

# Becoming a Mother after Infertility: A Theoretical Analysis

## *İnfertilitede Anne Olma: Kuramsal Bir Analiz*

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### Öz

İnfertilite nedeniyle bir bebeğe sahip olabilmek için çiftler çoğunlukla yardımcı üreme tedavilerine başvurmaktadır. Gebelik gerçekleştiği durumlarda, çiftler için gebeliğin anlamı mutlu ve keyifli bir süreç olsa da, infertilite tanısı ve tedavilerinin getirdiği yükü birlikte zorlu bir sürece dönüşebilmektedir. Özellikle kadınlar bu süreçte gebeliği kabullenememe, bebeğini kaybetme korkusu, bebeğin sağlığı konusunda endişelenme, belirsizlik gibi duygular yaşayabilmektedirler. İnfertilite tedavisi sonrası gebe kalan kadınların spontan gebeler arasında göz ardı edilebildiği bilinmektedir. Uluslararası literatürde niteliksel çalışmalarda yardımcı üreme tedavileri ile gebe kalan kadınların gebeliği ve doğum sonu döneme kolayca uyum sağlamadığını göstermektedir. Bu derleme ile, infertilite tedavisi sonrası gebe kalan kadınların anne olma sürecindeki deneyimleri kuramsal olarak incelenmiş ve analiz edilmiştir.

**Anahtar sözcükler:** Anne olma kuramı, infertilite

### Abstract

In order to have a baby due to infertility, couples often resort to assisted reproduction therapy. In cases of pregnancy, even if the meaning of pregnancy is a happy and enjoyable process for these couples, the burden of infertility diagnosis and treatments can turn into a challenging process. Especially women can experience emotions such as not accepting pregnancy, fear of losing their baby, worrying about their health, uncertainty. It is known that pregnant women after infertility treatment can be ignored among spontaneous pregnancies. In qualitative studies at international literature, pregnant women with assisted reproductive treatments do not easily adjust to gestation and postpartum period. With this review, the experiences of the mother who became pregnant after infertility treatment were reviewed and analyzed theoretically.

**Key words:** Theory of becoming a mother, infertility.

**PRONATAL** approach that supports fertility and parenthood creates pressure to have children, and in traditional/paternalistic communities, motherhood is perceived as an important and “natural” component of being a woman (Maher and Saugeres 2007). In Turkey, motherhood is viewed as a conceptual and symbolical attitude towards life and a pattern while passing from one generation to another (Şahinoğlu and Buken 2010). Based on this approach, the woman begins to perceive, sense and define her existence through the biological motherhood (Prinds et al. 2014). In case of infertility, existential

concerns of the woman make her feel as if her spirit and womanhood were not completed (Boz and Okumuş, 2017). The woman who cannot have a child considers herself as unnatural and unable to accord with the society, and faces a social shame (Kuş, 2008).

For woman, infertility means loss of her control over her body and loss of her dreams for future, her ideal of becoming a parent, genetic continuity/family line and potential child (Verhaak et al. 2007). The loss brought by infertility includes loss of the expected life, life objectives and experience of pregnancy. In cases when woman identifies herself with a “mother”, there arises “the risk of loss in the concept of selfness”. Physiological and psychological reactions to such losses initiate an unusual process of grief (Aktürk 2006).

During infertility treatment process, women expect to conceive at the beginning of each treatment cycle. When it does not come true, couples –especially women– feel a huge disappointment (Bergard 2000). Women suffer due to negative pregnancies, chemical pregnancies and/or miscarriages (Ak 2001). Furthermore, they cannot experience the physical changes of pregnancy and lose their expectation of breastfeeding. In a qualitative study performed in Jordan on 30 infertile women who could not conceive after Assisted Reproductive Techniques (ART), “missing motherhood” came to the fore as the dominating theme (Obeidat et al. 2014). Pregnancy and motherhood process of the previously infertile women is a phenomenon that needs to be examined by all healthcare professionals working in this field.

