

# Influences of various variables on body image satisfaction among highly fertile women and infertile women

## *Çok çocuklu kadınlar ve infertil kadınlarda çeşitli değişkenlerinin vücut algısı memnuniyeti üzerine etkileri*

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### SUMMARY

**Objective:** Involuntarily not being able to conceive a child has always been a social stigma which has resulted in emotional trauma and relationship strain. Body image is affected by infertility. Although several studies have revealed emotional stress in infertile individuals in Turkey and compared western and eastern societies' view of body image in infertile women, a comparison between highly fertile and infertile women has never been made before. Herein, we aimed to compare body image perception between infertile women and highly fertile women in the southeast part of Turkey. **Method:** In this study, 67 infertile and 59 highly fertile (women having children more than 5) women were enrolled. Body Image Scale was applied to both groups. Some sociodemographic information such as age, smoking status, and difficulties experienced in infertility processes were evaluated. **Results:** We showed that Body Image Scale scores including sexual power were significantly higher in highly fertile women. Body image was not associated with the gender of the child/children. The infertile group was found to have less smoking rates than the highly fertile group. **Discussion:** Therefore, the conclusion drawn deduces that body image is negatively affected by infertility and positively affected by high fertility, especially, in societies where having many children is expected and appreciated.

**Key Words:** Body image, infertility, high fertility population, sexual activity

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### ÖZET

**Amaç:** Çocuk sahibi olamama, her zaman duygusal bir travma ve ilişki gerilimi ile sonuçlanan bir toplumsal damgalama olmuştur. Vücut algısı infertiliteden etkilenir. Türkiye'de yaşayan infertil bireylerdeki duygusal stres ve bu duygusal stresin batı ve doğu toplumları ile karşılaştırılması üzerine birkaç çalışma bulunmakla birlikte, daha önce ülkemizde fertil olan ve olmayan kadınlar arasında bir karşılaştırma yapılmamıştır. Biz burada, Türkiye'nin güneydoğusunda yaşayan infertil kadınlar ve yüksek fertiliteye sahip kadınların vücut algısını karşılaştırmayı amaçladık. **Yöntem:** Bu çalışmaya, 67 tane infertil olan ve 59 tane yüksek fertiliteye sahip kadın (5 taneden fazla çocuğu olan kadınlar) alındı. Her iki gruba da Vücut Algısı Ölçeği uygulandı. Yaş, sigara içme durumu gibi bazı sosyodemografik bilgiler ve infertilite süreçlerinde zorluk yaşanan durumlar değerlendirildi. **Bulgular:** Vücut Algısı Ölçeği skorlarının cinsel güç dehaire olmak üzere yüksek fertiliteye sahip kadınlarda anlamlı olarak yüksek olduğunu gösterdik. Vücut algısı, çocukların cinsiyetiyle ilişkili değildi. İnfertil grubun yüksek fertiliteye sahip gruba göre daha az sigara içtiği bulundu. **Sonuç:** Sonuçlar, vücut algısının infertiliteden olumsuz etkilendiğini ve özellikle kendisinden yüksek oranda çocuk sahibi olması beklenen toplumlarda yüksek doğurganlıktan olumlu etkilendiğini ortaya koymaktadır.

**Anahtar Sözcükler:** Vücut algısı, infertilite, yüksek fertiliteye sahip popülasyon, cinsel aktivite

## INTRODUCTION

One of the major basic instincts of the human being is reproduction. Technically, infertility is defined as lack of pregnancy despite one-year of unprotected regular sexual intercourse (1). It is estimated that between 80 and 168 million people worldwide and approximately 2 million people in Turkey are affected by infertility (2, 3). Involuntarily having no child has always been a social stigma and has caused emotional trauma and relationship strain (4). For women, the consequences of infertility have been even more severe. For example, husbands of infertile spouse had the right to divorce in Britain before (5). In patriarchal societies (e.g. Middle Eastern societies) psychosocial stress still remains increased for women (6). The increased levels of distress might be a result of the more severe consequences of infertility due to differences in the socio-cultural meanings (such as social humiliation of infertile people by others) of reproductive failure (7).

