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*Full Length Research Paper*

# Attitudes toward Surrogacy amongst Iranian Fertile and Infertile Women

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**Background:** Surrogacy is a common form of assisted reproductive technology which only gestational form is approved by most of the religious scholars in Iran. the aim of present study was to compare the attitude of Iranian fertile and infertile women toward gestational surrogacy. **Material and Methods:** This descriptive-comparative study was conducted at infertility and gynaecology clinics affiliated to Tabriz University of Medical Sciences during 2008-2009. The study sample consisted of 238 infertile and 183 fertile women who were selected using the eligible sampling method. A validated self-reported questionnaire containing 22 baseline items based on a five-point Likert scale was used. This questionnaire is developed by researchers. Data analysis was conducted using descriptive and inferential statistics. **Results:** There is significant difference between two groups in three subsections of the questionnaire as fertile women reported more positive attitudes toward surrogacy than the infertile women. Fertile women were significantly more likely to be willing to use the surrogacy ( $P < 0.05$ ). They were more optimistic toward surrogate mothers and more agreement to recommending this method to infertile couples ( $P < 0.001$ ). There is a consensus that surrogacy is not contrary to sharia, and both groups believed that government should have regulations for surrogacy programs. Both groups disagreed with the married surrogate mother. Infertile women more than the other group dissent that commissioning couple are owners of baby ( $P < 0.001$ ).

**Keywords:** surrogacy, fertility, Iran, attitudes, reproduction

## INTRODUCTION

Infertility, defined as “the failure of a couple to conceive or carry a child to term”, and its increasing rates, poses considerable challenges for many young couples worldwide as well as for their families and even societies (Balen et al., 2007). There has been noticeable improvement in the development of interventions offered to couples having fertility problems and treatment options are comprehensive. However, treatment for infertility is marked by genetic link, stigma, perceived normative perceptions of parenthood and population attitude issues (van 2007). In the other hand this progress has been followed by criticism and debate concerning the moral and ethical issues involved in the use of these interventions. As early as 1951, infertility interventions were the issue of debate (Halman et al., 1992). The practice of surrogacy, in that one woman bears a child for another woman, is one of the most ethical dilemmas in the field of infertility treatments (Jadva et al., 2003). The two separate methods of surrogacy offering a complete or partial genetic link are gestational and genetic. Gestational surrogacy happen when both the commissioning mother and father use their own gametes (usually) and the genetically related embryo is transferred into the surrogate mother via IVF, whereas in genetic surrogacy, baby is genetically related to the surrogate mother and intended father( (Poote et al., 2009; Saito and Matsuo 2009; ( Bruce-Hickman et al., 2009). Iran's status regarding Surrogacy Iran is an Islamic country in which Practice of gestational surrogacy has attracted the attention of many infertile married couples as a solution to infertility, and amongst the majority of Shiite (one of the main branches of Islam that the majority of Iranians are Shiite) legal authorities, it is an accepted form of assisted reproductive technologies (ARTs) ( Aramesh 2009). In Iran there are at least 50 IVF clinics that is one of the highest numbers of clinics in the Middle East. These numbers of clinics only can be comparable to Egypt. Surprisingly, Iran is the only Muslim country that some assisted reproductive technologies such as IVF using donor gametes, embryos and surrogates has been legitimized by religious authorities and passed into law by the parliament (Abbasi-Shavazi et al., 2008).

Nonetheless, these technologies has its own set of specificities and implications in Islamic countries such as Iran, since most of them are developing and have traditional societies with their own cultural values. On the other hand, different aspects of such technologies lead to many serious socio-cultural, ethical and religious problems especially amongst Muslims (Aramesh 2009).

