different meanings across subpopulations. In this study, we aim to assess the variability of pregnancy intentions according to question wording, by gender and other pregnancy characteristics.

In France, widespread use of very effective methods of contraception resulted in a sharp decline in the proportion of pregnancies classified as unintended between the 1970s and the mid-1990s . This trend seems to have halted thereafter, with the same proportion of pregnancies classified as unintended in1994 and 2000. However, the wording of questions changed between1994 and 2000 (the 1994 survey asked about unwanted pregnancies while the 2000 survey asked about unplanned pregnancies) rendering the comparison problematic. To resolve this dilemma, a randomization of the 1994 or the questions (wanted *versus* planned) was introduced in the latest survey conducted in 2010-2011 in order to produce comparable measurements over time and assess the effect of question wording on overall estimates of pregnancy intendedness.

 This paper investigates the effects of question wording on estimates of pregnancy intentions in France, by gender, parity, pregnancy outcome.

Methods

Data are drawn from the Fecond Study, a population-based survey on contraceptive practices and pregnancy intentions conducted in France in 2010-2011. Random digit dialing was used to identify a random sample of individuals who had a landline telephone (n=7,340) and a random sample of mobile phone users who did not have a landline (n=1,305). One eligible individual aged 15 to 49 per phone number was randomly selected for participation in the study using a Kish grid technique. Women were overrepresented to achieve the desired sample size. The final sample consisted of 5,272 women and 3,373 men aged 15-49 years. The study received the approval of the relevant French government oversight agency (CNIL).

Participants answered a 41-minute telephone interview, which collected information on a wide range of topics related to sexual and reproductive health, including contraceptive calendar data over the last five years and lifetime reproductive histories. In particular, respondents were asked to specify for each of their pregnancies: the outcome and the dates of stated and end of the pregnancy. Each respondent

was randomly assigned 1 of the 2 questions assessing if he/she had *planned* the pregnancy and if the partner had *planned* the pregnancy, or alternatively if he/she had *wanted* the pregnancy and if the partner had *wanted* the pregnancy. Unplanned or unwanted pregnancies were defined as 'not being planned/wanted at all' or 'being planned/wanted later;' in addition, a pregnancy was classified as unplanned/unwanted if the respondents' did not know if the pregnancy was planned/wanted at that time' or if they had not thought about it. Using the synthesized measure of pregnancy intentions, we also examined couple's intentions using a 4 categorical measure "both partner's planned or wanted the pregnancy, the respondent wanted or planned but not the partner, the partner wanted or planned but not the respondents, both partners had not planned or wanted the pregnancy.

We used random effects logistic regression models to assess the impact of question wording on estimates of pregnancy intentions among the 7,873 pregnancies reported by women and the 3,783 pregnancies reported by men. Stratified analyses were performed to explore these differences by parity and pregnancy outcome. We also examined the effect of question wording on the couple's fertility intentions, taking into account the respondents' and their partners' intentions. Finally, we investigated pregnancy characteristics associated with unplanned or with unwanted pregnancies started. All analysis were performed using STATA 11.0 software package.

Results

The use of different wording yielded an overall 6% point difference in estimates of pregnancy intentions: 33.9% of all pregnancies were unplanned [32.4-35.3] and 28.0% were unwanted [26.6-29.4]. A more detailed comparison of both scales indicates the widest difference related to pregnancies that were not at all wanted or planned, with a 12% point difference in estimates among women and 10% among men (Table 1). The same conclusions were true when comparing partner's intentions using both scales (Table 2) Examining partner dyad intentions, 31% of women reported their pregnancies were unplanned by both partner versus 25% unwanted. The difference was greater for men : 30% of pregnancies were considered unplanned by both partner *vs* 19% unwanted. In general, women were more likely to report unwanted pregnancies than men (28.8% versus 25.3%,), while estimates of unplanned pregnancies were similar (33.0% for women; 34.1% for men) (Table 1).

