

# Spanish language content on reproductive endocrinology and infertility practice websites

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**Objective:** To analyze the use of Spanish language translation on the websites of reproductive endocrinology and infertility (REI) practices in the context of evidence of underuse of infertility services by minority populations.

**Design:** Cross-sectional survey of websites from REI practices.

**Setting:** Not applicable.

**Patient(s):** None.

**Intervention(s):** None.

**Main Outcome Measure(s):** Assessment of the relationship between having a Spanish-translated website and REI practice characteristics. Variables included concurrent use of social media, size of the practice, Spanish-speaking practitioner in the practice, being a private or a university-based practice, being in a mandated insurance state, and being in an area with different levels of percentage of Hispanic population, adjusted for annual income levels of the population.

**Result(s):** Of the 376 REI practice websites analyzed, 101 (27%) offered at least some information in Spanish. We identified 97 Spanish-speaking practitioners at 71 REI practices. Having a Spanish-translated website was significantly associated with the practice's use of social media, having an international/out-of-town web page, and having a Spanish-speaking physician in the practice. The size of the practice, as measured in number of cycles reported per year, was not associated with having a translated website. In practices located in the top 60 metropolitan areas by Hispanic population, the odds of having a Spanish-translated website were only related to the percentage of Hispanic population after adjusting for state-mandated insurance and average annual income level of the Hispanic population. Sixty-six of the websites with Spanish-translated content had been automatically translated. An additional eight websites were partially translated automatically.

**Conclusion(s):** REI practices in metropolitan areas with a higher percentage of Hispanics were more likely to reach out to this minority population by translating their website content into Spanish. These practices were also more likely to use social media. Future studies are needed to determine whether the availability of Spanish language content on REI websites is associated with increased use of reproductive services by this minority population. (Fertil Steril® 2014;102:1371–6. ©2014 by American Society for Reproductive Medicine.)

**Key Words:** Minority health, practice management, health communication, consumer health information, Hispanic Americans, translating

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The U.S. Hispanic population surged by 43% between 2000 and 2010, rising to 50.5 million in 2010 (1). The U.S. Census Bureau projects that the economic power of

Hispanics in the United States will rise to more than \$1.2 trillion in 2012 (2), larger than the entire economies of all but 13 countries in the world (3). This demographic growth is paralleled by

the increasing rate at which the Hispanic population is accessing medical information online (4). Yet studies have shown that utilization of assisted reproductive technology (ART) services by Hispanic women has not increased, even when economic barriers are minimized (5). In a study of military personnel, despite enhanced access to reproductive services, Hispanic patients did not use ART to the same extent as other ethnic groups (6). Other factors, such as social and cultural influences,

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may explain the significantly lower use of reproductive services compared with the white and African American populations (5). After accounting for cost of treatment, Hispanics indicated that they were less inclined to seek out infertility treatments because of language or cultural barriers, lack of continuity with providers, difficulty scheduling visits and procedures, and a perceived decreased availability of services (7).

There is a need to identify and remove barriers faced by Hispanic couples who wish to access information about reproductive services and ART. We hypothesized that communication of reproductive health services to Hispanic populations in the United States is limited by an overall lack in quantity of Spanish language health information delivered via reproductive endocrinology and infertility (REI) practice websites. In addition, we hypothesized that practices that provide Spanish language translations would also have similar features, such as Spanish-speaking physicians. We tested these hypotheses by analyzing the websites of REI practices in the United States for their use of Spanish language translation and its correlation with various practice characteristics and the Hispanic demographics of the practice locations.

## MATERIALS AND METHODS

### Data Collection

The Johns Hopkins University School of Medicine Institutional Board Review (IRB) determined that this type of study is exempt from IRB review. From September 2013 to October 2013, we analyzed the websites of all practices that report to the Society for Assisted Reproductive Technology (SART), which represents approximately 88% of all REI practices in the United States (8). The SART website was used to identify all infertility clinics listed under the “Find a Clinic” tab, which is part of a public domain of the SART website. Using the name and address information from the SART website, Google and Bing searches were used to find the clinic websites. We collected data on practice characteristics based on the information available on the practices’ websites, including the availability of Spanish-speaking physicians and their reported level of fluency, use of social media, whether the practice setting was private or university based, existence of a web page directed to international and out-of-town patients, additional languages translated, and whether or not the practice was located in a state with mandated insurance coverage for reproductive services. The size of the practice was estimated by using the number of IVF cycles reported per year; these data were then used to perform logistic regression to estimate the odds of having a translated website for each increment in 100 reported cycles per year. For Spanish-translated websites, we distinguished between automatic translation and human translation.

### Statistical Analysis

Presence of Spanish translation on the websites was used as the dependent variable. The availability of Spanish-speaking staff within the REI practice, the use of social media,

private or academic practice setting, and location in a state with mandated insurance coverage for reproductive services were treated as independent variables in univariate logistic regression analyses, accounting for within-state correlations of characteristics. The size of the practice was evaluated by using the number of reported IVF cycles per year as a surrogate for the number of patients treated and the wealth of the practice. Logistic regression was conducted using increments of 100 cycles per year, clustered on state. We then estimated the odds of having a translated website with each increment in the number of annual cycles per practice. Additionally, the top 60 U.S. metropolitan areas by Hispanic percentage and total population (9) were correlated with the information obtained from the REI practice websites as follows: we noted all of the practices that were located within the 60 largest metro areas by Hispanic population. Then the percentage of Hispanic population from these metropolitan areas and their average annual income levels were categorized separately and clustered by state. Categories of percentage of Hispanic population were as follows: 0–10%, >10%–30%, and >30%. Average annual income categories were (in U.S. dollars) 30,000 to 40,000, >40,000 to 50,000, >50,000 to 60,000, and >60,000 to 70,000. These independent variables were used to conduct logistic regression analysis, accounting for within-state correlation of website characteristics, to identify factors associated with the presence of REI practices that have a translated website, adjusting for category of percentage of Hispanic population, category of annual income, and location in a state with mandated insurance for reproductive services. Analyses were performed using STATA (v 11, Statacorp);  $P < .05$  was considered statistically significant.

## RESULTS

A total of 376 of 396 SART member practices were included in the analysis. Twenty clinics in the SART registry were excluded either because they did not have a website or because the website was a duplicate with only the practice location and/or URL information being different. Upon review of the 376 websites, 104 (28%) contained content with foreign language translation. The overwhelming majority (97%) of translated websites provided a Spanish language translation. Only three websites did not offer Spanish; those sites were translated into Chinese and Japanese. Among the 101 REI websites that offered Spanish translation, 27 used a human translator and 66 had installed a widget that allows users to automatically translate the website material into the target language. Eight practices used a combination of both, using a launch or splash page with the essential details translated into Spanish. The combined option provided potential patients with a localized introduction to the practice, plus access to the entire site (note: localization is defined as translation and adaptation of content for a particular audience). Nineteen of the 27 practices that employed professional or human translators provided a complete or nearly complete translation of their website content.

Results from logistic regression analyses evaluating the association of Spanish language translation with various

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