In Iran little empirical research has been conducted to explore what the public thinks about the surrogacy and how acceptable this intervention is to them especially amongst infertile and fertile women's. In one of these

studies the researchers found that less than half of infertile couples presented to be knowledgeable about ART and not a great portion of the patients agreed with sperm donation (Sohrabvand and Jafarabadi 2005). In general, some different issues like procedures available, money matters, time, stigma, appropriateness, assessment/quality control and genetic link considerations affects the popularity of ARTs (van 2007). Van den Akker suggested that the response of fertile population appears to be cognitively consonant until they refine their definition of 'parenthood' as genetic, gestational or social. Therefore, the viewpoint of fertile women about traditional and non-traditional parenthood is likely to differ from those of infertile women. This paper reports the differences between fertile and infertile women attitudes toward surrogacy. Our findings could have helpful for those health care workers involved in treating and working with infertile couples.

## MATERIALS AND METHODS

This descriptive-comparative study was carried out between September 2008 and February 2009 in the infertility and gynaecology clinics of Al-Zahra hospital affiliated to Tabriz University of Medical Sciences, Iran.

A total of 270 infertile women and 270 fertile women who attending clinics for receiving health services invited to participate and 238 infertile women (acceptance rate= 88 %) and 183 fertile ones (Response rate= 67 %) accepted to participate. All women were Muslim, married, 18 or above and agreed to participate. None of infertile women had undergone gestational surrogacy before completing the questionnaire and have definite diagnosis of infertility. All fertile women are pregnant of have pervious history of pregnancy. All women were selected by using the eligible sampling method.

The participants were asked to complete a questionnaire that consisted of three sections. The first section included demographic data of infertile and fertile women. The second section consisted of maternal history of fertile and infertile women. The third section contained questions concerning the attitude toward surrogacy. This section contained 22 items that assess the participants' attitude in five subsections, including legal and religious issues (seven items), specific circumstances of surrogacy (four items), child born through surrogacy (five items), surrogate mother (two items) and tendency toward use surrogacy (four items). Each item score was computed on a 5-point scale: from completely disagree to completely agree. The items of the attitude questionnaire were developed by the authors according to previous studies (3, 6, 10, 12-14).

The validity of the prepared questionnaire has been established by content validity for which 15 academic members of Tabriz University of Medical Sciences revised the questionnaire. After receiving the academic members'

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**Table 1.** Characteristics of infertile women according to their attitude toward the use of surrogacy.

Variable	Possibly willing (n=151)	Unwilling (n=87)	<i>p</i>
Age			
>30	118(78.1%)	73(83.9%)	ns
<30	33(21.9%)	14(16.1%)	
Education			
elementary to high school	120(79.5%)	71(81.6%)	ns
university	31(20.5%)	16(18.4%)	
Duration of marriage			
>10	127(74.1%)	71(81.6%)	ns
<10	24(15.9%)	16(18.4%)	
Having previous pregnancy			
Yes	44(29.1%)	5(5.7%)	0.000
No	107(70.9%)	82(94.3%)	
Cause of infertility			
Known	114(75.5%)	57(65.5%)	ns
unknown	37(24.5%)	30(34.5%)	
Using treatment			
Yes	75(82.4%)	55(96.5%)	0.008
No	16(17.6%)	2(3.5%)	

comments, the questionnaire was edited. The test-retest reliability of the questionnaire was established by Cronbach's alpha coefficient (0.89) following a pilot study on a sample of 25 infertile women. The duration between test and retest was 11 days. The study proposal was approved by the university review board and Ethical Committee. All the participants were free to enter the study or withdraw from it, whenever they wished. Informed consent was obtained from all respondents before enrolment in the study. For data collection two of the researchers every day went to the infertility centre and gynaecology clinic in the selected hospital and those women volunteers having the eligible criteria were selected to participate in the study. Each participant completed the questionnaire alone and unassisted if they were literate. However, in the case of illiterate or less educated women the questionnaire was filled out through the interview. Before data collection, the necessary information about gestational surrogacy was given to all women.

### Statistical Analysis

The data were analyzed using SPSS version 13.0. Chi-square, Fisher's exact test, and student's t-test were used for the analyses, while *p*-values <0.05 were considered statistically significant. The questionnaires were coded then; the collected data were entirely kept secret and anonymously reported. When data were entered into SPSS software, some items of the attitude questionnaire were reversed to ensure that high scores always imply a positive

response, for example, a score which was previously 1 became 5, etc.

