



## Family Planning

## Outcomes of Elective Outpatient Hysteroscopic Sterilization in Undocumented Women: A Retrospective Analysis



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### ABSTRACT

**Objective:** To determine the feasibility of hysteroscopic sterilization in low-income and unauthorized immigrant women when financial barriers to care are removed.

**Methods:** Outpatient hysteroscopic sterilization for low-income women at an urban clinic was made possible by grant funding. All procedures were performed by obstetrician/gynecologist attending physicians or supervised trainees. Electronic records were reviewed for cases performed from June 2010 to December 11, 2013. Outcome incidences and complications were determined. Subgroup analyses using demographic and clinical factors were performed.

**Results:** Hysteroscopic sterilization was attempted in 197 patients. Most were Hispanic (93%) and undocumented immigrants (83%). Bilateral placement was achieved on first attempt in 92% (181/197). Successful placement was ultimately achieved in 96% (190/197), and 88% (168/190) returned for hysterosalpingogram (HSG). Appropriate tubal occlusion was documented on 96% (161/168) of HSGs with mean time of 3.5 ± 1.3 months. Repeat HSG at 6 months showed 100% occlusion (7/7). Of the initial cohort, 85% (168/197) could ultimately rely on Essure for contraception. One pregnancy was self-reported 9 months after the procedure; the patient had not followed up for HSG. There were no pregnancies among those who completed follow-up. There were no cases of procedural complications. Successful Essure placement was not associated with age, parity, immigration status, or clinical characteristics (analgesics administered, history of cesarean section, vaginal delivery, cervical surgery, ectopic, fibroids, or pelvic inflammatory disease). The only factor positively associated with HSG follow-up was age 35 years or younger (53% vs. 47%;  $p = .03$ ).

**Conclusions:** Successful hysteroscopic sterilization can be achieved in an undocumented, low-income population. Rates of confirmatory HSG follow-up were found to be higher than in the general population. Public funding of programs could decrease unintended pregnancies and pregnancy-related costs.

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Undocumented immigrants in the United States face multiple barriers to accessing health care services, including contraception and sterilization. Barriers include lack of funding, the need for translation services and childcare, difficulties with transportation, and a lack of knowledge about available services or where to obtain them (Nandi et al., 2008; Leyser-Whalen & Berenson, 2013b). The difficulty in accessing health care is compounded as systemic barriers (including exclusion from

publicly funded safety net programs like Medicaid) persist even after recent health care reform (National Immigration Law Center, 2014). This not only has health implications for immigrants and their families, but also presents a health economics problem for society as a whole (Nandi, Loue, & Galea, 2009).

In the face of so many barriers, immigrant populations often have difficulty accessing preventative care. The result for many individuals is that they present to emergency service centers when they have urgent health care needs even though using emergency services to meet all medical needs is not cost effective (Nandi et al., 2009). Medical services delivered by practitioners in ambulatory settings may be covered by Emergency Medicaid for special populations, such as children and pregnant women. In this system, pregnant women can access prenatal care and delivery services, regardless of their documentation status.

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However, in many states, these women are not eligible for continued coverage outside of pregnancy. Contraceptive and sterilization services, therefore, remain inaccessible. Immigrants often turn to poorly effective methods of contraception which are easy to obtain, such as condoms (White, Ocampo, & Scarinci, 2016). One study of Mexican immigrants in New York City (Betancourt, Colarossi, & Perez, 2013) indicated that pregnancy is often a woman's first introduction to the United States health care system; that same study reported that 41% of participants were not using any method of contraception.

Rates of unintended pregnancy are five times higher among women living below the poverty level than among affluent women, and almost two times higher among Hispanics than among Whites (Finer & Zolna, 2016). The median household income of unlawfully present immigrants in the United States is \$14,000 below that for U.S.-born residents (Passel & Cohn, 2009) and undocumented Latina women face high rates of unintended pregnancy. In 2010, public insurance programs paid for 68% of the U.S. births resulting from unintended pregnancies at a cost of \$21 billion (Sonfield & Kost, 2015). For undocumented immigrants specifically, 82% of Emergency Medicaid spending in North Carolina was used for childbirth and complications of pregnancy (DuBard & Massing, 2007). Improving the provision of reproductive health services to this population could reduce these expenditures and improve maternal and child health outcomes.

