

SYNTHESIS OF FEMALE STERILIZATION LITERATURE REVIEW

INTRODUCTION

The last major review of trends in contraceptive sterilization was conducted a decade ago (EngenderHealth, 2002, pp. 85–104). Since then, there have been major shifts in the environment for family planning programs worldwide, most notably the shift in international donor funding and emphasis toward public health threats such as HIV and AIDS. There are also significant barriers to ensuring access to voluntary, quality sterilization services, particularly because they require a well-functioning clinical service delivery system. Challenges include weakened health systems and inadequate human capacity to support the routine delivery of clinical family planning methods and services; normative and gender barriers that impede family planning access and decision making; sociocultural and policy environments that compromise informed and voluntary choice (e.g., stigma toward HIV-positive individuals, performance-based financing of family planning programs); and persistent misconceptions and misapprehensions about sterilization. Moreover, incorrect information about the method and about both past and recent reports of coerced or involuntary sterilization contribute to a negative image of the method that constitutes a barrier to both access and use.

In preparation for the consultation “A Fine Balance: Contraceptive Choice in the 21st Century,” to be held in Bellagio on September 4–7, 2012, the RESPOND Project conducted an electronic literature search to review research from the last 10 years on a range of topics related to how women experience female sterilization.

SCOPE AND METHODOLOGY

The search was conducted from March to May 2012. It used the PubMed/MEDLINE and POPLINE databases, as well as general Internet searches of relevant organizations and libraries.

The review consisted of two rounds of information collection. The first round, completed in March 2012, identified 114 articles, mostly published between 2001 and 2012 (100 of the 114).

The search terms used in the PubMed/MEDLINE were:

Main MeSH	Modifying MeSH
Sterilization, Tubal OR	
Sterilization, Reproductive	+ Female
	Patient Satisfaction
	Attitude
	Health Knowledge, Attitudes, Practices
	Attitude to Health
	Factors
	Decision-making

The search using POPLINE included the additional search terms “Tubal Ligation” and “Female Sterilization.” The supplemental internet search included Knowledge4Health (K4Health), Ipas, the U. S. Agency for International Development (USAID) Development Experience Clearinghouse (DEC), the World Health Organization (WHO), the Demographic and Health Surveys (DHS), and the Cochrane Library, to identify additional literature on factors associated with the choice of female sterilization as a method of family planning (covering medical barriers, cost, side effects, regret, religious attitudes, laws, and coercion).

The second round of the search, performed in May 2012, was a more concentrated effort that focused on the following:

1. General coverage of forced female sterilization, including *Against Her Will: Forced and Coerced Sterilization of Women Worldwide* (Open Society Foundations, 2011) and other internet searches
2. PubMed/MEDLINE search using the terms “Sterilization, Involuntary” + “Female” and “Sterilization” + “Coercion”
3. An expanded search on PubMed/MEDLINE using additional modifying terms of “Incidence,” “Prevalence,” “Emotions,” and “/statistics & numerical data”

This second round contributed an additional 155 references, including a new subset of articles on coercion. After the elimination of duplicate sources and articles that were not relevant to this review, 79 articles remained and were used in this review.

Many of these reports of coerced sterilizations are also documented at Stop Torture in Health Care (www.stoptortureinhealthcare.org/forced-sterilization). There are several short videos (also available on youtube.com) of cases of women from a variety of countries (e.g., “They Took My Choice Away” and “The Secret That Kills My Heart”) and recent news stories of forced sterilizations.

Based on the earliest reference from our search (McGarrah, 1974) and including references from the late 1990s (Bakamjian, 1997; FHI, 1997) and recent guidelines issued post-2005 (ACOG, 2007; FIGO, 2011; IFHHRO, 2011), female sterilization is widely used and safe—but may be open to abuse.

The literature reviewed has been organized into five categories: client characteristics, reasons for choosing female sterilization, coercion, barriers, and regret. Key findings are summarized below.

