

## DOES EXPERIENCING FERTILITY PROBLEMS AND HAVING INFERTILITY TREATMENT AFFECT THE WOMEN STRESS AND WORKING LIFE? THE TURKISH EXPERIENCE

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### SUMMARY

**Background:** Infertility process is a stressful period that affects couple's life, especially their working life. It can be difficult for women with fertility problems to fulfill work responsibilities during infertility treatment. The current study aimed to explore effects of infertility treatment on women's stress and hence working life. There is limited literature related to effect of this treatment on women working life so this is important issue worldwide.

**Subjects and methods:** This was a cross-sectional descriptive study and 200 women undergoing infertility treatment participated. Our participants were primary infertile working women who had received at least one-cycle of infertility treatment before being invited to be part of study. An Introductory Data and Fertility History Form, Infertility Treatment and Working Performance Questionnaire and Visual Analogue Stress Scale were administered over-3 month period.

**Results:** More than half of women (53%) reported that they experienced problems related to ask the manager for the leave because of some procedure during the infertility treatment. Fear of administrator, not being able to focus on work, not being understood by colleagues, a negative impact on career, increase in work stress were problems reported by women. Also participants reported adversity in sharing infertility treatment with male administrators.

**Conclusions:** The study found that infertility treatment process affects women's working life negatively. Therefore health professionals should improve employers awareness about impact of infertility treatment on working life for purpose of improving professional support needed during this treatment time. Women should be encouraged to share feelings/problems they experience with employers/colleagues.

**Key words:** infertility - infertility treatment - women's stress - work productivity - women's health

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### INTRODUCTION

According to estimates of the World Health Organization (WHO), more than 10% of women in the world are affected by infertility, whereas in Turkey the figure is between 10–20% of couples (Seymenler & Siyez 2018, WHO 2020). Infertility is emotionally stressful and economically expensive process (Rooney & Domar 2018). This difficult process affects many aspects of a couple's life, especially their working life. Both female and male infertility process can affect women's work life, even if the treatment was due to the male infertility. The ratio of women participating in the workforce in Worldwide is 48.5% and in Turkey is 29.7% (Türk 2020, ILO 2018). Under normal conditions, the working woman reproduces new things, gains status in society and their psychological health is positively affected (Haar et al. 2014). Working also helps women feel socioeconomically independent and express themselves in the community (Kiliç & Öztürk 2014). However, in a stressful process such as infertility treatment, it can be difficult for women to devote themselves to work and to fulfill their responsibilities. The limited literature that is available on the topic shows that infertility treatment can affect work life both negatively and positively.

Hammarberg et al. (2001) examined the feelings and experiences of 229 women who had undergone in vitro fertilization (IVF) treatment, 2–3 years after completion of the treatment. It was determined that total of 41% of the women did not discuss their IVF treatment in the workplace, in 41% it generally affected their careers negatively, in 58% it postponed their career and for 66% they missed work opportunities, while it was determined that 42% of women were not affected or were positively affected in their careers (Hammarberg et al. 2001).

In another study conducted by Also Bouwmans et al. (2008) it was reported that infertility treatment women experienced physical and emotional complaints so 62% of women were absent from work approximately 23 hours during treatment in one treatment cycle (for 15 days) (Bouwmans et al. 2008). A qualitative study conducted in Turkey evaluated the marital relationship and quality of life among couples with infertility. Feeling uncomfortable for having to inform their colleagues and supervisors about the treatment they were receiving, arrange their working hours according to the treatment appointments and decrease in their productivity at work were the mostly expressed issues by women (Onat & Beji 2012).

The limited literature available shows that the infertility treatment process can affect the work life of women from different aspects. The wellbeing status of women affects their work life (Newton et al. 2018). Therefore, this study aimed to determine the perceived effect of infertility treatment on women's stress and working life.

