Original Article

Experiences of Infertile Women Seeking Assisted Pregnancy in Iran: A Qualitative Study

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Abstract

Background: Assisted reproductive technologies (ARTs) are complicated and stressful techniques and the social and cultural norms are major obstacles against their use. Many qualitative studies have been done in the field of women's experiences of infertility, but less is known about the experiences of infertile women seeking assisted pregnancy. The aim of this study was to understand and describe the experience of women who have used assisted reproductive technologies for their current pregnancy.
Methods: This qualitative study was conducted based on a content analysis approach. With purposive sampling, 12 pregnant women who were using ART were recruited from Avicenna Fertility Center in Tehran. Women were selected purposefully and with maximum variation. Interviews were performed after a positive test of pregnancy and women were introduced to researchers in their first visit of pregnancy in the prenatal clinic. Interviews were recorded, transcribed verbatim and analyzed concurrently. Semi-structured interviews were coded, categorized and the themes were also identified.
Results: Four main themes were uncovered which included struggle to achieve pregnancy, fear and uncertainty, escape from stigma and the pursuit to achieve husband satisfaction.
Conclusion: It is essential for these women to be counseled and prepared by their health care providers after the use of ARTs. Distress can be reduced for infertile women seeking assisted pregnancy when they are prepared for possible failures, empowered to deal with stigma, and have their partners' involvement in counseling sessions.

Keywords: Assisted reproductive technology, Counseling, Infertility, Pregnancy, Qualitative research.
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Introduction

The desire to have children is very powerful and widespread, but unfortunately the ability to reproduce does not come as easily for all people (1). According to the World Health Organization (WHO) Demographic and Health Survey (2004), one out of every four couples in developing countries are willing to parent and this has not changed significantly over the last decade (2). More than 20% of Iranian couples experience infertility during their reproductive life (3, 4). Although many people accept their infertility problems, there are new assisted reproductive technologies (ARTs) which can overcome infertility in most of the cases (1, 5). ARTs include the *in vitro* handling of both human oocytes and sperm or embryos for the purpose of pregnancy but don't include artificial insemination (6). Approximately, 1-4% of all births in the developed countries are

the result of ARTs (7). ARTs such as *in vitro* fertilization (IVF) and intracytoplasmic sperm injection (ICSI) are complicated and stressful techniques (8). Assisted reproductive cycles usually consist of using self-injected ovulation stimulation drugs for 9 to 12 days, oocyte retrieval with transvaginal ultrasound, fertilization of oocyte in laboratory by use of sperm from husband or donor, and transfer of the embryo into the uterus. Couples must wait for 2 or 3 weeks to know whether the embryo has been implanted and pregnancy has occurred (9). Women are typically transferred from the infertility services division to the department of obstetrics and gynecology 6-8 weeks after a successful IVF. Many women report that they feel as though they have lost their sense of control after an embryo implantation during the 2 week wait to receive the results of a pregnancy test. The women felt that the treatment team had abandoned them. They wished to have a relationship with a member of the treatment team during those 2 weeks to aid them through the difficult ordeal (10). Depressive disorders are common among patients who are undergoing new cycles of assisted reproduction and sometimes the psychological stress can cause treatment discontinuation (8, 11). Couples often sacrifice everything they have for a treatment due to its burdensome expense and low rate of success (12, 13). Moreover, support at all stages of treatment, particularly, before and during pregnancy is critical (14). Psychological support for women undergoing ARTs has been taken into account to some degree in recent years (15); however, less is known about support before pregnancy testing. Many qualitative studies have been done in the field of women's experiences of infertility in Iran (16-20). It is known that having children is considered a religious duty and also leads to a higher social status, prestige, security in marriage, and care in old age. Children are considered as an important source of economic, social, and psychological support in Iran (18). ARTs have evolved rapidly in Iran and currently, more than 75 infertility clinics provide ARTs in all their forms throughout Iran. Although Iran is a country with rapid legalization and coverage of ARTs, the social and cultural norms are major obstacles against their use (21). Due to the lack of research on women's experiences following ARTs especially prior to pregnancy testing in the Iranian context and culture, this study was conducted to understand and describe the experience of women who have used assisted reproductive technology for their current pregnancy.