### RESULTS

All women were married. Mean age and mean length of married life in fertile and infertile groups was 30.6 (7.7), 26.9 (5.87) and 9.38(8.47), 6.6 (4.98), respectively. There was a significant difference between two groups in terms of age and duration of marriage ( $P<0.001$ ). Over 90% of women in both groups were housewives while 25.4% in fertile and 19.7% in the infertile group had academic degrees. In fertile women, 67.5% had at least one offspring. Diagnose of infertility in 71.8% of infertile women were confirmed, 28.2% are on diagnostic phase, and 54.6% were undergoing treatments. In addition 20.6% had experienced previous unsuccessful pregnancies. Ovulation problem (37.8%) was the major cause of infertility in diagnosed women. There was no significant difference between willingness toward the use of surrogacy (item's 21) with age and duration of marriage in infertile couples ( $P>0.05$ ) (Table 1). There were significant differences between fertile women willingness toward the use of surrogacy (item's 21) in terms of mean age, duration marriage, having child and level of education as younger women [ $t=-4.84$ ,  $P<0.001$ ] were significantly more likely to be willing to use the surrogacy. Likewise, fertile women with academic degrees and those who have no children were significantly more willing to use the surrogacy ( $P<0.001$ ). women were asked about their attitudes using

**Table II.** attitudes of fertile and infertile women toward surrogacy in five subsections.

Items	Fertile (n=185)		Infertile (n=238)		P
	agree	disagree	agree	disagree	
Payment to the surrogate mother is unpleasant	56(30.3%)	129(69.7%)	14(5.9%)	224(94.1%)	0.000
Legislation of law by parliament	156(84.3%)	29(15.7%)	197(82.8%)	41(17.2%)	ns
Surrogacy cause ethical problems in society	48(25.9%)	137(74.1%)	61(25.6%)	177(74.4%)	ns
Surrogacy is against of religious beliefs	32(17.3%)	153(82.7%)	36(15.1%)	202(84.9%)	ns
Commissioning couple are owners of baby	85(45.9%)	100(54.1%)	68(28.6%)	170(71.4%)	0.000
religious barriers have priority to legal difficulties	125(67.6%)	60(32.4%)	148(62.2%)	90(37.8%)	ns
Government should restrain surrogacy clinics	31(16.8%)	154(83.2%)	24(10.1%)	214(98.9%)	0.031
Some fees should be paid by the government	152(82.2%)	33(17.8%)	193(81.1%)	45(18.9%)	ns
Single or fertile not allowed to use surrogacy	141(76.2%)	44(23.8%)	177(74.4%)	61(25.6%)	ns
Married woman could be a surrogate mother	57(30.8%)	128(69.2%)	79(33.2%)	159(66.8%)	ns
Surrogacy should be a last resort in ARTs	150(81.1%)	35(18.9%)	145(60.9%)	93(39.1%)	0.000
surrogacy child should not inform about that	135(73%)	50(27%)	160(67.2%)	78(32.8%)	ns
surrogacy child has many somatic problems	31(16.8%)	154(83.2%)	65(27.3%)	173(72.7%)	0.007
surrogacy child has many emotional problems	116(62.7%)	69(37.2%)	174(73.1%)	64(26.9%)	0.015
surrogacy child don't have normal growth	19(10.3%)	166(89.7%)	80(33.6%)	158(66.4%)	0.000
Parents don't love surrogate child like their own	16(8.6%)	169(91.4%)	28(11.8%)	210(88.2%)	ns
Surrogate mothers obliterated the dignity	22(11.9%)	163(88.1%)	54(22.7%)	184(77.3%)	0.003
Surrogate mothers are not virtuous woman	3(1.6%)	182(98.4%)	29(12.2%)	209(87.8%)	0.000
Use of surrogacy is praiseworthy	132(71.4%)	53(28.6%)	159(66.8%)	79(33.2%)	ns
I use surrogacy If I was unable to be pregnant	134(72.4%)	51(27.6%)	151(63.4%)	87(36.6%)	0.032
Use adopted child is better than surrogacy	76(41.1%)	109(58.9%)	78(32.8%)	160(67.2%)	ns
I don't recommend surrogacy to others	53(28.6%)	132(71.4%)	105(44.1%)	133(55.9%)	0.001

