

ACCESS TO FEMALE SURGICAL STERILIZATION IN BRAZIL AND INDIA: POVERTY, POLICIES AND POLITICS

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Abstract

India and Brazil face the same nature of challenges regarding the supply of family planning services and, more specifically, of tubal ligation. The size and complexity of decentralized political and administrative organizations in both countries imprint a high degree of difficulty in health provision that central governments and state-level authorities are not able to control and enforce. In this sense, local-level heterogeneity as for economic, political, social, and demographic differences reigns. The aim of this article is to analyze the factors associated with the differentials in the access of tubal ligation and clinical reversible methods in the public health sector in Brazil and India as well as to establish and discuss common trends stemming from public policies and politics that influence family planning. The focus is on poor women parity two or higher. We use the 2006 Demographic and Health Survey for Brazil and the National Family Health Survey 2005-06 for India. Although access has improved over time our findings point that contemporary obstacles to public family planning services can be traced in the early initiatives and are related to the political economy of family planning organization in the three spheres of political power – central, state-, and local-level.

Subject

In the last decades female sterilization became the method of choice among the poor couples in India as well as in Brazil. For various reasons tubal ligation has been the only method accessible for free on a regular basis over the last four decades in these two countries. In both countries the bulk of the procedures are obtained in public health services. Local-level health authorities are in charge of implementing the services according to the regulations issued at the state and central levels. In between the government's regulations and the implementation of health services to supply tubal ligation to women and couples demanding family planning there are a set of related to programmatic, administrative, and operational capacities that impact funding, resources availability and trained personnel. These factors may wind up as hindrances to access to contraception in particular and to the quality of care in general – including knowledge about and access to clinical reversible methods – at the local level in detriment of the poor in both countries. Such problems affect mainly the poor and overwhelmingly the poorest poor. Obstacles to information, access to contraceptive method of choice, and medical follow-up are socially and thus regionally biased both in India and in Brazil.

The Brazilian Total Fertility Rate (TFR) fell from 6.3 in 1960 to 1.8 in 2006. In 1986, 28.2 percent of the Brazilian women aged 15 to 44 years in union were surgically sterilized. In 1996, this figure was 40.1 percent, with strong regional differences. In 2006, the percentage of women that had gone through a tubal ligation fell down to 29 percent (Health 2008). In India, comparing the results of the NFHS-1 1992-93 to the results of the NFHS-3 2005-06, the TFR was 3.4 among married women aged 15-49 years in the first period and 2.7 in the latter period. Female sterilization rose from 27.3 percent to 37.3 percent among married women aged 15-49 years. The use of modern temporary methods increased from 5.6 percent to 10.1 percent over this period, while vasectomy dropped from 3.5 percent to 1.0 percent. Married women in the reproductive age span not using any method went down from 59.3 percent to 43.7 percent. On the other hand, the use of traditional methods rose from 4.3 percent to 7.9 percent (International Institute for Population Sciences and Macro International 2007).

It is worth highlighting the fact that one must take into account that cross-section prevalence estimates are a rather poor indicator of changes in the level of female sterilization over time. This is so because tubal ligation is highly correlated with parity, being the choice of most of the women with two children or more. In Brazil, 98 percent of the sterilized women between 1996 and 2006 were operated on at parity two or higher. Considering only married women who were sterilized after the second child, 78 percent of them were operated on at parity two or three. According to the NFHS-3 2005-06, 99 percent of the married sterilized women in India at the time of the survey had at least two children. Among them, 60.5 percent had the procedure at parity two or three.

Background

Brazil

In Brazil, the use of female sterilization spread enormously from 1986 to 1996. Such dissemination involved the lower social brackets of the population and was possible due to the manipulation of the public health system since tubal ligation was reimbursed neither by the public nor by the private health sector. In fact, tubal ligations were provided either during C-section deliveries or were covered by another procedure such as colpoperineorrhaphy. In both cases the fraud was to fake a surgical procedure registered for reimbursement and carrying out a tubal ligation. A number of doctors would call it “a courtesy”. This *modus operandi* was more pronounced in the less-developed regions of the country such as the Northeast, North, and Center-west. In these regions there was a high likelihood that this practice was involved sheer politics. Female sterilization was provided for free in exchange of potential future votes (Caetano and Potter 2004).