## SUBJECTS AND METHODS

This study was carried out by using a cross-sectional design. It was conducted in one of the largest infertility clinics in western Turkey. Every month approximately 300 couples seek infertility treatment in this clinic. Our participants were primary infertile working women who had received at least one cycle of infertility treatment before being invited to be part of study. We collected the data during the participant's clinic visit. Participation was voluntary and anonymous. 230 women were initially invited to participate. Inclusion criterias were: (1) being primer infertile and a working woman between the ages of 18-45; (2)receiving or having received infertility treatment, (3) having had at least one cycle of treatment. Exclusion criteria were: (1) being seconder infertile; (2) having a child; (3) self- working. 16 women could not be included because they did not meet the inclusion criteria and 14 women were not willing for being part of this research. Final sample was composed of 200 participants who fully completed all the data collection forms. We collected the data from participants who accepted to answer the questions easily during the participant's clinic visit. After the procedures that were performed for treatment and a brief explanation of the study the researchers gave them questions and women filled out the questionnaires independently. The data collection process took a maximum of 15 minutes to complete per participant. In fact, this process was like an opportunity for women to express their feelings and troubles in the workplace, apart from answering the questions in the form, and it was observed that they indirectly relieved women.

Approval for the research was received from the Hospital and University Ethics Committee (ethical approval number is 1964-GOA). Furthermore, a written informed consent was obtained from the women participating in the study.

As described below, Introductory Data and Fertility History Form, Infertility Treatment and Working Performance Questionnaire, and Visual Analogue Stress Scale were administered over-3 month period. Also the data collection forms included a letter explaining the aim of the study, instructions on how to fill out the forms, information assuring the confidentiality of the responses and that their participation was voluntary. The validity of the data collection forms content was evaluated by five experts. The experts were persons with PhD level

and with infertility treatment and employee health counseling experience. The data collection forms were thoroughly pretested in a pilot study with 7 women.

The study data were collected by face to face interview techniques. Interviews were performed in one resting room in infertility center. After women accepted to be the part of the study the questionnaires were performed by researchers for about 15-20 minutes.

## Instruments

*Introductory Data and Fertility History Form:* This form style was by 20 multiple-choice questions prepared by researchers with the objective of being able to obtain information on introductory characteristics of the women and their fertility histories. Age, education level, marital status, experienced gynecological complaints were some of the fields that were evaluated with this form.

*Infertility Treatment and Working Performance Questionnaire:* This form was prepared according to the literature by researchers and contained 16 multiple-choice questions. These questions aimed to evaluate variables such as experienced problems in working life, the reasons of occurrence of this problems, ability of sharing the treatment process needs with administrator or colleagues, being able to perform necessary medicatations at workplace, the effect of process on work performance, motivation ect. Also experienced work stress that was producted related to treatment steps.

*Visual analogue stress scale:* Visual analogue stress scale (VAS) is a suitable scale for the clinical assessment of self-reported stress. For assesment the perceived stress, using visual analogue scale is recommended (Mitchell et al. 2008). Therefore, VAS is a quick and simple means of assessment of perceived stress, enabling women to express their distress. The question of work stress related with treatment was answered by experienced problems making a self-evaluation with a score ranging between 0–10. The results were evaluated as 1 to 3 "no stress", 4 to 7 "middle stress" and 8 to 10 "intense stress". Increased score indicated that increased stress. This scale was performed for evaluating general stress of participants.

The IBM Statistical Package for the Social Sciences 22 (SPSS) was used for data analysis categorical variables are shown as numbers and percentages, while numerical variables are represented by means and standard deviations. The t test was used to determine the effect of work stress experienced related to the treatment process.

## RESULTS

The average age of the women was 32.99 and 58% were 26–34 years old. A total of 31% of the women and

37% of the spouses had a bachelor's degree. Among the participants, the 56% reported for a month family income between 145-431 Dollar, whereas 92% lived in a nuclear family and 62% had been married for a period of 5 years or more. 69% of the women didn't have regular menstrual cycle, 84% of the women had gynecological complaints.

Most of the women (65%) worked in the private sector, 48% has only been employed for for 1-5 years, with the daily 6-8 working hours in 53% of the women and 41-51 weekly working hours of 30.3% of the women. A total of 81% of the women work in a workplace without shifts. Also 69% of the women had received infertility treatment for 5 years and under, and mostly of the (82%) had received three treatment cycles or more. Also the predominant treatment was intrauterine insemination (56%).