CLIENT CHARACTERISTICS

The characteristics of women who become sterilized fall into general groupings along regional lines. Women in Asia (and in Brazil) tend to have the lowest parity and age at sterilization (2–3 children, age in the mid-to-late 20s), followed by women in Latin America, North America, and Europe (three children, aged 30–35); women in Africa have the highest parity and age at the time of sterilization (approximately 5–6 children, ages 35–40) (Gilliam et al., 2008; Brown et al., 2007; Ruminjo & Lynam, 1997; Vieira & Ford, 2004; Mansour, 2007; Mutihir & Nyango, 2011; Bhasin & Nag, 2007). Characteristics common to these women across the globe are rural residence, low educational levels, and low socioeconomic status (Baveja et al., 2000; Arora et al., 2010; Mannan, 2002; ATP, 2010; Tobar et al., 2009). It seems that poor education and low socioeconomic status precede early childbearing, and the subsequent financial difficulties in caring for additional children drive a desire to limit fertility. However, it is unclear to what extent the accessibility and availability of sterilization relative to other contraceptive methods affects the choice of sterilization over those methods. In the published literature, the majority of women who undergo sterilization are married, and most have either private or public insurance (Baldwin et al., 2012; Swende & Hwande, 2010; Bumpass et al., 2000; Mannan, 2002; Vieira & Ford, 2004). Finally, in three studies reporting on the topic, exposure to mass media was associated with sterilization in two and had a very low

level of effect in one (Stephenson, 2006; Thind, 2005; WHO, 2003). In the first survey (Stephenson, 2006), the level of exposure is not given, and in the second (Thind, 2005), only 32% of respondents had received any family planning messages from mass media.

REASONS FOR CHOOSING FEMALE STERILIZATION

Women give numerous reasons for their decision to become sterilized. The most common reasons are not surprising: The woman has reached her desired parity, and the procedure is permanent (Mannan, 2002[Kane et al., 2009). Other reasons include: the perception that sterilization is more reliable/effective; fear of other methods; greatest familiarity with sterilization among all available methods; and the fact that it does not involve the taking of hormones (Bhasin & Nag, 2007; Cremer et al., 2008; Kane et al., 2009). The latter is especially important to women who are breastfeeding postpartum and those who have been unhappy with the side effects of hormonal contraceptives in the past (Vieira, 1999; Vieira & Ford, 2004). Finally, an anthropological study conducted in rural south India theorized that sterilization rates were high among young women because they used the procedure to gain a measure of autonomy within the family: A woman who reaches the end of her reproductive years becomes the prestigious “matriarch” of the family, thus reducing the mother-in-law’s claim to reign over the family and marginalizing her as a respected, but less influential, elder (Saavala, 1999).

Despite the reasons given by women for choosing to become sterilized, the categorization of “choice” is complicated by issues of exceeding desired parity, poor information about the procedure and about possible complications, and lack of access to other methods. Although regret *after* the procedure appears to be low across countries among those aged 30 and older and those married for longer periods (Lawrence et al., 2011; Mansour, 2007; TAHSEEN Project/CATALYST Consortium, 2005), the ability to freely choose to become sterilized at the level of desired parity is somewhat of concern, because of reported cases of women not receiving sterilization at their first request and subsequently becoming pregnant (Potter et al., 2003; Zite et al., 2006; Gilliam et al., 2008; Thurman et al., 2010; Vieira & Souza, 2009). In addition, choice involves the issue of informed choice, which can be difficult to discern. In a recent article on reasons given by young women in rural India for adopting sterilization, the author stated that 35% of the respondents were unaware of any method of temporary contraception and 94% were unaware that there could be any complications from the procedure (Arora et al., 2010). Correspondingly, a 2008 sample of 1,500 women in the U.S. state of Texas showed being able to successfully obtain sterilization was associated with making antenatal care visits, which implies that women who do not have access to antenatal care (or are not currently pregnant) are less able to make an informed choice about sterilization or to have the ability to access the procedure (Thurman et al., 2009).

