Variations in Contraceptive Use Among Indigenous Women of South America

Emily Vala-Haynes and Claudia Valeggia
University of Pennsylvania

Background and Motivation

While ethnographic studies on indigenous groups in Latin America abound, there remains a "dearth of quantitative research on the reproductive practices of indigenous populations" (Bremner et al. 2009). Anthropological literature tends to profile specific communities, and large-scale quantitative studies may include a control variable for indigenous identity--often rendered insignificant by wealth and region confounders--but do not consider variations within indigenous populations. The exception for this appears to be in Guatemala, where a wealth of literature exists on the maternal and child health of that country's large Maya population. In South America, where indigenous women continue to have the highest fertility rates in the region, there is a marked lack of quantitative research addressing the health disparities experienced in these groups.

In Latin America, as in many regions, the fertility decline has been driven by an increase in contraceptive use (Ishida et al. 2009). In general, indigenous women have been slow to adopt modern contraceptive methods throughout this region as a result of both limited access to and mistrust of family planning facilities. However, the story of the reproductive health of indigenous women in Latin America is more nuanced than the general view of "high fertility, low contracepting." In the context of massive family planning program outreach throughout South America, this study asks which indigenous groups are indeed beginning to use contraception. Do indigenous women in rural communities act differently from those who live in peri-urban or urban areas? When countries implement policies that provide free contraception, what is the acceptability and uptake within indigenous communities? This study uses data collected by the co-authors in a unique longitudinal study of the Toba in Northwestern Argentina, as well as Demographic and Reproductive Health Surveys from Peru, Bolivia and Paraguay, to examine variation in the use of contraceptives among indigenous women in these countries.

Primary Study Population and C.A.R.E. Program

The Chaco Area Reproductive Ecology (C.A.R.E.) Program is a long-term research program that studies the relationships among ecological, behavioral, and reproductive patterns of the indigenous and non-indigenous peoples of the Argentine Gran Chaco. The primary objective of this specific project is to evaluate the impact of acculturation and access to Western medicine on indigenous women's fertility and reproductive

health in an Argentinean indigenous group that is undergoing rapid demographic, epidemiological, and sociocultural transitions.

This study took place in NamQom, a Toba village of approximately 3,500 people located 11km northwest of the city of Formosa, Argentina. The Toba are one of four main indigenous populations in Argentina, and they have experienced dramatic changes in their lifestyle throughout the past century (Miller 1999). Disruptions to their traditional lifestyle and ecological deterioration of their habitat have forced massive migrations to urban centers, where they live in poor peri-urban *barrios*. This is true of NamQom, which serves as a center of migration between rural areas and the urban capital of Formosa (Bove et al. 2002).

The Toba population is disadvantaged in comparison with the rest of Argentina's population. While mortality has decreased in recent years, fertility remains relatively high, with TFRs ranging between 6.4 and 8.0 births per woman (Lanza et al. 2008). In the Gran Chaco region, the growth rate of the Toba has increased far more rapidly than that of the non-indigenous population. This continues despite the passage of a 2002 law by the Argentine Congress that provides free contraception to all women in the country. In addition, the Toba in Namqom receive free health services, mainly provided by the local health center and Formosa's hospitals. Nearly all infants are born at hospitals, and the provincial government offers pre- and postnatal care programs (Valeggia and Ellison 2003).

As previously discussed, indigenous women in Latin America have a long history of marginalization, especially in terms of their health. Prior to 2002, Toba women in NamQom used traditional methods of birth control almost exclusively. Despite the current freely available birth control throughout Argentina, knowledge of the various methods is still lacking within this community. As disparities between indigenous and non-indigenous fertility remain stagnant—and in some cases continue to grow—throughout South America, an in depth study of one marginalized group's adoption of techniques available to control their fertility will be useful for policymakers whose goal is to narrow this gap.

Data

Three waves of demographic data were collected from approximately 240 women in the community of NamQom during the winters of 1999, 2006 and 2011. Each participating woman (12 years and older) responded to a reproductive history questionnaire that included questions about place of birth, level of schooling completed, civil status, age at menarche, age at first birth, number of live births, number of children alive, date of birth (and death, for deceased children) of each child, and use of contraception. Incomplete birth data for children were cross-checked with information recorded in the health histories kept at the local health center, upon consent of the participant.