In *Becoming a Mother Theory*, Mercer (2004) initially bases the becoming a mother process, which she examines over the examples of spontaneous pregnancies, on her instructor Rubin’s Maternal Role Attainment Theory. Rubin defines the maternal role as a learned, reciprocal and interactive, complicated cognitive and social process. In the theory, maternal identity is characterized with role of woman and accepted as the summit or ultimate point of the maternal role attainment. Rubin’s studies are focused on the “traditional” motherhood process. Mercer revised the theory of Rubin over time and defined the motherhood as a more complex, never ending and always developing process with cognitive and behavioral dimensions rather than a maternal role attainment. Mercer states that there may be differences in postnatal maternal illnesses, baby with anomaly and adaptation of adolescent pregnant to motherhood (Meighan 2018). However, theoreticians have not expressed any special prediction or recommendation for the post-infertility pregnancies. Moreover, it is recommended to examine the *Becoming a Mother Theory* in different cultural groups, mothers facing specific challenges and in low social and economic conditions (Mercer and Walker 2006). The questions to be analyzed are as follows: Does the process of becoming a mother become different when woman has fertility problem? Do the maternal variables become different in case of fertility problems? Does the process of becoming a mother in infertility has a cultural dimension?

This study aims to perform the theoretical analysis of becoming a mother in infertility, reveal similar and different aspects of this process compared with the spontaneous pregnancies and provide a theoretical basis for the national and international studies to be conducted in this field.

## **Motherhood as a Social Fact**

As in all societies of the world, marriage brings about having a child in the Turkish

society (Aktürk 2006). In Turkey, a childless family is unimaginable and even the couples are expected to have a child immediately after the marriage (Kılıç et al. 2011). When the first baby is born, the couples mostly come across with the question on planning for the second child. Social sexist role patterns cause the women to associate womanhood with motherhood and grow up with the schemes implying that becoming a mother means gaining prestige. Socially constructed sexual identity and gender roles affect the physical integrity of the women. Such that “becoming a mother” is viewed as one of the most important ways of proving that the woman is “a real woman” (Kaylı 2011).

According to Beauvoir, throughout the historical process which makes the man “subject” and the woman “the other”, man has become the person who works and the woman has become the slave of childbearing, with motherhood imposed as a physical destiny and biological fate, believing that this is the only way of becoming complete (Beauvoir, 1970). Woman is not born as a mother but becomes a mother. In fact, in traditional/paternalistic societies, “woman” and “mother” are used as synonyms. The idea of each woman’s giving birth is so natural that a middle-age woman without child causes surprise (Campbell 2003). In a qualitative study conducted in Turkey, it is stated that a woman as a mother is accepted by the society while a woman who is not a mother is excluded from the productive society (Sarı 2014).

## **Becoming a Mother Theory**

Motherhood is one of the important developmental life events for the women. Being a mother includes moving to a new unknown reality from a known current reality. Being a mother brings about a transition and reconstruction of objectives, behaviors and responsibilities to obtain a new sense of self (Meighan 2018). During this biological process, women go through many bio-psycho-social changes that cannot be avoided and require adaptation and acceptance. Psychosocial development that takes place in the process of becoming a mother is claimed to have a scheme moving in spiral and expanding, which provides an increase in adaptable functioning of women, in contrary with the linear physical development (Rubin 1984, Mercer 2004).

Main theories about becoming a mother include the Rubin’s Maternal Role Attainment Theory and Mercer’s Becoming a Mother Theory. Rubin (1984) defines the maternal role attainment that starts during natural pregnancy and continues one month after the birth as a mental experience. Rubin describes four tasks which are having a safe pregnancy for the mother and the infant, accepting the infant, attaching to the unknown infant and self-confidence in taking care of the newborn.

Mercer expanded these concepts to include four months after the birth and touched upon role of the father, maternal illness and possibility of high-risk pregnancy (Meighan 2018). According to Mercer (2004), role of the mother starts with pregnancy and motherhood takes shape in four stages covering different periods and potentially following one another:

1. Decision and preparation (pregnancy)
2. Acquaintance, implementation and physical recovery (the first two weeks after the birth)
3. Approaching normalization (2 weeks – 4 months after the birth)
4. Obtaining maternal identity (around the 4th month).

Development and transformation of woman during the process of becoming a mother is compatible with the psycho-social development and transition theories. In the process of becoming a mother, woman grows herself once she obtains the maternal identity. This theory defines the maternal identity as woman's internalizing her role and viewing herself as a mother. Dynamic transformation and evolution that exists in personality of woman is the key of the process of becoming a mother (Mercer 2004). Nelson (2003) states in her meta-synthesis study on transition to motherhood that transition to motherhood starts with making a decision and individual opportunities of the woman affects development of maternal role. This study underlines that the woman goes through a continual development and transformation during the process of becoming a mother.

