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EFFECTS OF THE GROUP INTERVENTION PROGRAM FOR  
THE INFERTILE COUPLES DURING IVF TREATMENT

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GRUP MÜDAHALE PROGRAMININ TÜP BEBEK TEDAVİSİ SÜRECİNDE OLAN  
İNFERTİL ÇİFTLER ÜZERİNDEKİ ETKİLERİ

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## ABSTRACT

The main purpose of the study is to investigate effects of a group psychological intervention program which combined psychoeducation, couple relationship enrichment and mindfulness for infertility treatment patients. This 4-week long program aimed at bringing about the change in anxiety levels, coping strategies and marital satisfaction of couples undergoing infertility treatment. Changes in these variables for both partners were assessed through State-Trait Anxiety Scale, Marital Satisfaction Scale and COPE-R Scales. Study was performed with groups in İstanbul and Eskişehir. Six couples completed group sessions in 3-week period and these variables were measured before the first session and after the last session of the program. As the control group, six couples with infertility diagnoses completed questionnaires during their new 3 week treatment waiting time which is after doctor appointment and before starting new treatment procedures. The intervention group were found to report lower anxiety levels and higher marital satisfaction after 4 sessions when compared to the results of post-test scales of control group participants. Also results showed that usage of unhealthy coping mechanism was decreased for intervention group patients.

**Key words:** Infertility, IVF, Coping Mechanisms, Anxiety, Marital Satisfaction

## ÖZET

Gerçekleştirilen çalışmanın ana amacı psikoeğitim, çift ilişkisi güçlendirme aktiviteleri ve farkındalık çalışmalarını birleştirerek oluşturulan psikolojik grup müdahale programının infertilite tedavisine devam eden hastalar üzerindeki etkilerini incelemektir. 4 hafta süren programda amaçlanan kaygı seviyelerinde, başa çıkma stratejilerinde ve evlilik doyumunda etki oluşturabilmektir. Bu değişkenlerdeki değişiklikler Durumluk – Sürekli Kaygı Envanteri, Evlilik Doyum Ölçeği ve Başa Çıkma Tutumları ölçekleri ile müdahale ve kontrol grubuna katılan kadın-erkek tüm katılımcılar için ölçülmüştür. Çalışma İstanbul ve Eskişehir’de gerçekleştirilmiştir. Altı çift üç haftalık bir dönem içerisinde grup oturumlarını tamamlamıştır. Belirtilen değişkenler ilk oturum öncesinde ve son oturum sonrasında belirlenen ölçeklerle ölçülmüştür. Kontrol grubu olarak, altı infertil tanılı çift ölçekleri yeni bir tedavi başlangıcı öncesindeki bekleme döneminde; doktor randevusu sonrasında ve tedavi başlangıcı öncesinde yine üç haftalık bir süreçte tamamlamıştır. Müdahale grubu katılımcıları 4 oturum sonrasında kontrol grubu katılımcıları ile karşılaştırıldıklarında daha düşük kaygı seviyesine sahip oldukları raporlanmıştır. Ayrıca sonuçlara göre sağlıklı başa çıkma mekanizmalarının kullanımı müdahale grubu katılımcılarında düşüş göstermiştir.

**Anahtar Kelimeler:** *İnfertilite (kısırlık), Tüp Bebek Tedavisi, Başa Çıkma Tutumları , Kaygı, Evlilik Doyumu*

# 1- INTRODUCTION

## 1.1 INFERTILITY

Approximately 80 million people are having problems related to infertility. Prevalence rates differ according to countries but it is estimated to be between 10% and 15% (Boivin, Bunting, Collins, & Nygren, 2007). Infertility is not being able to have a viable pregnancy after having unprotected and steady sexual intercourse for 12 months (Watkins and Baldo,2004). There are primary and secondary infertility. Primary infertility means couples who do not experience a viable pregnancy once whereas secondary infertility means having infertility problems after having a viable pregnancy before (Sami and Ali, 2006). Some of the researches showed that infertility prevalence is a little higher in low income environments. Lack of social, financial and medical resources are the main reason of this prevalence. There is not any clear distinction in infertility for gender and ethnicity (Watkins and Baldo,2004).

Infertility is not a life threatening illness but it has negative effects on individuals, couples, families and society (Kırca and Pasinlioğlu, 2013). One of the first studies about infertility and its psychological effects is performed by Freeman and colleagues (1985). In the study, 200 couples were interviewed after consultation of IVF treatment and half of the women and 15% of men claimed infertility as “the most upsetting experience of their lives” (Freeman, Boxer, Rickels, Tureck, & Mastroianni,1985).

There are different kinds of infertility treatments. Mostly used treatments are hormonal monitoring, in-vitro fertilization (IVF) and Intrauterine Insemination (IUI) (Cwikel, Gidron, & Sheiner, 2004). Diagnosis, treatment decisions, treatments and possible outcomes cause financial and psychological stress for couples (Cwikel et al., 2004). A wide variety of research has been conducted to understand physical, financial, relational and interpersonal consequences of

infertility diagnosis and treatments on individuals and couples (Kırca and Pasinlioğlu, 2013).

## **1.2. INFERTILITY IN TURKEY**

Like many other countries, Turkey is also dealing with high rates of infertility. Artificial reproduction techniques (ART) are one of the fastest developing health services in recent years and Turkey became a popular destination in ART related health tourism because of the high success rates and highly developed genetic testing for embryos. Prevalence rates are changing between 10% to 20% worldwide but according to the study of Sarac and Koc (2017), in Turkey infertility rates declined between 1993 and 2013 from 15.0% to 8.1% respectively. On the other hand, the rate of women who have used ART (artificial reproduction techniques) at least once in their life increased from 2008 to 2013 from 1.9% to 4.2%.

In the Turkish culture, the importance of being a mother is emphasized more compared to western cultures. Becoming a mother and becoming a father is an important motivation for getting married and having a child is seen as the most important aspect in the marriage (Arslan-Özkan, Okumus, & Buldukoglu, 2014). When newly married couples are not able to have a child, mostly the woman is accused of being ill (Kılıç, Apay, & Beji, 2011). Güz and colleagues (2003) stated that infertile women in Turkey claim that they experience negative reactions like being accused, despised or pitied. They try to find alternative ways like nostrums which means using herbal teas, going to prayers or trying other superstitious remedies. They tend to hide the infertility problem and postpone going to medical doctors (Kılıç et al., 2011). With the development in ART industry, preference of medical doctors has been increasing in rural and urban areas (Kılıç et al., 2011).

Based on the cultural properties, some outcomes are seen in studies in Turkey. In the study of Boz and Okumuş (2017); analysis of diaries of women who started infertility treatment are made and some outcomes related to culture are reported. Religiosity is a distinctive concept in the analysis. In the diaries, it is seen

that most of the women see infertility as a test coming from God and hope for help from God. Another important outcome related to culture is about how infertile women believe others see them. As a result of cultural properties, fertility is like an identity issue for women in Turkey and without it Turkish women believe that they cannot fulfil their role in the society and others see this as a defection (Boz et al., 2017).

Importance of cultural factors on how infertility can effect couples can be seen in a study from Denmark (Van Rooij, Van Balen, & Hermanns, 2007). In the study, Turkish and Dutch infertile couples who are living in Denmark are compared about their infertility-related stress. Results showed that Turkish women have significantly higher levels of depression when compared to Dutch women. It is stated that cultural values are dominant even couples are not living in their country of origin. This is also reported as an evident for strength of cultural values (Van Rooij et al.,2007).

As mentioned before, Turkey is one of the popular destination in health tourism and especially in infertility-related treatments. Development of ART industry has been supported by governments in Turkey since 2005. According to Saraç and Koç (2017); one of the most important supports is state health insurance for two treatment cycles. The government started to cover expenses of the first two treatment cycles of couples with state health insurance. The first positive outcome of this support is the increased availability and affordability of treatment cycles because of the decrease in financial burden for couples. The next important outcome is the change in the perception of infertility treatments in the community. Having more information about treatments and being able to reach clinics easily helped community to understand infertility treatments better (Sarac & Koc, 2017).

While thinking about interventions for infertile couples especially during the treatment process, Turkish laws should be considered. In the clinics in Turkey, there are some important laws; only married couples can start ART treatments, donor usages are prohibited, using surrogate mother is not an option. With these rules, options of couples are limited so that treatment failures are important factors in psychological well-being (Yılmaz & Oskay, 2016). By knowing these

limitations, couples experience stress and anxiety in high levels because of the fear of not conceiving with the offered services. Because of that, psychological outcomes should have a priority within these intense circumstances.

### **1.3 COUPLE RELATIONSHIP AND INFERTILITY**

From the beginning of their relationship, couples have some shared dreams for their life together. Having a baby and becoming a parent is one of them. Infertility is an important setback for this shared dream and this reality has important consequences for the couple relationship.

Each partner has their own way in this process and this can sometimes make everything harder for the couples. Couples can become out of synch during this process (Diamond, 1999). Different studies have been conducted to understand the effects of infertility on the couple's relationship. In their systematic review, Luk and Loke (2015) looked into 20 studies and found that four aspects of couples lives are affected during the infertility diagnoses and treatment. These aspects are psychological well-being, marital relationship, sexual relationship and quality of life. In the reviewed studies, they saw that depression and anxiety is a problem for especially women. A study in Ghana revealed that 60% of infertile women suffer from depression or anxiety attacks after IVF failures. This high number is explained by the importance of being a mother in Ghana and how social status is connected to motherhood in the culture. Psychological well-being of women which means not being so anxious, having high quality of life, not being depressive in a destructive way is very similar in eastern cultures in the study but similar numbers are also seen in Italy and Poland as a western culture (Luk and Loke, 2015). There are only a few studies about the psychological well-being of the male partners but results showed that their well-being is connected to women especially in eastern cultures. Depression and anxiety rates are high and this showed that male partners should also be included in psychological support programs during infertility treatment (Luk and Loke, 2015).

Infertility cannot be described as an individual problem, it is experienced by both partners and both of the partners are affected deeply. In the review of online community journals which was done by Billett in 2019, it has been seen that women mostly see themselves as doing the hard work during the treatment when men are doing just a little. This perception is one of the core points of couples' problems after the infertility diagnoses. Being able to create a shared meaning is vital to protect the relationship during this crisis. According to Billett (2019); a partner's support is important in various challenges in life because it has a power for dealing efficiently and creatively in difficult circumstances.

Dooley and colleagues (2014) stated that low marital satisfaction is a predictor for infertility stress. When couples have low marital satisfaction, their stress levels are high and their relationship becomes much more tense and this process becomes hurtful for both partners (Dooley, Dineen, Sarma, & Nolan, 2014).

In the review of Luk and Loke (2015), 3 studies were used to investigate the marital relationship aspects. These studies showed that there are conflicting results about marital satisfaction. A study from Taiwan showed that husbands are more satisfied with their marriage compared to their wives during and after the infertility treatment. A study from Turkey resulted that there is no significant difference between infertile and fertile couples. Also a study from Poland claimed that infertile couples have higher marital satisfaction and it has been supported that commitment and loyalty feelings are strengthening the couple relationship in challenging crises like infertility process (Luk and Loke, 2014).

Infertility is described as an emotional rollercoaster and it is experienced by both partners on different levels. Solomon and Knobloch (2004)'s term "relational turbulence" is a good one for understanding infertility's effects on the couple's relationship. Relational turbulence is described as a process witnessed by couples during a life changing event like infertility. It includes polarizations of emotions, thoughts and behaviors and disruption of communication between partners. Relational turbulence results in increasing stress levels in the relationship when

there is a critical uncertainty concerning decisions during the infertility process (Billett, 2019).

The term “Relational turbulence” during infertility treatment is also used by Steuber and Solomon (2015) for understanding the process of transformation of the relationship after the infertility diagnosis. For this purpose; online forums about infertility have been studied and six themes are gathered from the study. First theme is the agreement of couples about how to approach infertility and how to position infertility in their lives. Second one is the who or what to blame after getting the diagnoses. This theme is covering blaming self or the partner for the infertility. Third one is about support problems, feeling shortage in empathy, compassion or companionship.

The infertility process is full of decisions that must be decided together as a couple. During decision processes, women mostly try to understand the level of support and commitment for treatment of their partners. Because of not talking about their infertility problems with friends and family members in their personal lives, partner support becomes much more important during this process (Billett, 2019). A partner’s emotionally appropriate response to events and eagerness to be part of the process is important for women. Women feel their partner’s support when the partner is doing research about problems and treatments, taking good care of himself, coming to doctor appointments, talking about infertility when his partner needs to and showing vulnerable emotions genuinely (Billett, 2019). A study with Chinese couples undergoing IVF treatment showed that support of partner is affected how they experience the treatment process (Ying, Wu, & Loke, 2015). Researchers suggested that emphasizing on the partnership of couples and enhancing their support abilities with psychological interventions can be effective on improving the marital relationship during treatment (Yin et al.,2015)

Next theme from online forums review of Steuber and Solomon (2015) is the decreasing levels of romance in the romantic and sexual relationship because of limitations in daily lives and infertility becoming the main theme in the house. Also, Luke and Lok (2015) reviewed 6 studies for the sexual relationship aspect and reported similar outcomes. Studies except for one revealed that infertility has

negative effects on the sexual relationship of the couples. Those studies also stated that female and male partners are both having sexual dysfunction problems (Luke&Lok,2015). In the review, Piva and colleagues (2014) investigated the relationship between infertility and sexual dysfunction. They concluded that infertility is rarely a consequence of sexual dysfunction but dysfunction is mostly a consequence of the infertility diagnoses. Especially after treatment failures, possibility of having a permanent sexual dysfunction is increasing.

A Turkish study of Karlıdere and colleagues (2007) with 103 couples found similar results about the negative effects of infertility on the sexual relationship. They stated that women tend to avoid sexual contact whereas men tend to avoid communication and sensual contact related to sexuality during infertility treatment. Another study from Turkey with 88 infertile women in a fertility clinic reported that serum AMH levels which are showing the fertility potential are negatively correlated with sexual distress in women. When AMH hormone levels are low, the possibility of conception is low. This also study reported the negative correlation between sexual distress and fertility potential (Aydın, Kurt, Mandel, Kaplan, Karaca, & Dansuk, 2015). In the study of Bayar colleagues (2014), 50 infertile Turkish couples without any infertility treatment experience were tested for sexual dysfunction before starting their first treatment and 3 months after the treatment. Data showed that negative infertility treatment outcomes contribute to the possibility of sexual dysfunction prevalence. When pretest and posttest outcomes are compared sexual dysfunction diagnoses increased from 60% to 72% in women and from 34% to 48% for men (Bayar, Basaran, Atasoy, Kokturk, Arıkan, Barut, & Harma, 2014).

Similar findings were reported in Brazil. A study conducted with 50 infertile couples in Sao Paulo for investigating effects of infertility on sexuality concluded that decreased libido and unsatisfactory relations are reasons of sexual dysfunction. The study also revealed that women reported sexual dissatisfaction more than men (Pereira de Faria, 2012). An important point about the relationship between sexuality and infertility is mentioned in the review of Tao and colleagues (2011), they stated that turning sexual intercourse into a mechanical work in schedules and

doctor control ruins the pleasure aspect of it. The review mentioned that especially if conception is not achieved, partners start to have self-esteem problems and this could lead to sexual dysfunctions (Tao, Coates, & Maycock, 2011).

For the quality of life aspect in the review of Luk and Loke (2015), 3 studies were examined and results were reported as controversial. A study from Poland showed that quality of life parameters of infertile couples are lower than the fertile couples control groups. In a study conducted in China, it has been stated that 80% of infertile couples believe that quality of life cannot be high when they do not have a child. A study from Turkey concluded that there is not any significant difference of quality of life between infertile and fertile couples (Luk and Loke, 2015). For male partners, study of Monga and colleagues (2004) supported that quality of life between infertile and fertile couples do not have a significant difference but it is different for female partners. Women in fertile couples show higher quality of life compared to women in infertile couples (Monga, Alexandrescu, Katz, Stein, & Ganiats, 2004).

Expecting high levels of partner support can be a variable for stress and precursor for a decrease in the marital satisfaction. When partners do not talk about their needs in this process, it becomes harder to support each other (Billett, 2019). Also not understanding each other's perspectives and criticizing each other's ideas is not helpful during this process. According to the online community journals, stress levels are high in women who don't feel understood by their partners when they are trying to reach information and find a solution for infertility. When their efforts and times spent are seen as an obsession on the subject, women's stress levels become higher (Billett, 2019).

Another important point from Billett's (2019) study is about the effect of the decision about finishing or pausing the treatment on the couple's relationship. These decisions are not easily made and they are depending on different paradigms. It has been stated that women pursue their dreams thinking in "what if..." phases, whereas men try to be more rational which means men try not to talk about emotions and focus on solutions in most of the circumstances. In Billett's study, it has been stated that the critical point in this decision is the male partner's desire for genetic

identifications and female partner's desire for family formation with using other ways like egg donation or embryo donation. Different perspectives in treatment decisions are increasing the stress and this stress is damaging the marital satisfaction. In the online community journals, it has been seen that couples became stronger when they feel like a team and confront every detail together and are strong together with healthy communication (Billette, 2019).

Another theme from the studies of Sreuber and Solomon (2015) was about identity issues concerning their relationship and themselves. Most of the users in forums think about their identity according to new changes in their lives. They try to develop a new identity or change the old ones to make the situation tolerable. Last theme is about how to handle this process and how their lives would be after treatments. Users in forums mostly experience problems in closure of this crises in their lives (Steuber & Solomon, 2015).

The effects on the male partner is not emphasized a lot in the studies related to psychological aspects of infertility. As one of a few, Dooley and colleagues (2014)'s article emphasis on this effect. In the study, it is stated that infertility is mostly presented as an individual problem for women but it should be considered as a couple problem. The article emphasizes that the couple's relationship is affected deeply during diagnosis and treatment process and it has negative effects on the well-being of partners individually. According to Dooley and colleagues (2014), if male partner is assigned as the infertility factor, stress and anxiety levels are higher compared to male partners with unexplained infertility factor, female-related infertility or both-related infertility factor groups. According to Dooley and colleagues (2014), women are trying to protect their partner and trying to support their self-esteem. This effort can sometimes enable male partners not to have high stress and high anxiety levels. A study conducted in Iran revealed that infertile couples with male factor have less marital and sexual satisfaction for both partners compared to other factor groups like unexplained, female or both factors (Vizheh, Pakgozar, Babaei, & Ramezanzadeh, 2015).

Some studies in the literature emphasize on gender differences for approaching infertility. As a result of this difference marital communication is

affected seriously in this process (Pasch, Dunkel-Schetter, & Christensen, 2002). For investigating partners' approaches to infertility and their effects on marital communication, a research design that involves questionnaires, individual interviews and discussion task is developed in the study of Pasch and colleagues. Results showed that like previous findings being a parent is more important for women than men, women want to talk about the infertility problem with their partner and self-esteem of women decreases more compared to men's self-esteem. Another outcome of the study is about how men approach infertility. The approach of men is related to marital communication and approach of their partner (Pasch et al., 2002). How their wife handles infertility and the way they communicate in their marriage is important for determining the way to approach infertility. This is also interpreted as the dependence of the male partner's position in the infertility crises on the emotions and actions of the female partner (Pasch et al., 2002).

According to husbands, the effect of infertility on self-esteem is positively correlated with marital outcomes. If their self-esteem is effected negatively, husbands believe that their marriage is also affected negatively. On the other hand, wives do not report any correlation between self-esteem and marital outcome. Wives reported that their self-esteem is effected much more negatively than their husbands by the infertility diagnoses and treatment failures (Pasch et al., 2002). Study of Pasch and colleagues concluded that if husbands are not genuinely interested in having a child, marital communication is effected negatively and problems appear when both parties are not on the same page about infertility (Pasch et al., 2002).

Gender difference are also present at different phases of the infertility process. A qualitative study conducted in Italy about time perception of infertile couples during assisted reproductive process identified four themes after making interviews with the couples. The themes were "present moment", "waiting", "hope" and "death" (Cipolletta and Faccio, 2013). These themes are explained as different phases of timeline of the treatment for the couples. Present moment is the part which couples want to be anchored for feeling in control, waiting is the phase when couples wait for decisions, treatment, and pregnancy tests, hope is representing

future and death is related to past losses of couples in the analysis (Cipolletta and Faccio, 2013). Research supports that when couples share their phases in the timeline and consolidate together, they became ready for any treatment (Cipolletta and Faccio, 2013).

#### **1.4 RELATIONSHIP BETWEEN ANXIETY, STRESS AND INFERTILITY**

Infertility diagnoses and treatments are placing themselves at the center of patients' lives. It is a challenging experience. Confronting with infertility is changing and also shaking a couple's perception of the world and their place on the world (Cousineau & Domar, 2007). And these challenges and confrontations are increasing stress and anxiety levels. According to Gana and Jakubowska (2016), infertility has more negative effects on emotional stress levels compared to negative effects on the marital satisfaction. Focusing on self-failures during the infertility process makes it harder and the couple relationship is affected less than the internal world (Gana & Jakubowska, 2016). Especially starting treatment cycles and repetitions of cycles have increasing effects on depression and anxiety levels (Cwikel et al., 2004).