In addition to our longitudinal study, we use the cross-sectional Demographic and Reproductive Health (DHS and RHS) surveys from Paraguay, Bolivia and Peru in order to provide context and background for the Toba study results. These data contain variables for indigenous self-identity as well as languages spoken to enable us to identify particular indigenous groups. Additionally, because the Toba of NamQom are located in a peri-urban setting, we are able to use the location variables from the DHS and RHS to pinpoint other indigenous women in similar settings and compare them to women living in cities and more rural areas. The DHS and RHS also contain a wealth of variables on contraceptive use, method mix, and accessibility of contraception. While the focus of this study remains on the Toba due to the richness of our data, using the DHS and RHS will provide a broader context so we can understand exactly how well Toba women are doing with respect to contraceptive use.

Methods

Using the Toba data, we run fixed effects models to determine whether contraceptive use has increased as a result of the 2002 policy that made contraceptives free and readily accessible. Using the data from neighboring Paraguay, as well as from Bolivia and Peru, we run logistic regressions to determine how contraceptive use varies based on rural, peri-urban and rural regions of residence.

Table 1. Descriptive Characteristics of Toba Women by Survey Wave

	Year of Survey		
	2011 (n=184)	2006 (n=221)	1999 (n=244)
Age			
Under 20	0%	10%	38%
20 to 29	31%	38%	34%
30 to 39	36%	33%	18%
40 to 49	21%	14%	9%
50 to 59	9%	4%	0%
60 and Over	2%	0%	0%
Education Level			
None	6%		
Primary	68%		
Secondary	26%		
Literate	83%		
Civil Status			
Single	24%		
In Union	74%		

Widow	2%		
Using Contraception	34%	31%	10%
Type of Contraception			
IUD	12%	29%	-
Condom	2%	27%	-
Abstinence	0%	13%	-
Injection	37%	6%	n=6
Pills	27%	3%	-
Herbs	0%	18%	-
Tubal Ligation	19%	2%	-
Hysterectomy	3%	2%	n=7
Satisfied with Method			
No	13%		
Yes	87%		
Ever Used Contraception	73%	48%	10%

Table 3. Bivariate Regressions with Use of Contraception (2011 only)		
Characteristic	Odds Ratio (Standard Error)	p-value
Age	0.97 (0.017)	0.14
Highest Level of Schooling	--	--
Primary or less	1.11 (0.394)	0.77
Secondary		
Literate		
Yes	2.01 (0.927)	0.13
Civil Status		
Single	--	--
In Union	1.25 (0.472)	0.56
N	176	

Expectations

Preliminary analysis of the Toba data shows that contraceptive use was indeed more prevalent in the 2006 and 2011 waves compared to the 1999 wave. While we expect this

to vary based on age and education level, we also aim to understand *when* they are using contraception--to delay first birth, to stop having children after they have reached a desired amount, or to space their births. Using the extensive reproductive histories, we will address this aim for both the Toba and the indigenous women from the DHS and RHS data sets.

We expect indigenous women in urban regions to have a higher prevalence of contraceptive use due to accessibility and exposure to large social networks of women who also take advantage of family planning programs. Peri-urban and rural women may act differently based on the degree of accessibility of family planning clinics--the Toba of NamQom have a clinic in their community--as well as the degree of exposure to other women using contraceptives.

Clearly country-level variables will play a large part in the variation of contraceptive uptake within indigenous populations. However, detailed information on family planning programs is available from ministries of health which will enable us to address these factors and adjust the interpretation of our results accordingly.

References

Bove, R., C.R. Valeggia, and P.T. Ellison. 2002. "Girl Helpers and Time Allocation of Nursing Women Among the Argentine Toba." *Human Nature* 13(4):457-472.

Bremner, J., Bilsborrow, R., Feldacker, C. and F.L. Holt. 2009. "Fertility Beyond the Frontier: Indigenous Women, Fertility, and Reproductive Practices in the Ecuadorian Amazon." *Population and Environment* 30:93-113.

Ishida, K., P. Stupp, and M. Melian. 2009. "Fertility Decline in Paraguay." *Studies in Family Planning* 40(3):227-234.

Lanza, N., K.M. Burke, and C. Valeggia. 2008. "Fertility Patterns in the Toba, an Argentine Indigenous Population in Transition." *Society, Biology and Human Affairs* 73(1&2):26-33.

Miller, E.S. (ed). 1999. *Peoples of the Gran Chaco.* Bergin & Garvey, Westport, CT.

Valeggia, C. and P.T. Ellison. 2003. "Lactational Amenorrhoea in Well-Nourished Toba Women of Formosa, Argentina." *Journal of Biosocial Science* 00:1-23.