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Title: *Public perspective towards third-party reproduction in Iran*

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Abstract

Infertility treatment in the past two decades in Iran has been improved in such an unprecedented rate that perceived by experts as “the Iran ART revolution”. Centres making use of assisted reproductive technologies are currently more than 70 clinics offering all forms of modern treatment including third-party reproduction: Gamete and embryo donation as well as surrogacy. Despite the fact that using donor gametes have been legitimized in Iran by religious authorities and passed into law, little is known about public attitudes towards the application of these methods. The present study uses inferential analysis to examine the Iranian public attitudes towards Gamete donation and surrogacy. This questionnaire based study conducted in 2012 and included 405 Iranian residents (276 women and 129 men) of nearly all ages selected through cluster sampling method. We found that, public is reluctant to practice Egg donation and surrogacy. Moreover, they were more negative to the use of sperm donation, particularly men (nearly 70% of men rejected sperm donation). The explanatory variables including sex of respondents, marital status, age group, education, and occupational status are significant in the differences of public attitudes towards third-party donation. Results indicate that people in general are still conservative to the third-party donation methods. Therefore, Medical practitioners and legislators have to think about some precautions in order to reduce the diverse effects. Furthermore, public should be more informed of the procedures of Gamete donation and surrogacy.

Key words: Infertility, Third-party Reproduction, Public attitudes, Iran

Introduction

Soon after the birth of the first tube-baby in 1978, both Sunni and Shia Muslim countries in the Middle East welcomed assisted reproductive technologies (ARTs) with open arms. Among these, Shia-dominated Iran became one of only two countries in the Muslim world to allow ARTs in all forms apart from certain restrictions on sperm donation (Inhorn and Tremayne, 2012; Tremayne, 2009; Clarke, 2006).

Since the legitimization in the late 1990s of modern infertility treatments, endorsed and championed by the Supreme Leader of Iran, ARTs have flourished to such an extent that some scholars refer to “The Iran ART Revolution” (Abbasi-shavazi et al., 2008). Currently, more than 75 centres in Iran offer every type of infertility treatment including third-party donation and surrogacy (Tremayne, 2012), with the aim of bringing happiness and stability to couples suffering from infertility (Tremayne, 2009; Garmarudi, 2012). About 10–15 percent of couples in Iran are infertile (Abbasi-Shavai et al., 2006).

Indeed, in the practice of third-party donation religious leaders’ concern was how to resort to ARTs without breaking any of the Islamic rules. However, in doing so unanticipated moral, sexual and ethical outcomes have been completely ignored (Tremayne 2009; 2012; Inhorn and Tremayne, 2012). Moreover, the public perspective is also neglected as a main factor contributing to infertile couples’

decision making. The existing studies on community attitude towards egg donation were favourable in Sweden, Germany and Turkey (Savanber et al, 2003; Stobel-Richter et al, 2009; Isikoglu et al, 2006).

On the other hand, sperm donation is more contentious since it is believed that it is more influential in lineage and kinship transmission (Hamis, 1993; Culley et al., 2013). Abbasi-shavazi et al (2006) in a study on Iranian infertile women conclude that although gamete donation is legal in Iran, not all the infertile couples are eager to practice ARTs. Also the German and Australian public were not significantly positive to surrogacy (stobel-Richter, 2009; Minai et al, 2007). The main objective of this study is to evaluate Iranians public viewpoint in the case of infertility.

Methodology

Data for this descriptive study was gathered in Iran in July 2012, using the cluster sampling method. 276 (68 percent) women aged 15–64 years and 129 (32 percent) men aged 19–60 years were surveyed, using a questionnaire. The average age of the participants was 28.8 for women and 33.9 for men. Participants received a two-part questionnaire. Part I contained questions designed to determine the socio-demographic characteristics of the participants, while Part II contained questions designed to reveal the choices women and men considered acceptable when facing difficulties in having a child.

The respondents were asked to rate their attitudes based on a 5-point Likert scale where 1 stood for ‘completely disagree’ and 5 for ‘completely agree’. A pilot study was conducted to assess the internal validity of the questionnaire and to determine whether or not participants fully understood the questions. More information about the sample is summarized in Table I.

Table I. Socio-demographic characteristics of the sample

		Women (n=276)	Men (n=129)
Age	Mean	28.8	33.9
	SD	9.5	8.9
	18-25	113 (42.8%)	16 (12.8%)
Age groups	26-35	43 (35.2%)	63 (50%)
	36-45	38 (14.4%)	34 (27%)
	>45	20 (7.6%)	12 (9.6%)
	Married	138 (52.3%)	25 (20%)
Marital Status	Single	118 (44.7%)	99 (79%)
	Primary school and lower	30 (11.4%)	5 (4%)
Education	High school	77 (29.2%)	29(23.2%)
	College/University degree	154 (58.3%)	89 (71.2%)
Status of Activity	Unemployed	32(12.7%)	5(4.3%)
	Employed	68(27.1%)	99(85.3%)
	Student	62(24.7%)	7(6.0%)
	Housewife	89(35.5%)	5(4.3%)

Results

Attitudes towards the use of donated Egg and Sperm

Using donated eggs was considered acceptable by 35.2 percent of women and 32.7 percent of men (Table II). Gender, age, education, marital and employment status had no particular impact on attitudes. However, many more men than women opposed the use of donated sperm (49.63 percent of women versus 68.3 percent of men; $p < 0.001$).

These attitudes were not affected by age, education or marital status, but employment status had a significant impact ($p < 0.05$). Employed participants viewed IVF using donated sperm more negatively than unemployed participants did.