Every individual's reactions to a life event differs from each other and these different reactions are not easy to handle in life crises like infertility. In the literature, there are various studies examining gender differences in emotional reactions during diagnoses and the treatment process of infertility (Ying et al., 2015). When pretreatment emotional reactions for genders were examined separately, depression and anxiety levels were high for infertile women compared to fertile women. For men, pretreatment process is reported as a sources for depressive symptoms but anxiety levels are not consistent in all studies as it is for women's anxiety levels. Anxiety level differences between genders are explained by pointing at who suffers more from the treatments. Women are exposed to medical procedures from the beginning to the end. So their higher anxiety levels can be explained as a result of the treatment procedure (Ying et al., 2015).

Studies about anxiety and depressive symptoms during treatment cycle show that women have higher levels of anxiety during each step of the treatment cycle. On the other hand, anxiety levels of men only get higher during waiting for the pregnancy test result (Ying et al., 2015).

In a recent study of Massarotti and colleagues (2019), 89 women completed Hospital Anxiety and Depression Scale (HADS) and Fertility Quality of Life Scale (FertiQoL) at the beginning of their first cycle and at the end of the ovarian stimulation for IVF. The study showed that women have higher anxiety levels when they are treated as a result of female infertility and are more anxious before starting the treatment. Being the reason of the infertility problem puts pressure on women and increases their anxiety levels. This connection is explained as a result of sense of guilt for women (Massarotti, Garousian, Kani, Oliaei, & Shayan, 2019). The study of Karaca and Unsal (2015) has detailed analysis of anxiety provoking reasons for female partners. It has been reported that main reason for women is the need for being a parent. Not being a mother is also not being productive and not being a woman enough (Karaca & Unsal, 2015)

The importance of the etiology of infertility for women is also examined in the study of Suna and colleagues (2016). Results showed that being the reason for infertility is a stress factor for women but etiology does not have a direct effect on sexual functioning of women in the relationship. On contrary, Ozkan and colleagues (2016) argues that Turkish women who are married to infertile men have higher female sexual dysfunction problems related to lubrication and pain when there is not any physiological reason for this. It has been stated that stress is the reason for this dysfunction (Ozkan, Orhan, Aktaş, & Coskuner, 2016).

According to Massarotti and colleagues (2019), knowledge and experience have a critical role related to anxiety and stress levels. High levels of anxiety and stress before treatment is reported as a result of unknown environment and procedures. Women tend to be calmer when they trust their doctor and do something actively about their problem (Massarotti et al., 2019). Read and colleagues (2013) also stated that couples prefer psychoeducational support programs more than other

types and couples mentioned that getting information about psychological aspects and physical aspects of infertility make them feel better.

In an Iranian study about psychological reactions of infertile women, it has been found that as a result of stress 17% of women have difficulty in sleeping and 58.9% of women reported high levels of anxiety. The study also revealed that pessimism, suicidal tendency and guilt are common themes in infertile women in Iran (Ramamurthi, Kavitha, Pounraj, & Rajarajeswari, 2016). In Turkey, 177 infertile women attended study of Taşkın and colleagues (2016) and outcomes of the study showed that treatment failures are connected to higher depressive symptoms whereas long infertility durations are connected to higher anxiety levels for women. According to this study, infertility does not have a direct effect on psychosocial well-being of women but additional factors like what they are doing for living, infertility durations and treatment failures made differences for individuals' psychological well-being (Taşkın, Usta, Cüce, Adali, & Arslan, 2016).

According to Kazandi and colleagues (2011); education levels are important factors for anxiety levels of women in diagnoses and treatment process of infertility. Outcomes of the study shows that highest anxiety levels are seen in high school graduates. As an explanation, it has been stated that they are aware of the problem but cannot manage their emotions sufficiently (Kazandi et al., 2011). On the other hand, university graduated infertile women reported with the lowest anxiety levels in the study. Having resources like professional support, having other interests and knowing alternative ways for handling the crises are reported as the possible reasons of this outcome (Kazandi, Gunday, Mermer, Erturk, & Ozkinay, 2011).

In the literature, there are few studies examining male partner's emotional reactions solely. In the study of Dooley and colleagues (2014); results showed that self-esteem of the male partner is negatively correlated with the infertility distress. This outcome is suggested as the protector factor of self-esteem against infertility distress in men. This study argues that the diagnostic category does not have any relation with the infertility distress. Being the infertile partner in the relationship is not significantly related to psychological well-being of men (Dooley et al., 2014). On the other hand, a study from Iran about the life of infertile men reports that

communication challenges and individual stress became part of male partner's life after the infertility diagnosis (Fahami, Quchani, Ehsanpour, & Boroujeni, 2010). It has been stated that especially in Eastern cultures, male infertility is not easy to discuss and men perceive it as a failure about their identity (Fahami et al., 2010).

In a recent article of Rooney and Domar (2018), importance of psychological side effects of hormonal medications like anxiety, depression, irritability is emphasized. Article argues that knowing probable effects of medications and helping patients understand these mood changes are crucial for successful support programs. Also it has been stated that constructing support programs according to self-reports of patients could be misleading. Reason for this argument in the article is the probability of hiding emotions because of the belief for importance of staying strong in a successful infertility treatment (Rooney & Domar, 2018). These beliefs have some possible medical consequences. According to Zeinab and colleagues (2015) infertility related stress has effects on sperm counts, hormonal levels and as a result pregnancy rates. Also indirectly, this stress may cause increase in alcohol consumption or smoking, sexual dysfunction and exhaustion because of working more hours to avoid stressful event. All these outcomes have negative effects on the treatment outcomes and they can cause long-term effects like depression afterwards (Zeinab, Zohreh, & Gelekholaee, 2015).

Many studies looked into the relationship between infertility and depressive and anxiety symptoms. There are also studies for investigating effects of stress on treatment success (Cwikel et al., 2004). Aim of the review of Morreale and colleagues (2010) was analyzing effects of stress reduction interventions on treatment success rates. It has been stated that with lots of variables during treatment process, it is hard to say that there is a correlation between treatment cycles and stress. But it is explicitly mentioned that treatment procedures and medications have increasing effects of anxiety levels and reduction of symptoms have positive effects on well-being of patients (Morreale, Balon, Tancer, & Diamond, 2010). So that; stress, anxiety and infertility can be seen in a complex pattern and it is not easy for understanding their causal relationship (Greil, Schmidt, & Peterson, 2014).

## **1.5 COPING STRATEGIES AND INFERTILITY**

Everyone has a different way for handling difficult situations in their life. Sometimes they are helpful but sometimes these ways are making life harder. There is not only one determining factor in shaping the way an individual handles a crisis like infertility diagnoses and treatment (Covington, 2015). According to Covington (2015), characteristics of an individual has different components like consideration, temperament and coping with stress. Consideration is active in determining the severity of the reactions because it is about how an individual perceives the incident. Temperament is described as personality style and it determines how an individual can adapt to crises. Last component is coping strategies and it is seen in behaviors when a crisis like infertility comes up. According to Lazarus and Folkman (1984), for managing stress individuals use intellectual or behavioral coping strategies. They described stress as a result of events which are seen beyond what the person can deal with his/her own resources (DeLongis, Folkman, & Lazarus, 1988). In the article, self-esteem and emotional support are emphasized as the important resources for struggling anxiety and stress. Also it has been stated that these resources are shaping the way people deal with the crisis in their lives (DeLongis et al., 1988)

Infertility diagnoses and treatments are mostly seen as beyond capacity for the financial, social, emotional resources by couples (Peterson, Newton, Rosen, & Skaggs, 2006). In the article of Folkman and Moskowitz (2004), coping strategies are divided into four categories; emotion-focused, problem-focused, social coping and meaning-focused coping. According to Folkman and Moskowitz, emotion-focused coping refers to coping styles avoidance, denial, disengagement and distancing and used when the problem is seen as something that should be tolerated generally. Problem-focused coping is covering solution searching, planning and engaging activities and mostly used when individuals think that there is something they can do to change the situation. Social coping is looking for emotional support and connection with other people. Meaning-focused copings is using humor,

acknowledgement and reinterpretation which are examples of using one's own values, beliefs and goals to feel better (Covington, 2015).

According to Folkman and Moskowitz (2004), coping methods cannot be examined without understanding the context and generalizations should not be made without looking at the dynamic process of the event that triggered the coping style. Coping strategies that people use are changing during the process of diagnosis and treatment. According to the literature review of Cassidy and colleagues (2008), in the diagnosis phase, most of the couples are using problem-focused coping strategies like talking to doctors, reading articles or books and talking to people who have experience about infertility. After processing diagnosis, emotion-focused coping is mostly used by couples. During this stage, trying to avoid pregnant women or newborn babies or being with them for controlling their jealousy and anger toward others and their condition are examples of emotion-focused coping strategies. Also during IVF treatments couples mostly use emotion-focused negative strategies like denial, disengagement, self-blame (Cassidy & Sintrovani, 2008).

In the research of Cassidy and colleague (2008), motives for parenthood and its effects on couples' stress are investigated. Also coping strategies of fertile and infertile couples are compared. The results showed that maladaptive strategies in the infertile group are predictors of stress. Maladaptive coping strategies like working so much hours, avoiding reality, or isolating from community for not talking about their experience are positively correlated with social pressure. When ideas of other people are not supportive and hurting identity of infertile couples, use of maladaptive strategies are increasing and also stress levels are increasing. Cassidy and Sintroviani (2008) concluded that pressure coming from close environment is connected to parental motivation but pressure level is an important determinant for using adaptive or maladaptive coping strategy.

In their article, Peterson and colleagues (2006); stated that women use self-controlling coping methods when their partners have more than average levels of stress. On the other hand, women use social support coping when their partners have lower than average levels of stress but the direction of correlation couldn't be

determined in the research (Stanton, 1992). Berghuis and Stanton (2002) found a strong connection between partners coping strategies and levels of depressive symptoms after a treatment failure. The study revealed that the husband's adaptive coping strategies can compensate the wife's maladaptive strategies and this can lower the depressive symptoms of women after a treatment failure (Peterson et al., 2006).

Peterson and colleagues (2006), explored the coping methods of men and women during the infertility process and how these methods are effective on managing depression, stress and marital adjustment. Three coping methods were investigated in the study. These coping methods are accepting responsibility, distancing and self-controlling. Results showed that distancing is high in men whereas it is low in women. Distancing was explained as not talking about infertility, living as if nothing happened and making jokes about infertility. This (Female-low distancing, Male-high distancing) way of coping as a couple is especially difficult for women and this means high stress and depression levels for women. Also marital adjustment is lower in "F-low, M-high" when compared to "M-low, F-high" couples. If men use emotion-oriented coping like distancing, partners reported a decrease in marital satisfaction (Levin, Sher, & Theodos, 1997).

Second method of coping used by couples is self-controlling in Peterson and colleagues' (2006) study. In most cases, it is high in women and low in men. When women engage in self- controlling behavior emotionally and behaviorally, their partners engage in low self-controlling coping strategies. Self-controlling is explained as keeping feeling and thoughts to themselves and trying to keep infertility related feelings away from other things. Couples whose coping is summarized as low in self-controlling by male and high in self-controlling by female, have higher levels of stress and higher levels of depression for both of the partners when compared to low in self-controlling by female and high in self-controlling by male groups (Peterson et al., 2006. When approaches of partners are different in self-controlling coping, marital satisfaction decreases because their behaviors are mostly opposite of their expectations from each other. On the other hand; male partners' use of self-controlling does not cause much problems because

self-controlling is much more similar to traditional roles of men (Peterson et al.,2006).

Last coping strategy in the study of Peterson and his colleagues (2006) is accepting responsibility. This strategy is explained as accepting the responsibility of the infertility problem and trying to change the circumstances as if it is under his/her control (for example; “criticizing myself”, “I brought this problem to our lives”). When couples take high levels of personal responsibility about infertility, they reported high levels of depression, stress and low levels of marital satisfaction. On the other hand, when couples take low levels of personal responsibility solely about infertility problem, stress levels are lowest and marital adjustment levels are highest when compared to other groups (Peterson et al., 2006). Low levels of accepting responsibility in both partners is the most favorable one when compared to other coping types. Marital satisfaction is highest, stress and depression levels are lowest in Female-Low, Male-Low dyad in accepting responsibility (Peterson et al.,2006).

Knowing about the mostly used maladaptive coping strategies is important for developing productive counseling plans for infertile couples (Faramarzi et al.,2013). Maladaptive strategies during diagnoses and treatment can cause psychological problems like anxiety, depression or psychosomatic complications. It is important for counselors to know about coping strategies and their effects on the partners in treatment (Faramarzi et al., 2013). In the study of Faramarzi and colleagues, 87 women and 81 men first time IVF patients participated. Their coping strategies, anxiety levels and depression levels are examined.

The results showed a significant gender difference in using coping methods and these methods can change during the infertility process. According to the results, (1)distancing is significantly positively correlated with anxiety and depression for females, (2)seeking social support is negatively correlated with anxiety and depression for females, (3)escape / avoidance is positively correlated with anxiety and depression levels for females and males, (4) Planful problem-solving is negatively correlated with anxiety and depression levels for females and

males, (5) positive reappraisal is negatively correlated with depression levels for females and males.

According to Martins and colleagues (2011), escape / avoidance strategies increase stress and more stress leads to higher use of maladaptive coping strategies. So that it is hard to decide the direction of this correlation between stress levels and maladaptive coping strategies. A supporting argument is mentioned in Turkish study. A qualitative case study reported that avoidance coping mechanism was clear within the statements of the patient (Şahin & Dağlar, 2018). Statements like “I feel worthless, unimportant and like nothing. I do not want to go crowded places and contact with pregnant women.” Mentioned as supporting avoidance coping claims (Şahin & Dağlar, 2018). Martins and colleagues (2011) found some gender differences about the consequences of coping strategies. Seeking social support is a good example. While having social support is negatively correlated with anxiety and depression for females, it has a positive correlation for males. Study of Faramarzi and colleagues (2013) supported that coping strategy evaluations depends on gender and a generalization cannot be made for all coping mechanisms without knowing all factors like relationship satisfaction, social support, phase of the treatment or other contextual information.

When examining coping strategies, individual and cultural ideas about infertility should not be underestimated (Yazdani, Kazemmi, & Ureizi-Samani, 2016). Research of Yazdani and colleagues (2016) was done in Iran with 133 Iranian couples who were referred to assisted reproductive treatment clinics. The relationship between the couple’s coping strategies and their approach toward infertility was assessed. Results showed that avoidance as a coping mechanism is not used a lot during the treatment process. Reason for this outcome is explained with their commitment for the treatment. Couples came to infertility clinics and start the treatment with a decision and their decision comes after a time for processing the first shock and they have hopes and big expectations from the treatment (Yazdani et al., 2016). Results of the study showed that negative attitude toward infertility is positively correlated with self-blame coping in females and self-focused rumination in males. Self-blame coping could be seen as a consequence of

the social context in Iran. Becoming a parent is much more important for women. This is reported as a consequence of traditional roles of Iranian families and these roles are also seen in Eastern cultures. Social pressure is more for women in cultures like Iran and this leads to maladaptive strategies like self-blame as mentioned in the study (Yazdani et al., 2016). Having information about coping strategies and where they are coming from can help couples to understand each other and themselves. Understanding each other can enable couples to be more supportive of each other and be closer rather than accusing each other.

## **1.6 MARITAL SATISFACTION AND INFERTILITY**

Effects of infertility on marital satisfaction is studied in various studies. In the literature, different levels of marital satisfaction during negative life events is sometimes examined as a reason and sometimes as a consequence. According to Bloch and colleagues (2015); marital satisfaction levels have a direct relationship with emotion regulation during negative life events especially for women. Study results showed that effective emotion regulation is highly associated with high marital satisfaction in difficult situations. Infertility is one of the good examples of difficult life events. Tao and colleagues (2012) conducted a systematic review for investigating marital relationship in infertility. The importance of the individual's marital satisfaction is emphasized in this review because Tao and colleagues (2012) claimed that the effects of infertility on marital satisfaction differs on women and men. Not understanding this difference is an obstacle for both couples and counselors who work with those couples (Tao et al., 2012).

In the review of Tao and colleagues (2012); 18 articles were examined and studies are divided into three groups (Marital relationship of infertile males, marital relationship of infertile females, marital relationship of infertile couples). One of the studies about infertile male partners indicated that infertile men over 30 with low education and with a 3-6 year infertility experience decreased levels of marital satisfaction. Another study about infertile males emphasized that infertile males reported higher marital satisfaction levels than their partners (Tao, Coates, &

Maycock, 2012). In the study of Güleç and colleagues (2011), sexual functions and dyadic adjustment is compared between infertile and fertile groups. According to the results, women and men of infertile group report more problems related to dyadic adjustment when compared to fertile group participants. Also prevalence of sexual problems did not differ between the groups (Güleç, Hassa, Yalçın & Yenilmez, 2011).

Studies that looked into infertile females found that the marital relationship of infertile women is less stable compared to fertile women. Marital satisfaction is negatively correlated with increased infertile time, advanced age of women and number of IVF-ICSI failures. It has also been stated that marital satisfaction for women change according to sexual satisfaction independent of the result of the treatment (Tao et al., 2012).

Articles about infertile couples do not emphasize gender-specific infertility. According to these articles, when both partners have infertility problems, women report less marital satisfaction. On the other hand, when there is unexplained infertility which means without any specific reason of the problem, there were not any significant difference between marital satisfaction for both partners (Tao et al., 2012).

Infertility is a good example for understanding couple related terms like “dyadic stressor”. According to Karney and colleagues (2005), dyadic stressor is an event which has stressful effects on both partners. It can be direct or indirect or it can induce stress from one partner to the other. Infertility is a good example because it affects both of the parties and effects on one party has consequences for the other one. This makes infertility-related stress relational (Greil et al., 2018). Because of the relational characteristic of infertility stress, studies about effects of infertility stress are diverse in the literature. Some studies like the one of Sydsjö and colleagues (2002) mentioned that couples who went through IVF are more satisfied in their marriage. On the other hand, in a Turkish study it has been concluded that women with infertile partners have lower satisfaction in their marriage when compared to naturally conceived couples (Ozkan et al., 2016). Another study from Turkey which was performed with 104 couples showed that

marriage satisfaction and depression levels are negatively correlated (Bodur, Coşar & Erdem, 2013). Couples with high levels of marriage satisfaction reported lower levels of depression and anxiety. Also study showed that social support from family members have a positive impact on marital satisfaction. It is important for couples to have support from each other and this made people more relaxed in this process (Bodur, Coşar & Erdem, 2013).

Another study of Wang and colleagues (2007) found that infertile groups have less stable marital satisfaction when compared to control group of fertile couples (Greil et al., 2018).

Stress levels and coping strategies differ according to gender. These differences have significant effects on marital satisfaction. Greil and colleagues (2018) stated that infertility is much more stressful for women. This difference between men and women prepares a base for low levels in marital satisfaction (Greil et al., 2018). Women and men are affected by infertility in different dimensions. According to the article of Greil and colleagues, women see infertility and not having a child as an identity problem. Identity problem is used as questioning the reason for existence in the world as a woman. Most of the women care about becoming a mother and they claim that being childless is not something that is expected to be part of their identity. On the other hand, men see infertility as a social role obstacle and they react and perceive infertility in relation to women's perspective mostly (Greil et al., 2018). Social role obstacle for men is not having the social role of being a father in the community. Men do not express childlessness as an identity problem, they refer to it as just one change in their social role.

In the study of Greil and colleagues (2018), the relationship between self-identification and marital satisfaction is also examined. Self-identification means identifying self as infertile and having a problem with this identification. There are four groups in the study; none of the partners self-identify themselves, both partners self-identify themselves, only women identify herself and only men identify himself. Results showed that; if no one identifies themselves then marital satisfaction of women is higher than when her partner identifies himself as infertile. Satisfaction of female partner is low when both or none self-identify as infertile.

Also self-identification about infertility does not have any connection to male partners' satisfaction. Satisfaction of male partners is related to his partners' marital satisfaction (Greil, 2018).

One study about marital satisfaction of infertile couples is looking at the diagnosis resolution (Darwiche, Favez, Maillard, Germond, Guex, Despland, & De Roten, 2013). The term "diagnoses resolution" means the capacity for understanding and accepting the reality of the diagnoses. This term is used at the individual and couple level. Results of the study showed that an infertile couple with a satisfying marriage can deal with the diagnosis and can reframe this diagnoses and fit it in their story (J. Darwiche et al., 2013).