Some degree of emotional distress in response to infertility is anticipated. However, psychopathology is not a universal consequence. On the other hand, significant loss, denial, guilt feelings as well as poor body image had been reported in infertile people (8,9).

The definition of high fertility has changed over time, depending on various social and economic conditions. In some periods, those who have 7 or more children are called high fertile, and nowadays, there is an approach to change this definition and take the smaller numbers as the basis. In a paper which gave information about Amish women, it was stated that various variables were effective on fertility rates at different times (10). High fertility is defined as having 5 or more living children according to the State Statistical Institute (SSI) grouping in Turkey (11). Due to rising level of education, individual and social status and autonomy of women, and advances in technology, fertility is declining in developing countries (12,13). While fertility rates are declining in western and developed parts of Turkey, high fertility is still appreciated in eastern part (14). The dominant culture in Turkey can also be identified as a pronatalist (pro-

moting child bearing) culture. Besides, governmental policies promote childbearing in order to have a sustainable growth, recently (15).

Childlessness is accepted as a deficit and social pressure (especially by relatives) to have children is not uncommon (7). As it is common in underdeveloped regions, in the eastern part of Turkey, sons are also valued more than daughters due to the beliefs that boys will be in command of the family property in the future, as well as provide security for their elderly parents and leaving a large posterity is possible by sons (16,17). Therefore, high childbearing, especially son having women are still somehow more respected in eastern Turkey where the study was conducted.

Body image which was termed by Austrian neurologist and psychoanalyst Paul Schilder, refers to perception of one's own body (18). The development of body image for people would be considered a multidimensional phenomenon, since it involves physiological, psychological and social factors, which affect the emotions, thoughts and the way people relate with others, strongly influencing the quality of their lives (19).

Body image is affected by infertility. Several studies have revealed emotional stress in Turkish infertile women and compared western and eastern societies' view of body image in infertile women, but a comparison between highly fertile and infertile females has never been made before (7, 11).

We aim to compare highly fertile women and infertile women's body image perception in Sanliurfa, which is in eastern part of Turkey and is in high fertility rate region (11). Our hypothesis is that highly fertile women will have a more positive body image perception than infertile women. Male child having women in the highly fertile group are expected to have a more positive body image and body image perception is expected to be positively correlated with the number of children.

## METHODS

### Subjects

In this prospective study, sixty-seven subjects of both infertile (IF) and fifty-nine highly fertile groups (HF) were enrolled from the obstetrics and gynaecology department of Akcakale State Hospital. IF women who were diagnosed according to the valid definition by a gynaecologist were recruited from consecutive applications to infertility subunit of the same hospital for three months (21). High fertility is defined as having 5 or more living children according to the State Statistical Institute (SSI) grouping, and they were recruited from the outpatient unit at the same time (11). Exclusion criteria were having surgical and traumatic scars, having aesthetic surgery, positive anorexia nervosa history (checked by the on-line health record system MEDULA), pregnancy more than 12 weeks, inability to fill out the forms, and lack of consent in both groups. Local ethics committee approved the study protocol, and all the subjects were informed for their consent. Therefore, this study has been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments. 5 of the subjects refused to participate, 12 could not fill out the forms properly, and 7 were excluded due to surgical scars.

### Procedure

All of the participants (67 IF and 59 HF) gave the informed consent. The women were examined by one ob/gynaecologist and their sociodemographic variables such as age, body mass index, marriage style, educational level, smoking status, having a male child or not, etc. were obtained by a standardized form. A standard gynaecological examination was made, and follicle stimulating hormone (FSH), luteinizing hormone (LH), estradiol (E2), thyroid stimulating hormone (TSH) and prolactin (PRL) levels were also recorded. Infertility types (primary 32, secondary 35) were enlisted in IF group as well.