More than half (53%) of the women experienced problems related to ask the manager for the leave because of some procedure for their infertility treatments, and it was found that this mostly (41%) stemmed from being afraid related to administrator attitude (Table 1). Most of the women (52%) expressed having problems about focusing on their work. Almost all (91%) of the women emphasized that this process negatively affected their careers. Also, a large proportion (87%) experienced problems with sharing their treatment process with colleagues because most of them (76%) felt that they were not understood (Table 1). Moreover, 33% of the women experienced difficulties in sharing their infertility treatment problems with administrators (51%) because they were male. A small proportion (11%) indicated that they were not able to administer treatment injections in workplace, with almost half (43%) indicated that it was due to a lack of suitable environment such as refrigerator to protect the medication or suitable room for make injection. Also as a result of treatment process, the majority (83%) were forced to be absent from work. In addition, 44% indicated the treatment process resulted in work inefficiency, 40% had work dissatisfaction, and 5% experienced clashes with administer and colleagues (Table 1).

However, the average points for the level of work stress experienced related to the treatment was found to be middle ( $4.16 \pm 2.709$ ).

It was determined; the work stress level of those who have problems regarding obtaining treatment permission was significant higher ( $p=0.003$ ). It was found that state of being affected the career had no statistically effect on the work stress ( $p=0.078$ ). Women who didn't share their problems with colleagues ( $p=0.033$ ) and managers ( $p=0.000$ ) had higher work stress. Also women who couldn't make the required injection at the workplace ( $p=0.003$ ) had higher work stress (Table 2).

**Table 1.** Experiences of working women during infertility treatment (n=200)

Experienced related to work lives	n (%)
Ask leave for some procedure from manager	
Yes	106 (53)
No	94 (47)
Experienced problems	
Fear of administrator	44 (41)
Difficulty in obtaining permission for oneself	28 (26)
Decrease in work productivity	22 (20)
Continuously experiencing problems with colleagues	12 (11)
Problem related to focusing to work	
Yes	140 (52)
No	60 (48)
The effect on career	
Affected negatively	183 (91)
Affected positively	17 (8)
Level stress in the work environment	
Yes, at a low level	61 (30)
Yes, at a middle level	65 (32)
An intensive level	34 (17)
Not stressed at all	40 (20)
Sharing the problems with colleagues	
Yes	25 (12)
No	175 (87)
Difficulties in sharing problems	
They do not understand me	19 (76)
Gender differences	6 (24)
Sharing problem with manager	
Yes	66 (33)
No	134 (67)
The reasons for not sharing problems with administrators	
Gender difference	34 (51)
Does not understand me	16 (24)
Thinks that I am avoiding work	10 (15)
I do not want to explain	6 (9)
Being able to make the required injection at the workplace	
Yes	177 (88)
No	23 (11)
Reasons for not being able to make the required injection	
Lack of suitable conditions	10 (43)
Work intensity	3 (13)
Psychological pressure	4 (17)
Doesn't match with work hours	6 (26)
The situations created as a result of treatment process*	
Absence from work	167 (83)
Work inefficiency	89 (44)
Work dissatisfaction	82 (40)
Clashes with administer and colleagues	11 (5)
	Mean $\pm$ SD Min Max
Level of work stress points experienced connected to the treatment process	4.16 $\pm$ 2.709 1.00 9.00

\*More than one item was marked

**Table 2.** The work stress experienced during the treatment process and work life of women (n=200)

Experienced related to work lives	Level of work stress points experienced connected to the treatment process	
	Mean ± SD	Test/ p-value
Problem related to getting treatment permission from workplace		
Yes	4.84±2.06	t = 3.285
No	2.00±0.63	p = 0.003*
The effect on career		
Negatively	4.40±2.17	t = -1.849
Positively	1.50±0.70	p = 0.078
Sharing the problems with colleagues		
Yes	1.66±0.57	t = -2.275
No	4.50±2.11	p = 0.033*
Sharing problem with manager		
Yes	2.00±0.53	t = -4.569
No	5.17±1.91	p = 0.000*
Being able to make the required injection at the workplace		
Yes	3.54±1.47	t = -5.876
No	8.66±0.57	p = 0.003*

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

## DISCUSSION

The aim of the study was fill these gaps by determining the perceived negative effect of infertility treatment on working stress and working life by Turkish women. The reason for being afraid of administrators when it is required to obtain permission from the workplace due to the treatment process was thought to be due to the fear of being laid off from work. To avoid being laid off, staff even accept working for excessively long hours and sometimes without even receiving their wages. This situation, besides lowering the quality of work life, also decreases life satisfaction (Monteith et al. 2016). However, the women need to work in order to be able to pay for their treatment expenses. Consequently, they could feel stressful about experiencing any negativity in their workplaces. Generally women suffering from infertility have high stress level. Therefore, all of these may negatively affect women's psychology in this process (Gardanova et al. 2019).