Methods

A qualitative method with content analysis approach was used to describe the experiences of Iranian women (22). The data were collected through semi-structured interviews at Avicenna Infertility Clinic which is one of the referral clinics in Tehran, Iran. Interviews were conducted over a 6-month period of time from August 2013 to February 2014.

Participants: Participants consisted of 12 women. Interviews were coordinated with people who were willing to participate in the study to provide convenient time to conduct the interviews. Women were selected purposefully and with maximum variation. Ethnicity, cause of female related infertility, infertility duration and number of treatment attempts were some of the criteria for purposive sampling.

The inclusion criteria were female related primary infertility, experience of ARTs for current pregnancy and being fluent in Persian language. The cause of infertility was identified based on the patients' medical records. Participants were met after a positive test of pregnancy and in their first visit in the prenatal clinic. At the time of the interview, all of these women were in the first trimester of pregnancy.

Women who had a history of recurrent pregnancy loss, previous pregnancy or miscarriage, as well as those who were candidates for egg donation were excluded from the study. Participants were selected to be interviewed based on their medical records and with the help of the medical team. Other reasons for non-participation in the study were lack of time and interest. Additionally, pregnant women were chosen because they were the only women referred to the clinic immediately after a pregnancy test and other patients of Avicenna Infertility Clinic were not accessible in a timely fashion.

Data collection: Face to face interviews with 12 women were conducted in a quiet and private room for 30 to 60 *min*. The semi-structured qualitative interviews were conducted in the Persian language. The semi-structured interview is similar to a purposeful and guided conversation (23). Women were asked to talk about the experience of waiting for an assisted pregnancy and the next questions were asked according to the partici-

Table 1. Interview questions for assessing the experiences of infertile women seeking assisted pregnancy in Iran

1	Tell me about your experience when you were waiting for this assisted pregnancy.
2	How do you describe your experiences as an infertile women seeking assisted pregnancy?
3	Please describe your experience with recent cycle of assisted reproductive technology.
4	What do you remember when you think about use of assisted reproductive technologies?

pants' responses or the interview questions (Table 1). The interviews were conducted in two steps with five participants. The saturation point was achieved after 17 interviews in which no new themes or issues came up from the interviews. The demographic data collected from women were age, ethnicity, educational level, employment status, cause of infertility, duration of marriage and infertility and the number of treatment attempts.

Data analysis: Interviews were recorded, transcribed verbatim and analyzed concurrently. Transcriptions were coded and categorized with MAXQDA 10 software for identifying the themes. Data were analyzed with content analysis approach and based on Graneheim and Landman strategies (24). Their suggested steps used in the present study are:

1. Reading the interviews for several times to identify a sense of wholeness
2. Collecting the texts which were related to waiting for an assisted pregnancy and putting them in one text
3. Dividing the text into meaningful units
4. Codifying those meaningful units and labeling the codes
5. Sorting the codes to categories and subcategories based on similarities and differences
6. Discussing the tentative categories to find agreement in the sorting of the codes
7. Formulating latent content into a theme

Trustworthiness: Credibility was attained by choosing participants with various experiences (different age, educational level, ethnicity, duration of infertility and number of treatment attempts) and agreement among co-researchers, experts, and participants. For the purpose of assuring credibility of the subsequent analysis, three experts, the first with qualitative research and reproductive health expertise, the second with nursing and qualitative research expertise, and the third with reproductive biotechnology expertise contributed to the present study. The interpretation of data was reviewed and approved by this team. Prolonged engagement was maintained by the main researcher in the research field in order to build rapport and to gather in-depth data. The responses of women were returned to them to verify and to add anything else of necessity.

Ethical consideration: This study was conducted following the approval of the ethics committee of the Tehran University of Medical Sciences and the Ethics Committee of the Avicenna Research Institute. The research objectives were explained to the participants before beginning the interviews and women participated freely in the research. Written consent was obtained from participations in this study.

Results

The age range of the participants was between 24 and 36 years old and the gestational age was between 5-12 weeks. Six participants had an academic degree, five had secondary education, and one had incomplete secondary education. The duration of infertility treatments ranged from 6 months to 15 years and the number of previous ART cycles varied between 0 to 5 cycles.

Common themes from analysis of interviews were a) struggle to achieve pregnancy, b) fear and uncertainty, c) pursuit of husband satisfaction, and d) fear of stigma. Some texts dealt with the experiences that displayed a degree of overlap and certain issues were common to two or more of the themes (19).