### Assessment of Body Image Satisfaction

Body Image Scale, formerly known as Body

Cathexis Scale, was developed by Secard and Jurard (22) in 1953 and is a scale that determines the satisfaction of the person from forty different body parts or functions. Validity and reliability of the Turkish version were made by Hovardaoglu (23). The form of the scale used in our country is a five-point Likert-type measuring tool consisting of 40 items (1 = I like it, 2 = I quite like it, 3 = I'm not sure, 4 = I don't like it, 5 = I don't like it at all). The most positive expression is 1 point, whereas the most negative expression is 5. The lowest total score is 40 and the highest total score is 200. An increase in the total score taken from the scale shows decrease in the satisfaction of the body parts or function, whereas decrease of the score indicates an increase in satisfaction. It was determined that low satisfaction scores combined with insecurity. Items consist of the following variables, respectively (BIS 1-40): hair, facial complexion, appetite, hands, distribution of hair over body, nose, energy level, waist, exercise, elimination, will power, back, ears, age, chin, body build, profile, height, digestion, legs, resistance to pain, width of shoulders, arms, trunk, teeth, eyes, hips, resistance to disease, sensations, sexual power, feet, sleep, voice, health, sex activities, knee, posture, shape of face, weight, love life.

### Statistical Analysis

Descriptive and statistical analyses were made by SPSS software (Version 22.0). Age, educational level and Body Mass Index (BMI) were accepted as covariates. For comparison of two means independent samples t test, for comparison of the ratios chi square's test and for correlation Spearman's correlation was used. Bonferroni's correction was made when necessary during comparison of subgroups. The significant value of p was accepted as smaller than 0.05.

## RESULTS

Some of the sociodemographic and clinical characteristics of two groups are shown in Table 1. Religious contract marriage style is significantly higher in IF ( $\chi^2=14.38$ ,  $p<0.001$ ) and there were significantly fewer smokers in IF ( $\chi^2=14.02$ ,  $p<0.001$ ). There was no significant difference in

terms of age, education status, BMI, and hormone levels (FSH, LH, E2, TSH, PRL).

HF had significantly higher BIS scores than IF (F=37.8, p<0.001). There was not a significant difference between subscores of BIS 5, 6, 17, 19, 25 and 29 (hair distribution, nose, profile, digestive system, shape of teeth and sensations) of two groups (p>0.05). Energy levels and defecation habit scores (BIS 8 and 11) were significantly higher in IF (t=4.91, p<0.001 and t=4.35, p<0.001 respectively). All other subscores were significantly higher in HF including sexual power (BIS 30). There was not a significant difference of total scores between primary and secondary infertile groups (p>0.05). There was not a significant difference of total scores between the HF groups having son/s or no son, either (p>0.05). There was not a correlation between the number of children and BIS total scores in HF (p>0.05).

## DISCUSSION

Our first finding is high religious marriage style rate

in IF. Since there were no previous data we could not make comparisons. However, it is very common that at the beginning, a religious marriage is made, then after a child is born; official marriage is established in eastern part of Turkey. It appears to be "a deal" when the woman gives birth then she gains her official and legal rights. Therefore, when infertile women did not give birth it is possible that official marriage is not made. The marriage still goes on with almost no legal rights from woman's aspect (14, 24). Thus, our finding may reflect the general view to the woman in underdeveloped eastern part of Turkey: The woman should give a birth to be an official wife (24). Our second finding is lower smoking rates in IF. Smoking rate is even lower than normal population. This might be due to known effects of nicotine in infertility, and IF women might avoid smoking in order to have child (25).

Our third and major finding is higher BIS scores in HF when compared to IF. Infertility has shown to be associated with poor body image before, and the impact was more severe in Middle Eastern type of