Several studies like the one of Masoumi and colleagues (2016) show that fertile couples have better satisfaction levels in their marriage compared to infertile couples. In the mentioned study; quality of life, sexual satisfaction and marital satisfaction differences are examined between infertile and fertile couples. Results showed that quality of life is better for fertile couples. On the other hand; marital satisfaction and sexual satisfaction is higher in infertile couples. The increase in intimacy between partners is reported as the important reason for these high levels. Masoumi and colleagues (2016) conclude that infertility should not be a threat for couples. This stressor may enhance their marriage and enable them to have a more satisfied marriage when it can be handled in a good way. According to an epidemiological study with 2250 women and men about the marital benefit coming from infertility, results showed that two-thirds of the participants think that infertility has positive effects on their marital relationships (Schmidt, Holstein, Christensen, & Boivin, 2005). It has been stated that marital benefit has a connection with communication and communication enhancing programs for infertile couples enable patients to have higher marital satisfaction (L.Schmidt et al., 2005).

There are other supporting studies like the one that is performed in Turkey with 16 couples who had positive outcomes from IVF treatments (Onat & Beji, 2012). Results of the study of Onat and Beji (2012) showed that having a good communication and sharing difficulties, negative thoughts and fears help couples

to overcome the treatment process and this helps them to strengthen their marriages. Also helping couples to have healthy communication and teaching how to support each other during various crises via consultation programs is recommended in the study of Masoumi and colleagues (2016). In the study performed in Turkey with 134 primer infertility patients results showed that women have good level of dyadic adjustment but there are some important factors like economic status, education level and working status (Şen, Bulut & Şirin, 2014). Women with higher education level, with actively working status or with higher income reported higher levels of dyadic adjustments when compared to other participants. This study also showed that good communication between couples and sharing experiences into this process help couples to protect their marriage (Şen, Bulur & Şirin, 2014).

## **1.7 EFFECTS OF INTERVENTIONS**

With the increasing expertise in medical interventions for infertility treatment, psychological consequences became an issue in understanding the infertility process. Doctors and other staff started to realize the importance of psychological well-being for treatments. As a consequence, psychological interventions have started to be developed in 1980's. Couples' expressions for their need for psychological support were the starting point for this initiation (Boivin, 2003). For successful outcomes in infertility treatments, clinics emphasize patient-centered care and try to understand what patients are going through (Dancet, 2011). Emotional support needs and importance of communication between all parties (doctors, nurses, partners and family members etc.) became evident when medical teams started to pay more attention to the psychological well-being of the couples (Dancet, 2011).

Emphasis on psychological factors affecting the infertility treatment process have also increased in Turkey. First psychological interventions were made by trained nurses through counseling sessions (Terzioglu, 1983). One of the first studies about infertility counseling in Turkey was conducted by Terzioglu in 1985. In the study, medical nurses were doing 15 min-30 min counseling sessions 5 times

during IVF treatment whenever a couple requested one. The results showed that anxiety levels and depression levels were lower in the experimental group who get counseling from the nurses. The study also found that the possibility of a positive pregnancy test increased when the couple got counseling (Terzioglu,1983).

In the meta-analysis of Boivin (2003); 25 studies were examined to understanding the efficiency of psychological interventions. The studies were grouped based on the intervention types; counseling interventions, focused educational, and comprehensive educational programs. In the analysis two questions were tried to be answered: “Are interventions good for well-being?” and “Are some interventions more effective than others?” (Boivin, 2003).

After analyzing studies which were selected for this meta-analysis, it has been seen that interventions have positive effects on infertile couples most of the time. On the other hand, some studies are not showing any positive effect and these are explained as the result of obscuration of medical events like treatment failure and diagnosis. Interventions do not have an effect on the character of people, they are effective on negative affects which are the results of the infertility (Boivin, 2003).

One of the main goals of the psychological interventions is the reduction of distress. Different approaches can be used as psychological interventions but one the main goals is mainly dealing with the pressure in a healthy way during infertility related experiences. Learning how to cope with infertility is important for couples (Boivin, 2003). On the other hand; while working on infertility-related distress, counselors also work on how individuals perceive themselves and their relationships before the infertility diagnoses (Van den Broeck, Emery, Wischmann, & Thorn, 2010). Having a new perspective about themselves and their partners can enhance confidence in some of the couples’ lives after infertility related processes are over (Van den Broeck et al., 2010).

Men and women attend these programs for different reasons. Men prefer support groups because of practical information and advice they receive, on the other hand women found counseling useful for their relationships and themselves. Women mostly cope with infertility by sharing their emotions with other people or

looking for support from their partners and this made interventions preferable for women. Also studies support that both partners get equal benefit in interventions (Boivin, 2003). According to Beji and Kaya (2012); infertility and its treatment have social and psychological effects on men and women's lives. Expectations of the larger family and society are important stress factors for couples. Motherhood is seen as the primary role for women in most of the cultures and especially in the Turkish culture. These cultural expectations are extra burdens during infertility treatments (Beji & Kaya, 2012). Probability of not conceiving a child has an elevating effect on anxiety and intervention programs are dealing with these burdens (Beji & Kaya, 2012).

In the work of Boivin (2003); educational interventions are seen as the most effective type of interventions. Emotional expression and support are important in educational interventions but structured meetings and information gathering is important in the success of interventions (Boivin,2003). Also in the study of Güleç and colleagues (2011), importance of sexual education is emphasized. In Turkey, limited sexual information is one of the most important problem and interventions should be covering additional information about sexuality (Güleç et al., 2011). Also according to Boivin (2003), group interventions are much more effective because of common experience and exchange of thought, emotions in the article of Beji and Kaya (2012); infertility counseling is explained as supporting couples from the beginning of infertility diagnoses to failure of treatment in some cases. Couples and individuals need support all the way through the treatment process because anxiety, depression, sexual dysfunction can be seen as consequences. It is common that emotional wellness can be effected in the negative way. In the article; it has been supported that all specialists (doctors, nurses, psychologists) must work together during infertility treatments (Beji & Kaya, 2012).

For assessing the effects of interventions on pregnancy rates, marital functioning and psychological well-being for infertile couples during IVF treatment, Ying and colleagues (2016) performed a systematic review. Review is performed between the years of 1978-2010, 4902 participants were examined and results showed a significant relationship between pre-treatment stress /distress and

reduced infertility treatment success. In this article, different psychological interventions and their effects are examined. 20 randomized controlled trials have been examined in the study. Some focused on couple dyads, some on women and one of the studies is about men in infertility treatment. Intervention designs in the review were CBT, mind-body interventions, counseling, positive reappraisal coping, and other interventions. Interventions were conducted at different stages of the IVF treatment. Anxiety, depression, pregnancy rates, marital function and other psychological outcomes are measured in different studies. Studies stated that depression and anxiety were the most sensitive indicators. According to Ying and colleagues (2016); all interventions have positive effects on IVF patients but their effects on anxiety and depression during waiting for the pregnancy test results were not significant. It has been concluded that interventions are more effective when they are targeting the couple together and interventions should be developed differently according to the different phases of treatment.

Along with different intervention methods, also different models are used for originating psychological intervention programs. A structured intervention program, Emotional Focused Therapy program for infertile couples is studied by Sultana and colleagues (2014) in Iran. There were 12 couples in the study; 6 of them with infertile women and 6 of them with infertile men. They were assessed for depression, anxiety and stress using Depression Anxiety and Stress Scale (DASS). The group was divided into two equal groups as experimental and control groups. Before the beginning of the intervention program, both groups completed the DASS. Experimental group had completed 10-week EFT intervention program under clinical psychologist supervision. After 10 weeks, both groups completed the DASS again. Results showed that EFT decreased depression, anxiety and stress levels in infertile couples during the treatment process. Study also showed that cause of the infertility (man or woman) doesn't have an effect on the outcome (Sultana, Shairi, Roshan, & Rahimi, 2014).

For assessing effectiveness of group/ individual / couple interventions various meta-analysis was performed. In the Liz and Strauss's (2005) meta-analysis two questions were attempted to be answered. These questions are "Does

psychotherapy have an effect on reduction of negative emotions (anxiety and depression)?" and "Is psychotherapy effective in promoting pregnancy?". 22 studies were used for this analysis. Goals of the studies could be grouped in some of the titles. Couples intervention programs focused on enhancing couple communication and partner awareness generally. Most individual and group interventions focused on decreasing negative effects of the IVF treatment. Some focus on the quality of life and coping mechanism relationship. Lastly most of the studies focus on success rate and stress relationship addition to other main focused areas (Liz & Strauss, 2005). The main result is psychotherapy reduces anxiety and depression for infertile patients and possibly enhances conception success. There are some important points from studies which are used in the analysis. In one research it was found that, depressive symptoms increase with the length of infertility duration, with recurring treatment failures and long waiting periods for pregnancy. According to Liz and Strauss (2005); this can be phrased as "If support comes earlier, it will be more beneficial". Similar outcomes were seen for group therapy and individual / couple therapy. In the follow-ups of studies, it has been seen that the decrease in depression levels do not change and positive effects did not disappear, even patients feels better in follow up interviews. It has been stated that effects of infertility do not fade easily but it is possible to support patients and enable them for having less depressive, anxious symptoms after the treatment process. According to the meta-analysis of Liz and Strauss (2005), all studies are from clinical samples so that it can be generalized that everyone with any medical condition can benefit from a similar psychological intervention.

It is clear that psychological interventions are mostly emphasized on similar factors like infertility-related stress, anxiety, pregnancy outcomes or couple relationships during diagnoses and treatment phases of infertility. But there are so many decisions which are not related to feelings during treatments. Changing doctors, having a break during treatment, deciding when to stop trying for conception or thinking about adoption are just some of the topics for infertile couples (Hart, 2002). Psychological support for these topics should be considered in fertility clinics for enabling patients to stay strong in various conditions.

For being effective in counseling infertility patients, experts must understand what patients experience and try to help them with that knowledge of infertility. For example; cultural factors from different countries should be taken into account by counselors for helping patients efficiently (Watkins, & Baldo, 2004). According to the study of Watkins and Baldo (2004); counselors can work on the normalization of the experience, self-acceptance, coping styles, importance of communication, control of life and future expectations in their interventions depending on the phase of patients. Matching needs of patients with offered services is the core point for successful interventions.

## **2- PRESENT STUDY**

### **2.1 SCOPE OF THE STUDY**

The importance of understanding psychological aspects of infertility and possible psychological supports needed have been studied intensively lately because of the documented positive results of intervention programs for infertility patients. As mentioned in the literature, infertility diagnoses and treatment process is an important crisis. It has consequences on intrapersonal levels like struggling with anxiety, sadness or having hard time with emotion regulation. Also it has consequences on interpersonal level like conflicts in marriage, sexual dysfunction or problems with other family members. This dyadic event has an extensive impact area on people's life's struggling with infertility. The aim of this study is developing an intervention program for couples during the infertility treatment process. The intervention is focused on coping strategies, anxiety levels and marital satisfaction for infertile couples during the treatment phase. Intervention program design is developed according to the meta-analysis that mentioned in the literature review. According to the analyses, psychoeducation is important for the improvement of psychological well-being of infertile couples. Also giving information about medical facts and encouraging couples for intense communication with their doctors. In addition to psychoeducation, mind-body activities were reported as one of the most effective intervention types (Boivin, 2003). Especially programs of Alice Domar is widely used in infertility clinics. So that, I combined the most appreciated types of interventions. Addition to the psychoeducation and mind-body exercises, couple relationship enhancement became a part in the intervention because of the emphasized importance of communication between couples during treatment in the literature. I chose to add my knowledge about couple therapy for an effective outcome. Study focused on the anxiety, marital satisfaction and coping strategies as a result of the literature review. Studies mostly used these because it is reported that these are the mostly affected areas as a result of infertility diagnoses

and treatment (Boivin,2003). We developed the design with an eagerness for being comprehensive so that we combined these intervention methods and variables.

The study is designed to look at the effects of the intervention program by comparing a study and a control group. Intervention program consisted of psychoeducation, couple-relationship activities and mindfulness activities. The hypothesis for this study are:

Hypothesis 1: State anxiety scores of intervention group participants will show a significant decrease at the end of the intervention program compared to the state anxiety scores of control group participants.

Hypothesis 2: Trait anxiety scores of intervention group participants will show a significant decrease at the end of the intervention program compared to the trait anxiety scores of control group participants.

Hypothesis 3: Avoidance coping mechanism scores of intervention group participants will show a significant decrease at the end of the intervention program compared to avoidance coping mechanism scores of the group participants.

Hypothesis 4: Self-Punishment coping mechanism scores of intervention group participants will show a significant decrease at the end of the intervention program compared self-punishment coping mechanism scores of the control group participants.

Hypothesis 5: Self-Help coping mechanism scores of intervention group participants will show a significant increase at the end of the intervention program compared self-help coping mechanism scores of the control group participants.

Hypothesis 6: Marital satisfaction scores of intervention group participants will show a smaller decrease in scores at the end of the intervention program compared to marital satisfaction scores of control group participants.

## **2.2 METHOD**

### **2.2.1 Participants**

The participants were couples who had infertility diagnoses and referred to IVF clinics or had been waiting for a new IVF cycle after a treatment failure. Between October 2018 and March 2019, couples were informed about the program in several fertility clinics in İstanbul and Eskişehir. Also they have been given pamphlets of intervention program named as “Psychological Support Program for Couples in Treatment”. Couples who want to participate contacted the researcher via phone or e-mail. In total, 15 couples contacted with the researcher. 6 of the couples did not want to attend program after contacting the researcher because of not having time, not being able to attend with partners and to hesitate to talk in the group. 9 couples agreed to attend the program. 2 groups with 3 couples each in Eskişehir and one group with 3 couples in İstanbul started the program however the group in İstanbul was closed due to lack of attendance of the participants. Eskişehir groups completed 4 sessions.

For the control group, data was collected from infertile couples who are referred to IVF but didn't want to attend a psychological intervention program in Eskişehir Osmangazi University Infertility Clinic. 6 couples completed the questionnaires at the beginning and at the end of the 3-week period. They completed questionnaires when they made their application for IVF and later when they come for their appointment after getting the state insurance approval.

### **2.2.2 Instruments**

Demographic Information Form: The form includes questions as regarding the age, gender, level of education, duration of marriage, duration of infertility, diagnoses regarding infertility, phase of their treatment process, mental health history (diagnoses, therapy history, medical history).

COPE-R: COPE scale is developed by Carver, Weintraub and Scheir in 1989 to assess coping strategies of individuals and to understand how people respond to stress. It was a 60- item uni-dimensional scale. Responses are either functional or dysfunctional. In 2003, Zuckerman and Gagne revised it into a 40-item scale called COPE-R. 5 factors are self-help, approach, accommodation, avoidance and self-punishment (Zuckerman&Gagne,2003). Turkish revision of the scale is published by Dicle and Esanli in 2015 and it is a 32-item uni-dimensional scale (Dicle&Ersanli, 2015). According to the original article of COPE-R; internal reliabilities of the 5 COPE-R subscales at time 2 were .74, .84, and .80 for avoidance; and .81, .88, and .88 for self-punishment, .92, .91, and .94 for self-help, .87, .88, and .83 for approach; .82, .88, and .83 for accommodation in samples 1, 2, and 3, respectively (Zuckerman&Gagne,2003). For Turkish version of COPE-R; Cronbach alpha score for internal reliability is .979. For validity testing of Turkish version, Pearson moments were calculated and total  $r=.932$  and  $p<0.001$ .

State-Trait Anxiety Inventory: This scale developed by Charles Spielberger, R.L. Gorsuch, and R.E. Lushene in 1970 to assess anxiety affect and distinguish symptoms from depression. It is composed of 40 self-report items. Internal consistency coefficients for the scale have ranged from .86 to .95. It is translated into Turkish in 1983 by Necla Öner and Le Compte. For test-retest reliability, Pearson moments were calculated and results were between .71 and .86 for trait anxiety and between .26 and .68 for state anxiety. For internal reliability and homogeneity, Kidder Richardson 20 was used and results were between .83 and .87 for state anxiety and between .83 and .87 for trait anxiety. For validity testing, correlation coefficients were between .52 and .80 for girls and between .58 and .79 for boys in the study. It is composed of two parts. One part is developed for assessing state anxiety level of the individual. State anxiety is the subjective fear which is reported when the individual is in a stressful situation. Second part is developed for assessing trait anxiety level of the individual. Trait anxiety is explained as the anxiety level of the individual whether or not there is any stressful events. There are reverse items in the scale, high scores are reported as high anxiety levels.

Marital Satisfaction Scale: This scale is developed by Azize Nilgün Canel in 2013. It includes 101 yes-no questions for couples with children and 92 yes-no questions for couples without children to understand perceived marital satisfaction about their marriages. Cronbach alpha of this scale is .97. For revealing the criterion validity of the Marital Satisfaction Scale, the correlation between the Problem Solving Inventory (PSI) and the Coping with Stress Scale (CSS) was investigated. Pearson correlation analysis showed that there was a significant relationship with  $p < 0.001$  level. There are different dimensions in the scale as marriage harmony, anger, communication with partner's family, financial understanding and parenting understanding. Marriage harmony dimension has three sub-dimensions. They are happiness in relationship, conflict and closeness. Low scores are reported as high marital satisfaction; low scores are reported as high marital satisfaction. Dimensions and sub-dimensions gave ideas for understanding improved areas and problematic areas in the marriage (Canel, 2013).

### **2.2.3 Procedure**

Before starting group sessions, İstanbul Bilgi University ethics committee approval is taken for this study. 30-minute interviews with volunteers were made before giving scales and accepting couple for the program. Groups are formed according to schedules of couples. Couples completed questionnaires after researcher made explanations about the program and both parties accept the terms. Consent forms are reviewed together. All sessions are led by me, the primary investigator.

#### **2.2.3.1 Details of Intervention Program**

The intervention program consists of 4 group sessions which last 75 minutes with a 10-minute break. 3 or 4 couples are attending sessions. Every session has three parts; psychoeducation, couple activity and mindfulness exercise. Every

session has a different topic and activity. At the end of each session, handouts that cover psychoeducation topics and mindfulness exercise guideline are given to couples. Groups are closed and addition of new members is not allowed. Couples are asked to complete the same questionnaires at the beginning of the intervention program and after the last session is completed.

#### **2.2.3.1.1 First Session**

The first session starts with introduction of the psychologist and explanation of the program's main purpose. Then participants are asked to introduce themselves with their name, where they live and how they are feeling. As a warming up activity, based on sociodrama aimed at helping group members become acquainted with each other, notice their commonalities and difference.

The topic of the first session is physical and emotional changes that happen after the infertility diagnoses, during infertility treatments and the beginning of pregnancy. After the psychoeducational part, participants have a 10-minute break. After the break, the relationship time-line is drawn by the couples as a team. They were asked to indicate important dates and events on their timeline and also their hopes and dreams for the future. They were also asked to use specific colors for specific emotions. After the couple activity, the participants walked through a breathing exercise.

At the end of the session, the couples are asked how they have felt during the mindfulness exercise and then they are asked how they feel at that moment at the end of the session. After sharing, Handout-1 containing first session topic factsheet and instructions for the breathing exercise is given and Session-1 is completed.

#### **2.2.3.1.2 Second Session**

Every session starts with asking participants about how they feel. They are asked to use one word to describe their feeling at that moment.

Topic of the second session is healthy and unhealthy coping methods and support during infertility diagnoses and treatments. After the psychoeducational part, there is a 10-minute break. After the break, the couples are asked to make a tower with wooden blocks together without talking. Then they are asked to share their feelings and thoughts during the activity with their partner. After the couple's activity, grounding exercise is performed.

At the end of the session, couples are asked how they felt during the mindfulness exercise. Then they are asked how they feel at that moment at the end of the session. After experience sharing, handout-2 containing coping methods and support factsheet and instructions for the grounding exercise is given and Session-2 is completed.

#### **2.2.3.1.3. Third Session**

Participants are asked about how they feel. In third session, half of the program is completed so that an informal, small evaluation about the program is made with participants.

The third session is focused on the couple's relationships during the infertility diagnoses and treatments. After the psychoeducational part, there is a 10-minute break. After the break, the couple's do an exercise together where they hold each other tightly for a determined time period and then asked about how they have felt during the exercise. Then a sound meditation is completed as the mindfulness exercise of the session.

At the end of the session, the couples are asked about how they have felt during the mindfulness exercise. Then they are asked about how they have felt at the end of session. After experience sharing, Handout-3 contains couple relationship factsheet and instructions of sound meditation is given and Session-3 is completed.

#### **2.2.3.1.4 Fourth Session**

Every session starts with asking participants about how they feel that day. They are asked to use one word to describe their feeling at that moment. The topic of the fourth session is extended family and relationships with them during infertility diagnoses and treatments. After the psychoeducational part, a 10-minute break starts. After the break, a genogram which is a detailed family tree with relationship styles and adjectives is completed as the couple activity of this session. Then progressive muscle relaxation is completed.