Transition to motherhood is a unique experience for every woman. This unique experience is affected from such variables as age of the mother, her character, education level, birth-related information, preparedness, health condition, sense of self, perceptions on birth, socio-economic status, religious/cultural beliefs and attitudes as well as function of the family, condition of the husband, social support, health of the infant, its humor and signals the infant sends (Meighan 2018). Going towards the new normal stage, the woman structures maternal role to fit her and her family based on past experiences and future goals. Cognitive restructuring comes out while learning the infant cues and best style of mothering, which adjusts to the new reality (Mercer 2004).

Maternal attachment is a process that starts during pregnancy and motivates mothers to obtain maternal competency and satisfaction with their roles and constitutes a strong emotional component of the maternal identity. Attachment is a part of the parental role and identity (Mercer and Walker 2006). In the theory, challenge and conflict that woman faces while carrying out the maternal role responsibilities is defined as "role strain-conflict" (Meighan 2018).

## **Becoming a Mother in Infertility**

Biologically, pregnancies after infertility treatment and natural pregnancies are the same (Wielgoś and Szymusik 2014). However, these pregnancies which come after multi-dimensional crisis of infertility pass like a paradoxical life event with important biological and psycho-social changes for women (Kuş 2008). Most of these couples resort to assisted reproductive therapy in order to have a baby. Such pregnancies after assisted reproductive therapy are known to be highly valuable, expensive and risky for the couples. Couples do not only invest their money in the therapy but also their energy, time and hopes (Koç and Kızalkaya Beji 2016).

For these couples, "decision and preparation" stage of the Becoming a Mother Theory pass very different and challenging compared with the natural pregnancies (Olshansky 1995). Therefore, this article adopts as the main hypothesis that the successive stages are also different from the natural pregnancies. Infertile women face with many physical and psychological problems until they hold their babies in their arms even though they become pregnant after a long therapy process.

## **Analysis of Quantitative Studies**

Quantitative studies on pregnancies after infertility have resulted in agreement on the

following concepts: very precious pregnancy, fear of losing the baby, never ending story, not accepting the pregnancy, not viewing herself as natural pregnant, sacred motherhood, fatigue and exhaustion, low maternal self-competency, unreal expectations, hope of motherhood and paradoxical pregnancy.

Most of these mothers face such conditions as risks of advanced maternal age, complications of multiple pregnancy and ending life of the fetus (es) due to medical reasons. Consequently, pregnancy that is supposed to be a happy and enjoyable time turns into a challenging process for the infertile couple (Boivin et al. 2001). Since these are not natural pregnancies, they progress with medical concerns and hospital-centered, and mainly viewed as high-risk pregnancies by the healthcare professionals (Wielgos and Szymusik 2014), and even they end in C-sections with the definition of "precious pregnancy". Such feelings of women as losing control over their body through in vitro fertilization (IVF) therapy continue along their pregnancy and delivery.

The period during which women cannot conceive and transition to potential parenthood after infertility treatments is a complicated process characterized by psychological revision of the identity and reshaping of the feelings. Post-treatment pregnancies are stated to include a psychological commotion, with impatiently expected baby on one hand and concern of ending the pregnancy on the other hand (Olshansky 1995). It is very hard for these women who cannot conceive for a long time, experience infertility and take medicines to feel and view themselves as other women with spontaneous pregnancies. This may be considered as a "never ending story" from time to time. Some of these women think that they do not have any right to complain about physical requirements of the pregnancy and they can only feel gratitude for becoming pregnant. Some may feel desperate and inadequate even if they do not have any pregnancy-related problems and they resort to specialized care and consulting support due to their anxiety considering that their fears and concerns are understandable since becoming pregnant has been difficult for them (Koç and Kızılkaya Beji 2016). In a cross-sectional type defining study including women who conceive after ART (n=100) and who have spontaneous pregnancies (n=90), it has been found that average score of mental health, physical function and physical role sub-dimension of SF 36 Life Quality Scale is statistically low, on a meaningful level, in ART pregnancies compared to spontaneous pregnancies (Çavuşoğlu 2015).

Olshansky (1995) states that it is highly difficult to help a pregnant woman who have conflicting feelings after infertility treatment. This situation arises from the perception that while the woman feels happy for being pregnant, she also feels incompetent and has the fear of losing. It may take time for a previously infertile woman to believe that she is pregnant and she can have a baby. Therefore, frequently repeated pregnancy tests, ultrasonography and examination process starts in order to confirm the pregnancy. Accepting reality and adoption of pregnancy may vary from person to person and can mostly be a tough process (Yanikkerem et al. 2008). Denial of the pregnancy or delay in accepting the pregnancy is normal for the previously infertile women. Couples who have doubts about the fact of pregnancy and view it as unreal may begin to believe in reality of the pregnancy as heartbeat and movements of the fetus become apparent. Even though the woman consciously denies pregnancy in order to protect herself against the loss of baby, she maintains pregnancy care. Some of them who have

serious conditions may even refuse medical care or have risky behaviors that may endanger their pregnancies (Upadhyay 2008).

