



Sexual Functions of Transgender Individuals Before Gender Transition

Trans Bireylerin Cinsiyet Geçiş Öncesi Seksüel Fonksiyonları

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Abstract

Objective: It is important to evaluate sexual function during the follow-up of transgender individuals in the gender pre-transition period. However, there exists inadequate literature evaluating the sexual functions of transgender individuals who have not received hormone therapy and/or undergone gender-affirming surgery. The aim of this study was to evaluate sexual function in transgender individuals in the gender pre-transition period. **Material and Methods:** Transgender individuals who were admitted consecutively to the tertiary care hospital between February and December 2019 were evaluated. Those who agreed to fill the questionnaires were included. Sexual functions of participants were evaluated using the Golombok-Rust Inventory of Sexual Satisfaction developed for cisgender and heterosexual individuals. In addition, the Arizona Sexual Experiences Scale was used for a psychometric test. **Results:** Sixty-five participants who did not receive hormone therapy and/or undergone gender-affirming surgery were included. Of these, 45 individuals were trans men (TM), and 20 were trans women (TW). The mean ages of TW and TM were 25.05±6.73 and 24.23±5.58 years, respectively. The percentages of sexual dysfunction were found to be 87.8% in TM and 92.3% in TW, according to the Arizona Sexual Experiences Scale. According to the common subscales of the Golombok-Rust Inventory of Sexual Satisfaction, the most common problem in both groups was low sexual frequency. **Conclusion:** Owing to the importance of evaluating the sexual function in transgender individuals during the gender pre-transition period or in those who do not intend to undergo gender-affirming treatment, a scale should be developed for this period.

Keywords: Body dissatisfaction; sexual dysfunction; transsexualism

Özet

Amaç: Transseksüel bireylerin takibinde seksüel fonksiyonların değerlendirilmesi önemli bir yere sahiptir. Buna karşılık, literatürde herhangi bir cinsiyet değişim tedavisi almayan bireylerin seksüel fonksiyonlarını değerlendiren yeterli çalışma bulunmamaktadır. Bu nedenle çalışmamızda, geçiş öncesi dönemde seksüel fonksiyonu değerlendirmeyi amaçladık. **Gereç ve Yöntemler:** Çalışmamızda Şubat-Aralık 2019 tarihleri arasında merkezimize ardışık olarak başvuran transseksüel bireyler değerlendirildi. Çalışmaya, anket doldurmayı kabul eden ve herhangi bir cinsiyet değişim tedavisi almayan katılımcılar alındı. Çalışmaya katılanların seksüel fonksiyonları, cisgender ve heteroseksüel bireyler için geliştirilen Golombok-Rust Cinsel Doyum Ölçeği ile değerlendirildi. Ayrıca psikometrik test olarak da Arizona Cinsel Yaşantılar Ölçeği kullanıldı. **Bulgular:** Çalışmaya cinsiyet değişim tedavisi almayan (cerrahi ve/veya hormon tedavisi) 65 transseksüel birey dâhil edildi. Katılımcıların 45'i trans erkek, 20'si ise trans kadındı. Trans kadınların ortalama yaşı 25,05±6,73 saptanırken, trans erkeklerin ise ortalama yaşı 24,23±5,58 saptandı. Arizona Cinsel Yaşantılar Ölçeği'ne trans erkeklerin 36'sında (%87,8) seksüel disfonksiyon saptanırken, trans kadınların 12'sinde (%92,3) seksüel disfonksiyon saptandı. Golombok-Rust Cinsel Doyum Ölçeği'nin ortak alt ölçeklerine göre ise her 2 grupta en sık görülen sorun cinsel ilişki sıklığında düşüklüktür. **Sonuç:** Cinsiyet geçiş döneminden önce veya cinsiyet onaylayıcı tedavi niyetinde olmayan transseksüel bireylerde cinsel işlevin değerlendirilmesi önemli olduğu için bu döneme yönelik bir ölçeğin geliştirilmesi gerekir.

Anahtar kelimeler: Vücut memnuniyetsizliği; seksüel disfonksiyon; transseksüalizm

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Introduction

According to the World Health Organization, sexual health is described as "the state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity (1)." Sexual health is essential to improve the physical and emotional health of individuals, couples, and families (1). Biological, interpersonal factors, socio-economic, political, cultural, ethical, legal, historical, religious, and spiritual factors affect sexuality (1). Sexual dysfunction consists of absent or diminished feelings of desire or interest, arousal dysfunction, orgasm and/or ejaculatory dysfunction, and pain during sexual activities (2).

Healthy sexual life is an important part of every individual's life, including transgenders. The literature investigating the sexual functions of transgender individuals is scarce. Transgender individuals may experience significant difficulties in their sexual experiences at every stage of the gender transition process. In this population, sexuality and sexual functions should be evaluated at all stages of gender-affirming treatment.

Previous studies have mostly investigated sexual function in trans women (TW) after hormone therapy and/or sex-affirming surgery (3). In trans men (TM), most studies have focused on the period after hormone therapy and/or sex-affirming surgery (4). Previous studies have reported that gender-affirming hormone therapy and gender-affirming surgery significantly improved the sexual functions of transgender individuals (5,6). Furthermore, De Cuypere et al. showed that genitals play an important role in satisfaction with sexual experience after gender-confirming therapy (7). In addition, sexual function might be affected by body image, self-esteem, psychological well-being, and sexual anxiety (3,8,9). Nikkelen and Kreukels reported that besides body satisfaction, psychological well-being is important for sexual behaviors and feelings (3). Therefore, sexual functions should be evaluated multi-dimensionally in transgender individuals.