**Table 1.** Some of Sociodemographic and Clinical Characteristics of the Subjects

	IF (n=67)	HF (n=59)	p value
Age (years)	24.07 ± 5.96	33.00 ± 5.48	p=0.052
-Primary IF	24.99 ± 5.46 (n=32)	-	
-Secondary IF	23.84 ± 5.79 (n=35)	-	p=0.689
Education (years)	1.41 ± 2.11	1.19 ± 1.74	p=0.785
BMI	26.85 ± 2.27	29.16 ± 2.23	p=0.728
Marriage Style			p<0.001*
-Official	42 (63%)	54 (91%)	
-Religious Imam	25 (37%)	5 (9%)	
Smoking Status			p<0.001*
-Smoker	7 (10%)	23 (39%)	
-Non Smoker	60 (90%)	36 (61%)	
Male Child Bearing			
-Male Child		46 (78%)	
-No Male Child	Not Applicable	13 (22%)	
FSH (IU/L)	3.44 ± 1.3	4.96 ± 2.75	p=0.161
LH (IU/L)	3.73 ± 1.4	5.54 ± 1.67	p=0.059
E2 (IU/L)	71.82 ± 33.23	93.55 ± 72.51	p=0.125
TSH (IU/L)	3.15 ± 2.05	2.81 ± 1.46	p=0.153
PRL (µg/L)	21.3 ± 19.02	34.02 ± 14.2	p=0.053

\*Significant values were flagged. Units: IU/L; µg/L.

Note: IF: Infertility; HF: High Fertility; BMI: Body Mass Index; FSH: Follicle Stimulating Hormone; LH: Hormone; E2: Estradiol; TSH: Thyroid-Stimulating Hormone; PRL: Prolactin

cultures such as Turkish immigrants (7,8,26). On the other hand, having a child may be avoided in western culture, due to deformity forming consequences of pregnancy (27). Cultural models are known to influence fertility decisions (28). In eastern part of Turkey, where the study was participated having many children is appreciated like in other patriarchal cultures (29). Thus, many children bearing women gain respect from the society. The influence may affect the body image perception of highly fertile individuals positively but the infertile women negatively. In addition, there was not any difference of BIS score between the primary infertile women and secondary infertile women. This may be related with the stigma of infertility. Thus, regardless of the cause being infertile women may affect the body image. Although the BMI of HF women is higher than that of IFs, HF women are more likely to have body image satisfaction with themselves than IF.

Our fourth finding is significantly higher subscores of 32 items in BIS in HF group. Especially, items related with sexuality (BIS 30 and 35) are higher in HF than IF. This may be related to the general perception that sexuality means reproduction (30). Highly fertile women also find themselves healthier and fit than infertile women which can be moreover attributed to the general view to women in our society. On the other hand, there were no differences in hair distribution, nose and shape of teeth that represent more "objective" appearance. HF group rated lower score in energy and defecation habits that is pretty consistent with their current situation. After many births, they may have lost their biological energy and may have faced defecation problems.

Our fifth finding is no difference of BIS scores between women having son/s or not. In Sanliurfa, like in other Middle Eastern communities, sons are preferred over girls (29). Women having no sons appear to have a feeling of deficit. However, this does not appear to impact the body image of mothers of only daughters, which we expected vice versa. This may be due to the belief that having either son or daughter is allotted one by God. On the other hand, infertility is believed to deal more with biological correlates. It is more likely for people to attribute several physical parameters to infer-

tility.

Our last finding is no correlation between number of children and BIS scores. This may be related with general view of high fertility. In general, 5 or more children bearing women are believed to be highly fertile and the increasing number may not make sense after 5 (20). Therefore, categorical classification, that is for a woman to enter the highly fertile group regardless of the number appear to be important in gaining positive body image.

In a study, body image was their fifth most common concern when seeking gynaecological care from their family practitioner (30). However, minimal research has addressed this issue, and information on body image is largely absent from the main gynaecology training texts (19). Therefore, body image should be a major topic for gynaecologists as well.

Small sample sizes and lack of a control group are limitations of our study. The lack of detailed evaluation of the participants in terms of various psychopathologies with structured or semi-structured interview is one of the limitations of the study. On the other hand, this is the first study comparing highly fertile women's and infertile women's body image in an eastern society.

## CONCLUSION

The results of this study both show the emotional stress of body image in the infertile group and the emotional satisfaction of body image in the highly fertile group. Contrary to our expectations, having son or not did not affect the body image in our study group. More studies should be conducted especially comparing western and eastern societies in order to gather more data.

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