the 22 items concerning five subsections of surrogacy (Table 2). To a greater degree than fertile, infertile women do not agree that paying to surrogate mothers is unpleasant, and commissioning couple are owners of baby ( $P<0.001$ ). As well infertile couples were more negative about physical and emotional health of children born through surrogacy. Fertile couples tended to agree more with statement that 'surrogacy should be a last resort in ARTs' ( $P<0.001$ ). They also were significantly more likely to be willing to use the surrogacy ( $P<0.05$ ) and to suggest this method to other infertile couples ( $P<0.001$ ). Both groups agreed that legislation of law by parliament, and government monetary aid to infertile couples is necessary. Furthermore, they disagreed that surrogacy causes ethical problems in society, and surrogacy is against of religious beliefs. There were significant differences between two groups regarding three subsections of the attitude questionnaire (Table 3). Fertile couples were more positive about surrogate mothers ( $P<0.001$ ) and were more willing to the use of surrogacy ( $P<0.01$ ). Nevertheless, there were no significant differences in total attitude scores of two

groups in five subsections of the questionnaire [ $t=-1.42$ ,  $P>0.05$ ].

## DISCUSSION

In Iran, children are viewed as important sources of social, psychological, and economic support for their parents. Having children are viewed as perceived emotional support, higher social status and prestige, marital assurance, socioeconomic support, care in old age, and fulfilment of the religious duty to be fruitful and multiply (Abbasi-Shavazi et al., 2008). In vitro fertilisation surrogacy is now an accepted form of treatment in the Iran for a small group of infertile women with unique causes of their infertility, though it remains controversial and is not practised in most other Islamic countries. In the aggregate, in this study fertile women reported slightly more positive attitude toward surrogacy than the infertile group that is in contrary to findings (Halman et al., 1992). Payment to the surrogate mother by most of the infertile women was

**Table III.** Mean (S.D.) and significant levels of surrogacy subsections for fertile and infertile groups.

subsections	fertile	infertile	p
Legal and religious issues (1-5)	3.48(0.54)	3.53(0.41)	ns
specific circumstances of surrogacy (1-5)	3.85(0.58)	3.73(0.74)	ns
child born through surrogacy (1-5)	3.71(0.54)	3.59(0.58)	0.03
Surrogate mother (1-5)	3.94(0.82)	3.57(0.94)	0.000
Tendency toward use surrogacy (1-5)	3.3(0.47)	3.16(0.56)	0.007

viewed as an acceptable task. On the question of whether payment to the surrogate mother is permitted, most religious authorities granted permission, while others did not provide an answer on this issue (Aramesh 2009). Disagreement of public upon this issue may be due to thought that since the child is delivered to its genetic parents for a fee, the question has been raised whether this is equivalent to child selling (Ber 2000). There are no criteria for minimal payment to surrogate in Iran and many countries. Though, surrogate mothers may be paid reasonable expenses, of no defined amount, by the genetic parents. This issue depends on mutually agreed. Both groups agreed that legislation by parliament about surrogacy is necessary. Furthermore, the majority of them disagreed that surrogacy is against of religious beliefs. Indeed legitimacy and public acceptance followed and urged by lawmaking. Given the status of Iran as an Islamic republic, it may come as a surprise that Iran is the only Muslim country in which IVF using donor gametes, embryos, and surrogates has been legitimized by religious authorities and passed into law. Women disagreement about conflict between religion and surrogacy is in congruence with the Shiite scholar's viewpoint as they consider the foetus to be different from sperm and hence do not regard introducing the embryo into the uterus of the surrogate mother to be the same as introducing the sperm of a man to whom she is not married. Thus, they consider the surrogate mother to be very comparable to the foster mother or wet nurse and do not see any guilt in this practice. In fact, they consider this practice as moving a foetus from one uterus to another, which is not prohibited in Shiite jurisprudence (Aramesh 2009; Nakash and Herdiman 2007; Serour 2008). Infertile women more than the other group dissent that commissioning couple are owners of baby. This may be due to their lack of biological relatedness to the child. Fertile group were neutral regarding this statement. Fertile women may not make out the undue importance of physical and hereditary relations between mothers and their child; whereas those how