Because of lack of access to other methods and to sterilization not offered in the context of cesarean section, the choice that a woman makes may actually be the only one available to her. For many women, sterilization may be the only option (or the only long-term option) that is available in her area or is presented by her health care provider. For others, less invasive sterilization techniques that some women might find preferable, such as minilaparotomy or nonsurgical sterilization (e.g., Essure, Adiana), are not available (Stephenson, 2006; Cremer et al., 2008; Osis et al., 2003; Ruminjo & Lyman, 2007; WHO, 2003; ATP, 2010; Mutahir & Nyango, 2011). A 15-year study of female sterilization in Kenya showed that 72% of women who were sterilized had never used another form of contraception (Ruminjo & Lyman, 1997), while a WHO study put the estimate of those who were sterilized without previous contraceptive use at 84% (WHO, 2003). This indicates either that other contraceptive options are not available or that these women are encouraged to have the expected number of children and then terminate fertility with a permanent method.

Further, a significant amount of research, particularly from Brazil, has documented what could be termed unnecessarily high rates of cesarean section under conditions where women cannot obtain sterilization unless it is combined with childbirth. This may be due to insurance regulations, provider reimbursement, cost, or the need to frame the procedure as one that is done for medical rather than contraceptive purposes (Shinkman, 2008; Thurman et al., 2010; Vieira & Ford, 2004; Carvalho et al., 2007). Statistics for the percentage of female sterilization procedures that are done in combination with a cesarean delivery range from about 50–75% (Baldwin et al., 2012; de Bessa, 2006; Baveja et al., 2000), while other studies show a lower rate of independent sterilization (not in combination with cesarean section) when women are denied coverage or face rising copayments and costs for the independent procedure (Rodriguez et al., 2008; Chapa & Venegas, 2012; Bakken et al., 2007). Although it is likely that some proportion of these women would rather be sterilized in combination with cesarean section because it is simple to do in combination, undoubtedly many women are being forced into doing so unnecessarily. Finally, the choice to undergo female sterilization may be partially directed by the refusal of male partners to undergo sterilization themselves. Although this can vary by country, a recent study in Turkey reported that 96% of husbands refuse to consider a vasectomy (Gunenc et al., 2009). Thus, the onus for fertility regulation can be unfairly placed on women, when their preferred choice might have been for their partner to have a simpler and less costly vasectomy.

COERCION

The legacy of forced and coerced sterilizations mars the history of many family planning programs in both developed and developing countries. The role of eugenics in different countries varied in the degree of its integration into national policy and the intensity of its implementation, with extreme examples occurring during World War II. One common factor in most countries is the disparate focus many of these policies had on minority or other disadvantaged subsets of the population. Most countries have since changed these policies and have at least theoretically specified programs that focus on voluntary sterilization. However, the extent to which coercive activities continue to exist in specific countries is the subject of many articles and reports, in both the formal and informal literature (such as peer-reviewed journals and program reports) and through reporting of stories by international news organizations.

Current discourse on sterilization coercion focuses on two main topics: continued quests for restitution for victims of past wrongs, and current cases of coercion that continue to affect minority subsets of populations. The legacy of past policies lives on in the vigilance of human rights organizations to secure restitution for surviving victims and the insistence that the last remnants of these programs, both formal and informal, be completely eliminated. This has led to the continued production and publication of policy statements by international organizations and consortiums that call for the reconfirmation of informed consent for all sterilization procedures (FIGO, 2011; IFHHRO, 2011).

Recent court cases attempting to gain restitution for past instances of coerced sterilizations in the Czech Republic (Krosnar, 2006) and the United States (Schoen, 2005) continue to highlight the extent of past coercion. The U.S. cases occurred between the 1920s and the 1970s, while the Czech Republic cases occurred between 1973 and 2004. Formal policies were developed to address the U.S.-based cases, while human rights organizations continue to pressure the Czech government to accept responsibility for 50 identified cases of coerced sterilization. There is also a single case from Slovakia that is pending a decision from the European Court of Human Rights; it involves an incident in which inaccurate medical information was provided to force consent (Zampas & Lamackova, 2011). The case previously went through the Slovakian legal system and resulted in a court ruling on the side of the medical provider.

Documented current cases of coercion are geographically concentrated in Eastern Europe, Central Asia, and Southern Africa. In Eastern Europe and Central Asia, the majority of current cases involve coercion of Roma/Gypsy populations.

