Unwanted Fertility in Bolivia and Peru: An Examination of Ethnic Inequality

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The indigenous in the Andean region of Latin America have long histories of marginalization, which has resulted in large scale ethnic inequality. Across Latin America, the indigenous are more likely to live in rural areas and receive less education. Additionally, the indigenous are victims to gross health disparities. Indigenous peoples in Latin America have higher rates of mortality and morbidity as well as higher rates of infant and maternal mortality (Montenegro and Stephens 2006).

The indigenous also face inequities in other areas of reproductive health, such as family planning. Before 1970, less than 5% of Latin American women had access to modern family planning methods (Metz 2001), and the regional Total Fertility Rate (TFR) for Latin America was about 6 children per woman (Leite, Gupta and Rodrigues 2004). Since then, TFRs across Latin American countries have dropped dramatically, with 2012 estimates ranging from 1.6 in Puerto Rico to 3.6 in Guatemala (Population Reference Bureau 2012), and Latin America is often regarded as a family planning success story. Research done on the expansion of family planning in Peru between 1985 and 1991 suggests that the availability of family planning contributed substantially to the reduction in fertility rates (Angeles, Guilkey and Mroz 2005).

However, in countries with large indigenous populations, like Bolivia, a large portion of the population remain dependent on less reliable traditional contraceptive methods. Currently, modern contraceptive prevalence among married women is only 35% (Bertrand 2011). Similarly, since the mid-2000s family planning progress in Peru has stalled. Though the prevalence of modern contraceptive use is higher than in Bolivia, it has actually declined slightly since the year 2000 and currently hovers around 50% (Bertrand 2011).

Additionally, recent examinations of unwanted fertility in the region highlight disparities, with unwanted Total Fertility Rates varying dramatically between countries. The levels of unwanted fertility remain disturbingly high in some countries, especially countries with large indigenous populations. In Bolivia, for instance, around 60% of children are unwanted (Casterline and Mendoza 2010). Previous research indicates that past improvements in family planning programs have neglected Latin America's indigenous (Terbough et al. 1995). Barriers to modern contraceptive method use are often heightened by ethnic inequality, and include language barriers, cultural sensitivity for women speaking of sexual matters to male health care providers, discrimination and poor treatment, lack of money to pay for visits, difficulty accessing family planning clinics due to distance, inconsistent supply availability, and partner or family disapproval (Tucker 1986; Schuler, Choque and Rance 1994). Accordingly, research since the mid-1990s research has repeatedly called for improvements in cultural sensitivity within and access to family programs for the indigenous. And even though family planning services have since undergone major expansions and recent family planning interventions have specifically targeted the indigenous, regional reports still show wide variation in contraceptive prevalence, method mix, and

levels of traditional use. Indeed, the most recent estimates show that unwanted fertility rates are especially high among the indigenous (McNamee 2010).

This research will present a comprehensive picture of contraceptive use and unwanted fertility among the indigenous in the Andean region of Latin America by addressing the following research questions.

Research Questions

In this paper, I will address the following questions:

1. What accounts for non-indigenous – indigenous differentials in fertility?
2. Are family planning programs making inroads among the indigenous?
3. Why do indigenous women have higher rates of unwanted pregnancies?
    a. What is the extent that the differentials in unwanted pregnancies are attributable to:
        i. Unmet need for modern contraceptives
        ii. Use of ineffective traditional methods – failure rates
        iii. Failure rates when using modern contraceptives

Data and Methodology

Data

For this study, I will use data from the Peru and Bolivia Demographic and Health Surveys (DHS). The DHS are nationally-representative samples of women age 15-49. The surveys follow a multistage cluster design, which allow for the creation of various community-level variables by cluster. The women surveyed are asked about the wantedness of births in the last five years. Additionally, they are asked to provide a retrospective month-by-month accounting of contraceptive use, pregnancies, and births in the previous five years.

Plan of Analysis

In order to address my research questions, I will first examine fertility rates in the most recent data from Bolivia (2008) and Peru (2007-2008), including the Total Fertility Rate (TFR), Wanted Total Fertility Rate (wTFR), Unwanted Total Fertility Rate (uwTFR), and Conditional Unwanted Rate, which incorporates preference structure, by ethnicity. Table 1 presents preliminary rates for Bolivia and Peru by ethnicity. Even though the ideal number of children is virtually uniform across Bolivia and Peru, the indigenous in both Bolivia and Peru have higher TFRs and much higher unwanted TFRs. I use demographic decomposition analyses to attribute portions of the indigenous fertility differential to nuptiality, fertility preferences, wanted fertility, and unwanted fertility. Preliminary results (see Table 2) indicate that unwanted fertility is a dominant factor in the indigenous fertility differential in both Bolivia and Peru, legitimizing further analyses into the sources of ethnic differentials in unwanted fertility with the analysis of calendar data.

Next, I will take a descriptive look at TFRs, unmet contraceptive need, contraceptive prevalence and method mix among the population and, specifically, the indigenous over time, utilizing the sequence of DHS data for Bolivia (1989, 1994, 1998, 2003 and 2008) and Peru (1986, 1991-1992, 1996, 2000, 2007-2008) to examine whether and when family planning program expansion reached indigenous populations.

Finally, I will utilize the most recent data (Bolivia 2008 and Peru 2007-2008) from birth histories and contraceptive calendars to examine sources of unwanted fertility differentials via analysis of the hazard of unwanted pregnancy/birth. I will estimate competing-risk regressions to examine differences by ethnicity in the hazard of unwanted births among episodes of non-use (to examine differences in unmet need and method utilization), modern contraceptive use, and traditional contraceptive use (to examine differences in failure rates when using modern contraceptives). This sequence of models will introduce demographic and socioeconomic covariates to further address questions of possible ethnic differences in unmet need, access and method failure.

While the differentials in unwanted fertility among the indigenous and non-indigenous in Latin American are recognized, I anticipate that this analysis will shed further light on the cultural barriers, access issues, and other structural factors which may drive indigenous fertility differentials in the Andean region.

Table 1. Preliminary Statistics

	Bolivia 2008			**Peru 2007-8**		
	All Women	Indigenous	Non-indigenous	All Women	Indigenous	Non-indigenous
Total Fertility Rate	**3.537**	**3.877**	**2.985**	**2.528**	**3.959**	**2.394**
Wanted TFR	2.175	2.200	2.150	1.808	2.035	1.795
Unwanted TFR	1.362	1.677	0.835	0.720	1.924	0.598
Ideal Number of Children	2.4	2.3	2.4	2.4	2.3	2.4
Percent Want No More						
All	53.6	59.1	45.6	46.4	69.9	44.2
Parity at Survey						
None	11.7	13.1	10.2	4.7	13.7	4.2
One	35.6	39.0	31.7	29.5	44.3	28.5
Two	66.5	70.6	60.8	68.1	78.7	67.4
Two+	81.0	83.6	76.2	80.4	90.7	79.0
Percent of Population		53.1	46.9		11.7	88.3

Table 2. Preliminary Decomposition Results		
	Bolivia 2008	**Peru 2007-8**
Difference in TFR	0.892	1.318
Percent of TFR Difference due to:		
Nuptiality	14.61	48.84
Wanted fertility rates	26.630	8.01
Unwanted fertility rates	64.870	64.62
Preference composition	-6.12	-22.36
Residual	0.01	0.89

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