Infertility is separated into certain stages. The specific stages defined by Blenner (1990) are as follows: engagement (dawning of awareness, facing a new reality, having hope and determination), immersion (intensifying treatment, spiraling down), disengagement (letting go, quitting and moving on and shifting the focus) (Blenner 1990). Women who have experienced this feelings such as disappointment, bewilderment, disbelief, denial, resentment, guilt, and anxiety of being abandoned by their spouses, so that in this process they cannot focus on their work since they are preoccupied with these thoughts. Consequently, as in our study findings, women could experience difficulty in focusing on their work. We determined that careers of most of the women were negatively influenced;

having problems focusing on their work, hindering women from doing their work etc. Women who focused on treatment may have felt they missed career opportunities. Also, in another study made by Hammarberg et al. (2001), it was determined that infertility treatment negatively influenced the careers of women most of the time, and this was the cause of losing some work opportunities (Hammarberg 2001).

Infertility and secondary reproduction treatments are processes that can cause an increase in stress, depression and anxiety levels of individuals (Rooney & Domar 2018, Pedro et al 2019). The fact that work stress in our results was at a medium level could be stemming from the Turkish culture. Due to the belief in predestination in Turkish culture, it is considered to be the ordination of God and women relax by praying (Kılıç & Öztürk 2014). Because period of infertility treatment is long and time-consuming women are frequently forced to obtain permission from their workplaces in order to complete these treatments. Similarly to our results, in the qualitative research in Turkey made by Onat and Beji (2012), they found that the infertile couples had to take time off from working hours during the treatment process. Hence, some had to quit their works, live many problems with their supervisor and colleagues such as laid off from work, not being understood etc. As a result they felt uncomfortable for having to inform their administrators related to the treatment process. Also, they had to arrange their working hours according to their appointments (Onat & Beji 2012). It was determined that many of the problems related to the infertility treatment of women stem from the gender differences of their manager. In Turkey, due to cultural factors, the perception of shame regarding reproduction and

infertility has been imposed on women. Women cannot talk freely with men on subjects related to reproduction. The religious rules, prejudices, taboos, customs, and traditions are the reasons for this to be deemed as “forbidden and shameful” by families (Boivin et al. 2006). Nevertheless, people connected to hierarchy in workplace cannot speak easily with administrators, especially on their private issues related to the fertility.

Most of the women were able to make the required injections for their treatment at the workplace, and those who could not were not able to do so due to unsuitable conditions. Working women spent approximately 1/3 of their days in a working environment. The quality of health services present in working environments positively affected the health (Kubilay 2003). Therefore, there is a need to establish suitable working conditions and provide the services of knowledgeable health professionals to meet the health needs of workers (McCullagh & Berry 2015). Adequate consideration should be given to physical environmental control criteria when designing structures to ensure optimum comfort conditions (Sezer 2015). In our study found that the women who couldn't make the required injection at the workplace had higher work stress. Therefore especially employers must create rooms suitable for these conditions to meet the health needs of employees. So the women can make injection at the workplace and have lower work stress.

