The Measurement of Unintended Pregnancy in Rural India: A Comparison of Prospective versus Retrospective Assessment

Michael A. Koenig[1], Rajib Acharya[1], T.K. Roy[2], Sagri Singh[1]

[1]Bloomberg School of Public Health, The Johns Hopkins University, Baltimore, Maryland
[2]International Institute for Population Sciences, Mumbai, India

A central rationale for the existence of family planning programs is to assist couples in achieving their reproductive goals through avoiding unintended pregnancies and births. Yet, despite the centrality of reducing unintended births as a policy and programmatic objective, considerable debate persists regarding the reliability, validity, and overall measurement of this dimension. Substantial methodological research has been undertaken within the United States, where it has been estimated that almost one-half of recent births may have been unintended in terms of number or timing (Brown and Eisenberg, 1995). Evidence on levels of unintended pregnancy in developing countries remains much more limited.

A key limitation of estimates of unintended pregnancy has been that they have been based almost exclusively based upon women's retrospective assessments of previous pregnancy outcomes or births obtained in Demographic and Health Surveys (Adetunji, 1998). It has been argued that retrospective assessments of unwanted pregnancy may substantially underestimate true levels of unintended pregnancy, due to factors such as rationalization of responses (the tendency for women to revise their original preferences to report births which were unwanted as wanted), gender-specific preferences (a woman may indicate a preference for one additional birth but have very specific preferences for the gender of that birth), and significant underestimation of abortions (which are almost always unwanted), among other factors (Bongaarts, 1991; Brown and Eisenberg, 1995). The net result is that estimates of true levels of unwanted childbearing using retrospective assessments from cross-sectional data remain uncertain and potentially significantly underestimated. Accurate longitudinal data, in which couple's/women's reproductive intentions are known prior to actual birth outcomes, is required to adequately assess unintended childbearing levels. Prospective data from rural India provide a unique opportunity to directly compare assessments of unintended childbearing based upon retrospective versus prospective responses of individual women, and to better understand the factors which are associated with shifts in women's assessments of birth wantedness.

Data

The data for the study was drawn from the rural sample of the National Family Health Survey-2 (NFHS-2), undertaken in 1998-99 for the whole of India, in conjunction with a prospective follow-up survey of original respondents. The project was a highly collaborative endeavor between the International Institute for Population Sciences (IIPS) in Mumbai and the Johns Hopkins Bloomberg School of Public Health. The baseline study population consisted of all married, reproductive-aged women who were

interviewed in the original NFHS-2. Using a database to identify original NFHS-2 respondents, original respondents from four states (Bihar, Jharkhand, Maharashtra, and Tamil Nadu) who were rural and between the ages of 15-39 years at the NFHS-2 survey were idenitifed, revisited, and interviewed 48 months later, over the period December, 2002 through July, 2003. The study achieved an impressive reinterview rate for a longitudinal survey undertaken after a period of four years—ranging from 76% in Maharashtra to 94% in Tamil Nadu (Table 1).

Table 1. Summary of NFHS-2 follow-up survey: Four Indian states, 2003

State	Number Targeted*	Number Contacted	Number Completed	Percent Completed
Bihar	3,593	2,933	2,888	80.4
Jharkhand	1,033	848	845	81.8
Maharashtra	1,485	1,141	1,132	76.2
Tamil Nadu	1,674	1,573	1,572	93.9

In the four states combined, a total of 6437 women were successfully reinterviewed; these women reported a total of 3900 live births which took place during the 48 month observation period between the 1998-99 baseline survey and the 2002-03 follow-up survey. At the time of the NFHS-2 survey, women were asked standard DHS questions concerning their desire for additional children, allowing the prospective classification of the wantedness of subsequent births. Similarly, at the time of the follow-up survey, all reinterviewed women were asked their retrospective assessments of the wantedness of these same births (again using standard DHS questions regarding wantedness of past births). This study design allows the direct comparison of birth wantedness estimates based upon prospective versus retrospective responses, which has rarely been possible in previous studies (Westoff and Ryder, 1977; Bankole and Westoff, 1998; Joyce, et al. 2002).