Struggle to achieve pregnancy: Difficulty in finding drugs, suffering pain and physical discomfort, long distance to the fertility clinic and financial problems were some of the difficulties that these patients struggled with in the pursuit to have a baby. One of the informants said, "We prepared the expense for the treatment with difficulty. We had borrowed a loan from the bank and spent the money for the treatment".

Another participant declared, "The insurance services did not help us. We leave out many things in our life. Purchasing of a house and a car was not in our priorities". Sometimes, finding the drugs was difficult. In this line, one of the partici-

pants said, "My poor brother stands in line for long hours to get the drugs. In the Red Crescent, he could find just two packs". Most of participants came from other cities. One of the participants with Kurdish ethnicity mentioned, "The way to the Infertility Clinic was so far because I came from another city It took 10 to 12 *hr* to reach the Center, it was so boring".

Treatment was painful and exhausting but these women were very determined. Fortunately, they could bear the hardships since they felt the experience was worthwhile. One woman said, "I was in bed and resting after an embryo transfer but it did not hurt me. I accepted all difficulties because of my goal". Another participant with the first experience of ARTs said, "I had a horrible pain because of ascites. I couldn't sleep that night. I said to myself whether the test result becomes positive or negative I will not undergo IVF anymore. But I'm not sure. Maybe if it becomes negative I will try it again because of my dreams".

Their efforts for pregnancy were admirable. One of the participants with history of 3 failed ART cycles declared that "We have been under treatment since ten years ago. We repeatedly went from one doctor to another and from one city to another. Others said why you bother yourself in this way. It is God's willing but I said NO!" Another woman commented, "In the middle of the way I became exhausted and I said to myself I can't continue any more, but when I thought about my wishes again I became determined".

Fear and uncertainty: Most of the interviewees had experienced distress and uncertainty because they did not know what will happen to them at the end of their efforts. They had busy minds about this issue. One participant who had her first experience of ICSI said, "I always thought about becoming pregnant or not. I had doubts about it". One informant said, "I thought I should be so lucky to get pregnant as the chance of a positive test was only about 30%. Will I be among those very low number of women or not?"

Waiting for the test result was so difficult for these women. One 33 year old participant with no history of treatment failure mentioned, "The time did not pass. I wished a machine could explain the situation for me. At least then I would not be so confused. How should I know that I will become pregnant or not? Will this struggle result in pregnancy or not? I wished I could understand that I have something to struggle for".

Most of these women tried different methods of treatment such as ovulation induction, intrauterine insemination (IUI), and ICSI. They thought that ICSI was their last resort and it made them concerned. One of the informants experienced repeated ovulation induction failure; she said, "I thought this was my last hope for pregnancy. What could I do if I do not get pregnant? These weeks passed only with fear. You can't believe it, but I cried most of the nights. What if it doesn't happen?". Another participant said, "I used IUI five times. But it didn't work for me. What if I do not get pregnant with microinjection also? The fear of not getting pregnant annoyed me". Thinking to the last hope is common in women who have experienced multiple failures. Another participant stated, "The doctor's speech was in my mind always. She said you have used ICSI four times and if you do not get pregnant this time put pregnancy out of your mind. You should use egg donation for your next cycles. I wanted not to think about that, but I couldn't. What should I do if it doesn't happen this time?".

Pursuit of husband satisfaction: These women were trying to achieve husband satisfaction with this difficult treatment. Their husbands' increased interest to have children was the reason for some women's feeling of guilt who tried to make their husbands happy by having a child. A woman who had been married for 9 years discussed, "He likes children but he tries to hide his feeling. Although I've tried more than my husband for pregnancy, he was always depressed". Another informant said, "My husband was jealous of other's children. He was really sad about not being able to have a child at all. I am also sad about that (she burst into tears). What could I do if he becomes disappointed?".

Although female cause of infertility is not so prominent, sometimes for example in mild polycystic ovary syndrome (PCOS), they accepted treatment only because of their husband. One young 24 year old woman said, "The doctor was hopeful that I could become pregnant naturally by ovulation induction but it may take a long time. My husband also wanted to have a child soon so I chose the method instead of becoming pregnant naturally".