In the multivariate context however, associations by gender were reversed: men were more likely to report unplanned pregnancies (OR=1.2 [1.0-1.4], p=0.05) and as likely to report unwanted pregnancies (OR=0.9 [0.7-1.1]) (Table 4). After controlling for pregnancy outcomes, the odds of unplanned pregnancies were significantly higher when the pregnancy started before age 25 (OR=3.0 [2.4-3.7]), among 4th pregnancies (or higher rank pregnancies) as compared to 1st pregnancies (OR=2.0 [1.5-2.6]) and significantly lower in 2nd pregnancies (OR=0.8 [0.7-0.9]). The same results pertained to unwanted pregnancies, with an additional effect of pregnancy year: recent pregnancies (in the last 2

years) were significantly more likely to be reported as unwanted (OR=1.4 [1.1-2.0]). We found no evidence of differences of these effects by gender.

Conclusion

This study reflects on the effect of survey instruments on national estimates of pregnancy intentions. Our findings also provide important insights into the meaning of pregnancy intentions, which varies by gender and other pregnancy attributes.

Table 1: Respondent's pregnancy intentions by question wording

	Women		Men	
	Planning scale	Wantedness scale	Planning scale	Wantedness scale
Didn't think about it	5%	9%	9%	9%
Not at all	22%	10%	19%	9%
Later	6%	10%	6%	7%
Sooner	9%	6%	8%	4%
At that time	58%	66%	58%	71%
Unplanned / Unwanted (=not at all-later-did not think about it)	33.0%	28.8%	34.1%	25.3%
	[31.3-34.7]	[27.1-30.4]	[31.6-36.6]	[22.9-27.7]

Table 2: Partner's pregnancy intentions by question wording

	Women's partners		Men's partners	
	Planning scale	Wantedness scale	Planning scale	Wantedness scale
Did not think about it	9%	12%	9%	9%
Not at all	20%	11%	17%	7%
Later	6%	7%	5%	6%
Sooner	8%	5%	8%	5%
At that time	56%	64%	59%	72%
Partner not informed	0%	1%	0%	0%
Don't know	0%	1%	1%	1%
Unplanned /unwanted	35.6%	30.2%	31.9%	21.7%
	[33.9-37.3%]	[28.5-31.9%]	[29.5-34.4%]	[19.4-24.0%]

Table 3: Couple's pregnancy intentions by question wording

	Women		Men	
	Planning scale	Wantedness scale	Planning scale	Wantedness scale
Planned/wanted by both partners	63%	66%	64%	73%
Partner discordance: Planned/wanted by respondent only	4%	5%	2%	2%
Partner discordance: Planned/wanted	2%	4%	4%	6%

by partner only				
Unplanned /unwanted by both partners	31%	25%	30%	19%

Table 4

		Unplanned			Unwanted		
		OR	IC	p	OR	IC	p
Sex	Women	1		0.050	1		0.76
	Men	**1.2**	**1.0-1.5**		1.0	0.8-1.3	
Pregnancy rank	1rst	1		<0.0001	1		<0.0001
	2nd	**0.8**	**0.7-0.9**		**0.8**	**0.6-1.0**	
	3rd	1.2	1.0-1.5		1.5	1.2-2.0	
	4+	**2.0**	**1.5-2.6**		**2.1**	**1.5-2.8**	
Year of pregnancy	<2009	1		0.58	1		0.02
	2009-2010	1.1	0.8-1.5		**1.4**	**1.1-2.0**	
							<0.0001
Age at pregnancy	<25 years	1		<0.0001	1		
	>=25 years	**3.0**	**2.4-3.7**		**3.4**	**2.1-3.0**	
							<0.0001
Preg outcome	Birth	1		<0.0001	1		
	Abortion	146.0	88-241		233.6	140-388	
	Miscarriage	2.4	1.9-3.0		2.2	1.7-2.8	
	Ectopic pregnancy	10.7	5.2-21.7		6.4	3.1-13.0	
	Abortion for medical reasons	5.4	2.6-11.0		2.7	1.4-5.4	
	Still birth	1.4	0.5-3.6		0.9	0.2-2.6	