Bouwman et al. (2008) also assessed productivity losses due to absence from work during in vitro fertilization (IVF) treatment and 62% of participants reported an absence from work that averaged 23 hours in Netherlands. In the event that treatment was unsuccessful, the fact that treatment will once again be started suggested that the absences from work would increase further (Bouwman et al. 2008). Similarly to our results, many researchers found that infertility and treatment process negatively affected work position, work productivity and career (Hammarberg et al. 2007, Brighenti et al. 1997, Durgun Ozan 2009). The degree of infertility stress may relate to the time elapsed since the diagnosis. As the duration increases, women will need more permission for treatment and their stress levels will increase (Durgun Ozan 2009). Similar to our study; in the interviews in study conducted in Turkey, 47% of the women stated that they had problem related to ask leave for some procedure from manager. In addition, women stated that they lost a lot of time due to procedures during treatment and this time loss caused stress. In a qualitative study performed in United Kingdom, one of the women determined that ‘Because of the timed injections and inseminations it could be difficult getting from work’. And most of the women described treatment process as stressful (Redshaw et al. 2007).

Although we found that state of being affected the career had no statistically effect on the work stress, the results are important for clinical practice. The women whose career was affected negatively had high work stress level. Limited studies have examined the career and infertility (Ehsanpour et al. 2007, Boivin et al. 2006). Career role can influence woman's cognitive appraisal of infertility and stress levels. The result of a study by Ehsanpour et al. (2009) showed significant relationship between career and infertility treatment related stress. Also, total mean score of treatment related stress was range between 0 and 94.87. The women's mean score of treatment related stress was 76 (Ehsanpour et al. 2009). In the research made by Miles et al. (2009), they found that work and career to be unimportant for 119 women undergoing in-vitro fertilisation (IVF) treatment. The women spend little time planning and thinking about their careers. Even so, results of this study highlight the fact that women undergoing infertility treatment experience high levels of distress. Therefore Miles et al suggest that future research should also examine the effects of offering psychoeducation, as educating women about the feelings they may encounter during the process may help to reduce stress levels (Miles et al. 2009).

There was determined a relationship between social coping resources and stress during the infertility process. In a study conducted in North Carolina participants identified choices for their infertility support. 46% of the participants stated that they preferred the workplace as social support (Gibson & Myers 2000). In our study, it was determined that women who could not share their problems with their colleagues and managers experienced more stress. So, support in workplace is important factor for infertile women's stress. Ehsanpour et al. (2009) found that inverse correlation between lack of social support by 2nd and 3rd level friends (such as colleagues) and infertility treatment related stress. The researchers believe that it can be due to lack of communication with colleagues (Ehsanpour et al. 2009).

## CONCLUSIONS

In summary, our study determined that women's working life is affected negatively from infertility treatment process. Health professional in workplace encourage healthy lifestyles and create healthy living conditions for infertile women during their treatment process in their workplaces. These conditions contribute to the improvement of health by enabling employees to use health services better (Toothaker & Chikotas 2018). Also infertile women often experience psychological health problems because of failing to achieve their life goal (Li et al. 2020). Because of all these reasons, employers and occupational health pro-

professionals must make the necessary arrangements to ensure appropriate conditions of infertility treatment so that there are no adverse affects on such individuals' working lives.

Health professionals should organize meetings related to describing the process of infertility and treatment to administrator and employees. Such meetings should enhance awareness of the infertility and promote a supportive workplace environment.

Because infertility is already sufficiently stressful health process, professionals must provide an emotionally safe environment in the workplace so that both the treatment process and the individual's work efficiency can be affected in a positive way.

The study contributes to current literature by highlighting that effect of infertility treatment on women's working stress and their working life. This research'll help health professionals to create a framework for addressing the challenges that these women are facing. Also the study contributes in explaining the effect of infertility and the psychological burden of treatment on work life. This will enhance employers base knowledge about infertility treatment challenges. This can then help to strategize solutions to implement some improvement. This was new compared to other studies. The study has some weaknesses. The results were evaluated with quantitative data only. The research related to expressing feelings that could reach more comprehensive results, can be obtained. If in the future research could qualitative or mixed research method are used, the results might be more comprehensive. Than, this study was performed in one single center and as the most of the streamer didn't work the night shift, this prevents generalization of the results. In order to increase the reliability of the study, it should be planned to conduct studies with larger sample numbers in more centers, including the women working in different shifts.

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### **Contribution of individual authors:**

Gamze Durmazoğlu: Design of the study, literature searches, data collection, statistical analyses, interpretation of data, manuscript writing

Merlinda Aluş Tokat: Design of the study, literature searches, statistical analyses, interpretation of data, consultancy, manuscript writing

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