Quantitative studies provided information on maternal behavior patterns during the process of becoming a mother in infertility and variables affecting the transition. Especially women who conceive through IVF may feel fatigue and exhaustion for the desired and long-awaited pregnancy and this exhaustion may affect their happiness and health adversely, causing them to have depression (Covington and Burns 2006). In a systematic study conducted by Hammarberg et al. (2008), they found out that while anxiety level of the pregnant women after infertility treatment and women with spontaneous pregnancies are similar, anxiety for survival of the fetus appears to be higher in the first group. Another study puts forth that maternal stress level of the women who conceive twin babies after IVF is higher than the women with spontaneous pregnancies throughout the pregnancy period (Baor and Soskolne 2010). A systematic compilation finds out that evidences regarding general anxiety levels of the ART pregnancies are ambiguous (Gourounti 2016). A study performed in Switzerland concludes that despite the psychological distress caused by subfertility and its treatment, conception with IVF is not associated with maternal depression symptoms during pregnancy and after birth (Gambadauro et al. 2017). Results of this study reflect perceptions related with the concepts of social gender and motherhood. Another study in Switzerland finds out that 51.5% of the women with IVF pregnancies did not have any problem in transition to pregnancy from infertility, 27.3% of them avoided the specialists and 21.2% of them became dependent on the specialists (Darwiche et al. 2013). Women who became dependent were observed to face more difficulty in adapting to the motherhood and have more depressive symptoms. Difficulty in transition to pregnancy from infertility may be connected with having less adaptability to motherhood and having more postpartum depression symptoms.

In the studies, low self-confidence and sense of self-efficacy related with the baby and motherhood come out as the negative structures reflecting the process of becoming a mother in infertility. It is found out that maternal self-competency of pregnant women who have IVF treatment is lower than the women with spontaneous pregnancies throughout the pregnancy period. It is observed that women with IVF pregnancies have more positive expectations compared with the women with spontaneous pregnancies and such expectations are too high and not realistic (Baor and Soskolne 2010). Since such women have high expectations, it may be difficult to overcome the arising problems. In case of a problem, many women may blame themselves. They are known to go through intense feeling of guilt and stress for such reasons as not taking the daily vitamin pills, not following the medical instructions fully or having sexual intercourse (Covington and Burns 2006). In a study performed in the USA, maternal identity scores of the women who become mother through infertility treatment turn out to be statistically low, on a meaningful level, compared to spontaneous pregnancies (Saffee 1999). It is understood that postpartum maternal identity scores are low, domestic environment is prepared with a delay and self-confidence decreases in previously infertile mothers (Dunnington and Glazer 1991). In conclusion, most of the studies reveal that pregnant women with infertility treatment experience more emotional problems, and they have less self-respect and more health problems.

Ataman (2007) has found statistically meaningful differences in meaning of preg-

nancy for the women and effects of the pregnancy on the husbands when she has examined the distribution of psychosocial effects of the pregnancies with infertility treatment (n=50) and spontaneous pregnancies (n=50). Meaning of the pregnancy is described as “having a kid”, “miracle and meaning of life” in pregnancies after treatment and as “feeling of motherhood”, “becoming a mother” and “happiness, joy” in spontaneous pregnancies. Furthermore, there has not been detected any difference between depression, anxiety, negative ego, somatization, hostility and self-respect of both groups.

According to the systematic compilation of Gourounti (2016) in which she has examined whether there is any difference between pregnancies after ART and spontaneous pregnancies in terms of psychological stress and adaptation to pregnancy; pregnancy-related anxiety, self-respect and life quality are characterized with the same or less depressive symptoms in IVF pregnancies and with more positive attitudes towards requirements of the pregnancy and higher maternal-fetal attachment. Differently, a comparative study conducted in Australia puts forth that mothers with IVF pregnancies are attached to their unborn babies to the same level as the other mothers and the mode of pregnancy is not effective on prenatal attachment (Hjelmstedt, 2006).

## Analysis of Qualitative Studies

Qualitative research results disclose rich meanings from the challenging experiences of women during the process of becoming a mother in infertility. We found 12 international and 1 national qualitative study (Table 1).