Attitudes to Surrogate Mothering

Equal numbers of respondents accepted and rejected the idea of surrogacy. Gender and employment status made no significant difference, but education had an impact on attitudes ($p < 0.01$). Approximately 42 percent of respondents with a high school degree approved of surrogacy. A large proportion of those with primary school or lower levels of education had no opinion of this method.

In addition, as Table II illustrates, marital status had a significant impact on attitudes. 45.4 percent of single participants but only 30.3 percent of married ones rejected the idea of surrogacy. There were also significant differences between several age groups ($p < 0.05$). 42.7 percent of 18–25 year olds expressed a completely negative view of surrogacy, in contrast to participants older than 45.

Table II- Attitude towards the use of a donated Egg / Sperm and Surrogacy in terms of explanatory variables

		Egg Donation				Sperm Donation				Surrogacy			
		Agree	Neut ral	Disa gree	P- Valu e	Agree	Neut ral	Disagr ee	P- value	Agre e	Neut ral	Disa gree	P- valu e
Gender	Women	35.4	26.9	37.6	N.s	29.3	21.1	49.6	<0.01	37.4	26.6	35.6	N.s
	Men	32.8	25.4	41.8		15.6	16.4	68.0		37.7	22.6	38.5	
Age Group	18-25	27.2	28	44.8	N.s	22.6	21.8	55.6	N.s	30.1	22.8	47.2	<0.05
	26-35	37.7	26.0	36.4		24.7	20.8	54.5		41.7	24.5	33.8	
	36-45	40.0	27.1	32.9		25.7	14.3	60.0		44.9	27.5	27.5	
	45+	41.0	20.5	38.5		33.3	17.9	48.7		38.5	33.3	28.2	
Education	Primary and lower	39.5	34.2	26.3	N.s	39.5	15.8	44.7	N.s	27	41.8	37.8	<0.01
	High school degree	35.5	21.8	42.7		21.8	20.9	57.3		43.2	14.5	28.2	
	College/uni versity degree	33.8	26.7	39.6		24.3	19.2	56.5		29.7	43.6	34	
Marital Status	Married	35.8	25.0	39.2	N.s	27.9	18.4	53.7	N.s	42.9	26.8	30.3	<0.01
	Single	34.2	27.8	38.0		23.1	20.9	56.0		32.4	22.1	45.5	
Employment Status	Unemploye d	27.0	29.7	43.2	N.s	32.4	21.6	45.9	<0.05	30.6	19.4	50.0	NS
	Employed	35.6	28.8	35.6		18.4	19	62.6		39.5	28.4	32.1	
	Student	35.3	22.1	42.6		27.9	20.6	51.5		34.3	29.9	35.8	

	housewife	38.0	29.3	32.6		32.6	21.7	45.7		45.6	24.4	30.0	
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Discussion and conclusions

The available mechanisms in Shia have paved the way for legitimization of ARTs without breaching any divine rules (Inhorn and Tremayne, 2012). Public opinion has been neglected in Iran, although it is a key factor influencing the decision making of infertile couples.

The results of the present study demonstrate that equal numbers of respondents (about one-third of all participants) accept and reject the option of using donated eggs; there are no significant differences between men and women. In comparison to the findings of other studies, a smaller than expected proportions of Iranians support the use of donated eggs (Bowman and Saunders, 1994; Kazem et al., 1995; Lyall et al., 1995; Bolton et al., 1991; Genuis et al., 1993; Westerland et al., 1998; Chliaoutakis et al., 2002; Svanberg et al., 2003; Isikoglu et al., 2006). With regard to gender differences, our finding is in line with the results of previous studies (Fereydooni et al., 2007; Stobel-Richter et al., 2009). However, a few other studies have had contrasting results (Svanberg et al., 2003; Isikoglu et al., 2006).

Approval levels diminish in the case of sperm donation. Although the majority of men and women objected to sperm donation, men were more strongly opposed than women. Our finding that more respondents oppose sperm than egg donation confirms other reports (Hirsch, 1991; Haimes, 1993; Hudson et al., 2009; Bharadwaj, 2003). this may be due to a cultural belief that sperm is more important in transmitting the family line (Bharadwaj, 2003).

Some studies carried out in other countries have found that a person's age (Kailasam et al., 2001; Stobel- Richter et al., 2009) and level of education (Fereydooni et al., 2007) can affect attitudes towards the use of donated gametes. In addition Hudson et al., (2009) suggest that perceptions and behaviours related to gamete donation may be influenced by gender, age and personal status. However, our findings showed that, in Iran, only employment was significantly related to attitudes towards sperm donation.

Surrogacy (the rented mother or womb method) is still relatively unknown in Iran. Our study suggests that about 39 percent of respondents (both men and women) have a positive attitude toward surrogacy, while 25 percent are undecided; this confirms the results of a German study (Stobel-Richter et al., 2009) in which men and women also shared similar attitudes. Another study on the attitudes of infertile Iranian women toward gestational surrogacy (Rahimi et al., 2011) reported that, although infertile women had a positive view of surrogacy, a significant number believed it to be in conflict with religious rules. Single and younger respondents had a less positive view of surrogacy, perhaps as a result of their own more limited experience.

In conclusion, results indicate that people in general are still conservative to the third-party donation methods. Therefore, Medical practitioners and legislators have to think about some precautions in order to reduce the diverse effects. Furthermore, public should be more informed of the procedures of Gamete donation and surrogacy.

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