At the end of the session, the couples are asked about how they have felt during the mindfulness exercise. Then they are asked about how they have felt at the end of this session and the program. After experience sharing, Handout-4 containing extended family factsheet and instructions for progressive muscle relaxation is given and Session-4 is completed. Couples are asked to stay to complete the post intervention questionnaires.

#### **2.2.4 Data Analysis**

The aim of this study is to investigate the effects of psychological intervention programs for infertile couples on anxiety levels, coping mechanism and marital satisfaction levels. For the data analysis SPSS 23.0 program was used. Scores of each scales tested for normal distribution with Shapiro-Wilks test because participant number is below 50. Skewness and kurtosis of all scales and divisions of scales are examined and results showed a range between -1.50 and +1.50. According to Tabachnick and Fidell (2013), if results of skewness and kurtosis are between -1.50 and +1.50, scores are normally distributed.

Because of the small sample size, Friedman nonparametric test is used with post hoc analysis of Wilcoxon signed-rank test with Bonferroni-adjusted alpha level is performed. This test is used for understanding if there is a significant difference between pre-test and post-test time periods. Also Mann Whitney U test was performed for comparing pre-test or post-test scores of variables between two

samples (control group and intervention group). For demographic analysis, chi-square test was performed to compare means of two samples.

### **3- RESULTS**

In this section, statistical analysis and results will be reported.

#### **3.1 DEMOGRAPHIC INFORMATION**

Demographic information included both partners of couples of the control group and the intervention group. 24 individuals (12 females and 12 male) completed the scales twice for this study (See Table 3.1). 6 couples (6 females and 6 male) were part of the control group and 6 couples (6 females and 6 male) were part of the intervention group. 70.8% of individuals are between 31 and 40 years old. Also the minimum age of participants was 26 and maximum age was 43. Education level was university for 66.7% of the participants. There was only one secondary school level participant in the study. 50% of participants are married for 1-5 years. The maximum marriage duration is 8 years and the minimum duration is 6 months. 50% of the participants have been trying to have a child for 1-5 years. Also half of the rest of the couples (25%) have been trying to have a child for more than 5 years.

According to the demographics form, 37.5% of the participants were diagnosed as infertile with unexplained infertility. Next common reason for infertility was ovulation problems (25%) and third common one was sperm problems (20.8%). Anatomical problems and other complicated problems were defining the rest of the reasons for infertility. 79.2% of the participants had some kind of Artificial Fertility Techniques (ART) in their history. 58.3% of them previously tried In-vitro Fertilization (IVF) whereas only 1 couple tried ovulation induction before the new treatment.

When participants were filling out these forms, 58.3% were waiting for the new cycle of the IVF after an unsuccessful treatment, 25 percent of them were starting their first IVF. Only 1 of the participants had any psychological treatment history and the treatment was completed in the past.

**Table 3.1: Demographics**

<b>Participants (N=24)</b>		<b>Control</b>	<b>Intervention</b>
<i>Age</i>	Between 26 – 30	3	2
	Between 31 – 35	6	3
	Between 36 – 40	3	5
	Between 41 – 45	0	2
<i>Education Level</i>	Primary – Secondary	1	0
	High School	4	3
	University	7	9
<i>Duration of marriage</i>	0 – 1 years	4	6
	1 – 5 years	8	4
	5 – 10 years	0	2
<i>Duration of thought Of child</i>	0 – 1 years	4	2
	1 – 5 years	8	4
	5 – 10 years	0	6
<i>Infertility Diagnoses</i>	Unexplained	6	3
	Ovulation Problems	4	2
	Sperm Problem	2	3
	Anatomical Problems	0	2
	Others	0	2
<i>Existence of past ART trials</i>	Yes	8	11
	No	4	1
<i>Type of past ART trials</i>	Ovulation Induction	2	0
	IVF	6	8
	Others	0	2
<i>Phase of Treatment</i>	Waiting between trials	4	10
	Before first IVF	6	0
	Others	2	2
<i>History of Psyc. Treatment</i>	Yes	0	1
	No	12	11

A chi square test found that there was not a statistically significant difference between the groups (control group / intervention group) with regards to participant's ages,  $\chi^2 (3) = 3.700, p > 0.05$ .

A chi square test found that there was not a statistically significant difference between the groups (control group / intervention group) with regards to education level,  $\chi^2 (2) = 1.393, p > 0.05$ .

A chi square test found that there was not a statistically significant difference between the groups (control group / intervention group) with regards to marriage duration,  $\chi^2 (2) = 3.733, p > 0.05$ .

A chi square test found that there was a statistically significant difference between the groups (control group / intervention group) with regards to duration of having thought about having a child,  $\chi^2 (2) = 8.000, p < 0.05$ . Whilst intervention group participants are trying to conceive longer than the control group participants.

A chi square test found that there was not a statistically significant difference between the groups (control group / intervention group) with regards to infertility diagnoses type,  $\chi^2 (4) = 5.867, p > 0.05$ .

A chi square test found that there was not a statistically significant difference between the groups (control group / intervention group) with regards to ART experience existence,  $\chi^2 (1) = 2.274, p > 0.05$ .

A chi square test found that there was not a statistically significant difference between the groups (control group / intervention group) with regards to type of ART experience,  $\chi^2 (2) = 4.114, p > 0.05$ .

A chi square test found that there was a statistically significant difference between the groups (control group / intervention group) with regards to treatment phase,  $\chi^2 (2) = 8.571, p < 0.05$ . Whilst majority of the intervention group participants had previous treatments and they were in the waiting period between treatments, most control group patients were waiting for their first IVF treatment.

A chi square test found that there was not a statistically significant difference between the groups (control group / intervention group) and psychiatric history,  $\chi^2(1) = 1.043, p > 0.05$ .

### 3.2 STATE ANXIETY AND INTERVENTION PROGRAM RELATIONSHIP

All participants of the control group and the intervention group filled State-Trait Anxiety Scale twice for the study. In Table 3.2, mean scores and standard deviations of state anxiety scores were reported according to the group types.

**Table 3.2: Means and Standard Deviation of State Anxiety Scale Scores for Control Group and Intervention Groups**

<b>Groups</b>	<b>Pre-Test M (SD)</b>	<b>Post-test M (SD)</b>
Control Group (n=12)	45.42 (12.838)	47.83 (14.04)
Intervention Group (n=12)	36.25 (15.410)	33.25 (13.302)

Table 3.2 summarizes the pre-test and post-test mean state anxiety scores for the intervention and control groups.

Although the mean of the pre-test scores of the control group (M=45.42) seemed to be higher than the mean pre-test scores of the intervention groups (M=36.25). The difference was not found to be significant based on the Mann Whitney U test. (U (  $C_{\text{control}}=12, N_{\text{intervention}}=12$ ,) = 42.000,  $z = -1.734, p > 0.05$ .)

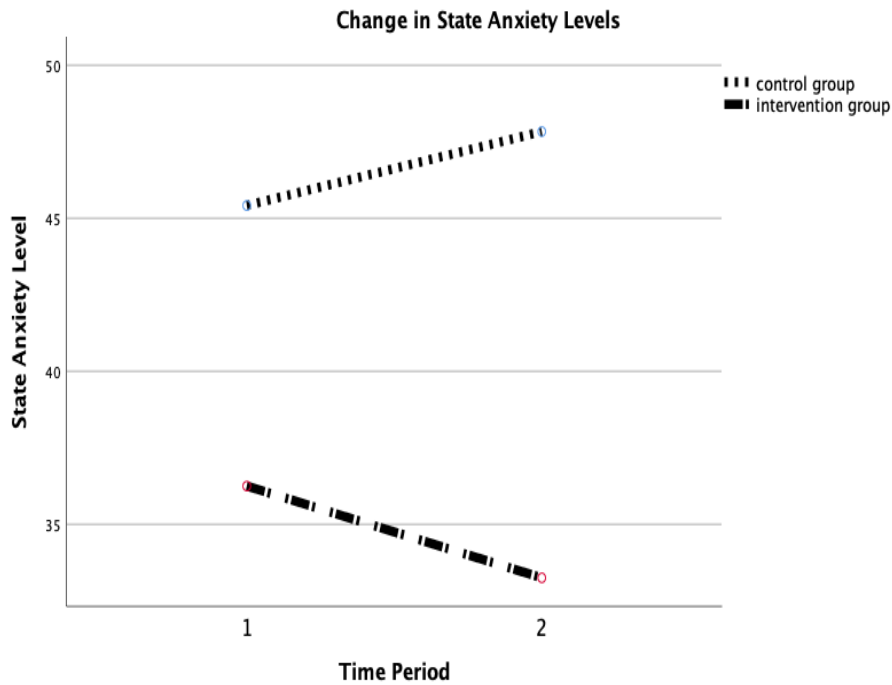
Mean of the post-test scores of the control group (M=47.83) seemed to be higher than the mean of the pre-test scores of the intervention groups (M=33.25). The difference was found to be significant based on the Mann Whitney U test. (U (N<sub>control</sub>=12, N<sub>intervention</sub>=12, ) = 32.000, z = -2.310, p < 0.05.)

**Hypothesis 1:** *The state anxiety scores of the intervention group participants will show a significant decrease between pre-test and post-test when compared to state anxiety levels of the control group participants.*

For testing Hypothesis 2, Friedman test and Wilcoxon signed rank test with Bonferroni-adjusted alpha scale was used to compare the mean of pre-test and post-test scores in the control group and the intervention groups separately. There was a significant difference in the pre-test and post-test state anxiety scores of control group participants,  $\chi^2(1) = 4,455$ ,  $p < 0.05$ . Post hoc analysis with Wilcoxon signed-rank test with a Bonferroni-adjusted alpha level of 0.025 (0.05/2) showed that state anxiety scores of the control group in the pre-test period (M=45.42) was lower than state anxiety scores in the post-test period (M=47.83). The difference was statistically significant, T= 58.50, z= -2,275,  $p < 0.05$ .

There was not a significant difference in the pre-test and post-test state anxiety scores of intervention group participants,  $\chi^2(1) = 3.600$ ,  $p > 0.05$ . Post hoc analysis with Wilcoxon signed-rank test with a Bonferroni-adjusted alpha level of 0.025 (0.05/2) showed that state anxiety scores of intervention group in the pre-test period (M=36.25) is higher than trait anxiety scores in the post-test period (M=33.25). The difference was not statistically significant, T= 11.00, z= -1,686,  $p > 0.05$ .

**Figure 3.1 : Change in State Anxiety Levels for Control Group and Intervention Group**



### **3.3 TRAIT ANXIETY AND INTERVENTION PROGRAM RELATIONSHIP**

All participants of the control group and the intervention group filled the State-Trait Anxiety Scale twice for the study. In Table 3.3, mean scores and standard deviations of trait anxiety scores were reported according group types.

**Table 3.3: Means and Standard Deviation of Trait Anxiety Scale Scores for Control Group and Intervention Groups**

<b>Groups</b>	<b>Pre-Test M (SD)</b>	<b>Post-test M (SD)</b>
Control Group (n=12)	41.25 (10.172)	42.50 (10.229)
Intervention Group (n=12)	41.58 (13.194)	40.17 (13.114)

Table 3.3 summarizes the pre-test and post-test mean trait anxiety scores for the intervention and control groups.

Although the mean of pre-test scores of the control group (M=41.25) seemed to be lower than the pre-test scores of the intervention groups (M=41.58), the difference was not found to be significant based on the Mann Whitney U test. (U ( N<sub>control</sub>=12, N<sub>intervention</sub>=12, ) = 71.500, z = -0.029, p > 0.05.)

Also the mean of the post-test scores of the control group (M=42.50) seemed to be higher than the post-test scores of the intervention groups (M=40.17), the difference was not found to be significant based on the Mann Whitney U test. (U ( N<sub>control</sub>=12, N<sub>intervention</sub>=12, ) = 64.000, z = -0.462, p > 0.05.)

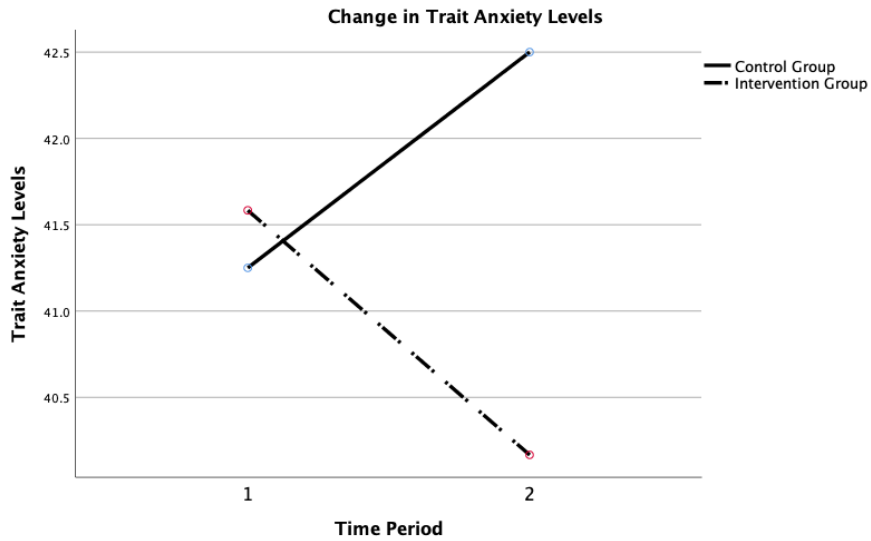
**Hypothesis 2:** *Trait anxiety scores of intervention group participants will show a significant decrease between pre-test and post-test compared to trait anxiety levels of control group participants.*

For testing Hypothesis 2, Friedman test and Wilcoxon signed rank test with Bonferroni-adjusted alpha scale was used for determining if the difference between mean of pre-test and post-test in control group and intervention groups were significant. There was a significant difference in the pre-test and post-test trait anxiety scores of control group participants,  $\chi^2(1) = 9.000$ , p < 0.05. Post hoc analysis with Wilcoxon signed-rank test with a Bonferroni-adjusted alpha level of 0.025 (0.05/2) showed that trait anxiety scores of control group in the pre-test period (M=41.25) is lower than trait anxiety scores in the post-test period (M=42.50). The improvement was statistically significant, T= 45.00, z= -2,762, p<0.01.

There was not a significant difference in the pre-test and post-test trait anxiety scores of intervention group participants,  $\chi^2(1) = 2.778$ , p > 0.05. Post hoc analysis with Wilcoxon signed-rank test with a Bonferroni-adjusted alpha level of 0.025 (0.05/2) showed that trait anxiety scores of intervention group in the pre-test period (M=41.58) is higher than trait anxiety scores in the post-test period

(M=40.17). The improvement was not statistically significant,  $T= 10.00$ ,  $z= -1,486$ ,  $p>0.05$ .

**Figure 3.2 : Change in Trait Anxiety Levels for Control Group and Intervention Group**



### **3.4 AVOIDANCE COPING MECHANISM AND INTERVENTION PROGRAM RELATIONSHIP**

All participants of control group and intervention group filled COPE-R scale twice for the study for investigating coping mechanism preferences of individuals. In Table 3.4, mean scores and standard deviations of avoidance coping mechanism scores are reported according to the group types.

**Table 3.4: Means and Standard Deviation of Avoidance Subscale of COPE Scale Scores for Control Group and Intervention Groups**

<b>Groups</b>	<b>Pre-Test M (SD)</b>	<b>Post-test M (SD)</b>
Control Group (n=12)	9.50 (2.316)	10.25 (2.379)
Intervention Group (n=12)	10.58 (2.610)	10.25 (2.927)

Table 3.4 summarizes the pre-test and post-test mean of the avoidance coping mechanism scores for the intervention and control groups.

Although the mean of pre-test scores of the control group (M=9.50) seemed to be lower than the pre-test scores of the intervention groups (M=10.58), the difference was not found to be significant based on the Mann Whitney U test. (U (N<sub>control</sub>=12, N<sub>intervention</sub>=12, ) = 49.000, z = -1.353, p > 0.05.)

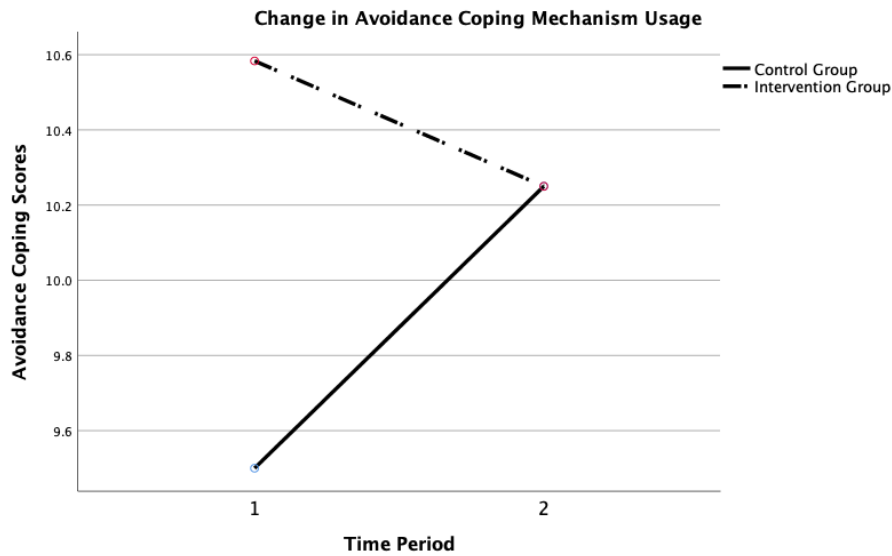
Also the mean of the post-test scores of the control group (M=10.25) seemed to be equal to the pre-test scores of the intervention groups (M=10.25), the difference was not found to be significant based on the Mann Whitney U test. (U (N<sub>control</sub>=12, N<sub>intervention</sub>=12, ) = 71.000, z = -0.058, p > 0.05.)

**Hypothesis 3:** *Avoidance coping mechanism scores of intervention group participants will show a significant decrease between two-time period when compared to avoidance coping mechanism scores control group participants.*

For testing Hypothesis 3, Friedman test and Wilcoxon signed rank test with Bonferroni-adjusted alpha scale was used for determining if the difference between mean of pre-test and post-test in control group and intervention groups were significant. There was a significant difference in the pre-test and post-test avoidance coping scores of control group participants,  $\chi^2(1) = 4.500$ ,  $p < 0.05$ . Post hoc analysis with Wilcoxon signed-rank test with a Bonferroni-adjusted alpha level of 0.025 (0.05/2) showed that avoidance coping scores of control group in the pre-test period (M=9.50) is lower than avoidance coping scores in the post-test period (M=10.25). The change was not statistically significant,  $T = 33.00$ ,  $z = -2.165$ ,  $p > 0.025$ .

There was not a significant difference in the pre-test and post-test avoidance coping scores of intervention group participants,  $\chi^2(1) = 3.000$ ,  $p > 0.05$ . Post hoc analysis with Wilcoxon signed-rank test with a Bonferroni-adjusted alpha level of 0.025 (0.05/2) showed that avoidance coping scores of the intervention group in the pre-test period (M=10.58) is higher than avoidance coping scores in the post-test period (M=10.58). The change was not statistically significant,  $T = 0.00$ ,  $z = -1.633$ ,  $p > 0.05$ .

**Figure 3.3 : Change in Avoidance Coping Mechanism Usage for Control Group and Intervention Group**



### **3.5 SELF-PUNISHMENT COPING MECHANISM AND INTERVENTION PROGRAM RELATIONSHIP**

All participants of control group and intervention group filled COPE-R scale twice for the study for investigating coping mechanism preferences of individuals. In Table 3.5, mean scores and standard deviations of self-punishment coping mechanism scores are mentioned according to the group types.

**Table 3.5: Means and Standard Deviation of Self-Punishment Subscale of COPE Scale Scores for Control Group and Intervention Groups**

<b>Groups</b>	<b>Pre-Test M (SD)</b>	<b>Post-test M (SD)</b>
Control Group (n=12)	12.17 (2.918)	13.33 (3.499)
Intervention Group (n=12)	12.58 (5.334)	12.17 (5.042)

Table 3.5 summarizes the pre-test and post-test mean of the self-punishment coping mechanism scores for the intervention and control groups.

Although the mean of pre-test scores of the control group (M=12.17) seemed to be lower than the pre-test scores of the intervention groups (M=12.58), the difference was not found to be significant based on the Mann Whitney U test. (U ( N<sub>control</sub>=12, N<sub>intervention</sub> =12, ) = 69.000, z = -0.174, p > 0.05.)

Also the mean of the post-test scores of the control group (M=13.33) seemed to be higher than the post-test scores of the intervention groups (M=12.17), the difference was not found to be significant based on the Mann Whitney U test. (U ( N<sub>control</sub>=12, N<sub>intervention</sub> =12, ) = 71.000, z = -0.058, p > 0.05.)