confront with infertility perceive this to be important because it is challenged. The result of a study in UK revealed that 75% of women who used their own egg and their partner spermatozoa, through IVF, believed that biological link was important and only 31% of women who use surrogate egg said the biological link is important (van 2000). However, in Iran regardless of the importance of biological links between child and their parent, in a cultural and religious manner woman's own pregnancy is essential. Based on religious perspective this is controversial. Most of the Shiite authorities who regard surrogacy as permissible consider the genetic mother as the actual mother and some of them consider the surrogate mother similar to a foster mother. But some Shiite authorities regard the labour mother as the actual mother, whereas other authorities declare that these offspring's had two mothers. Although Quran states that "None can be their mothers except those who gave them birth" (Aramesh 2009). Both groups agreed upon that some fees should be paid by the government. Regular IVF treatment in Iran varies in cost from \$800 to \$4,000 and higher contingent on the clinic, the complexity of the infertility case, and the medications required. In a study in Iran, many women attending the health and treatment centres explained that they resorted to traditional remedies simply because modern infertility treatments such as IVF were well beyond their incomes (Abbasi-Shavazi et al., 2008). Majority of women in both groups were opposed that married couples could be as a surrogate mother. This is in accordance with some Shiite authorities whom they believed married women should not accept sperm from another man (Abbasi-Shavazi et al., 2008). In a study conducted in Iran women agreed more than men with the married surrogate mother. The main reasons for this viewpoint were the accessibility of support for married surrogate mother and their worries about possible emotional relationship between their husband and widow or divorced surrogate mother (Ziaei et al., 2009). There was an agreement between two groups that Surrogacy should be a last resort in ARTs. It may be due to

forementioned limitations that exist in using this method, especially amongst religious and closed culture families. Most of the women in both groups mentioned that children born through surrogacy have many emotional problems and majority of them disagreed that "Parents don't love surrogate child like their own child born through natural conception". Infertile women reported more agreement than the other group that "surrogacy children don't have normal growth". The study of 2-year-old surrogate children's relationships with their (intended) parents in UK showed that surrogacy parents had more positive parent-child relationships than their natural conception counterpart and the surrogacy children did not differ from the natural conception children with respect to socio-emotional or cognitive development (Golombok et al., 2006). In the other study, most mothers reported good mental and physical health and good development in their children (van 2007). Nevertheless, (van 2007) reported surrogate mother lack of feeling about the foetus and social support from important people in their surrogate's lives compared intended mothers that both may have adverse effect on the foetus. The less positive attitude toward surrogate mothers in infertile women than the other group may be due to their fear of attachment between surrogate mother and child or the surrogate mother doubts about handing over the child to the genetic parents. When the participants were asked tendency toward the use a surrogacy if they were not able to become pregnant, fertile women showed more agreement than the other group. Fertile group in this study was drawn from the non-clinical population that most of them did not have enough knowledge about surrogacy, and surprisingly they did not distinguish between genetic and gestational surrogacy. Agreement upon this issue may be reflecting the attitude versus behaviour gap.

## CONCLUSION

The differences that have been observe between two groups may be due to that women who are not experiencing infertility are not in a position to make the proper decisions about surrogacy and their responses may be affected by their emotions. For this reason, our study differs from other studies that have been conducted on Iran, both in its focus on patients who face infertility and comparing attitudes with their fertile counterparts toward surrogacy. This study is limited to participants from an infertility clinic then generalizability of finding to Iranian population should be done with caution. However, regardless of legal and religious permission in using surrogacy in Iran, culturally acceptance amongst the public has not been achieved or most of them are unaware of these methods (Ziaei et al., 2009). Thus, in the future studies the investigation of surrogate mother volunteer's attitude toward surrogacy for greater recognition of barriers

using this method is essential. In addition, increasing public awareness to this issue could be helpful.

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