Female sterilization is the contraceptive method of choice for women who self-identify as Latina, who live below 150% of the federal poverty level, and who are uninsured (Guttmacher Institute, 2016). Provision of contraception at no cost to the patient is one strategy that could reduce public health care expenditures (Sonfield & Kost, 2015). Hysteroscopic sterilization with Essure (Bayer, Leverkusen, Germany) was approved by the Food and Drug Administration (FDA) in 2002 and has been supported by the American College of Obstetricians and Gynecologists as both a highly effective and minimally invasive technique for permanent contraception (The American Congress of Obstetricians and Gynecologists, 2015). It can be performed in an outpatient setting. One of the practical challenges for using Essure is the need for subsequent assessment of the success of the procedure via hysterosalpingogram (HSG), which may be especially difficult in populations with extremely limited access to health care.

Previous studies evaluating the provision of Essure in low-income women is limited and focuses on HSG follow-up rates. Estimates of general HSG follow-up rates vary greatly in the literature, ranging from 13% to 93% (Shavell, Abdallah, Diamond, Kmak, & Berman, 2008; Savage, Masters, Smid, Hung, & Jacobson, 2009; Leyser-Whalen & Berenson, 2013a), and data regarding factors that may influence the success of Essure placement and follow-up is limited. One prior study showed excellent adherence to HSG follow-up in low-income women when economic barriers are removed (Leyser-Whalen & Berenson, 2013a); however, no information is available regarding undocumented women. The primary aim of this retrospective review is to determine the feasibility of outpatient hysteroscopic sterilization in an undocumented Latina population.

## Materials and Methods

We conducted a retrospective chart review of participants who underwent hysteroscopic sterilization with Essure from June 2010 through December 2013 at an urban clinic; all

procedures were reviewed at least 1 year after completion. This clinic serves a patient population that predominantly self-identifies as Latina; most patients are monolingual Spanish-speaking, uninsured, and undocumented. During the study period, a donor funded hysteroscopic sterilization and long-acting reversible birth control.

The clinic staff included a Latina outreach coordinator who served as the liaison to local medical clinics, a bilingual medical assistant dedicated to the hysteroscopic sterilization procedures, and a caseworker who performed postprocedure follow-up coordination. Providers at outreach clinics made their patients aware of both reversible and permanent birth control options available at no cost. Those who expressed interest in sterilization were then referred to our clinic and contacted by the Latina outreach coordinator, who scheduled and assisted with an initial consultation visit. Certified nurse midwives and nurse practitioners conducted the preprocedure visits and explained the hysteroscopic sterilization procedure; they also reviewed reversible methods with the patients. If the patient ultimately decided on short- or a long-acting reversible birth control method, this was initiated at that visit. Those wishing to proceed with hysteroscopic sterilization were given depot medroxyprogesterone acetate for endometrial lining preparation and scheduled for the outpatient procedure performed by obstetrician/gynecologist attending physicians or supervised trainees.

Hysteroscopic sterilization procedures were performed one day per month. Immediately after the procedure, each patient was given instructions on how to schedule a confirmatory HSG at the local hospital and scheduled for continued contraception, if necessary. Appropriate device placement and successful tubal occlusion were confirmed by obstetrician/gynecologist attending physicians who reviewed all HSG reports. Each patient was individually tracked for HSG follow-up by the case worker. For those who did not obtain their HSG at 3 months, phone call follow-up was initiated by the bilingual medical assistant. Up to three phone calls were made before a certified letter was sent reminding the patient to schedule. Costs of the device, procedure, and HSG were covered by the grant.

The electronic medical records of all hysteroscopic cases in this study period were reviewed. Demographic and clinical outcomes were de-identified and entered into an Excel spreadsheet (v.14.4.7; Microsoft, Inc. Redmond, WA). Outcome data included placement success, number of attempts at successful placement, complications with the procedure, follow-up for HSG, results of HSG, achievement of sterilization, and reports of postprocedure pregnancy or other adverse events.

Outcome incidences and complication rates were determined. Subgroup analyses using demographic and clinical factors were performed. Statistical analysis was performed with SPSS statistical software (v.19.0.0; SPSS Inc, Chicago, IL). We used  $\chi^2$  tests to compare proportions, Fisher's exact test where appropriate for categorical variables, and the Student *t* test for continuous variables. This study was approved by the Colorado Multiple Institutional Review Board at the University of Colorado Denver.

## Results

A total of 197 participants underwent hysteroscopic sterilization during the study period. Most of the participants self-identified as Hispanic or Latina 94% (183/197) and the majority

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