Instances in Slovakia, the Czech Republic, and Uzbekistan have been identified by international and national organizations. In Slovakia, a 2002 survey by the Center for Reproductive Rights found that 140 out of 230 Gypsy women whom they interviewed had been coerced into being sterilized (Center for Reproductive Rights, 2003). The report did not contain an exact timeframe for the sterilizations but identified them all as having occurred in the post-Communist period (when eugenic policies were officially ended). The report details instances of sterilization being coerced both overtly and secretly. The overt episodes of coercion included instances of intimidation where Gypsy women either were told that they had to get sterilized or were berated into signing a consent form by a medical provider. Another form of overt coercion documented in the report is through the provider's giving the women misleading, incorrect, or incomplete medical information, such as saying that she or her child will die if she has another pregnancy. The cases of hidden or secret coercion for sterilization were all performed during cesarean deliveries, when the women either did not give her consent at all or was asked to sign a consent form while partially under anesthesia, therefore negating the ability to give informed consent (Zampas & Lamackova, 2011).

In Uzbekistan, examples of coerced sterilization were recently reported by the British Broadcasting Company (BBC) (BBC Online, 2012). The report used off-the-record interviews with alleged victims and Ministry of Health personnel, including providers, to document stories of coercion. The information included in the article is anecdotal, since it does not provide explicitly stated sources and documented instances, but the picture that the article provides is one in which Roma women were being overtly pressured into getting sterilized through intimidation and the distribution of inaccurate medical information. The report also highlights many instances of clandestine sterilization of women during cesarean deliveries. These women did not find out that they had been sterilized until they returned to the clinic at a later period and were informed that they could no longer get pregnant. The intent of the article was to imply that these practices were widespread and not only were sanctioned by the government, but were actively encouraged.

Coerced sterilization of HIV-positive women in Namibia is well-documented. The exact number of cases is unknown, and various articles give different numbers of women. Examples include women being forced to sign consent forms as a prerequisite for maternity care (Gatsi et al., 2010), consent being given based on inaccurate or incomplete medical information, and women being forced to sign forms without an explanation of the contents (Gatsi et al., 2010, Mallet & Kalambi, 2008). It is reported that the problem is widespread and currently identified victims are a drastic underestimate of the total number of women affected. A 2009 story in *The Globe and Mail* gave additional examples of coercive sterilization and discussed the role that cultural norms related to power dynamics between clinician and patient play in forcing women to give consent. A woman interviewed stated that when dealing with a health care provider, "they tell you to do something and you do it," regardless of what it is (York, 2009). A 2011 Kenyan newspaper article features stories of several HIV-positive women who were coercively sterilized (Oyugi, 2011).

Other women who are at risk of coerced sterilization are the disabled. Documentation concerning this category of women is mainly from developed countries, such as Australia (Brady, 2001), Belgium (Servais et al., 2004), and Taiwan (Chou & Lu, 2011), and therefore information on this issue is not presented here.

BARRIERS

There are numerous barriers identified in the literature on sterilization that can impede the provision and uptake of sterilization services. These include: legal requirements, user fees and insurance mandates, providers' attitudes, poor access to and/or availability of services, and religious or cultural censorship. Although the majority of what is written regarding these barriers to sterilization is anecdotal and for time periods in the past that are not likely reflective of the present, the small number of available studies that are rigorous and recent show a fairly consistent picture of these barriers posing a serious obstacle to sterilization. This picture does change depending upon the country context, but even in countries advanced in family planning, one or more of these barriers are evident.

Legal and policy constraints

Legal constraints to sterilization can vary across countries, and there are few comprehensive sources that give actual policy requirements by country in terms of parity, age, consent, waiting period after requesting sterilization, citizenship, and identification. This opacity in laws and policy is also found at the national level and contributes to poor information among both providers and potential users as to what is permissible (ATP, 2010). In a 10-year-old summary from EngenderHealth that draws information from program reporting from 137 countries, it was reported that sterilization for *contraceptive* purposes was permissible, in 74 countries although of these, in some cases it was predominantly *legal opinion* and not explicit *law* that formed the basis of the categorization. In 55 other countries, the law was unclear or there were conflicting policies, and in eight countries sterilization was forbidden except for medical or eugenic reasons. The report also stated that 25 countries had consent requirements for persons in addition to the woman requesting the sterilization, and 24 countries had age or parity requirements (EngenderHealth, 2002).