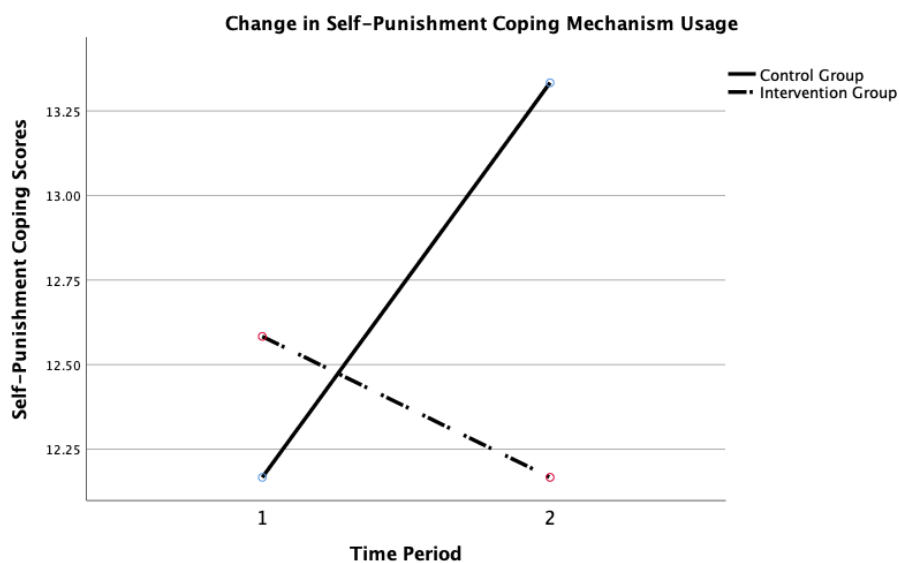
**Hypothesis 4:** *Self-Punishment coping mechanism scores of intervention group participants will show a significant decrease between two-time period when compared self-punishment coping mechanism scores of control group participants.*

For testing Hypothesis 4, Friedman test and Wilcoxon signed rank test with Bonferroni-adjusted alpha scale was used for determining if the difference between mean of pre-test and post-test in control group and intervention groups were significant. There was a significant difference in the pre-test and post-test self-punishment coping scores of control group participants,  $\chi^2(1) = 4.455$ ,  $p < 0.05$ . Post hoc analysis with Wilcoxon signed-rank test with a Bonferroni-adjusted alpha level of 0.025 (0.05/2) showed that self-punishment coping scores of control group in the pre-test period (M=12.17) is lower than self-punishment coping scores in the post-test period (M=13.33). The change was statistically significant, T= 58.00, z=-2,292,  $p < 0.025$ .

There was not a significant difference in the pre-test and post-test self-punishment coping scores of the intervention group participants,  $\chi^2(1) = 1,286$ ,  $p > 0.05$ . Post hoc analysis with Wilcoxon signed-rank test with a Bonferroni-adjusted

alpha level of 0.025 (0.05/2) showed that self-punishment coping scores of the intervention group in the pre-test period (M=12.58) is higher than self-punishment coping scores in the post-test period (M=12.17). The change was not statistically significant,  $T= 10.00$ ,  $z= -0,690$ ,  $p>0.025$ .

**Figure 3.4 : Change in Self-Punishment Coping Mechanism Usage for Control Group and Intervention Group**



### 3.6 SELF-HELP COPING MECHANISM AND INTERVENTION PROGRAM RELATIONSHIP

All participants of the control group and the intervention group filled COPE-R scale twice for the study for investigating the coping mechanism preferences of individuals. In Table 3.6, the mean scores and standard deviations of self-help coping mechanism scores are mentioned according to the group types.

**Table 3.6: Means and Standard Deviation of Self-Help Subscale of COPE Scale Scores for Control Group and Intervention Groups**

<b>Groups</b>	<b>Pre-Test M (SD)</b>	<b>Post-test M (SD)</b>
Control Group (n=12)	14.58 (4.582)	14.67 (4.942)
Intervention Group (n=12)	15.92 (3.204)	15.67 (3.229)

Table 3.6 summarizes the pre-test and post-test mean of the self-help coping mechanism scores for the intervention and control groups.

Although the mean of pre-test scores of the control group (M=14.58) seemed to be lower than the pre-test scores of the intervention groups (M=15.92), the difference was not found to be significant based on the Mann Whitney U test. (U ( N<sub>control</sub>=12, N<sub>intervention</sub> =12, ) = 131.000, z = -1.105, p > 0.05.)

Also the mean of the post-test scores of the control group (M=14.67) seemed to be lower than the post-test scores of the intervention groups (M=15.67), the difference was not found to be significant based on the Mann Whitney U test. (U ( N<sub>control</sub>=12, N<sub>intervention</sub> =12, ) = 138.500, z = -0.672, p > 0.05.)

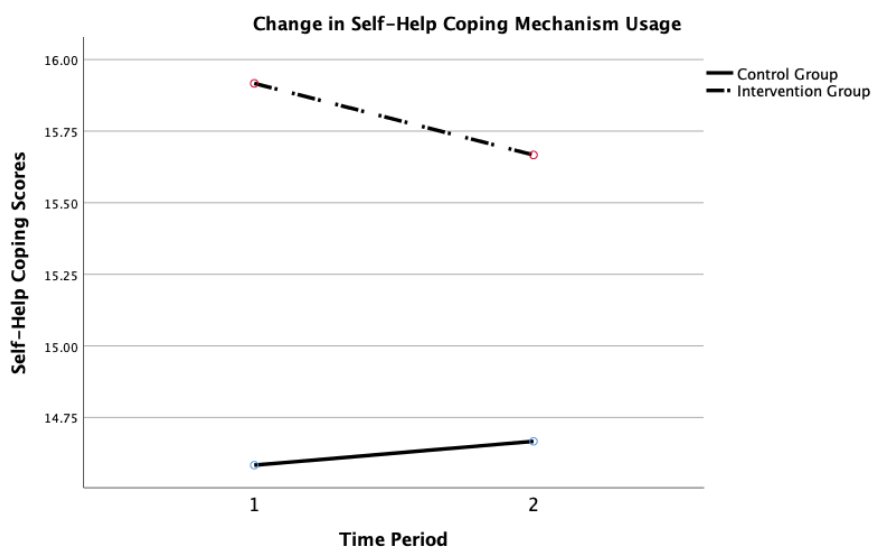
**Hypothesis 5:** *Self-Help coping mechanism scores of intervention group participants will show a significant increase between pre-test and post-test compared self-help coping mechanism scores of control group participants.*

For testing Hypothesis 5, Friedman test and Wilcoxon signed rank test with Bonferroni-adjusted alpha scale was used for determining if the difference between

mean of pre-test and post-test in control group and intervention groups were significant. There was not a significant difference in the pre-test and post-test self-help coping scores of control group participants,  $\chi^2(1) = 1.000$ ,  $p > 0.05$ . Post hoc analysis with Wilcoxon signed-rank test with a Bonferroni-adjusted alpha level of 0.025 (0.05/2) showed that self-help coping scores of control group in the pre-test period (M=14.58) was lower than self-help coping scores in the post-test period (M=14.67). The change was not statistically significant,  $T = 6.00$ ,  $z = -0.368$ ,  $p > 0.025$ .

There was not a significant difference in the pre-test and post-test self-help coping scores of the intervention group participants,  $\chi^2(1) = 0.143$ ,  $p > 0.05$ . Post hoc analysis with Wilcoxon signed-rank test with a Bonferroni-adjusted alpha level of 0.025 (0.05/2) showed that self-help coping scores of the intervention group in the pre-test period (M=15.92) is higher than self-help coping scores in the post-test period (M=15.67). The change was not statistically significant,  $T = 9.00$ ,  $z = -0.879$ ,  $p > 0.025$ .

**Figure 3.5 : Change in Self-Help Coping Mechanism Usage for Control Group and Intervention Group**



### 3.7 MARITAL SATISFACTION AND INTERVENTION PROGRAM RELATIONSHIP

All participants of the control group and the intervention group filled the marital satisfaction scale twice for the study for investigating the marital satisfaction levels of couples. In Table 3.7, the mean scores and the standard deviations of marital satisfaction scores are listed according to the group types. According to the used scale, higher scores mean lower marital satisfaction. When score of the marital satisfaction scale is low, it means that marital satisfaction of the individual is high.

**Table 3.7: Means and Standard Deviation of Marital Satisfaction for Control Group and Intervention Groups**

<b>Groups</b>	<b>Pre-Test M (SD)</b>	<b>Post-test M (SD)</b>
Control Group (n=12)	16.50 (6.113)	21.83 (6.492)
Intervention Group (n=12)	14.58 (11.728)	15.83 (11.472)

Table 3.7 summarizes the pre-test and post-test mean of the marital satisfaction scores for the intervention and the control groups.

Although the mean of pre-test scores of the control group (M=16.50) seemed to be higher than the pre-test scores of the intervention groups (M=14.58),

the difference was not found to be significant based on the Mann Whitney U test. (U ( N<sub>control</sub>=12, N<sub>intervention</sub> =12, ) = 133.500, z = -0.954, p > 0.05.)

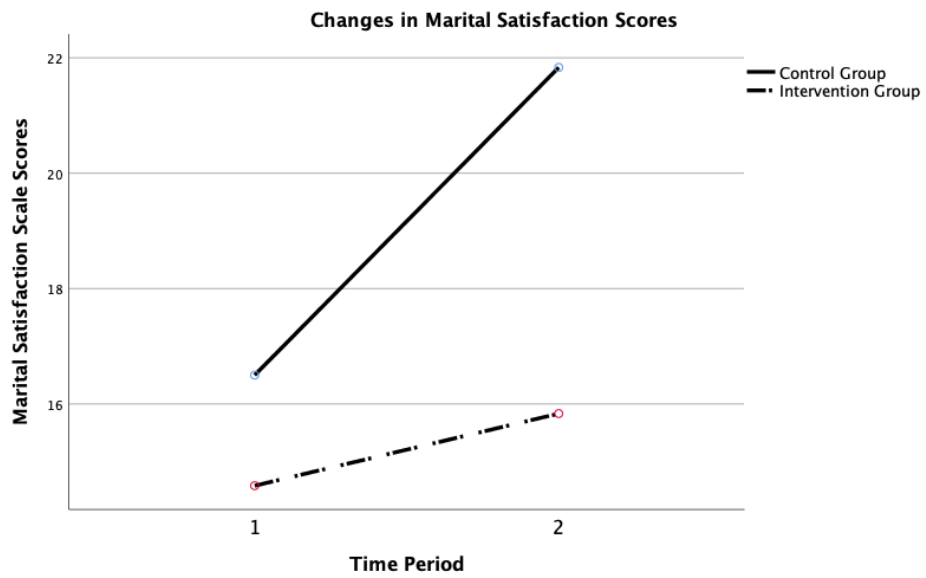
Also the mean of the post-test scores of the control group (M=21.83) seemed to be higher than the post-test scores of the intervention groups (M=15.83), the difference was not found to be significant based on the Mann Whitney U test. (U ( N<sub>control</sub>=12, N<sub>intervention</sub> =12, ) = 121.500, z = -1.648, p > 0.05.)

**Hypothesis 6:** *Marital satisfaction scores of intervention group participants will show smaller decrease in scores between two-time period when compared to marital satisfaction scores of control group participants.*

For testing Hypothesis 6, Friedman test and Wilcoxon signed rank test with Bonferroni-adjusted alpha scale was used for determining if the difference between mean of pre-test and post-test in control group and intervention groups were significant. There was a significant difference in the pre-test and post-test marital satisfaction scores of the control group participants,  $\chi^2(1) = 12.000$ ,  $p < 0.05$ . Post hoc analysis with Wilcoxon signed-rank test with a Bonferroni-adjusted alpha level of 0.025 (0.05/2) showed that marital satisfaction scores of control group in the pre-test period (M=16.50) was lower than marital satisfaction scores in the post-test period (M=21.83). The change was statistically significant, T= 78.00, z= -3.074,  $p < 0.025$ .

There was not a significant difference in the pre-test and post-test marital satisfaction scores of the intervention group participants,  $\chi^2(1) = 1.333$ ,  $p > 0.05$ . Post hoc analysis with Wilcoxon signed-rank test with a Bonferroni-adjusted alpha level of 0.025 (0.05/2) showed that marital satisfaction scores of the intervention group in the pre-test period (M=15.58) is lower than marital satisfaction scores in the post-test period (M=15.83). The change was not statistically significant, T= 56.00, z= -1.340,  $p > 0.025$ .

**Figure 3.6 : Change in Marital Satisfaction for Control Group and Intervention Group**



## **4- DISCUSSION**

This study is designed for investigating effects of psychological intervention program for infertile couples. The intervention program is designed as a combination of psychoeducation, couple relationship enhancement exercise and mindfulness exercise. Present study is about the changes in anxiety levels, coping mechanisms and marital satisfaction during IVF treatment with the intervention program and without the intervention program. In this section, changes in the variables during treatment phase with the intervention program is discussed. After that, implications for the clinical practice and the limitations of the study will be explained. Further research areas will be presented at the end of this section.

### **4.1 ANXIETY LEVELS AND INTERVENTION PROGRAM RELATIONSHIP**

In the study, two kinds of anxiety levels which are state and trait are measured for the intervention group and the control group. Aim of the intervention program is a decrease in the state anxiety and the trait anxiety for intervention group participants whereas an increase is expecting without any intervention during the treatment process.

In the state anxiety scores, pre-test and post-test means are higher for control group. There is a significant increase in the state anxiety scores between the pre-test and post-test measures for the control group. Whereas there is a significant decrease in the state anxiety scores for intervention group participants between the pre-test and the post-test measures. Study of Loke and colleagues (2018) showed similar results with this present study. In their study, the intervention program which is a combination of psychoeducation and meditation practices was delivered to couples and for improving satisfaction and psychological wellbeing (anxiety level and depression symptoms). Participants who received the intervention program reported lower anxiety levels and the scores were significantly different

from the control group (Loke, yang, Wu, Wu, & Shu, 2018). Another similar outcome with the present study is reported by Shu-Hsin in 2003. Intervention group participants received a structured program of psychoeducation and relaxing techniques during IVF treatment and the participants reported lower state anxiety levels when compared to the control group participants (Shu-Hsin., 2003). Similar to the outcomes of present study was reported by Domar and colleagues (2000) when the changes in anxiety levels, depression, self-esteem, marital distress and mood profiles were studied with the intervention programs. State anxiety scores of the intervention group decreased significantly in their study whereas state anxiety scores of the control group participants significantly increased between pre-test and post-test measures (Domar, Clapp, Slawsby, Kessel, Orav, & Freizinger, 2000).

In the trait anxiety scores, similarity to the state anxiety results are seen. Intervention group participants reported a significant decrease in the trait anxiety levels whereas the control groups participants' trait anxiety levels increased significantly between the pre-test and post-test periods. Similar study of Domar and colleagues showed that trait anxiety scores decreased more when there is an intervention program (Domar et al., 2000). There is a difference between state and trait anxiety outcomes in Domar and colleagues' study; they reported that trait anxiety also decreases in control group but it is not much like the decrease in intervention group participants' scores.

In the study of Arpin and colleagues (2019); anxiety levels after intervention program decreases with a medium effect size but change between the pre-intervention and post-intervention is not significant statistically. Another similar outcome was reported by Chan and colleagues, they reported that anxiety symptoms improve in intervention groups patients during IVF treatment. Control group participants' symptoms became worse when compared to intervention group participant's results (Chan. Chan, Ng, Ho, Chan, Lee, & Hui, 2012).

As mentioned in the literature, unfamiliar environment and unknown procedures are important anxiety promoters for patients (Massarotti et al.,2019). With psychoeducation in the intervention program, couples become more familiar

with the process. Knowing more about the process, possible reactions and helpful coping ways made couples less anxious during the treatment process.

Literature also shows that mindfulness exercises have positive effects on the anxiety levels in infertility patients (Galhardo, Cunha, & Pinto-Gouveia, 2013). In the present intervention program, every session has a mindfulness exercise and guideline for the exercise is given to participants as a handout at the end of the session. Participants are asked to perform that exercises at home and they talk about their experiences about these exercises in each session. All participants were new to these techniques but they reported that these exercises helped them to sleep better and they felt more relaxed when they tried them in their daily life. Relaxation techniques were used by female participants more often in all couples. Male partners mostly report about how these exercises helped their partners and their tension at home had decreased. Couples reported that they acted like a reminder for each other and they used these activities in doctor appointments and other medical procedures. Addition to the relaxation exercises, normalization of the problems and feelings helped couples for dealing with anxiety. All participants share that seeing commonalities about emotions decreased their stress and made them feel supported.

## **4.2 COPING MECHANISMS AND THE INTERVENTION PROGRAM RELATIONSHIP**

There is a strong relationship between coping mechanisms and how patients handle infertility problem individually and relationally. COPE-R scale is used for investigations coping mechanisms of patients in this study. In the scale, there are 5 sub-divisions which are avoidance, self-punishment, self-help, accommodation and approach. For analysis, avoidance, self-punishment and self-help coping mechanisms are used because they are the widely used coping mechanisms in the literature.

#### **4.2.1 Avoidance Coping Mechanism and Intervention Program Relationship During Infertility Treatment**

According to the assumptions of the study, mean of avoidance coping mechanism score for intervention group is expected to decrease after the intervention program. In the analysis, it has been seen that the avoidance coping scores of control group increased from pre-test to post-test period. For intervention group, results are different than the control group. Mean of avoidance scores of intervention group decreased between pre-test and post-test measurements. In the literature, Li and colleagues (2015)' study is supporting this change in the groups. Li and colleagues used a mindfulness program as an intervention for infertility patients. Results showed that avoidance coping scores have a decrease between pre-test and post-test periods for intervention group. On the other hand, there is an increase in control group patients' avoidance coping scores between the pre-test and post-test. Similar to the study of Li and colleagues (2015), this study also used mindfulness exercises in the intervention program. These exercises are expected as one of the most effective ways for decreasing anxiety and decrease in anxiety is reported as a way for decrease in avoidance by making patients better psychologically. In the present study, we also used mindfulness exercises and decrease in avoidance can be seen as a consequence of these exercises. Also awareness of the coping strategies and their effects made people think about how they reacted. Most of the participants shared that they realized how avoidance made their lives harder after talking about it in the sessions.

In the literature, isolation is expected as a consequence of avoidance coping mechanism (Hinton, Kurinczuk,& Ziebland, 2010). According to Karaca and colleagues (2015), one of the theme of the coping mechanisms mostly seen in Turkish infertile women is avoidance. Isolation from social environment like trying to be away from pregnant friends, new-born babies are the widely used by infertile patients (Karaca et al., 2015). One of the biggest result of the isolation is popularity of internet websites. Patients who isolate themselves from real-world relationship

because of their avoidance coping prefer to be active in infertility-related websites for getting additional information and have access to other's experiences (Hinton et al., 2010). This assumption of Hinton and colleagues also give an understanding for low attendance rates of support groups. It is hard for patients who use avoidance coping mechanism to attend an intervention program during treatment process. So that high avoidance coping can be seen as an obstacle for spreading these intervention programs.

#### **4.2.2 Self-Punishment Coping Mechanism and Intervention Program Relationship During Infertility Treatment**

Another assumption of the study is expecting a decrease in self-punishment coping mechanism scores between pre-test and post-test time periods for intervention group participants. Results of the analysis support the assumption of the study about self-punishment coping mechanisms within infertility patients. In the program, coping mechanisms are discussed in the psychoeducation part. In all of the groups, most of the comments and sharing were made about self-punishment and in other words self-judgment.

In the literature, similar concept called self-judgment is being used for investigating coping mechanisms of infertile couples. Self-punishment can be described as blaming own self and having negative attributes about own self. When we look at the similarity between self-punishment and self-judgment concepts, they do not have a big difference but self-punishment is more like a result of the other one. When people who cope with using self-judgment, always blame themselves and they start to punish themselves as a result. People using self-punishment coping are usually critical themselves harshly. In this context, people believe that they are the reason for all struggles they are having for bearing a child (Cunha et al., 2016). In the study of Cunha and colleagues (2016), self-judgment scores in infertile patients is higher than fertile patients in a hospital. Addition from this study, former infertility patients who adopted a child after treatment failures have the lowest self-punishment scores within fertile group, infertile group and adopted group (Cunha

et al., 2016). Reason for this outcome is explained as the negative effects of medical treatments and ongoing processes about infertility, leaving infertility in the past enable patients to be less critical about themselves (Cunha et al., 2016).

In Turkey, self-punishment /self-judgment is reported as one of the main coping mechanism of infertile patients (Karaca, & Unsal, 2015). Infertile women reported negative self-concept and it has been concluded that treatment process increases the negativity of self-concept of infertile women when there is not any psychological intervention (Karaca, & Unsal, 2015).

As mentioned before, coping mechanisms are one of the topic of psychoeducation of the program. Being aware of the burden of the unhealthy coping mechanisms and talking about other possible coping ways have a remarkable effect on participants. This effect can be seen as the reason of the change of self-punishment scores between the time periods. After talking about unhealthy coping strategies, participants try to understand what they were doing unconsciously. A week after this topic, most participants in all groups shared that they realized how they judged themselves for a very long time for various incidents. Talking about this topic affected participants beyond this process.