Preliminary results

On the whole, estimates of levels of unintended childbearing among first births in the four year period were found to be substantially higher with prospective than with retrospective assessments: (Bihar: 28.7 vs. 14.1%; Jharkhand: 24.4 vs. 6.3%; Maharashtra: 15.7 vs. 8.2%; Tamil Nadu: 17.9 vs. 8.6%). Table 2 shows the direct comparison of retrospective versus prospective assessments for all births where both sources of estimates were available. It is evident from this table that births which were prospectively classified as being 'wanted' (either sooner or later) with few exceptions remained wanted in women's retrospective assessments at the time of the follow-up survey—with percentages (>90 percent). Also evident from Table 2, however, is the marked shift in wantedness status among those births which, based upon women's fertility intentions at the NFHS-2, were prospectively classified as unwanted. In all four states, pronounced shifts are evident in women retrospectively assessing such births as having been wanted—from 69% of unwanted births in Bihar to 85% of such births in Jharkhand—with such births largely been assessed as having been 'wanted then'. These

Table 2. Prospective versus Retrospective Assessments of Unwanted Pregnancy for first birth in intervening period: Four Indian States, 2003

	Retrospective measurement				
Prospective measurement	Unwanted	Wanted then	Wanted later	Percent	Total Number
			Bihar		
Wanted no more	30.7	**45.8**	**23.6**	100.0	496
Wanted soon	4.6	85.1	10.4	100.0	395
Wanted later	4.6	77.6	17.8	100.0	411
Unsure	6.9	77.0	16.1	100.0	304
			Jharkhand		
Wanted no more	14.3	**63.4**	**22.3**	100.0	112
Wanted soon	0.8	87.0	12.2	100.0	131
Wanted later	1.7	79.2	19.2	100.0	120
Unsure	(2.6)	(81.6)	(15.8)	100.0	38
			Maharashtra		
Wanted no more	14.7	**73.3**	**12.0**	100.0	75
Wanted soon	5.1	84.9	10.1	100.0	99
Wanted later	2.3	86.4	11.4	100.0	88
Unsure	3.5	79.3	17.2	100.0	58
			Tamil Nadu		
Wanted no more	18.2	**72.7**	**9.1**	100.0	132
Wanted soon	2.6	91.0	6.4	100.0	156
Wanted later	2.4	90.3	7.3	100.0	165
Unsure	*	*	*	100.0	6

() Based on 25-49 unweighted cases, * Less than 25 unweighted case to base

results provide some of the strongest existing evidence widespread rationalization of unwanted births to becoming wanted, and suggest that retrospective assessments (such as current DHS estimates) may lead to pronounced underestimations of the true extent of unintended childbearing in this rural population.

In the second stage of the analysis, we will focus on the factors that predict the consistency in wantedness status between the prospective and retrospective assessments, among the 1075 births to women in the four states which were prospectively classified as unwanted. The explanatory variables we will consider include demographic characteristics (age, parity, sex of child, sex composition of family, household socioeconomic status), women's status indicators, characteristics of the birth (time duration since birth, sex of child, survival status of child), and husband's fertility preferences. We expect this analysis to shed light on the factors which are associated with the rationalization of births from unwanted to wanted status.

Study Implications

A major implication resulting from our study is that current retrospective assessments of unwanted childbearing—as measured through Demographic and Health Surveys—are likely to markedly underestimate actual levels of unwanted childbearing when measured prospectively. This difference appears to result primarily from a widespread tendency on the part of respondents to rationalize unwanted births as

subsequently having been wanted. Our study will also shed light on the specific factors which are associated with this birth rationalization process and the corresponding shift in wantedness status assessed prospectively versus retrospectively.

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