**Table 1. Analysis of qualitative studies on becoming a mother in infertility**

Study	Country	Participants	Themes
Wang and Lee, 2004	Taiwan	11 women who conceive after infertility treatment	- a feeling of great relief - uncertainty about the outcome of the pregnancy - adaptive behaviors
Redshaw et al. 2007	England	230 women who conceive after infertility treatment	- role of chance and fate - lack of choice and control - emotional and physical pain - being an object - requirement of patience and sacrifice - differences in care - lost and wasted time - financial and emotional costs - justice and equality
Lin et al. 2012	Taiwan	15 women who become mother through infertility treatment	- health and safety of fetus - psychosocial reactions to physical and psychological situations in pregnancy - identity transition - opinions on pregnancy and birth - effect of community on the pregnancy
Smorti and Smorti, 2012	Italy	15 couples who conceive after infertility treatment	- first phase “doubt” - second phase “decision” - third phase “victory” - last phase “monitoring”
Dornelles et al. 2014	Brazil	19 women who conceive after	- survival of the baby: prenatal, birth and postnatal - health of the baby: illness, malformation, prematurity

		infertility treatment and in the last trimester of gestation	<ul style="list-style-type: none"> <li>- competency of the mother: taking care of the baby, breastfeeding</li> <li>- birth</li> </ul>
Sarı, 2014	Turkey	18 women who become mother through infertility treatment	<ul style="list-style-type: none"> <li>- motherhood as a preference or an obligation</li> <li>- becoming a mother: biologic motherhood or social motherhood?</li> <li>- will to become a mother, maternal instinct</li> <li>- feelings caused by becoming/not becoming a mother</li> <li>- sacred motherhood</li> <li>- experiencing the treatment procedure, solution of the infertility problem, expectations and pressure of probabilities</li> <li>- resisting, liberation and subjectivity capacity</li> </ul>
French et al. 2015	England	12 women and 8 men	<ul style="list-style-type: none"> <li>- fear of pregnancy loss</li> <li>- difficulty adjusting to pregnancy and planning for parenthood</li> <li>- gaps in care</li> <li>- self-silencing</li> </ul>
Ladores and Aroian, 2015	England	12 previously infertile women	<ul style="list-style-type: none"> <li>- lingering identity as infertile: anxiety in pregnancy, not believing that she has become a mother, being unprepared for motherhood</li> <li>- gratitude for the gift of motherhood: requirement to be a perfect mother, feeling that she has no right to complain</li> </ul>
Dornelles et al. 2016	Brazil	19 women who conceive after infertility treatment	<ul style="list-style-type: none"> <li>- tolerance of the demands of treatment and pregnancy</li> <li>- consideration of the mechanics of treatment and pregnancy</li> <li>- emotionally painful aspects of treatment and pregnancy</li> </ul>
Ranjbar et al. 2015	Iran	12 women who conceive after infertility treatment	<ul style="list-style-type: none"> <li>- struggling for pregnancy</li> <li>- fear and uncertainty</li> <li>- escape from stigma</li> <li>- pursuit of husband's satisfaction</li> </ul>
Ranjbar et al. (2015)	Iran	12 women who conceive after infertility treatment	<ul style="list-style-type: none"> <li>- finding peace in life: reinforcement and safety of the conjugal relations, self-confidence, finding meaning in life and feeling of becoming a mother</li> <li>- paradoxical feeling: enjoyment and fear, hope and uncertainty</li> <li>- struggling to realize a dream: struggling with all challenges, change in lifestyle and spirituality</li> </ul>
HaCohen et al. 2016	Israel	12 women who conceive after infertility experience of 2-6 years	<ul style="list-style-type: none"> <li>- the infertility overshadows the pregnancy and approaching motherhood,</li> <li>- the pregnancy leads to a dissociation concerning the infertile period</li> <li>- the two states coexist together along an integrated continuum</li> </ul>
Warmelink et al. 2016	Netherlands	11 persons – 2 couples and 7 women - who conceive through infertility treatment	<ul style="list-style-type: none"> <li>- normal but not normal: paradoxical feelings</li> <li>- need of understanding effect of the former past</li> <li>- need of psychosocial care</li> <li>- need of general care</li> </ul>

In the study of Ladores and Aroian (2015), early postpartum experiences of mothers who give birth after conceived with ART are examined, and consequently there



come out two main themes and five sub-themes as “lingering identity as infertile” (sub-themes: anxiety in pregnancy, not believing that she has become a mother, being unprepared for motherhood) and “gratitude for the gift of motherhood” (sub-themes: requirement to become a perfect mother, believing that she does not have a right to complain). In the study of French et al (2015), experiences of couples and women who conceive after infertility treatment are examined, and there come out four themes as “fear of pregnancy loss”, “difficulty adjusting to pregnancy and planning for parenthood”, “gaps in care” and “self-silencing”.