Of the legal policies that are in the published, peer-reviewed literature, there is the same reiteration in this range of legal barriers. On one end are countries such as Argentina, where the penal code imposes punishment of imprisonment for a minimum of three years and up to 15 years for inflicting the loss of capacity to conceive or procreate. Brazil is well-documented as requiring a minimum age of 25, parity of at least two children, spousal consent, and a signed recommendation from two physicians before sterilization can be performed (Cook & Dickens, 2000; Osis et al., 2003). Similarly, Hungary has multiple restrictions on age and parity that include needing to be age 40 or older if the woman is nulliparous, 35 or older if she has three or more children, or 30 or older if she has four or more children (ASTRA, 2006). Other countries, such as the United States and Germany, have few requirements, but even a liberal national policy can be complicated by cumbersome paperwork and provider reimbursement rates of insurance providers (Zite et al., 2006; Gilliam et al., 2008), by religious directives that prohibit sterilization in faith-based institutions (Bassett, 2001; Galloro, 2000; Tieman, 2002), and state-level bureaucracies that set alternate restrictions based on budgetary constraints and political tides in areas such as the health care for noncitizens. For example, in 2004, the U.S. state of Oregon rescinded a policy in which those who were insured through emergency Medicaid could receive an elective sterilization postpartum. Tubal ligation among those patients then dropped from 10% to 1%, and women covered by emergency medical insurance who wanted to be sterilized could only do so during a cesarean section (Rodriguez et al., 2008; Baldwin et al., 2012). The same pattern of women's needing to shift to cesarean deliveries to obtain tubal ligation is observed in countries that raised the copayment charges or decreased provider reimbursement rates for "stand alone" sterilization (Bakken et al., 2007; Mansour, 2007; TAHSEEN Project/CATALYST Consortium, 2005; Chen et al., 2008; Thurman et al., 2009).

Provider attitudes

Provider attitudes that derive from the aforementioned constraints, combined with fear of recrimination from unhappy users, can serve to be a significant barrier against women who want to be sterilized (Gilliam

et al., 2008; Brown et al., 2007; Vieira & Souza, 2009; Chen et al., 2008; Okunlola et al., 2007). Vagueness in public policy concerning the definition of major surgery and who can perform it, for example, can thwart attempts to increase the availability of sterilization by task shifting to lower cadre workers trained in the procedure (Acquire Tanzania, Wickstrom). In addition, health workers, from physicians to nurses and medical technicians, may have personal biases that can contravene national policy. In a recent study in the United States on physician influence, 45% of physicians would discourage contraceptive sterilization in a woman who had had two pregnancies and one live birth, while 29% would do so for a woman with four pregnancies and three live births. Fifty-nine percent reported that they would discourage a 26-year-old woman whose husband disagreed, while 32% would discourage a 26-year-old whose husband agreed. Further, physicians who attend religious services twice a month or more were more likely than those who did not to say they would dissuade clients from seeking tubal ligation (Lawrence et al., 2011). However, it is important to note that empowered women who continue to request the procedure may be able to overcome provider bias, as 90% of resistant physicians in that study eventually consented to provide the procedure. Also, policy changes such as India's Family Health Insurance Act, which covers claims against physicians if sterilization is not successful, may serve to increase providers' support for the procedure (Noopur & Sharma, 2009).

Access barriers

Barriers may also exist in terms of poor access to and availability of sterilization services. In rural areas, distance can be prohibitive, and the time it takes to undertake and recover from the procedure (depending on the type) can be more than families are willing to accommodate (Vieira & Souza, 2009; TAHSEEN Project/CATALYST Consortium, 2005). Even in developed countries, issues of staffing, availability of operating rooms, missing paperwork, and stock-outs of necessary equipment can prevent requested sterilizations from moving forward (ATP, 2010; Zite et al., 2006; Wickstrom & Jacobstein, 2008; Vieira & Souza, 2009). It is not clear from the limited literature how common these issues are in affecting access to and availability of sterilization services, or which among them should be addressed first. There is evidence suggesting that sterilization uptake increases when services are expanded: In Pakistan, the opening of new family planning clinics in urban areas contributed to a rise in female sterilization from 14% to 22% in three years (Hennink & Clements, 2005).