The unexpected spread of the use of tubal ligation across regions and social layers in Brazil during the 1980s and first half of the 1990s did not pass unnoticed by health authorities, scholars, reproductive health and women’s rights activists. The efforts and initiatives to make tubal ligation available in the public health sector as well as regulated so that couples demanding sterilization would have a chance to be informed about and

choose other contraceptive methods resulted in the federal law 9263 passed in 1996 and sanctioned by the President in 1997 (Caetano and Potter, 2004).

The Family Planning law, as it became known, was regulated by a series of regulations that may have caused a setback as far as access to female sterilization in the public system is concerned. Firstly, the post-partum sterilization was banned up to the 42nd day after delivery. Secondly, couples demanding a sterilization procedure would have to go through a sixty-day counseling period during which they would be informed about the other modern contraceptive options. In changing their minds about the tubal ligation – or vasectomy – the health service would have to provide the demanded contraceptive alternative. Finally, although it is up to the municipal health authority to create the conditions to offer sterilization according to the law, only the state health authority can authorize a public hospital to offer female sterilization. In sum, the central health authority conceives and regulates the policy, the state health authority oversees and enforces the federal regulations and the local health authority implements the service (Caetano and Potter, 2004).

In this respect it must to be seriously considered that Brazil has almost 6,000 municipalities, ranging from one of the largest cities in world, São Paulo, to municipalities with fewer than 1,000 inhabitants. Hence there is an enormous municipal heterogeneity regarding challenges, resources, and capabilities across the country. Neither carrots nor sticks are provided to the municipal health authorities. Thus the supply of reversible contraceptive methods and female sterilization in the public health sector at local level depends heavily on the knowledge, willingness, and diligence of municipal authorities (CAETANO 2010).

In sum, the law's regulations may have been a substantially curtailed the supply of female sterilization for free in public hospitals. The obstacles represented by the post-partum ban on female sterilization, the sixty-day counseling period and the scarceness of municipalities with at least one public hospital providing tubal ligations for free may have created a frustrated demand and may have not changed the fact that the majority of the procedures are still carried out in public hospitals and do not follow the requirements of the law. In this sense, it is not unreasonable to deem that the Brazilian family planning law turned out to be an anti-poor legislation even though it aimed at the good of poorest layers of the society.

India

According to Panandiker and Umashankar (1994), since the 1950s the implications of unplanned population growth for country's development were of great concern of India's policymakers. This concern lays behind the fact that India was the first country to take on a national family planning program, in 1952. Nevertheless actual efforts to control fertility began in the 1960s (Gulhati 1977). The events of the 1960s imprinted the major characteristics that would mark the Indian family planning efforts over the next forty years.

In the early and mid-sixties, expert committees comprising advisors of the Ford Foundation, the Population Council, United Nations and World Bank alongside with Indian

Planning Commission officials pressed for changes in the program away from the medical approach and stressed the importance of the IUD (Connelly 2006). They agreed on the need to set targets to achieve the goal of averting 40 million births over the next ten years. To carry out such a task, incentives should also be in place. In October 1966 the Indian Health Ministry agreed for the first time to provide funds to pay acceptors transferring funds to states. Physicians were given quotas for IUD insertions. The targeting of new acceptors turned out to be in a great number of cases magistrates threatening lower-rank officials to meet their quotas and false promises to entrap new acceptors. No provision to guarantee medical follow-up was planned. Once uterus perforations, prolonged bleedings and ectopic pregnancies started to amount the IUD insertions began to decline (Connelly 2006). According to this author, "By the end of 1967 it was clear that, rather than accelerating, the rate of IUD insertions had entered into a long decline. While the month tally of sterilizations had briefly topped 300,000 during the summer, it too was falling" (p. 656).