In the qualitative study of Wang and Lee (2004) conducted in Taiwan on 11 women conceived after ART treatment, there come out three mains as “a feeling of great relief”, “uncertainty about the outcome of the pregnancy” and “adaptive behaviors”. These women, who conceive after ART, state to feel happy for casting off a heavy burden. They believe that one of the main aims of marriage is to have a child and this makes them feel like a “real mother”. On the other hand, even if their pregnancy is definite, they feel concerned about the health of the fetus. In a study of Dornelles et al (2014) conducted in Brazil in order to reveal the fears of women who conceive through ART and in the last trimester of their gestation, women state to have fears about four things as “survival of the baby”, “health of the baby”, “competency of the mother” and “birth”.

In the qualitative study of Redshaw et al (2007) in England on experiences of 230 women who conceive through infertility treatment, they reach the themes of “role of chance and fate”, “lack of choice and control”, “emotional and physical pain”, “being an object”, “requirement of patience and sacrifice”, “differences in care”, “lost and wasted time”, “financial and emotional costs” and “justice and equality”. Again, a qualitative study was performed in England with 12 women and 8 men concerning prenatal needs of couples following the infertility treatment. Statements of the couples yield in the themes of “fear of pregnancy loss”, “difficulty adjusting to pregnancy and planning for parenthood”, “gaps in care” and “self-silencing” (French et al. 2015). According to Mercer (2004), prenatal definition about the role of the mother depends on the satisfaction of the mothers they feel about the motherhood. It is stated that mothers who have high level of adaptation to motherhood during pregnancy have also high level of adaptation after birth. Ladores and Aroian (2015) conducted a qualitative study in England on the experiences of 12 women who became mother after infertility. The emergent themes are “lingering identity as infertile” and “gratitude for the gift of motherhood”. Participants state that it caused them to have unreal expectations about becoming a perfect mother, and when they could not realize this expectation, they censor their feelings of incompetency, guilt and shame.

Ranjbar et al (2015a) carried out a qualitative study in Iran on 12 infertile women who conceived through infertility treatments. They reached three main themes as finding peace in life, paradoxical feeling and the struggling to realize a dream. Especially under the theme of “finding peace in life”, there come out sub-themes of finding meaning of life and feeling of becoming a mother. Participants defined the feeling of becoming a mother as a new and the best feeling of the world. In paradoxical feelings, there come out intense uncertainties concerning progress of the pregnancy and attaching to unborn baby. In another study performed by Ranjbar et al (2015b) in order to understand and define the experiences of 12 women conceived through ART treatment, there

emerged four themes as “struggling for pregnancy”, “fear and uncertainty”, “escape from stigma” and “pursuit of husband’s satisfaction”. Women included in this study stated that they had to overcome many problems such as provision of medicines, pain and suffering dependent on the medicines taken, access to the infertility clinic and economic issues during their treatment process. Furthermore, those women revealed that they felt uncertainty and fear about whether they were pregnant despite all the challenges. Some of the women stated that they wanted to have a child to satisfy their husbands while some wanted to escape from the stigma of infertility.

Dornelles et al (2016) carried out a qualitative study in Brazil with 19 women to evaluate pregnancy experience through ART and whether such experience is affected from the previous failed infertility treatments. The defined themes are “tolerance of the demands of treatment and pregnancy”, “consideration of the mechanics of treatment and pregnancy”, and “emotionally painful aspects of treatment and pregnancy”. Pregnancy itself was regarded as a reward or compensation for the difficulties undergone. Those who had undergone previously unsuccessful treatments focused less on the mechanical aspects of the process but were more concerned about possible physical problems.

Warmelink et al. (2016) performed a qualitative study in Netherlands on 11 persons – 2 couples and 7 women – regarding experiences of individuals who receive midwifery care in transition to parenthood from infertility, and reached the themes of “normal but not normal: paradoxical feelings”, “need of understanding effect of the former past”, “need of psychosocial care” and “need of general care”.

