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ARTICLE

State-mandated insurance coverage is associated with the approach to hydrosalpinges before IVF

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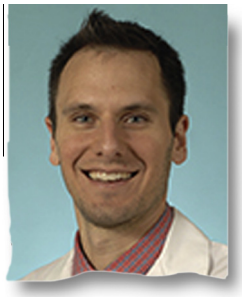

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Abstract The aim of this study was to determine whether practice in states with infertility insurance mandates is associated with physician-reported practice patterns regarding hydrosalpinx management in assisted reproduction clinics. A cross-sectional, internet-based survey of 442 members of Society for Reproductive Endocrinology and Infertility or Society of Reproductive Surgeons was performed. Physicians practising in states without infertility insurance mandates were more likely to report performing diagnostic surgery after an inconclusive hysterosalpingogram than physicians practising in states with mandates (RR 1.2, 95% CI 1.1–1.3, $P < 0.01$). Additionally, respondents in states without mandates were more likely to report that, due to lack of infertility insurance coverage, they did not perform salpingectomy (SPX) or proximal tubal occlusion (PTO) before assisted reproduction treatment (RR 1.4, 95% CI 1.1–1.8, $P = 0.01$). Finally, respondents in states without mandates were less likely to report that the presence of assisted reproduction treatment coverage determined the urgency with which they pursued SPX or PTO before treatment (RR 0.7, 95% CI 0.5–1.0, NS). These results persisted after controlling for physician years in practice, age and clinic volume. In conclusion, self-reported physician practice interventions for hydrosalpinges before assisted reproduction treatment may be associated with state-mandated infertility insurance.

KEYWORDS: assisted reproduction treatment, hydrosalpinx, insurance coverage, mandate, salpingectomy

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Introduction

Tubal disease accounts for 25–35% of female-factor infertility (American Society of Reproductive Medicine, 2012; Honore et al., 1999). Tubal disease is most common in the form of a hydrosalpinx, which is an accumulation of serous fluid in the Fallopian tube that usually results from pelvic infection by gonorrhoea, chlamydia or both (Yoder and Hall, 1991) and ultimately leads to tubal occlusion. Although the toxic mechanisms of hydrosalpinges on fertility are not well understood (Strandell, 2007), it is clear that hydrosalpinges decrease the chances of pregnancy after IVF (Akman et al., 1996; Andersen et al., 1994; Blazar et al., 1997; Camus et al., 1999; de Wit et al., 1998; Fleming and Hull, 1996; Kassabji et al., 1994; Katz et al., 1996; Sharara et al., 1996; Shelton et al., 1996; Vandromme et al., 1995; Wainer et al., 1997; Zeyneloglu et al., 1998).

The ongoing pregnancy rate for patients with hydrosalpinges that are managed by laparoscopic salpingectomy (SPX) or proximal tubal occlusion (PTO) is over 2-fold higher than in the non-intervention controls (34% versus 17%) (American Society of Reproductive Medicine, 2008; Jain and Gupta, 2007). As a result the American Society for Reproductive Medicine (ASRM), along with the Society of Reproductive Surgeons (SRS) recommend SPX or PTO before IVF in patients with hydrosalpinges (American Society of Reproductive Medicine, 2008).

Associations between state mandates for infertility insurance coverage and increased utilization of assisted reproduction treatment have been demonstrated (Jain and Gupta, 2007; Jain et al., 2002), but it is not known how infertility insurance mandates may influence provider management of other interventions used to improve the chance of pregnancy. The current study group previously showed that Society for Reproductive Endocrinology and Infertility (SREI) and SRS members define a 'clinically significant hydrosalpinx' similarly and that practice reflects ASRM and SRS recommendations; however, variation in practice still exists and insurance coverage for assisted reproduction treatment may play a role (Omurtag et al., 2012). To better understand how particular health policies in a state may influence a physician's approach to hydrosalpinges, the current work surveyed practising SREI and SRS members regarding their evaluation and management of hydrosalpinges and stratified the responses on the basis of the presence or absence of mandated infertility insurance coverage in the state in which the respondents practice.

Materials and methods

This cross-sectional survey was approved by the Washington University Institutional Review Board (reference no. 201105156, approved 13 October 2011). The SREI member directory (www.socrei.org), which links to the ASRM member directory, was used to identify survey participants as previously described (Omurtag et al., 2012). Respondents were initially aggregated into three groups based on their primary practice location: (i) states with a comprehensive infertility insurance mandate (CIM): NJ, CT, IL, RI and MA; (ii) states with partial coverage: CA, TX, AR, MT, WV, OH, NY, HI, MD and LA; and (iii) states with no infertility insurance mandate (NoIM). Because initial analysis showed no difference in responses between CIM states and those with only partial coverage, responses from these two groups were combined to form the any insurance mandate (AIM) group: NJ, CT, IL, RI, MA, CA, TX, AR, MT, WV, OH, NY, HI, MD and LA.

Respondents were asked the following questions: (i) 'If tubal status is inconclusive on hysterosalpingogram (HSG), what is your next step (diagnostic surgery versus repeat non-invasive imaging)?'; (ii) 'Has lack of insurance coverage for salpingectomy/proximal tubal occlusion (SPX/PTO) prevented a patient from having this procedure prior to IVF?'; and (iii) 'Does the presence of insurance coverage for IVF determine the urgency with which you will perform SPX/PTO?'

DatStat (DatStat, Seattle, WA, USA) was used to construct and implement the survey. Responses were analysed using Student's t-test and chi-squared analysis when comparing continuous, normally distributed variables and differences in proportions, respectively. Logistic regression was used to estimate associations between presence or absence of state-mandated infertility insurance and response to questions while controlling for respondent age and years in practice and reported clinic cycle volume. All analyses were performed in SPSS version 18 (SPSS, Chicago, IL, USA). The level of statistical significance was $P < 0.05$.

Results

This study collected 442 responses (41% response rate). Briefly, surveys were sent to 1078 SREI and SRS members between 25 October and 8 November 2011. Detailed methods and demographic information about the survey mailing and respondents, respectively, is described elsewhere (Omurtag et al., 2012). Respondents practising in AIM and CIM states both reported performing more IVF cycles per year than respondents practising in NoIM states. Respondents in AIM and CIM states were younger than those in NoIM states. There were no differences between respondents in NoIM and those in AIM or CIM states in terms of SREI membership, years of practice or practice setting (academic versus private) (Table 1).

Providers in NoIM states were more likely to respond that they perform diagnostic surgery in the case of an inconclusive HSG than those in CIM or AIM states. Additionally, NoIM respondents were more likely to report not performing surgery for SPX or PTO before assisted reproduction treatment because of lack of infertility insurance coverage for the surgical procedure (Table 2). Finally, NoIM respondents were less likely than CIM or AIM respondents to report that the presence of IVF coverage determined the time course with which they managed hydrosalpinges before IVF. These trends in reporting persisted after controlling for years in practice, clinic volume and physician age (Table 2).

Discussion

Although it is widely accepted that clinically significant hydrosalpinges negatively affect IVF success rates, Omurtag et al. (2012) previously demonstrated that physicians differ in their reported management practices. The current work