The results of the 1971 Demographic Census gave rise to doubts regarding the effectiveness of the family planning put in place during the 1960s. Indeed, the annual population growth rate rose from 1.96 percent annually during the period 1951-61 to 2.2 percent per year between 1961 and 1971. In June 1975, reacting to a serious economic and political crisis, the prime minister of India, Mrs. Gandhi declared a state of emergency, which would last 19 months. As the time went on after the emergency declaration family planning came to be a top priority of her government giving rise to the "...most aggressive family planning effort in India's-or in any country's-history" (Gwatkin 1979, p. 32). The author states that during the Emergency Period the family planning efforts brought no novelty to what had been previously done, i.e., "the intensive 'crash' program approach; surgical sterilization as an easily administered contraceptive method; the use of targets as an important means of controlling fieldworker performance; the assignment of principal field-level responsibility to the generalist administrative cadre; the payment of monetary incentives to sterilization acceptors; the use of sanctions against those who failed to comply with the government's wishes - plus, in some cases, resort to compulsory sterilization [...]" (p. 41).

The difference from the early period was the escalating of vigorous actions stemming from the Delhi and reaching the majority of the states' bureaucracy in almost all departments pressed by the central government, especially from Sanjay Gandhi, son of the prime minister, "[...] outside the formal public police process" (Gwatkin 1979, p. 37). As a result of the pressure on administrators to show quick results and the vigorous means they used to meet their quotas the family planning actions wound up causing public distress and unrest (Gwatkin 1979).

On the words of Panandiker and Umashankar (1994), "...public anger was widespread and threatened the nation's well-being" (p. 91). In the general election of March 1977 Mrs. Gandhi and the Congress Party were swept away in the central government and in many state governments. The Janata Party won an overwhelmingly majority, moved into power and disavowed Gandhi's fertility regulation program. The new government announced a new and voluntary population policy under the name of Family Welfare Program. Besides the decline in the rates of sterilization and the slowing down of

the program, there were no substantial differences in the way the family planning program operated during the remaining years of the 1970s compared to past sixteen years (Panandiker and Umashankar 1994).

In January 1980, Mrs. Gandhi's Congress Party returned to power and the 1981 census gave India's political leaders another jolt. It showed that the population continued to rise at an annual rate of 2.2 percent between 1971 and 1981 (Panandiker and Umashankar 1994). In March 1982, a committee comprised by government and nongovernment specialists was joined to review the Indian family planning program and advise it on a continuous basis, but it is said that it brought no novelty (Soni 1983).

Acknowledging that program in place up to then had not taken into account the clients' needs as well as cast down grassroots involvement, in April 1996 the government of India announced that the national family planning program would become target-free (Visaria, Jejeebhoy and Merrick 1999). The aim was to decentralize the planning component and to replace responsibilities so that they would be borne at the level of the primary health centers (PHC) so that the locals would be involved and their needs would be taken explicitly into account. In fact, targeting would not disappear. The idea was to put local health workers in accordance with the local community in charge of this task. In relocating the targeting component the central government, according to Visaria and colleagues (1999), was taking a necessary step to improve the quality of services all over India, but the change at the state and district levels were negligible as far as any sort of orientation was concerned, but for "[...] the receipt of the program's target-free manual to orient them to decentralized planning" (p. S45).

The central government took another step in 1997 when it was launched the Reproductive and Child Health (RCH) program, involving policy as well as managerial and implementation changes. Among its main purposes the RCH program was to abolish targets and monetary incentives to both providers and acceptors of modern contraception altogether and bring in non-governmental organizations and the private sector to augment supply and reach those who the public health sector was unable to assist. As Visaria and colleagues (1999) pondered at the time, "The approach required a degree of skill and training that may stretch the limits of available resources; it may be unrealistic under current conditions in rural India to upgrade facilities and services at the local level; and the costs of expanding services are formidable" (p. S46).