In a study performed by Lin et al. (2007) in Taiwan on 15 women who conceived through ART treatment, there come out five themes as “health and safety of fetus”, “psychosocial reactions to physical and psychological situations in pregnancy”, “identity transition”, “opinions on pregnancy and birth” and “effect of community on the pregnancy”. Those women stated to feel very happy but concerned when they found out that they were pregnant and could not believe it, and they chose not to share this news with their relatives. Women adopted such behaviors as increasing intake of nutrition to ensure health and safety of the fetus, resting, avoiding from the non-recommended food and close monitoring of physical and psychological changes. Moreover, those women disclosed that they had hesitations at the beginning of the gestation between the infertile identity and pregnant woman identity and it gained certainty progressively as the belly got bigger, pregnancy-related physical changes took place, fetal movements of the fetus were felt and fetus was imaged with ultrasonography.

In Italy, a qualitative study was conducted on transition of 15 couples to parenthood through ART pregnancies (Smorti and Smorti, 2012). Themes define the transition to parenthood in phases. The first phase is understood to be the phase of “doubt” and reveal the first doubts and anxieties together with the yearning for the child. In the second phase of “decision”, couples take action to obtain pregnancy and receive assistance from the healthcare professionals. In the phase of victory, pregnancy becomes a reality and the last phase starts which is “monitoring” and includes transition to parenthood from pregnancy. There are huge fears about interruption of the victory in the last phase. Reactions to physical changes are more complex and intense compared with the couples who have spontaneous pregnancy. Physical changes become a threat rather than confirmation of the motherhood, and the woman fears of not carrying the motherhood

to the very end. Such concerns affect maternal identity gains of the woman negatively.

In a qualitative study conducted in Israel on a total of 12 women who conceived after infertility of 2-6 years, there came out the following themes: (1) the infertility overshadows the pregnancy and approaching motherhood, (2) the pregnancy leads to a dissociation concerning the infertile period, and (3) the two states coexist together along an integrated continuum (HaCohen et al. 2016). According to the qualitative study of Sari (2014), motherhood obtained after infertility treatment is “sacred motherhood”. Religion factor attributes sacredness to the definition of the role of motherhood. For instance, Islam says “Heaven lies under the feet of the mothers”. Therefore, sanctification of motherhood idealizes and absolutizes the motherhood.

There is not a study directly discussing whether becoming a mother in infertility has a cultural dimension. However, as is known that infertility has a cultural dimension, we may make interpretation from the themes of the qualitative studies. Among the studies which examine the phenomena of becoming a mother, only the study performed in Iran includes the theme of “escaping from stigma” (Ranjbar et al. 2015a). Furthermore, the definition of sanctification stands out only in a study conducted in Turkey (Sari 2014). This may be construed as association of motherhood with the concept of sacredness in paternalistic societies and stigmatization and exclusion of the woman who cannot become a mother from the fertile society.

Not viewing herself as natural pregnant, difficulty in adjusting to pregnancy and planning for parenthood, fear of losing pregnancy, concerns on the condition of fetus and distress are the generally agreed points (Table 1). These perceptions and experiences have not put forth any cultural dimension. However, it is understood that elaborative qualitative studies need to be performed in Turkey regarding becoming a mother in infertility.

## Approaches Supporting Becoming a Mother in Infertility

The main approach in pregnancies after infertility treatment is the provision of care in order to have a healthy pregnancy bearing minimum risk for the mother and baby, free from illnesses and progressing towards birth. The ultimate goal of this approach is to create a health family in the future. There are few researches considering experiences of these couples and providing evidence for the healthcare professionals regarding suitable prenatal care (Allan and Finnerty 2007, Younger et al. 2015). Treatment, care and follow-up of these women are generally performed at the obstetric clinics outside the ART units. Transfer of their care to the healthcare personnel who have limited information about their pregnancy makes them feel deserted and become “forgotten women”.

Women who conceive after infertility require special care interventions for transition to pregnancy and motherhood. Requirements of the couples who obtain pregnancy through ART must be addressed with a plan under the national health policies (French et al. 2015). Strategies that may improve quality of the care in transition to pregnancy from infertility can be listed as below (Darwiche et al. 2013):

1. To inform the women and their husbands/partners through all means of information;
2. To prepare the couples for the different phases of care;
3. To include the couples in decision-making processes;

4. To evaluate the couples in terms of prenatal, birth and postnatal support requirements.

Healthcare professionals should provide trainings for the women during the pregnancy regarding infertile identity and relevant concerns. Nurses may provide elaborative psycho-trainings for the women who will give birth and their families about pregnancy, birth, maternal and baby care following the birth and changes that may arise during the process of becoming a family, and thus help the couples get prepared for the role of parenthood after infertility treatment.