They felt guilty because of infertility problems and its consequences such as financial problems. An unemployed woman said: "My husband is a simple employee and couldn't afford my treat-

ment expenses. It is really a burden on my husband's shoulder. At least for this reason I wanted to make my husband happy. I didn't have any job to provide some part of the expenses myself". The probability of remarriage for their husband in female-related infertility caused some women to think about divorce or separation. In some cases, they thought that they were the only barrier who prevented their husbands from having a baby. One woman with infertility duration of 14 years said, "I thought to myself that I suffered a lot, I tried so much, I did everything, and I went everywhere… . If the treatment fails again, I shouldn't spoil my husband's life anymore".

Escape from stigma: These women were stigmatized for the use of ARTs. Most of them did not seek support from others. Some of them said to others that they had no fertility problem and they had voluntarily chosen not to have a child. A woman who had been married for 5 years, said, "Everyone thought that we ourselves did not want to have a child". Most of them were trying to hide the treatment or use of ARTs as confessing the fact increased their distress. One 26 year old woman said, "I didn't want my relatives to know about my IVF treatment. They thought that we just met the doctor and we were under a simple treatment. I informed my husband not to say anything to others about my IVF treatments as they may feel pity for us in case of failure".

Some of these women were concerned about the stigma of egg donation. One of the women said, "I didn't say anything to anyone, even to my close relatives because they thought that IVF means use of another egg or fetus. I didn't say anything given that it was really difficult to convince them. I said to them that I can become pregnant naturally". One woman with 12 years of infertility duration said, "This time no one is aware about use of this method. The previous time they knew everything about my treatment and always asked me whether I implanted the fetus or not. Maybe they thought that this is not our fetus. I was annoyed a lot by their idle talk".

Children born with ARTs as well as donated eggs are subjected to stigma of test-tube child. One woman claimed, "I didn't say anything about my treatment as people thought test-tube children are not healthy and do not have a long life".

Discussion

This study provided women's experiences when seeking an assisted pregnancy in Iranian culture and context. Participants in the present study did their best to have a child. Similarly, Hammarberg et al. (2001) found that there is a strong feeling in women that everything should be attempted to have a child (25). Women were struggling with ARTs to reach the motherhood role. This role is so important in Iran and is considered as a source of pride and power for women in the family and society (18).

It is well known that infertile women experience a variety of distresses by undergoing fertility treatments (26). In particular, while waiting for pregnancy test results they tolerate high distress and feel that they are abandoned by the treatment team (10). The emerged themes in this study showed that women waiting for an assisted pregnancy experience distress because of the uncertain outcomes. The results of a similar qualitative study on infertility treatment among women who successfully became pregnant, carried out by Redshaw et al. (2007) in the UK, showed that the process of treatment is like passing through a dark tunnel because of its uncertainty and difficulties. Lack of choice and control is one of the emerged themes in their report (27). In a recent study by Gnoth et al, (2011) in Germany, the average number of live births per an IVF/ICSI cycle with fresh embryos and its subsequent cycle with frozen embryos has been reported to be 33%. They found out that in patients less than 40 years old the cumulative live birth rate after three IVF/ICSI cycles was only 55% (28). It is known that waiting for the results and perception of low success rates are on top of the psychosocial stressors among infertile couples (29). Training nurses or midwives to support infertile women during infertility treatment process seems to be a reasonable measure (14). Counseling women in these stressful times, such as waiting for the outcome of *in vitro* fertilization, can reduce stress. The benefits of counseling in stressful moments of using ARTs have been noticed as well in research by Hammarberg et al. (25).

In the present study, it was also found that most of these women carry the burden of treatment only because of their husbands. These women were very concerned about their husbands' unhappiness due to infertility problems and their desire to pursue treatment was because of their husbands' dissatisfaction. Women declared that their husbands were jealous of others' children and this behavior made them more determined for treatment. Similarly, Hasanpoor-Azghdy et al. (2014), in a quali-