#### **4.2.3 Self-Help Coping Mechanism and Intervention Program Relationship During Infertility Treatment**

In the study, one of the investigated coping mechanisms is the self-help coping mechanism. Self-help coping mechanism can be described as being open for having support, open to sharing emotions, and not being critical about own-self. Assumption of this study is having an increase in self-help coping mechanism. Result analysis showed that this intervention program does not have a significant effect on self-help scores for intervention program.

In the literature, there are outcomes for supporting the assumptions of this study. A similar concept called self-compassion is used usually instead of self-help coping mechanism. Self-compassion is characterized by being understanding for own-self in difficult times. It is like an antonym of self-punishment. In the study of

Li and colleagues (2015), mindfulness intervention program has effect on self-compassion improvement. In another study, it has been seen that when there is not any psychological intervention self-compassion is decreasing during infertility treatment (Cunha et al., 2016). In the same study of Cunha and colleagues (2016), self-help coping scores of infertile group is compared with fertile group and adoption group. Results showed that adoption group who left the treatment process and adopt a child has the highest self-compassion. It is stated that adoption group is made of couples who became stronger after ending the waiting and treatment periods.

Results showed that the present study interventions do not have the desired effect on improving self-help coping mechanisms. In the sessions, most of the emphasize was about the avoidance coping mechanisms in all groups and other coping mechanisms are not considered so much in the sessions. Anxious participants do not want to consider understanding their inner feelings in the sessions. Importance of self-compassion and self-help and opening area for emotions could be emphasized more for getting enough strength from healthy coping mechanisms.

For understanding the results of the data analysis, it should be stated that intervention groups self-help scores were very high when compared to the control groups scores at the beginning and at the end. Self-help scores can be seen as an indicator for understanding the willingness to attend the program. In the process, self-help strategy slightly decreases. This could be seen as a regression to the mean. So that this limited number of samples could not give us an adequate understanding about this variable.

### **4.3 MARITAL SATISFACTION AND THE INTERVENTION PROGRAM RELATIONSHIP**

One of the assumptions of the present study is that the intervention program will be protective for marital satisfaction of infertile couples and it is expected that decrease in satisfaction between the pre-test and post-test will be smaller than the

control group participants' results. Scale that is used in the study has diverse meaning. When the score for marital satisfaction is high, it means that marital satisfaction of the individual is low. Results of the marital satisfaction scale showed that there is a decrease in satisfaction between pre-test and post-test but the difference between changes of groups in the present study. The intervention program has a protective effect as the assumption of this study on the marital satisfaction by improving communication between partners and making awareness of the importance of sharing emotions.

According to the literature of marital satisfaction of infertile couples; psychological health of partners, knowledge about fertility assisting methods, support systems, sexual functions and life quality are common related factors (Samadaee-Gelehkolaee, Mccarthy, Khalilian, Hamzehgardeshi, Peyvandi, Elyasi, & Shadidi, 2016). Within the present intervention program, there are areas related to these factors. Psychoeducation topics are selected for most common problem areas. Information about the diagnoses and treatment process, possible emotional reaction, coping mechanisms, support systems and couple relationships are covering answers for their some of the biggest questions. Dooley and colleagues (2014) claimed that stress level of the partners and marital satisfaction have a correlation for couples and it is especially critical for infertile couples. In the present study, mindfulness exercises help couples to handle stress in a healthier way and this can be reported as a protective factor for marital satisfaction.

This kind of intervention programs are developed as a form of support in patients' lives. So that being in a psychological support as a couple is related to marital satisfaction by itself. As mentioned by Malina and colleagues (2017), any kind of support is one the most important protector of psychological well-being during infertility treatment. On top of that, importance of partner support, family support and social support is explained in each session. Couples became more familiar with the idea of sharing and became more confident in asking for support when they realized that their need

One of the important aims of this study is enhancing partner support and treating infertility as a couple life-event. In line with Billet (2019), partner support

is the most important support type in this process because some of the people prefer not to talk about this subject with family members and friends (Billet P.,2019). Attending this program together as a couple enables partners to talk about their emotions and thoughts about treatment process. Also couple exercises show them the importance of healthy communication and help them to consider differences in emotions between each other. Understanding partner's point of view enable couples to be more open for support asking and giving. For understanding the importance of communication, partners try to build a castle without talking. This exercise was very effective and most participants reported that they did not realize how it could be that hard before the exercise. Few couples enjoyed the exercise whereas most of the got some levels of frustration. Enjoyed couples were the ones with better communication with each other from the beginning.

According to Greil and colleagues (2010), sociocultural context is important in understanding the changes in marital satisfaction during infertility treatments. In cultures like Turkey, having a child is seen as a must for couples and this make the pressure of the process heavier. For this reason, marital satisfaction is not easy for protecting during the infertility diagnosis and treatment phase of the marriage. Results of the present intervention program supported that marriages are effected negatively and psychological support can only decrease the level of negative outcomes. Addition to this outcome, an Iranian study claimed that counseling is effective in protecting and improving marital satisfaction (Vizheh et al., 2013). Psychoeducation-oriented group session is reported as effective for improving marital satisfaction when couples joined session together (Vizheh et al., 2013). In a different sociocultural context like US, marital distress is decreasing in intervention groups and stress is increasing in control group (Domar et al., 2000). Similar outcome in the present study could be reported as the result of normalization and openness in the intervention process. Also becoming aware of differences have a fundamental effect on the relationship. Most of the female partners admit that psychoeducation about differenced made them understand their partners.

As mentioned in the literature, treatment process is full of decisions and couples have problems in finding a common way. When partners are satisfied with

their marriage, their communication is better and they can find a middle way easily (Kiesswetter, Marsoner, Luehwink, Fistarol, Mahlkecht, & Duschek., 2019). The study of Kiesswetter and colleagues (2019) claimed that marital satisfaction of couples during infertility treatment is correlated with anxiety negatively but it is correlated positively with quality of life. Good marriage improves the quality of life and psychological well-being of partners (Kiesswetter et al.,2019).

#### **4.4 IMPLICATIONS FOR CLINICAL PRACTICE**

From the beginning, aim of the study was decreasing negative effects of infertility treatments on couples individually and relationally. Design of the program is developed according to the needs of couples according to the literature. Knowing the importance of valid information, having good couple relationship and being aware of the present moment are the principals of the program.

The aim of the intervention program about improving marital satisfaction and decreasing anxiety scores are accomplished within the intervention group. Also control group data showed the negative effects of the treatment process on patients when there is not any intervention program.

Results of the intervention program supported what is aimed at the beginning except for improving the self-help coping mechanism. Changing coping mechanisms in a short-period is not something easily maintained. On the other hand, decrease in maladaptive coping mechanism like self-punishment coping mechanism and avoidance coping mechanism is accomplished with this intervention during the infertility treatment.

Accomplishments of the program showed what kind of supports can be made in the infertility clinics to improve well-being of patients during the treatment process. Also by using the knowledge from this study, some important improvements can be made about designing an effective intervention.

First of all, couple relationship should be emphasized in the intervention. Interventions should not be made for only women or men. Infertility should be seen as a dyadic problem and both of the partners should be treated equally. Emotions

of both partners must be emphasized equally. Also improving couple communication is important for psychological well-being of couples for dealing with infertility problem and for following periods like adoption or parenting. As mentioned in the article of Jafarzadeh-Kenarsari and colleagues (2014), spouse support is playing a crucial role during the treatment and couple-based interventions help couples to support each other. Helping couples to learn a way to each other is enabling couples to support each other in their daily lives after the intervention period.

Another important improvement can be emphasizing the importance of the psychoeducational parts about emotions, relationships and support systems. Normalizing their problems with explaining researches and examples have patients to be calmer during difficult times.

Last improvement can be adding mindfulness exercises to intervention programs and help patients to integrate these activities in their daily lives. In this study, all patients were new to meditation but they tried to integrate “present moment” concept to their life and use exercises in their daily lives.

#### **4.5 LIMITATIONS OF THE STUDY**

In this study, an intervention program is designed for infertile couples who decided to start a new IVF cycle in the following period. The program is focused on anxiety, coping strategies and marital satisfaction.

First limitation of the study is limited sample size. As a result of limited sample size, limited statistical results were obtained. In İstanbul and Eskişehir, several IVF clinics are called and pamphlets of the program are shared with them. The hospital staff was unwilling to promote the program. Because of not being from the IVF clinic staff, coordination was so hard. Number of participants were lower than expected because of not reaching all potential participants in selected clinics. According to Norré and colleagues (2011), psychological counseling should be accepted as one the main parts of the infertility treatment. Being an additional

services decreases the effect of intervention programs and participation cannot be maintained properly.

Another limitation is the difficulties in attendance of participants. Some of the participants' continuity to sessions were disrupted unexpectedly because of some medical and scheduling issues. Changing treatment plans and family emergencies happened during the program. Also it was hard for participants to attend sessions as a couple and find an appropriate hour with other couples for sessions.

Important limitation of the study was not having any qualitative assessment tool like a structured interview for having more information about the participants. Results could have been enriched with the qualitative assessments of change between pre and post time periods. Especially with limited number of participants, qualitative data will be helpful for making arguments more clear.

One of the limitation is not having a follow up measure and interview with couples after the program. Understanding the duration of possible effects of intervention could be more useful in designing intervention programs.

#### **4.6 AREAS FOR FUTURE RESEARCH**

All participants ask for possibility of individual sessions as the intervention program at the first interview or on the phone call. They reported that they do not feel comfortable for sharing their experiences with other couples and also they thought that listening experiences of others will be depressing for them. After the completion of the program, participants shared that being in the group was better than they think of at the beginning. Intervention group participants declared that recognizing similarity about emotions and thoughts were making them feel better. Explaining the structure of the program in detail and promoting it properly is important for making people understand that this is not a therapeutic program and being a part of a group have a positive effect on their psychological wellbeing (Norré et al.,2011). Participants said that being in an intervention program like this

made them think about their psychological wellbeing. Psychologist referrals can be made for participants who ask for further support. This option can be described at the first interview before starting the program.

On the other hand, this program can be used with one couple at a time in a session. Effects of the program can be more efficient because participants can share their experiences and emotions freely. At this point, having limits in sharing experiences and emotions is important. This intervention program is designed according to a non-therapeutic purpose, one-couple at a time design can be hard to set limits. With an extra effort or newly added factors, intervention program can be studied in couple-based design.

Increasing the awareness of the community about the psychological aspect of infertility and treatment can be the focus for further studies. Awareness of especially infertility clinic doctors and other members are crucial. Also resistance to attend program and to promote the program can be studied for understanding different perspectives better. Also emphasizing on the partners' effects on each other can be done in further research. In the program, I can see that partners' well-beings were connected with each other and none of their variable results are independent from their partner's results. A study for understanding effects of partners on each other during IVF treatment can be beneficial.

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## APPENDICES

### A. Informed Consent

Değerli Katılımcı,

Bu araştırma, İstanbul Bilgi Üniversitesi Klinik Psikoloji Bölümü Çift ve Aile Alt dalı öğrencisi Oya Azakoglu tarafından Uzman Psikolog Aylin Sezer Tracy danışmanlığında yürütülmektedir.

Araştırmanın amacı tüp bebek tedavi sürecinde yapılan destek grup çalışmalarının çift ilişkisi ve bireyler üzerindeki etkilerini araştırmaktır.

Araştırmaya katılmak için çiftlerin çocuk sahibi olmamaları, kadınların 25-45 yaş aralığında olması, erkeklerin 25-45 yaş aralığında olması ve tüp bebek tedavisi sürecinde olmaları gerekmektedir.

75 dakikalık 4 oturum yapılacaktır. İlk oturum öncesi ve son oturumdan sonra doldurulacak ölçekler vardır. Ölçeklerin doldurulması ise yaklaşık 20 dakikanızı alacaktır. Çalışmaya katılım tamamıyla gönüllüdür. Cevaplarınız tümüyle gizli tutulacak ve sadece çalışmayı yürüten araştırmacılar tarafından değerlendirilecektir; elde edilecek bilgiler bilimsel yayımlarda kullanılacaktır. Görüşmede sorulacak sorular, genel olarak kişisel rahatsızlık verecek soruları içermemektedir.

Bunun yanında, katılım sırasında herhangi bir nedenden ötürü kendinizi rahatsız hissederseniz çalışmayı yarıda bırakmakta serbestsiniz. Anketleri tamamlamanızın ardından, bu çalışmayla ilgili sorularınız cevaplanacaktır.

Bu çalışmaya katıldığınız için şimdiden teşekkür ederiz.

Çalışma hakkında daha fazla bilgi almak için Oya Azakoglu (E-posta: oazakoglu@gmail.com) ve Aylin Sezer Tracy ( E-posta: aylinsezer@yahoo.com ) ile iletişim kurabilirsiniz.

Yukarıdaki bilgileri okudum ve anladım. Araştırmaya katılmayı kabul ediyorum.

- Onay veriyorum.
- Onay vermiyorum.

## **B. Demographic Form**

### **Cinsiyetiniz:**

Kadın

Erkek

### **Yaşınız:**

20-25

25-30

30-35

35-40

40+

### **Eğitim Durumunuz, Mesleğiniz:**

İlkokul - Ortaokul

Lise

Üniversite

Yüksek Lisans - Doktora

### **Kaç senelik evlisiniz?**

1-5

5-10

10-15

15+

### **Ne kadar zamandır çocuk sahibi olmayı deniyorsunuz?**

0 - 1 yıl

1 – 5 yıl

5 – 10 yıl

10 +

**İnfertilite tanınız nedir? Detaylı bilgi vermek isterseniz alttaki boşluğa yazabilirsiniz.**

Açıklanamayan İnfertilite

Yumurtlama Problemleri (Rezerv azlığı, kalite düşüklüğü vb.)

Sperm Problemleri (Sayı azlığı, kalite düşüklüğü vb.)

Anatomik Problemler (rahim sorunları, tüp sorunları vb.)

( ) Diğer( ) Lütfen Belirtiniz).....

**Daha önce hangi YÜT (Yardımcı Üreme Teknikleri)'ye başvurduunuz? Başvurduysanız yanına sayısını belirtiniz.**

Aşılama

Tüp Bebek

( ) Diğer ( ) Lütfen Belirtiniz).....

**Şu anda tedavinizin hangi aşamasındasınız?**

Tedavi arası bekleme süreci

İlk Tüp Bebek Tedavisi öncesi

( ) Diğer ( ) Lütfen Belirtiniz).....

**Daha önce hiç psikolojik (bireysel, grup, çift, aile terapisi) veya psikiyatrik destek aldınız mı? Aldıysanız türünü ve süresini lütfen belirtiniz.**

### C. State – Trait Anxiety Scale

		Hiç	Biraz	Çok	Tamamıyla
1.	Şu anda sakinim	(1)	(2)	(3)	(4)
2.	Kendimi emniyette hissediyorum	(1)	(2)	(3)	(4)
3.	Su anda sinirlerim gergin	(1)	(2)	(3)	(4)
4.	Pişmanlık duygusu içindeyim	(1)	(2)	(3)	(4)
5.	Şu anda huzur içindeyim	(1)	(2)	(3)	(4)
6.	Şu anda hiç keyfim yok	(1)	(2)	(3)	(4)
7.	Başıma geleceklerden endişe ediyorum	(1)	(2)	(3)	(4)
8.	Kendimi dinlenmiş hissediyorum	(1)	(2)	(3)	(4)
9.	Şu anda kaygılıyım	(1)	(2)	(3)	(4)
10.	Kendimi rahat hissediyorum	(1)	(2)	(3)	(4)
11.	Kendime güvenim var	(1)	(2)	(3)	(4)
12.	Şu anda asabım bozuk	(1)	(2)	(3)	(4)
13.	Çok sinirliyim	(1)	(2)	(3)	(4)
14.	Sinirlerimin çok gergin olduğunu hissediyorum	(1)	(2)	(3)	(4)
15.	Kendimi rahatlamış hissediyorum	(1)	(2)	(3)	(4)
16.	Şu anda halimden memnunum	(1)	(2)	(3)	(4)
17.	Şu anda endişeliyim	(1)	(2)	(3)	(4)
18.	Heyecandan kendimi şaşkına dönmüş hissediyorum	(1)	(2)	(3)	(4)
19.	Şu anda sevinçliyim	(1)	(2)	(3)	(4)
20.	Şu anda keyfim yerinde.	(1)	(2)	(3)	(4)

21.	Genellikle keyfim yerindedir	(1)	(2)	(3)	(4)
22	Genellikle çabuk yorulurum	(1)	(2)	(3)	(4)
23	Genellikle kolay ağlarım	(1)	(2)	(3)	(4)
24	Başkaları kadar mutlu olmak isterim	(1)	(2)	(3)	(4)
25	Çabuk karar veremediğim için fırsatları kaçıırım	(1)	(2)	(3)	(4)
26.	Kendimi dinlenmiş hissediyorum	(1)	(2)	(3)	(4)
27.	Genellikle sakin, kendine hakim ve soğukkanlıyım	(1)	(2)	(3)	(4)
28	Güçlüklerin yenemeyeceğim kadar biriktiğini hissedirim	(1)	(2)	(3)	(4)
29	Önemsiz şeyler hakkında endişelenirim	(1)	(2)	(3)	(4)
30.	Genellikle mutluyum	(1)	(2)	(3)	(4)
31	Herşeyi ciddiye alır ve endişelenirim	(1)	(2)	(3)	(4)
32	Genellikle kendime güvenim yoktur	(1)	(2)	(3)	(4)
33.	Genellikle kendimi emniyette hissedirim	(1)	(2)	(3)	(4)
34	Sıkıntılı ve güç durumlarla karşılaşmaktan kaçınırım	(1)	(2)	(3)	(4)
35	Genellikle kendimi hüzünlü hissedirim	(1)	(2)	(3)	(4)
36.	Genellikle hayatımdan memnunum	(1)	(2)	(3)	(4)
37	Olur olmaz düşünceler beni rahatsız eder	(1)	(2)	(3)	(4)
38	Hayal kırıklıklarımı öylesine ciddiye alırım ki hiç unutamam	(1)	(2)	(3)	(4)
39.	Aklı başında ve kararlı bir insanım	(1)	(2)	(3)	(4)
40	Son zamanlarda kafama takılan konular beni tedirgin ediyor	(1)	(2)	(3)	(4)

## D- Cope-R Scale

Ölçekteki maddeleri dikkatli bir şekilde okuyarak maddelerden görüşlerinize en uygun seçeneği (“Asla Böyle Yapmam” için 1’i, “Çok Az Böyle Yaparım” için 2’yi, “Böyle Yaparım” için 3’ü, “Çoğunlukla Böyle Yaparım” için 4’ü) işaretlemeniz ve tüm maddeleri eksiksiz doldurmanız istenmektedir. İşaretlediğiniz seçeneğin doğruluğu ya da yanlışlığı söz konusu değildir. Toplanan veriler araştırmacılar tarafından araştırmanın amacı dışında kullanılmayacaktır.