It is known that providing maternal identity development training for the mothers-to-be help the maternal role attainment (Fowles 1998). In the randomized controlled study of Özkan and Polat (2011) on 120 women, it is established that training of maternal identity development has positive effects on the maternal role attainment of the primiparous women and on the perception of the baby. Another study finds out that planned baby care training has positive impact on maternal attachment and self-confidence levels of the primiparous mothers (Çınar and Öztürk 2014). There has not been found any study examining effects of such a program for the pregnancies after infertility. Such women who conceive after infertility treatment may be provided maternal identity development training for facing realities of motherhood and they may benefit from transition programs for motherhood.

Women who conceive after infertility may be recommended to receive consultation from the experiences women who become mother in the same way. Face-to-face or online interaction groups may be established to this aim. A qualitative study performed in England by Porter and Bhattacharya (2008) on 25 couples concerning three-year progressive information search behaviors of infertile couples supports this recommendation. In this study, 19 of the 25 couples who have ART treatment go through pregnancy and women generally state that they got stronger with the experiences of the others and that helped them become pregnant. It is a known fact that women finds infertility destructive, they get relaxed talking this crisis to their families or husbands and this way of overcoming reduces stress level of the women (Watkins and Baldo, 2004).

It is recommended that healthcare professionals provide prenatal care by becoming aware of the previous infertility story. Moreover, couples should be encouraged to talk about their experiences in order to leave the previous infertility status behind and focus on becoming parents (French et al. 2015). Establishing rehabilitative care relations with these women may help them manage their concerns and get prepared for the development of their babies. Also healthcare professionals may normalize feelings of these women by stating that it is common to feel the emotional ups and downs during the transition period and develop certain strategies to become successful in the new maternal role. These women should be helped to accept their conflicting feelings about the new motherhood and understand that expressing their struggle verbally will not reduce their feeling of gratitude for the gift of motherhood (Ladores and Aroian, 2015). Findings concerning tendency of the couples to silence their negative or ambivalence feelings about pregnancy should be a source of concern for the healthcare professionals. It is important not to promote intense gratitude feelings of the couples about pregnancy and parenthood. Because this may prevent the couples from expressing their negative feelings (French et al. 2015).

Emotional changes that are created with the diagnosis of infertility and the subsequent treatments may not disappear immediately even in case of pregnancy. In this regard, early detection of life quality and depression conditions of the women who conceive through infertility treatment will decrease negative effects of depression on mother and fetus (Aşçı and Kızılkaya Beji, 2012). It is stated in the qualitative interpretative study that women who conceive through infertility treatment in Netherlands have paradoxical prenatal care requirements. Maternal care enables that care requirements of the couples are met in the best possible way during transition to parenthood from subfertility and makes them stronger (Warmelink et al. 2016).

Healthcare professionals should be aware of the cultural effects on development of early maternal-fetal attachment for women who conceive through ART. In early pregnancy, prenatal training may include more information about fetal development in order to allow the mother to visualize her unborn baby. Providing social support for the women who conceive through ART will be useful for development of maternal-fetal attachment (Kuo et al. 2013).

Nurses working at the obstetrics units play critical role in determination of women who may be under the risk of postnatal adjustment disorder by means of their relation of trust with this vulnerable woman group. Furthermore, women who conceive through infertility treatment should be dealt with as a special group for breastfeeding treatment because of the unique meaning of breastfeeding for them (Ladores and Aroian, 2015). Moreover, willingness and competence of these women for getting involved in the baby care should be thoroughly evaluated (Chen et al. 2011).

## Conclusion

As can be understood from the literature, women who conceive through ART treatment have more special experiences and prenatal care requirements compared with the women with spontaneous pregnancies. Quantitative and qualitative studies reveal that destructive effect of infertility generally reflects to the motherhood after ART negatively. The studies put forth that these women are worn out for pregnancy due to psychological distress following the burden of the infertility, have problems in accepting and adopting the reality of pregnancy, perceive their pregnancy as precious and their motherhood as sacred, have intense anxieties about survival of the fetus and consequently have low self-confidence and self-competency. There are contradictory results in the subjects of maternal identity attainment and maternal-fetal attachment.

Motherhood after infertility is considered as a special area of interest for the healthcare professionals. Theory of becoming a mother must also be tested on the women of this group and put forth the specific differences of the group. It is observed that effect of the number of births after infertility on the motherhood has not been analyzed. Meanings attributed by the women to the first and second pregnancies can be examined. It is recommended to conduct qualitative studies in Turkey to reveal life experiences and special requirements of these women. Furthermore, it may be recommended to carry out evidence-based researches on nursing interventions which develop becoming a mother after infertility..

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