tative study in Iran found that one of the reasons of mental engagement in infertile women was the feeling of regret about their husband when meeting fertile couples (30). The result of another qualitative study by Behboodi-Moghadam (2013) on Iranian infertile women showed that infertile women experienced instability in their marriages because of their husbands' dissatisfaction (16). Accordingly, depression and anxiety were more common in women who did not have their husbands' support or received negative reactions from their husbands (31, 32). As the feeling of depression was only evident in couples with female-related infertility in comparison to their husbands, it is crucial to empower women to express their thoughts and concerns in consultation meetings (18). Lukse et al. (1999) found that the most helpful coping strategy for women during the treatment process was being able to talk to their spouses about their feelings (10). Van Empel et al. (2009) conducted a mixed method study where it was found that a lack of emotional support was considered a weakness and partner involvement was considered a strength in care (33). Therefore, partners' involvement in counseling sessions is essential. In consultation meetings during treatment the supportive role of the husband should be emphasized more. Care providers should help couples to open a dialogue about their feelings before treatment.

People would start gossiping about women with inability of becoming pregnant naturally and they feel pity for them in cases of treatment failure. Also, they look down on test-tube babies and believe the children do not really belong to their parents. Consequently, all these factors contribute to the stigma surrounding ARTs. Fear of stigma prevented most of the women in the present study from disclosing their fertility problems or treatment processes. They were trying to avoid the stigma and were struggling with infertility in silence. They did not reveal their problems to others and as a result they could not seek support. Accordingly, Hammarberg et al. (2001) reported that although IVF is accepted by friends, family and society, participants had not revealed their IVF treatment (20, 25). Hiding infertility at family get togethers was reported also in previous researches on infertility in Iran (16, 19). Similarly, Slade et al. (2007) found out that revealing the process of treatment was negatively correlated with social support and was predictive of distress because of stigma (34). One of the important social theories about relationship between stigma and the disease is related to Erving Goffman (1963). He defined stigma as "a special gap between virtual social identity and actual social identity". Goffman debated on social acceptance of stigmatized people and their relationship with normal people, and discussed that hiding can lead to further isolation, depression, and anxiety (35, 36). Infertility is a condition which has been defined as a medical problem over the last several decades. In fact, it has been medicalized. Medicalization is a social process that non-medical problems or experiences are culturally defined as medical problems or diseases. In the literature, there is a common view that ART medicalizes infertility and physicians should not perform medical procedures for social reasons (37). Unfortunately, medicalization of infertility has led to stigmatization and medical interventions have transformed infertility from a private pain to a public crisis (38, 39). In counseling with infertile patients, health care providers should talk about the issue of stigma and build the couples' self-confidence. It is a reasonable idea to encourage them to seek support from their partners or health care professionals. Efforts to reduce ARTs stigma can be achieved by educating people through media and the agencies involved in the treatment of infertile women.

Limitations of this study and suggestions for future studies: One of the limitations of this study was sampling bias as only pregnant women talked about their experiences and non-pregnant women may have less positive experiences. Researchers of this study did not have access to non- pregnant women as they may leave treatment or become disappointed by ART failure. Avicenna Infertility Clinic is also not a fully public infertility clinic and participants may be of a higher social class. The translation of women's statements to English was another limitation of our study. Word by word translation of some phrases and sentences to English was not possible and some of the terms could not be translated to English directly. Two people who were proficient in both languages assisted in this way to ensure the accuracy of translations.

Conclusion

The experiences of women seeking assisted pregnancy provide important insight to health care providers who support women during infertility treatment. Identified themes in this study can help them in assisting infertile women to manage feel-

ings of uncertainty, stigma, and husband dissatisfaction. Partners' involvement in ART counseling sessions, mentally preparing couples for possible failures, and empowering women to deal with potential stigma are critical steps. Distress can be reduced for infertile women seeking assisted pregnancy when they are prepared for the low probability of success, empowered to deal with stigma, and have their partners' involvement in counseling sessions. This counseling can also avoid patient drop-out behavior after unsuccessful ART cycles. In counseling with infertile patients, health care providers should talk about the issue of stigma and the ways for boosting the confidence of the infertile women. Information given to patients in counseling meetings is mainly about the medical aspects of treatment. In a comprehensive infertility treatment, emotional and psychosocial aspects of treatment should not be ignored as they are important factors for increasing the quality of care. Unfortunately, clinicians do not have enough time to talk with patients. Therefore, these problems should be solved through team work and especially with the help of nurses and midwives. Further studies are still needed to care for these vulnerable women and their partners.

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Conflict of Interest

The authors declare that they have no conflict of interests.

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