According to Verma (2010) (Verma 2010), by the end of the 1990s there was no reason to optimism in the front of the population growth curtailment, the situation was thought to be same similar in the family planning front and due to the same reasons. While at least since the 1980s the program has in theory always offered an assortment of contraceptive methods, in practice the vigor with which different methods have been promoted has varied over the years. [...]. Since the late 1970s, the program has emphasized tubal sterilization. Thus, despite the long-standing official policy of voluntary contraceptive adoption and free choice between a variety of contraceptive methods, the fact is that the choice of method always been free (Pachauri 2004; Soni 1983).

In 2005, India started a bold and long overdue initiative to strengthen the health system, the National Rural Health Mission. However, Paul et al. (2011) (Paul et al. 2011) point out a series of problems that have long plagued the Indian public health system and

its family planning branch. The authors affirm that the “[...] coverage of priority interventions remains insufficient, and the content and quality of existing interventions are not acceptable. Substantial unmet need for contraception remains, adolescent pregnancies are common, and access to safe abortion is inadequate. Absence of well-functioning health systems is indicated by the inadequacies related to planning, financing, human resources, infrastructure, supply systems, governance, information, and monitoring” (p. 344). In fact, the public health sector seems to have never put out a delivery system capable of providing information, supplying clinical reversible methods, and offering the due medical follow-up because it has set up for sterilizations since the very beginning (Pachauri 2004).

One key point Paul and colleagues (2011) touch refers to the presence of bureaucrats “[...] with little experience in public health make decisions about reproductive and child health, whereas technical advisors are relegated to the fourth level of the central hierarchy. Guidelines and strategies are delayed and programs are often implemented with a lack of commitment” (p. 341). Moreover – and very alike to the Brazilian case – the state and especially the local-level governance tends to be even weaker and are frequently shaken by changes in the top hierarchy every time there are elections and a new incumbent take the command. Such events tend to “[...] undermine, reduce, or discard initiatives taken by their predecessors, breaking continuity and demoralizing downstream implementers” (Paul et al 2011, p. 341). Incompatibility and contradictions between national and state policies exacerbates the program implementation flaws and lacunae (Pachauri 2004).

On a final note, it worth calling the attention that although urbanization process is on the rise in India urban reproductive health and child health have been left largely aside both by the public authorities and by researchers. Understandably, the reproductive and child health program emphasis were on rural areas and little effort has been put on structuring an urban healthcare system as was the case in rural areas (Paul et al. 2011).

As in Brazil, the decentralization of responsibilities in which the central government proposes and funds while the states and local governments dispose depending upon its perceived self-interest, the quality of its political leadership, its level of commitment, its administrative competence and the availability of monetary and human resources. These factors are, therefore, reflected in the performance of the program in different states, among which the disparities are striking (Panandiker and Umashankar 1994). According to these authors, “...in India, a broad national consensus on the importance of the family planning program confronts an apathetic, at times hostile, political system at the local level where implementation must take place” (p. 103).

Data

For Brazil we used a subsample of married women aged 15-49 years parity two or higher who are fertile and not pregnant at the time of the 2006 *Pesquisa Nacional de Demografia e Saúde* (PNDS – National Demographic and Health Survey). The PNDS is a DHS-like household survey that was carried out in the first semester of 2006. It is sample

of 15,435 women allows for national and regional statistical representativeness. It was funded by the Brazilian Ministry of Health and executed by CEBRAP (*Centro Brasileiro de Pesquisa* – Brazilian Research Center).

For India we use a subsample of married women aged 15-49 years parity two or higher who are fertile, not pregnant at the time of the 2005-06 National Fertility Household Survey (NFHS-3). The NFHS-3 provides national and state-level data on fertility, family size preferences, demand for contraception, unwanted fertility, and aspects of maternal and child health. We stratify the Indian data into five major regions – south, east, north, central, and northeast (Dyson and Moore 1983; International Institute for Population Sciences and Macro International 2007).