		Asla Böyle Yapmam	Çok Az Böyle Yaparım	Böyle Yaparım	Çoğunlukla Böyle Yaparım
1	Duygularımı ifade etmek için zaman ayırırım.	1	2	3	4
2	Duygularımı - hislerimi açığa vurmaya çalışırım.	1	2	3	4
3	Duygularımı başkalarıyla tartışırım.	1	2	3	4
4	Arkadaşımdan veya akrabalarımdan duygusal destek almaya çalışırım.	1	2	3	4
5	Ne hissettiğimi birileriyle paylaşıyorum.	1	2	3	4
6	Bir durumla ilgili daha fazla bilgi almak için birileriyle konuşurum.	1	2	3	4
7	Bütün gücümle yaptığım işe yoğunlaşıyorum.	1	2	3	4

8	Problemi çözümlmek için farklı yolları denerim.	1	2	3	4
9	Problemin üstesinden gelebilmek için hemen harekete geçerim.	1	2	3	4
10	Bir şeyler yapacağım zaman adım adım ilerlerim.	1	2	3	4
11	Yapacağım işle ilgili bir strateji belirlemeye çalışırım.	1	2	3	4
12	Adımlarımı düşünerek atarım.	1	2	3	4
13	Yaptığım işe başka şeylerin engel olmasını önlemek için yoğun çaba harcarım.	1	2	3	4
14	Her durumda iyimser olmaya çalışırım.	1	2	3	4
15	Her ne üzerinde çalışırsam çalışayım olumlu duygularla yola çıkarım.	1	2	3	4
16	Bir şeyler kötü gözükse bile yaptığım işe olumlu bakmaya devam ederim.	1	2	3	4
17	Yeni fikirlere çabuk uyum sağlarım.	1	2	3	4
18	Ortaya çıkan durumun gerçekliğini kabullenirim.	1	2	3	4
19	Bir şeyi daha olumlu göstermek için onu başka bir açıdan görmeye çalışırım.	1	2	3	4
20	Önemsediğim başka bir şeyler bulmaya çalışırım.	1	2	3	4
21	Kendime “bu durumun gerçek olmadığını” söylerim.	1	2	3	4
22	Ortaya çıkan durum gerçekten olmamış gibi davranırım.	1	2	3	4
23	Ortaya çıkan durumla baş edemeyeceğimi kabul eder ve denemeyi bırakırım.	1	2	3	4

24	İstediğim şeyi almak için girişimde bulunmam.	1	2	3	4
25	Başıma gelen bir işle ilgili başkalarını veya başka bir şeyi suçlarım.	1	2	3	4
26	Her şeyi unutmaya çalışırım.	1	2	3	4
27	Kendimi suçlarım.	1	2	3	4
28	Problemin kaynağı olarak kendimi görürüm.	1	2	3	4
29	Kendimi eleştirir veya azarlarım.	1	2	3	4
30	Bana sorun yaşatan şey zihnimi sürekli meşgul eder.	1	2	3	4
31	Bir problemi takıntı yapıp tekrar tekrar onu yaşarım.	1	2	3	4
32	Problemimi sürekli kara kara düşünürüm.	1	2	3	4

## E- Marital Satisfaction Scale (EDÖ)

Lütfen aşağıdaki maddeleri dikkatlice okuyunuz ve eşinizle olan ilişkinizi göz önüne alarak yanıtlayınız. Her bir durumun yanında, D ( ) doğru ve Y ( ) yanlış seçenekleri bulunmaktadır. Tüm maddeleri dikkatlice okuyarak, kendi evlilik yaşamınız açısından değerlendiriniz ve size en uygun seçeneği (X) ile işaretleyiniz. Eğer okuduğunuz maddenin evlilik ilişkiniz açısından doğru veya kısmen doğru olduğunu düşünüyorsanız D, yanlış veya çoğu zaman yanlış olduğunu düşünüyorsanız Y şıklarının yanındaki parantezlere X işareti koyunuz. Lütfen her bir madde için yalnızca bir seçeneği işaretleyiniz.

1. İlişkimiz bana mutluluk veriyor. D ( ) Y ( )	28. Eşime her konuda güvenirim. D ( ) Y ( )
2. Evlilik hayatım böyle olmamalıydı. D ( ) Y ( )	29. Eşim bana çok ters davranıyor. D ( ) Y ( )
3. İçimden eşime sevgi göstermek gelmiyor. Y ( ) D ( )	30. Cinsel birlikteliğimizde bazı sorunlar var. D ( ) Y ( )
4. Tartışmalarımızın çoğu moral bozukluğuyla sonuçlanır. D ( ) Y ( )	31. İlişkimizin geleceği, ileriye dönük ciddi bir plan yapamayacak kadar belirsiz. D ( ) Y ( )
5. Eşimin sürekli bir şeylerden şikayet etmesinden bıktım. Y ( ) D ( )	32. Eşim benimle kavga etmeye çok meraklı. D ( ) Y ( )
6. Eşimle konuşabileceğimiz fazla ortak konumuz yok. D ( ) Y ( )	33. Cinsel ilişkimizde bir sorun olduğunu düşünmüyorum. D ( ) Y ( )
7. Eşim bütçemizi çok iyi idare eder. D ( ) Y ( )	34. Bir gün eşimin ailesi yüzünden boşanabileceğimizi düşünüyorum. D ( ) Y ( )
8. Cinsel hayatımızla ilgili her türlü konuyu, eşimle rahatlıkla konuşabilirim. D ( ) Y ( )	35. Birbirimizi yeterince sevmediğimizi düşünüyorum. D ( ) Y ( )
9. Bazen eşimin ailesinin davranışlarından dolayı mutsuzluk duyuyorum. D ( ) Y ( )	36. Eşimin beni aldattığından şüpheleniyorum. D ( ) Y ( )

10. Beraberliğimizden her zaman memnuniyet duydum. D ( ) Y ( )	37. Aramızdaki küçük anlaşmazlıklar, çoğu zaman büyük münakaşalara dönüşüyor. D ( ) Y ( )
11. Eşimin pek çok özelliğine hayranım. D ( ) Y ( )	38. Eşimin sinirlendiğinde kontrolünü yitirmesi beni korkutuyor. D ( ) Y ( )
12. Eşimle aramızdaki anlaşmazlıkları gidermenin bir yolunu bulamıyoruz. D ( ) Y ( )	39. Para konusunda eşime tamamen güvenirim. D ( ) Y ( )
13. Eşim beni sürekli eleştirir. D ( ) Y ( )	40. Eşimin çok çekici olduğunu düşünüyorum. D ( ) Y ( )
14. Eşim beni hiçbir zaman fiziksel olarak incitmemiştir. D ( ) Y ( )	41. Keşke eşim aileme biraz daha yakın davranabilseydi. D ( ) Y ( )
15. Şimdiki aklım olsa eşimle evlenmezdim. D ( ) Y ( )	42. Beraberliğimizde beni hayal kırıklığına uğratan şeyler var. D ( ) Y ( )
16. Eşimle birbirimize sık sık “seni seviyorum” deriz. D ( ) Y ( )	43. Tartışmalarımız çoğunlukla, birimizin incinmesi yada ağlamasıyla sonuçlanır. D ( ) Y ( )
17. Eşimle birbirimize sinirlenmeden tartışmayı başaramıyoruz. D ( ) Y ( )	44. Eşim öfkelenildiğinde ondan korkuyorum. D ( ) Y ( )
18. Eşim her şeye sinirlenir. D ( ) Y ( )	45. Mutlu bir beraberliği olan çiftler, bizden daha iyi geçiniyor olmalılar. D ( ) Y ( )
19. Hayatımızda beraberce yapmaktan zevk aldığımız pek çok şey var. D ( ) Y ( )	46. Eşim çok fazla ailesinin etkisi altında kalıyor. D ( ) Y ( )
20. Arkadaşlarımla eşimle olduğundan daha çok eğleniyorum. D ( ) Y ( )	47. Bazen beraberliğimizin ayrılık veya boşanmayla bitebileceğini düşündüğüm oluyor. D ( ) Y ( )
21. Bazen eşimin ailesinden kaynaklanan küskünlük ve kırgınlıklarımız olur. D ( ) Y ( )	48. Eşimin ailesiyle olan ilişkimden memnunum. D ( ) Y ( )
22. Beraberliğimizin iyi yönleri, kötü yönlerinden daha fazla. D ( ) Y ( )	49. Bu beraberliğe başlamasaydım daha mutlu olabilirdim. D ( ) Y ( )
23. İlişkimizde beni üzen bir şey olduğunda, bunu eşime rahatlıkla söyleyebilirim. D ( ) Y ( )	50. Eğer eşimin ailesi, bize bu kadar karışmasaydı, daha mutlu bir beraberliğimiz olabilirdi. D ( ) Y ( )
24. Eşim ne kadar sinirlenirse sinirlensin, bana asla vurmaz. D ( ) Y ( )	51. İlişkimizde halledemediğimiz bazı ciddi problemler var. D ( ) Y ( )
25. Eşim sık sık onu anlamadığımdan yakınır. D ( ) Y ( )	52. Eşimden ayrılmayı istediğim zamanlar oldu. D ( ) Y ( )
26. Eşimin zekasına ve yeteneklerine her zaman güvenirim. D ( ) Y ( )	53. Bu ilişkide bazı önemli ihtiyaçlarımın karşılanmadığını düşünüyorum. D ( ) Y ( )
27. Eşim benim olaylara bakış açımı anlayamıyor. D ( ) Y ( )	54. İlişkimizde eşimin ailesinden dolayı mutsuzluk yaşanmaz. D ( ) Y ( )
55. Evin içinde iki yabancı gibiyiz. D ( ) Y ( )	74. Tatmin edici bir beraberliğimiz var. D ( ) Y ( )
56. Eşimle beraberken hiç canımız sıkılmaz. D ( ) Y ( )	75. Eşim hiçbir zaman kıymetimi bilmedi. D ( ) Y ( )

57. Eşime her zaman isteyerek ve sevgi ile dokunuyorum. D ( ) Y ( )	76. Eşim kişiliğimin bazı yönlerini değiştirmemi istiyor. D ( ) Y ( )
58. Eşimin ailesinin bazı gelenek ve adetlerine uymakta zorlanıyorum. D ( ) Y ( )	77. Biz birbirimizin en iyi arkadaşız. D ( ) Y ( )
59. Eşimle her hangi bir konuda aynı fikirde olmadığımız zaman, bunu oturup tartışırız. D ( ) Y ( )	78. Hiçbir zaman eşimin ailesinden kaynaklanan bir sorun yaşamayız. D ( ) Y ( )
60. Eşim sinirlendiği zaman etraftaki eşyaları fırlatır veya yere atar. D ( ) Y ( )	79. Oldukça mutlu bir çift olduğumuza inanıyorum. D ( ) Y ( )
61. Eşim kazancımızdan fazlasını harcamaktan bir türlü vazgeçmiyor. D ( ) Y ( )	80. İlişkimizde yoğun bir aşk ve sevgi var. D ( ) Y ( )
62. Eşimin ailesiyle sürekli beraber olmamız beni rahatsız ediyor. D ( ) Y ( )	81. Eşim bana karşı çok acımasız. D ( ) Y ( )
63. Her gün eşimle beraber paylaşabileceğim bir şeye zaman ayırırım. D ( ) Y ( )	82. Eşimle beraber boş zamanlarımızı çok güzel değerlendiririz. D ( ) Y ( )
64. Eşim cinsel birlikteliğimizden benim kadar zevk alır. D ( ) Y ( )	83. Eşimin kredi kartı borçları beni bıktırdı. D ( ) Y ( )
65. Eşim sinirliyken bana kaba kuvvet sergilemez. D ( ) Y ( )	84. Onsuz bir hayatı düşünmüyorum. D ( ) Y ( )
66. Eşim boş zamanlarını benimle paylaşmaktan mutluluk duyar. D ( ) Y ( )	85. Tartıştığımız zaman, eşim ortak bir noktada buluşmamıza yardımcı olur. D ( ) Y ( )
67. Eşim ailesiyle ilgili eleştirileri duymaya dayanamaz. D ( ) Y ( )	86. Huzurlu bir evlilik ortamının özlemi içerisindeyim. D ( ) Y ( )
68. Başarılı bir beraberliğimiz olduğuna inanıyorum. D ( ) Y ( )	87. Eşimin beni yeterince sevmediğini düşünüyorum. D ( ) Y ( )
69. Eşim hiçbir zaman beni, zarar vermek yada canımı yakmakla tehdit etmedi. D ( ) Y ( )	88. Eşimle beraber her şeyin üstesinden gelebileceğimize inanıyorum. D ( ) Y ( )
70. Eşimle beraber oyun ve eğlenceye bir hayli zaman ayırırız. D ( ) Y ( )	89. Eşim bana yeterince ilgi göstermiyor. D ( ) Y ( )
71. Eşimin vücudumda çürük veya darbe izleri bıraktığı oluyor. D ( ) Y ( )	90. Birbirimize yeterince yakın değiliz. D ( ) Y ( )
72. Eşim beni içinden gelerek sarılıp öpmez. D ( ) Y ( )	91. Bazen aramızdaki anlaşmazlığın günlerce sürdüğü oluyor. D ( ) Y ( )
73. Biz birbirimiz için yaratılmışız. D ( ) Y ( )	92. Bazen kendimi çok yalnız hissediyorum. D ( ) Y ( )

## F- Session Handouts

### Session 1:

#### I- İnfertilite ve Hamilelikte Fiziksel Değişiklikler

##### - İnfertilite Nedir?

Korunmasız ve düzenli cinsel ilişkiye rağmen 12 ay veya daha fazla süreden sonra bir gebelik oluşmamasına infertilite denir. Birincil ve ikincil olarak iki alt tanımı bulunmaktadır. Birincil infertilite daha önce canlı doğum veya gebelik yaşanmayan infertilite durumlarını anlatmak için, ikincil ise canlı doğum meydana gelmiş veya dış gebelik, isteyerek düşük, gebelik sonlandırma gibi durumların yaşanmasından sonra ortaya çıkan infertiliteyi tanımlar. İnfertilite görülme sıklığı dünyanın bir çok yerinde benzerlik göstermemiştir. Dünyada ortalamanın %9 olduğu kabul edilmektedir. Bu kişilerin büyük bir çoğunluğu da tedavi yöntemlerine başvurmaktadır.

##### - Tüp Bebek Tedavisi Nedir?

İnfertilite tanısı ardından doktorların ve çiftin kararıyla beraber uygulanan bir yardımcı üreme tekniğidir. 3 temel aşamadan oluşur.

- o İlaçlarla yumurtaların uyarılması ve toplanması
- o Laboratuvar ortamından spermle döllenmesi
- o 3-5 gün aralığında döllenmiş yumurtanın (embryo) anne rahmine transferi.

Gebelik testi transferden 10-12 gün sonra yapılır. Çalışmalara bakıldığında 39 yaş altı hastalarda 3 deneme içerisinde gebelik oluşma ihtimali %80 civarındadır. Başarı oranlarını etkileyen bir çok faktör olduğu bilinmektedir.

##### - Tedavi sürecinde karşılaşılabilecek fiziksel değişiklikler nelerdir?

Herkesin vücudunun verdiği tepki farklı olmakla birlikte aşağıdakiler sıklıkla karşılaşılanlardır:

- Göğüslerde hassaslık hissi
- Karın bölgesinde gerginlik
- Enjeksiyon bölgelerinde şişme, morarma
- Yorgunluk, halsizlik
- Vücudun bazı bölümlerinde ödem
- Bulantı, kusma ve ishal

- **Hamilelik döneminde en çok hangi fiziksel değişiklikler görülür?**

Hamileliğin her döneminde farklı fiziksel değişiklikler görülür. Doğal yolla veya tedavi sonucu oluşan hamileliklerin getirdiği fiziksel değişiklikler birbirinden farklı değildir. Tedavi sonrası süreçler benzer şekilde ilerler. Aşağıda dönemlere göre en sık karşılaşılan değişiklikleri bulabilirsiniz.

1.Trimester: Göğüslerde gerginlik, sık idrara çıkma, bulantı, kusma, midede yanma, bel ağrıları, baş dönmeleri, baş ağrıları.

2.Trimester: Karın belirginleşmesi, tansiyon düşmesi, göğüslerde değişim, nefes almada zorluk, sık idrara çıkma, ayaklarda ve bileklerde şişme, midede yanma.

3.Trimester: Nefes darlığı, tansiyon değişiklikleri, bacak krampları, uyku problemleri, hızlı kilo alımı, şişkinlikler, uykusuzluk, yorgunluk.

## II- Tanı ve Tedavi Sürecinde Duygusal Değişikler

### - En çok karşılaşılan duygular

- *Tüp Bebek Tanı ve Tedavi Süreci:* Bir çok hasta infertiliteyi hayatlarında karşılaştıkları en büyük krizlerden biri olarak tanımlamaktadır. Böyle bir kriz sürecinde duygu değişiklikleri yaşamak normaldir. Herkesin farklı zamanlarda farklı duygular yaşaması da bir o kadar normaldir. En çok karşılaşılan duygular;
  - İnkâr : Tanı ilk duyulduğunda ve çok beklenmedik olduğu durumlarda durumun gerçekliği inkâr edilebilir / reddedilebilir. Kabul etmenin herkes için aynı derece de kolay olamayacağı unutulmamalıdır.
  - Stres ve Kaygı: En baştan itibaren problemin kaynağı, tedavi süreci, ilişkiye olası etkileri, tedavilerin olumlu / olumsuz sonucu, hayal kırıklığı korkuları bir çok hastanın stres ve kaygı duymasına neden olabilmektedir.
  - Öfke: Dile getirilmesi her zaman kolay olmasa da yine tüm süreç boyunca en çok karşılaşılan duygulardan biridir ve ifade edilebilmesi önemlidir. Hayatın, vücudun veya duyguların kontrolünü kaybetme hissi insanı öfkeli edebilir. Kişi tedavi süresince, tıbbi personele, partnerine, aile ve arkadaşlarına öfke duyabilir.
  - Mutsuzluk ve Yas: Hayatın kontrolünü kaybetme hissi ortaya bir yas hissi çıkarabilir. Görünen kayıplara, yasa dair toplumsal, bireysel yöntemler varken infertilite gibi görünmeyen bir kayıp durumunun ortaya çıkaracağı yas ile baş etme yöntemlerini ayrıca bulmaya çalışmak gerekebilir.
  - Kabullenme ve Çözümleme: Olumsuz adlandırdığımız duyguların yok olup gitmesi değil, onları kabullenme ve kendimize onları yaşamak için izin vermektir.
    - *Hamilelik Süreci:* Hamilelik sürecinde duygu değişiklikleri normaldir. Her kişide farklılık gösterse de 3 aylık dönemler arasında farklı baskın duygular gözlemlenebilir.

- 1. Trimester: Yeni bir hamilelik için mutluluk , bebeğin sağlığı, gelişimi, hamileliğin gidişatına dair kaygı, tedirginlik, hassaslık
  - 2. Trimester: Unutkanlık, dağınık düşünceler, mutluluk, kaygıda azalma
  - 3. Trimester: Doğum hakkında kaygılanma, heyecan, gerginlik, sıkılmışlık
- **Duyguların ifade edilmesi**
- *Neden önemli?* Duygularınızın ve düşüncelerinizin yok olmasını umut etmek, konuşulmazsa etkisinin azalacağına inanmak, paylaşmamak bu süreci zorlayıcı hale getirebilmektedir. Duyguların ifade edilmesi onların kabul edilmesine yardımcı olabilmektedir.
  - *Nasıl ifade edilmeli?* Duyguları ortaya koyabilmek kabullenme ve çözümlene yaşayabilmek için önemlidir. Bütün duyguların doğal ve kabul edilir olduğunu hatırlamak ve bunlar için gerek sosyal gerekse profesyonel destek almak yardımcı olacaktır.
  - *Eşinizle paylaşmak neden önemli?* Her bireyin yaşadığı duygu ve yoğunluk farklıdır. Çiftlerin birbirlerine destek olabilmesi, birbirlerini anlamaları sayesinde olabilir. Paylaşım arttıkça destek almak / vermek o kadar rahat gerçekleşir. Birbirinizi eleştirmeden, değiştirmeye çalışmadan dinlemek hem size hem ilişkinize iyi gelebilecek yollardandır.

## **Nefes Egzersizi**

- Rahat bir şekilde oturun
- Gözlerinizi kapayın, sadece aldığımız nefesi düşünün.
- Sadece nefesinizin giriş ve çıkışını düşünün.
- Nefes alırken burnunuzu, verirken ağzınızı kullanın.
- Nefes alırken şu kelimeleri defalarca düşünün:

- Gevşiyorum, düzenli ve düzgün nefes alıyorum. Taze hava ciğerlerime doluyor ve çıkıyor, sakinlik tazelik hissediyorum.
- 1-2-3 sayarak nefes alın
  - 4-5-6 sayarak bekleyin (nefesinizi tutun)
    - 7-8-9 sayarak nefesinizi yavaşça verin.
- 5 dakika boyunca bunu tekrar edin.
- Hazır hissedince gözlerinizi açabilirsiniz.

- **Session 2:**

**III- Başa Çıkma Yöntemleri**

- **Ne zaman başa çıkma yöntemlerini kullanırız?**

Stresli olaylarla karşılaştığımızda hepimiz bu durumlarla farklı şekilde başa çıkarız. Bu yöntemler karşımıza çıkan tehlikeyi atlatmak, küçültmek veya tolere edebilmek içindir. Özellikle destekleyici kaynaklarımızın yeterli olmadığı durumlarda ortaya çıkarlar. İnfertilite gibi bir stres artırıcı tanı ve tedavi süreci de başa çıkma yöntemlerine ihtiyaç duyulan bir dönemdir. Başa çıkma yöntemlerini sağlıklı ve sağlıksız olarak ikiye ayırırız.