Sociocultural barriers

Finally, family pressure and societal stigma may also pose barriers due to cultural or religious norms dominant in the area in which a woman lives. Although extensive analysis has been done concerning the approval of husbands and even in-laws concerning family planning, little specific could be found in regard to sterilization other than personal narratives and general author observations (TAHSEEN Project/CATALYST Consortium, 2005; Nosaka & Bairagi, 2008; Kamal, 2000; WHO, 2003; Ruminjo & Lynam, 1997). Although there is not enough historical data in any one country to determine trends in sterilization according to son preference, recent evidence does suggest that women in some countries are unwilling to undergo sterilization until they have one or more sons (Mannan, 2002; Thind, 2005; Jayaraman, 2008). A newly published study using data from 2002 reports that Indian women with a specific family composition of two boys and one girl are 90% less likely to report having another pregnancy and 12 times more likely to be sterilized than are women who have two daughters only (Edmeades et al., 2102). The extent to which religion plays a role as a barrier to sterilization depends upon the religion, on the interpretation of the Bible and Koran by religious leaders, and on the homogeneity of the faith in a particular region (Okunlola et al., 2007; Bassett, 2001; Krehbiel Keefe, 2006). A sample of women in India showed that the prevalence of sterilization among Muslim women (14%) was lower than among Hindu women (29%) and among women from other religious groups (30–35%), while non-Muslims in Bangladesh were twice as likely to undergo sterilization as were Muslims (Mannan, 2002). However, sterilization rates can still be high in

Catholic countries such as Brazil and in Muslim countries such as Turkey, which implies that religious guidelines are not always (whether by necessity or choice) strictly interpreted, implemented, or adopted.

REGRET

Most information on sterilization regret is from developing countries and uses data from the 1990s to as far back as the 1970s. However, the reasons for regret remain constant: being young at the time of sterilization; making the decision under duress; changing family dynamics; and having had the procedure suggested by someone other than the patient.

A systematic review of 19 articles done in 2006 using data from seven developed areas (Australia, Canada, Denmark, New Zealand, Sweden, Puerto Rico, and the United States,) and two middle-income or less-developed countries (Brazil and the Dominican Republic) found an increased relative risk of regret for women who were sterilized before age 30 (Curtis et al., 2006). Combined results from all studies showed that women who were sterilized before age 30 were twice as likely to regret the procedure as were women sterilized after 30. Additional studies done in the United States and India confirmed this relationship. In the United States, data from 1978–1987 showed an incidence of regret among women aged 20–24 of 4.3%, compared with 2.4% among women aged 30–34 at sterilization. This remained true regardless of parity or marital status (Ryder & Vaughan, 1999). Another U.S. study, this one using data from a prospective study conducted in the 1980s and 1990s, found that women aged 30 and younger at sterilization had a probability of regret of 20.3%, compared with a probability of 5.9% for women older than 30 (ACOG, 2003). However, overall rates of regret were low. In India, a study in four southern states found very low levels of regret (less than 10% overall), but a significant factor for regret was young age at time of sterilization (Ramanathan & Mishra, 2000). A secondary analysis of 1991 DHS data in the Dominican Republic also found that age less than 30 at sterilization was a significant contributor to regret (Loaiza, 1995).

Another factor found to be associated with regret can be categorized as major life events. One such event is the death of a child, as seen in Brazil (Machado et al., 2005), India (Ramanathan & Mishra, 2000), and the United States (ACOG, 2003). Another event is change in marital status—either getting divorced or taking on a new partner. This relationship to regret was found in Brazil (Machado et al., 2005) and the United States (ACOG, 2003). In addition, external pressure from a clinician was found in a U.S. study to be associated with regret (ACOG, 2003).

Only one study, done in Zimbabwe among patients who were sterilized in the 1990s, compared regret from opposing perspectives. That study found that women were more likely to regret *not* getting sterilized than they were to regret getting sterilized (40% compared with 2.5%). This relationship remained constant even when the decision to get sterilized was done following an emergency cesarean delivery (Verkuyl, 2002).

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