Methods

We classify and compare the Brazilian and Indian subsamples using quintiles of the Wealth Index (Rutstein and Johnson 2004). Besides descriptive statistics used to identify the issues raised in this paper, we apply binomial logit models to analyze the differentials regarding access and use of tubal ligations among the wealth index quintiles of the married female population aged 15-49 years who are parity two or higher. For Brazil, we firstly analyze the factors associated with the payment of female sterilization procedure in the public health sector controlling for age, parity, region, and wealth index quintile. Since women in the first two quintiles having had a tubal ligation in public hospitals represent the bulk of the number of sterilizations performed in the period analyzed we also estimate the likelihood of tubal ligation arranged by a politician as opposed to not resorting to politics (not shown). The analysis of determinants of having ever wanted a tubal ligation and whether have attempted to obtain the procedure follows suit.

In the case of India we also employ descriptive statistics to highlight the issues raised in this paper and binomial logit models. We firstly analyze the factors associated with unmet need to space and limit among fecund pregnant married aged 15 to 49 years who want to use a clinical contraceptive method and add to these subgroup women who were using non-clinical and folk methods to stop reproduction altogether. For both India and Brazil we examine social and regional differentials influencing use of paid clinical methods since out-of-pocket payment for contraception by the poor is a perverse consequence of the inefficiency of the public health sector (not shown).

An analytical improvement that is progress is to employ Latent Class Analysis to obtain the socioeconomic categories instead of using the wealth index. Although the wealth index is a sound indicator for what it aims at the division in quintiles forces individuals to be in the same group until it reaches one fifth of the cases. This may cause putting together women with very different levels of assets and capabilities. As for the moment we do not control for unobserved heterogeneity and include hierarchical structure, which will be done in the next future.

Preliminary results

Brazil

TABLE 1: Percentage distribution of contraceptive method by region among fecund not pregnant married women aged 15-49 years - BRAZIL 2006

Method	Region					
	Centerwest	North	Northeast	Southeast	South	Total
None	11.2	15.6	13.9	12.2	11.5	12.8
Non-clinical methods	2.0	3.8	4.5	5.5	4.7	4.7
Tubal ligation	41.6	44.3	39.5	26.3	20.9	31.6
Condom	13.1	16.4	12.3	15.1	12.4	13.8
Pill	24.1	13.0	22.5	23.7	39.3	25.1
Other clinical methods	8.1	6.9	7.2	17.2	11.2	12.0
Total	100	100	100	100	100	100
n	743	719	2,447	3,783	1,462	9,154

Frequency Missing = 2

Data source: PNDS 2006. Elaborated by the authors.

TABLE 2: Percentage distribution of contraceptive method by region among fecund not pregnant married women aged 15-49 years parity 2 or higher - BRAZIL 2006

Method	Region					
	Centerwest	North	Northeast	Southeast	South	Total
None	4.6	9.6	8.0	6.3	8.0	7.2
Non-clinical methods	1.5	4.1	2.6	4.4	3.7	3.5
Tubal ligation	63.2	62.3	61.3	43.4	35.6	50.6
Condom	9.1	11.4	7.8	10.5	9.9	9.6
Pill	13.7	7.4	14.7	16.5	28.4	16.7
Other clinical methods	7.9	5.2	5.6	19.0	14.4	12.4
Total	100	100	100	100	100	100
n	482	502	1,544	2,216	823	5,566

Data source: PNDS 2006. Elaborated by the authors.

TABLE 3: Percentage distribution of fecund not pregnant married women aged 15-49 years parity 2 or higher by unmet need category – BRAZIL 2006

Unmet Need	Frequency	Percent
Unmet need to limit	310	5.6
Unmet need to space	39	0.7
Using to space	228	4.1
Using to limit	4,477	80.4
Wants now	36	0.6
NA	476	8.6
TOTAL	5,566	100

Data source: PNDS 2006. Elaborated by the authors.