- a) Sağlıklı başetme yöntemleri: Rahatlatıcı aktiviteler (doğada zaman geçirmek, meditasyon vb.)sosyalleşmek, duyguları paylaşmak, spor yapmak,
- b) Sağlıksız başetme yöntemleri: sigara, alkol, sakinleştirici ilaç/madde kullanma, inkar, öfkeyi başka yerlere yöneltme (kavgacılık), bastırma, uzaklaşma

- **Tanı ve Tedavi sürecinde araştırmalara göre en çok kullanılan sağlıksız başetme yöntemler nelerdir?**

Kullanılan başa çıkma yöntemleri genellikle erkekler ve kadınlar için infertilite tanı ve tedavi döneminde farklılık gösterir. Çok karşılaşılan örnekler:

- o Uzaklaşma: Erkekler tarafından çok kullanılırken kadınlar tarafından daha az kullanılmaktadır. Erkeklerin tanı ve tedavi süreci ile aralarına mesafe koydukları görülmektedir. Problemi ciddiye almamak, hayatı infertilite tanısı yokmuş gibi devam ettirmek, aşırı spor yapmak, dışarı aktivitelerin çok ağırlık vermek bu davranışlara örnek olabilir.
- o Bastırma: duygusal ve davranışsal olarak kendini kontrol altına alma çabası olarak açıklanabilir. Bu yöntem daha çok kadınlarda görülürken

erkeklerde daha az rastlanmaktadır. Bu yöntemi kullanan kişiler duyguları kendine saklarken, etraftaki insanlardan yaşadıkları problemleri saklamaya veya hayatlarındaki başka alanlara etki etmemesini sağlamaya çalışmaktadır. Araştırmalara göre bu yöntem kadın tarafından kullanıldığında çiftin yaşadığı stresin arttığı görülmüştür. Diğer taraftan erkeklerin bu yöntemi kullanmasının aynı şekilde sonuçlanmadığı araştırılmada görülmüştür. Erkeklerin duygularını daha fazla saklı tutmasının ve paylaşmayı istememesinin geleneksel olarak kabul edilmesi negatif etkiyi azaltmaktadır.

- Sorumluluk üstlenmek: Tanı ve tedavi süreciyle ilgili kendini suçlayan kişilerin evliliklerinde bu dönemde daha az doyum yaşadıkları görülmüştür. Çiftlerden birinin kendini suçlamasının çiftin birbirine destek olma kapasitesini düşürdüğü çalışmalardan anlaşılmaktadır.

#### - **Kadın ve erkekler arasında ki farklılıklar ile nasıl denge kurulabilir?**

Stresli bir olayda her bireyin farklı başa çıkma yöntemleri kullanabileceğini ve bu yöntemlerin karşı tarafa kimi zaman iyi gelmeyeceğini hatırlamak gerekmektedir. İletişim kuran, duygularını, düşüncelerini, korkularını ve hayallerini paylaşan çiftler otomatik hale gelen başa çıkma yöntemlerini de farkına varabilirler. Bireyler partnerlerinin bazı davranışları stres ile başa çıkmak için yaptıklarını öğrendiklerinde genellikle büyük bir rahatlama yaşarlar. Farkındalığın artması çiftlerin evlilik doyumunun da artmasına yardımcı olur.

#### **IV- Destek**

##### - **Destek sistemleri**

Birçok fiziksel ve duygusal değişikliğin yaşandığı bu süreçte destek sistemleri çok önemlidir.

Destek sistemleri zor zamanlarda kişinin daha iyi hissetmesine yardımcı olacak dışarıdan gelecek yardımlardır . İyi bir doktora sahip olmak ve ona tamamen güvenebilmek bu süreçte ki en önemli desteklerden biridir. Soru sorulabilen, cevapları tatmin eden, güvenilen doktorların desteği tedavi süreçlerinde rahatlatıcıdır. Destek sistemleri sosyal çevreden, aileden, partnerden alınan desteği anlatır. En önemli olan dışarıdan destek gelmesine izin verebilmektir. Bunu sadece tedavi süreçleri ile sınırlamamak gerekmektedir. Hayatın bir parçası haline getirmek önemlidir. Destek sistemlerine tedavi sonrası hamilelik döneminde hatta tüm ebeveynlik sürecinde aynı şekilde ihtiyaç duyulmaktadır.

- **Destek almak tedavi sürecinde neden önemli?**

Tedavi süreci bir çift için yeni bir dönemdir. Hem fiziksel değişiklikler hem de duygusal değişiklikler hayata etki edecektir. Bu dönemi daha rahat geçirebilmek için desteğe ihtiyaç vardır. Araştırmalara göre destek sistemlerini iyi kullanan bireyler; tedavi , hamilelik ve ebeveynlik dönemlerinde daha sağlıklı başa çıkma yolları kullanmaktadır.

- **Destek almak nasıl olabilir?**

*Tedavi Süreci:*

- Profesyonel psikolojik yardım almak; grup veya bireysel terapiye başlamak. Tüp Bebek Merkezleri bu konuda yardımcı olabilirler.
- Partner ile duyguları paylaşmak, birbirlerinin duygusal ihtiyaçlarını anlamaya çalışmak.
- Arkadaşlar ve geniş aile ile beraber olmak.
- Yaşadıklarını paylaşıp paylaşmamak veya ne kadarını paylaşacakları çiftlerin ortak kararıdır. Kendi ihtiyaçlarını göz önüne alarak belirlenen kişilerle açık iletişime geçmek, destek vermelerine olanak sağlamak.

### *Hamilelik Süreci:*

- Profesyonel psikolojik yardım almak.
- Hem fiziksel hem duygusal destek konusunda açık olmak. Fazla gelebilecek bir fiziksel iş için yardım isteyebilmek.
- Çift ilişkisine zaman ayırmak, eşin fiziksel ve duygusal desteğinden beslenmek.
- Tıbbi her konuda doktordan destek almak, sorulara cevapları internetten veya çevreden bulmaya çalışmamak.

### **Köklenme Çalışması**

Şimdi rahat bir sandalyeye vücudunuzu destekleyecek şekilde oturun. Bedeninizin sandalyeye temas eden kısımlarını hissedin, bedeninizde birbirine değen kısımları hissedin ve ağırlığınızı sandalyeye bırakmaya çalışın. Ayaklarınız yere nasıl değişiyor hissetmeye çalışın.

Vücudunuzda kastediğimiz bir yer varsa fark edin ve rahatlatın.

Şimdi yukarıdan başlayarak tüm bedeniniz yavaş yavaş rahatlatın. Önce yüz; alın, çene ve yanakları rahatlatın. Sonra boynunuzun da gittikçe rahatladığını hissedin. Omuzlar kollar rahat ve sandalyeye tamamen teslim olduğunuzu hissedin.

Boynunuz sırtınız rahat, karnınız rahat, pelvis bölgendeki tüm kasların rahat. Aşağıya doğru bacaklarınız, dizleriniz rahat. Ayaklarınıza doğru rahatlatın bedeninizi. Kafanızın en tepesinden ayak parmak uçlarınıza kadar tüm bedeniniz gevşek olsun ve sandalyeye teslim edin tüm bedeninizi.

Nefes alışverişlerinizi takip edin.

Nefesinizin bedeninizde nasıl bir hareketi olduğunu hissedin. Eğer mümkünse sadece burnunuzdan nefes alın ve nefesinizin nerenizde olduğunu fark edin ve rahatlayın. Eğer başka şeyler düşünmeye başladığınızı fark ederseniz, kendinizi

nazikçe bu an'a ve nefesinizi gözlemlemeye davet edin. Şimdi bedeninizi kafanızın tepesinden ayak uçlarına kadar tüm bütünlüğüyle algılamayı deneyin.

Ve yavaş yavaş ellerinizi, ayaklarınızı kıpırdatmaya başlayın ve tüm vücudunuzu gerinerek biraz daha hareket ettirin.

- **Session 3:**

**V-Çift İlişkileri**

- **Tedavi sürecinde çiftler nasıl etkilenir?**

- Sağlıklı ilişki kurmuş bir çok çiftin bu süreci birbirlerine yakınlaştıran bir dönem olarak tanımladığı araştırmalarda görülmüştür. Diğer taraftan; bu tip zorlu süreçler aslında ilişkilerin içindeki saklı sorunların ortaya çıkmasına sebep olabilmektedir. Tedaviden bağımsız olarak hamilelik sürecinde çiftlerin %70'inin evliliklerinden daha az doyum aldığı görülmektedir.
- Tedavi, hamilelik veya ebeveynlik süreçlerinde eş rolleri değişirken, yeni anne ve baba rolleri eklenmektedir. Bu rolleri anlamaya çalışmak faydalı olacaktır.
- Çiftlerle yapılan çalışmalarda tüm süreçlerde cinsel hayatın genellikle etkilendiği gözlemlenmiştir. Cinselliğin konuşulması rahatlatıcı olabilmektedir.

- **En çok karşılaşılan çift ilişkisi sorunları neden kaynaklanır?**

- *Bireysel Farklılıklar:* Çiftlerin birbirleriyle uyumlu olması beklenir ancak kimsenin aynı olması beklenemez. Bireysel karakterleri, başa çıkma yolları, nasıl düşündükleri, değerleri, inançları ve biyolojik olarak kendi çocuklarının olmasına ne kadar hazır oldukları hep farklılık gösterir. Bütün bir aynılık halini beklemek çiftlere daha çok yük anlamına gelir.
- *İnfertiliteye tepkileri:* Eşlerin her an aynı duyguları, düşünceleri aynı yoğunlukta yaşamaları ve paylaşmaları beklenemez. Eşlerden biri yalnız kalmak isterken diğeri çevreden destek almak isteyebilir veya

biri mutsuzken diğeri öfkeli olabilir. Tedavi süresince kullanılan ilaçlar beklenmedik tepkilerin büyük sorunlara dönüşmesine neden olabilmektedir. İnfertilite tanısını kimin aldığı da bu farklılıkları arttıran bir etkidir.

- *Kararlar:* Tedavi süreci aynı zamanda bir çok karar verilmesi gereken bir dönemdir. Çiftlerin kimlerle ve ne kadarını çevreyle paylaşacaklarını, sosyal ortamlarda bununla nasıl baş edeceklerini, çok dahil olmaya çalışan aile üyelerini nasıl idare edeceklerini beraber kararlaştırmaları gerekir. Aynı zaman tedavi de verilmesi gereken kararlar, sonrasında nasıl devam edileceğine dair kararlar hep bu sürecin bir parçasıdır. Bu kararların verilmesi de bazen çift için zorlayıcı olabilir.
- *Cinsiyet Farklıklarından:* Araştırmalara göre kadınlar ve erkekler infertilite tanısına ve tedavi sürecine farklı tepkiler verirler. Yaşadıkları stres seviyeleri, bu stresle başa çıkmak için kullandıkları becerileri ve tedavinin aşamalarından nasıl etkilendikleri farklılık göstermektedir. İşte bu farklılıklar ilişki anlaşmazlıklarını ortaya çıkarabilmektedir.

#### - **Çiftler birbirlerine destek olmak için neler yapabilir?**

Çiftlerin birbirlerine karşı açık bir iletişim halinde olması çok önemlidir. Duygularını, düşüncelerini paylaşan çiftler zor durumlarla her zaman daha iyi başa çıkmaktadır. Bir takım hissiyle bu sürece giren çiftlerin tedavi sürecinden yeni fırsatlarla çıkabileceğini unutmamak yardımcı olmaktadır. Karşımızdakini dinlemeye açık olmak, anlamaya çalışmak, empati kurmaya çalışmak da yardımcı olmaktadır. Birbirinin farklılıklarını kabul eden çiftler her zaman değişime daha yakın olurlar. Kabul etmek ve değişimin beraber ortaya çıktığını hatırlamak önemlidir

## Sesler Meditasyonu

### - *Beden ve Nefesle uyum*

Omurganızın ve sırtınızın kasılmadan dik duracağı bir oturma pozisyonu alın.

- Tarif edilen şekilde otururken omuzlarınız gevşek, başınız ve enseniz dengeli, çeneniz hafif geride olsun.
- Tam olarak rahatlayana kadar, birkaç dakikalığına dikkatinizi bedeninizdeki nefesinize verin. Sonra dikkatiniz tüm bedeniniz üzerinde odaklansın; ve tüm bedeniniz soluk alıp verirken içinizdeki duyumları algılamaya yardımcı olsun.
- Birkaç dakika bu şekilde nefesinize ve bedeninize odaklanırken bir sonraki uygulamada zihniniz dağılacak olursa nefesinize ve bedeninize yoğunlaşarak onu toparlayabileceğinizi aklınızdan çıkarmayın.

### - *Sesler*

- Kendinizi hazır hissedince dikkatinizi bedendeki duyumlardan, duymanın kendisine yönlendirin; gelen seslere açık olun.
- Sesleri algılamaya yada belli sesleri duymaya çalışmaya gerek yok. Aksine her yönden gelebilecek seslere karşı açık olun; yakındaki seslere, uzaktaki seslere, önden, arkadan, yandan, yukarıdan ya da aşağıdan gelen seslere... Böylece çevrenizde bir ses alını oluşturmuş olursunuz. Ön planda olan seslerin ötekileri nasıl bastırdığını, sesler arasındaki aralıkları ve ardaki nispeten sessiz anları fark edin.
- Elinizden geldiğince sesleri olduğu gibi algılayın. Hepimizin sesleri algılar algılamaz isimlendirme eğiliminde olduğumuzu fark edin (araba, tren, insan, havalandırma sistemi, radyo) ve bu isimlendirme eğilimini fark ettikten sonra yeniden odaklanın ve bu kez tanımlamanın ötesinde seslerin kendilerini duyumsayın (seslerin içindeki sesler dahil).

- Kendinizi sesle hakkında düşünürken bulabilirsiniz. Bunların anlamı, içerikleri, oluşturdukları öyküler yerine duyumsal özellikleriyle (ton, titreşim, yükseklik ve süreklilik) yeniden bağlantı kurup kuramadığınıza bakın.
- Farkındalığınızın artık sesler üzerinde odaklanmadığını sezerseniz aklınızı gittiği yerden yavaşça geri getirin ve dikkatinizi sürekli yükselen ve alçalan seslere verin.

Dört ya da beş dakika sesler üzerinde odaklandıktan sonra seslerle ilgili farkındalığınızı sonlandırın.

- **Session 4:**

**VI-Geniş Aile**

- **Annem gibi bir anne mi olacağım? Babam gibi bir babamı olacağım?**

- Bir çok insan özellikle anne/baba olduktan sonra sergilediği davranışları kendi ebeveynleri ile bağdaştırırlar. Söyledikleri sözlerin, verdikleri tepkilerin hatta vücut dillerinin bile zaman zaman kendi ebeveynlerine benzediğinden bahsederler. Bu çok normaldir. Sonuçta bilinen annelik /babalık sadece deneyimlenendir.
- Geçmiş yaşantılar, öğrenilen ebeveynlik ne kadar farkında olunursa o kadar özgür seçimler yapılabilir.
- Hamilelik, ebeveynlik süreçlerinde bireyler kendi anne-babaları ile ilişkilerinde de değişim yaşamaktadır. Bu değişimleri konuşabilmek, akılda ki soruları paylaşabilmek rahatlatıcı olabilmektedir. İlişkilerde ki bu değişimler kimi zaman karşılıklı anlayışa neden olabilirken kimi zaman da bir rekabet ortaya çıkarabilirler. Kendi anne/babalıklarını farkında olmadan ebeveynlerinininki ile karşılaştırmaya başlayabiliyorlar.
- Aile içindeki ilişki değişiklikleri infertilite tanı ve tedavi sürecinde de görülebilmektedir. Ebeveyn olmanın aile bireyleri arasında pek konuşulmayan yeni yakınlık veya uzaklıkların ortaya çıkardığı görülebilmektedir. Kardeş gibi yakın yaş aralığındakilerle olan ilişkilerinde farklılaşmalar olabilmektedir.

- **Kuşaklar arası aktarım nedir? Neyi aktarıyoruz?**
  - Nasıl fiziksel hastalıkların kuşaklar arası aktarımla geldiği kabul ediliyorsa; endişelerin, korkuların, tekrarlayan rahatsız edici düşüncelerin de önceki nesillerden aktarıldığı göz ardı edilmemelidir. Ebeveynlik gibi uzun bir geçmişi olan davranışlar bütünü de her kuşağın etkisiyle şekillenmektedir.
  
- **Geçmişin getirdikleriyle yeni bir hayat kurarken neleri hatırlamak lazım?**
  - Kendi geçmişimizin getirdiklerinin farkında olmak ne kadar önemliyse karşı tarafın yaşadığı durumu anlamak, farkında olmak da bir o kadar önemlidir. Bireyler kendi ebeveynlerinden aldıklarını fark ederken, partnerinin de kendi ailesinden neler almış olacağını görmeye çalışmak faydalı olacaktır.
  - Geçmişten gelen her türlü deneyimin, duygunun, alışkanlığın bir izi olduğunu ama kimsenin bunlarla sınırlı olmadığını her zaman hatırlamak; yeni kurulacak aile için beyaz bir sayfa anlamına gelebilmektedir.
  - Tüm bu süreçlerde çiftlere en çok yardımcı olacak olan açık iletişimdir. Akıldaki soruları, çekinceleri ve hayallerdeki aileleri paylaşmak birbirlerini anlamak için çok yardımcı olacaktır.

### **Kas Gevşetme Egzersizi**

- Bu egzersizin belirli bir sırası var. Yukarıdan aşağıya doğru ineceksiniz. Ellerinizi en yukarıda düşünerek her kas grubunu teker teker ele alın. Beşer saniye kasıp sonra bırakıyorsunuz. İkişer kere bunu tekrar edeceksiniz. Her kasma sırasında, kasılıyken neler hissettiğinizi ve gevşeyince neler

hissettiğinizi fark edip, kaybedeceksiniz. Ve bu egzersizi tekrar ettikçe, o kas gruplarının gergin halleri hafızaya kaydedilecek ve ne zaman bir kas grubu kasılırsa, siz onu otomatik fark edip, gevşeteceksiniz.

- Şimdi rahat bir pozisyonda oturun ve gözlerinizi kapatın. Kapatmaktan rahatsız olursanız fazla uyarının olmadığı bir alana sabit bakın.
- Aşağıdaki sıraya göre 5 saniye kas, 5 saniye bırak, 5 saniye kas, 5 saniye bırak.
  - o Yumruklar: sık, bırak (eller kucakta)
  - o Pazu (üst ön kol kası): yukarı doğru katla, üst pazuyu sık, sonra bırak kucağına düşün.
  - o Triceps (üst arka kol kası): ellerini öne doğru uzat. Sık, bırak
  - o Kafa:
    - Alın: kaşları kaldır, bırak
    - Göz: sınımsıkı sık, bırak
    - Dudaklar: birbirine yapıştır, bırak
    - Çene: arka dişlerle sık, bırak
  - o Boyun: öne, arkaya, sağa, sola eğip, sıkıp gevşet
  - o Omuz: yukarı doğru kaldır, sık, aşağı bırak / arkaya yasla, sık, bırak
  - o Karın: karın kasını sık, bırak
  - o Kalça: kalça kaslarını sık, bırak
  - o Üst bacak: yerden kaldırıp, havada tut, yere bırak
  - o Ayak: ucu kendine doğru çekip, bırak

Şimdi yavaşça gözleriniz açabilirsiniz kendinizi hazır hissedince.

**ETİK KURUL DEĞERLENDİRME SONUCU/RESULT OF EVALUATION BY  
THE ETHICS COMMITTEE**

(Bu bölüm İstanbul Bilgi Üniversitesi İnsan Araştırmaları Etik Kurul tarafından  
doldurulacaktır /This section to be completed by the Committee on Ethics in research  
on Humans)

**Başvuru Sahibi / Applicant:** Oya Azakoğlu

**Proje Başlığı / Project Title:** Effects of group Intervention programs for programs for  
couples during IVF treatment

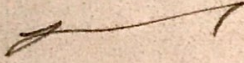
**Proje No. / Project Number:** 2019-20024-03

1.	Herhangi bir değişikliğe gerek yoktur / There is no need for revision	XX
2.	Ret/ Application Rejected Reddin gerekçesi / Reason for Rejection	

Değerlendirme Tarihi / Date of Evaluation: 7 Ocak 2019

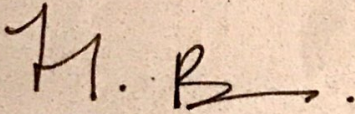
Kurul Başkanı / Committee Chair

Doç. Dr. İtir Erhart



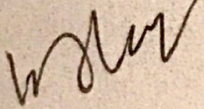
Üye / Committee Member

Prof. Dr. Hale Bolak



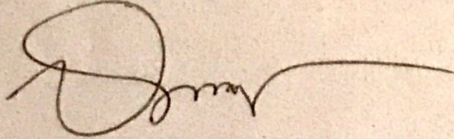
Üye / Committee Member

Prof. Dr. Koray Akay



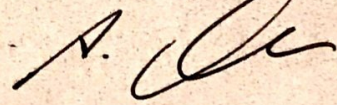
Üye / Committee Member

Prof. Dr. Ayhan Özgür Toy



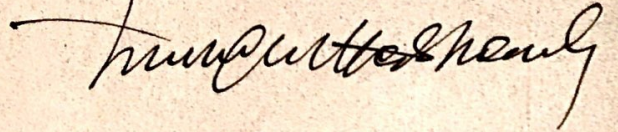
Üye / Committee Member

Prof. Dr. Aslı Tunç



Üye / Committee Member

Prof. Dr. Turgut Tarhanlı



Üye / Committee Member

Prof. Dr. Ali Demirci