Binary logistic regression: modeling the chance of paid sterilization in the public health sector

Response Profile			
Ordered Value	Problem	Total Frequency	Total Weight
1	1	261	211.1637
2	0	1865	1575.8798

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	1300.288	1118.831
SC	1305.95	1186.775
-2 Log L	1298.288	1094.831

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	203.4576	11	<.0001
Score	220.0032	11	<.0001
Wald	142.1482	11	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
WI 1st Quartile	0.235	0.131	0.419
WI 2nd Quartile	0.656	0.413	1.043
WI 3rd Quartile	0.514	0.317	0.832
Urban	1.151	0.753	1.757
Centerwest region	1.889	1.031	3.461
North region	0.665	0.331	1.337
Northeast region	0.395	0.226	0.689
Southeast region	1.205	0.72	2.015
Age	1.013	0.987	1.04
Parity	0.773	0.661	0.906
Schooling years	1.045	1.028	1.063

India

TABLE 4: Percentage distribution of contraceptive method by place of residence among fecund not pregnant married women aged 15-49 years - INDIA 2005-06

Method	Type of place of residence		
	Urban	Rural	Total
None	21.7	33.4	29.7
Non-clinical methods	10.0	9.6	9.7
Tubal ligation	46.3	46.7	46.5
Condom	12.0	4.1	6.5
Pill	4.7	3.5	3.8
Other clinical methods	5.5	2.8	3.6
Total	100	100	100
n	23,356	51,259	74,615

Data source: NFHS-3 2005-06. Elaborated by the authors.

TABLE 5: Percentage distribution of contraceptive method by place of residence among fecund not pregnant married women aged 15-49 years parity 2 or higher - INDIA 2005-06

Method	Type of place of residence		
	Urban	Rural	Total
None	12.8	23.5	20.3
Non-clinical methods	8.3	9.2	8.9
Tubal ligation	59.3	57.4	58.0
Condom	10.3	3.7	5.7
Pill	4.1	3.2	3.5
Other clinical methods	5.2	3.0	3.6
Total	100	100	100
n	17,991	41,227	59,218

Data source: NFHS-3 2005-06. Elaborated by the authors.

TABLE 6: Percentage distribution of fecund not pregnant married women aged 15-49 years parity 2 or higher by unmet need category – INDIA 2005-06

Unmet need	Type of place of residence		
	Urban	Rural	Total
Unmet need to space	1.7	3.4	2.9
Unmet need to limit	6.6	9.9	8.9
Using to space	2.5	2.3	2.3
Using to limit	84.7	74.2	77.4
Spacing failure	0.1	0.3	0.2
Limiting failure	0.1	0.2	0.2
Desire birth < 2 years	4.3	9.8	8.1
Total	100	100	100
n	17,991	41,227	59,218

Data source: NFHS-3 2005-06. Elaborated by the authors.

Binary logistic regression: modeling the chance of unmet need who want to use plus traditional/folk methods used to limit

Response Profile			
Ordered Value	PROBLEM	Total Frequency	Total Weight
1	1	9304	9997
2	0	45949	49221

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	53773.373	48378.377
SC	53782.293	48494.333
-2 Log L	53771.373	48352.377

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	5418.9958	12	<.0001
Score	5005.5738	12	<.0001
Wald	4308.0754	12	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
WI 1st Quintile	1.55	1.400	1.721
WI 2nd Quintile	1.25	1.135	1.382
WI 3rd Quintile	1.16	1.052	1.267
WI 4th Quintile	0.98	0.898	1.063
Urban	1.02	0.954	1.080
North region	5.22	4.792	5.686
Northeast region	9.59	8.493	10.837
East region	4.37	4.004	4.769
Central Region	1.90	1.727	2.089
Age	0.94	0.940	0.947
Parity	1.22	1.201	1.238
Schooling years	1.06	1.049	1.063

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