Only a few studies have investigated the sexual experiences of transgender individuals, with the main focus on the frequency of

sex, masturbation (5,10), and satisfaction (4,11) in terms of sexual function. The studies generally investigated the impact of hormone replacement therapy and gender-affirming surgery on sexual function. However, data in the literature in relation to sexual function before gender transition is insufficient. Optimum follow-up can be achieved with a comprehensive assessment of the pre-and post-gender transition periods of sexual function. We evaluated the sexual function before gender transition and highlighted the issue in this study.

Material and Methods

Participants and Procedure

Transgender individuals who were admitted consecutively to the Department of Endocrinology, Metabolism, and Diabetes of the İstanbul University-Cerrahpaşa, Cerrahpaşa Faculty of Medicine between February and December 2019 were evaluated in the study. Those individuals who agreed to fill the questionnaires were included in the study. The inclusion criteria of the study consisted of being ≥ 18 years old, having been diagnosed according to the Diagnostic and Statistical Manual of Mental Disorders criteria on "GD in Adolescents and Adults," having had a relationship of at least three months during any period of her/his life and judged to be in good general health. The exclusion criteria were: 1) The presence of any neurological, metabolic, endocrinological, or intersexual pathology; 2) Previous gender-affirming hormone therapy or any kind of gender-affirming surgery; 3) An intellectual disability; 4) Illiteracy.

Sexual functions were evaluated using the Golombok-Rust Inventory of Sexual Satisfaction (GRISS) developed for cisgender and heterosexual individuals. In addition, participants were asked five questions using the Arizona Sexual Experiences Scale (ASEX) as a psychometric test. The participants were asked to answer the questions that they thought were appropriate to them. Sexual functions of TW were evaluated using the male version of ASEX and GRISS scales, and those of TM were evaluated using the female version of ASEX and GRISS scales because they had the genitals of the sex assigned at birth.

This study was approved by the Local Ethics Committee of Cerrahpaşa Medical School. Written informed consent was obtained from all participants before being enrolled. The study adhered to the tenets of the Declaration of Helsinki.

Measures

Arizona Sexual Experiences Scale

ASEX is a self-report questionnaire that contains five items. Each item consists of a 6-point Likert scale; the total score ranges from 5 to 30. Higher scores indicate sexual dysfunction (a total score of ≥ 11 indicates a sexual problem; in addition, any single item's score ≥ 5 , or any three items, each has a score of 4 or higher designates sexual problem) (12). In this scale, the sexual drive was recorded from the item "How strong is your sex drive?" (extremely strong, very strong, somewhat strong, somewhat weak, very weak, no sex drive), the sexual arousal was recorded from the item "How are you sexually aroused (turned on)?" (extremely easily, very easily, somewhat easily, somewhat difficult, very difficult, never aroused), the penile erection was recorded from the item "Can you easily get and keep an erection?" (extremely easily, very easily, somewhat easily, somewhat difficult, very difficult, never) (for TW), vaginal lubrication was recorded from the item "How easily does your vagina become moist or wet during sex?" (extremely easily, very easily, somewhat easily, somewhat difficult, very difficult, never) (for TM), the ability to reach orgasm was recorded from the item "How easily can you reach an orgasm?" (extremely easily, very easily, somewhat easily, somewhat difficult, very difficult, never reach orgasm), satisfaction with orgasm was recorded from the item "Are your orgasms satisfying?" (extremely satisfying, very satisfying, somewhat satisfying, somewhat unsatisfying, very unsatisfying, ca not reach orgasm) (12). The Turkish version of ASEX has been validated by Soykan (12). Cronbach's alpha value in the sample group was 0.98.

Golombok-Rust Inventory of Sexual Satisfaction

GRISS is a self-reported questionnaire that evaluates sexual functioning and satisfaction in individuals having a current heterosexual

relationship (13). It contains 28 items, and each item is answered on a 5-point scale from "always" through "usually," "sometimes," and "hardly ever," to "never" (13). There are five common subscales in the male and female scales; these include frequency, communication, avoidance, sensation, and satisfaction. In addition, each scale has two different subscales; these are erectile dysfunction, premature ejaculation on the male scale, and vaginismus, anorgasmia on the female scale (14). Total scores range from 0 to 8 for the frequency of sex and communication; the total score ranges from 0 to 16 for other subscales. Scores ≥ 5 indicate sexual dysfunction for each subscale. The Turkish version of GRISS was validated by Tugrul et al. (14). Cronbach's alpha values in the sample groups were 0.92 in males and 0.91 in females.

Statistical Analysis

The Statistical Package for the Social Sciences v.22.0 was used for statistical analyses. For descriptive statistics, continuous data are presented as means \pm standard deviation and categorical data by numbers and percentages. The confidence level was set at 95%. We estimated the internal consistency of items through Cronbach's alpha.

Results

Sixty-seven transgender individuals were included in the study. However, two individuals were excluded from the study due to having no sexual experience during any period of her/his life. Finally, 45 TM and 20 TW were included. The mean age of TW was 25.05 ± 6.73 years, and that of TM was 24.23 ± 5.58 years. The general features of the transgender individuals are shown in Table 1. The data on the current partner and sexual orientation were not available for 7 TM and 3 TW.

Sexual Functions of Transgender Men

According to ASEX, 36 (87.8%) TM had sexual dysfunctions. In addition, 1 (2.2%) TM had problems in sexual desire, and 4 (8.8%) TM had problems in sexual arousal. Four (9.7%) TM had problems in vaginal lubrication, 4 (9.0%) had problems in orgasm, and 8 (18.6%) had problems in satisfaction of an orgasm. In contrast, 41 TM (91.1%) answered all questions of the ASEX question-

Table 1. General characteristics of transgender individuals.

	Trans men	Trans women
Age (years) (mean±SD)	24.23±5.58	25.05±6.73
	n (%)	n (%)
Education status		
Primary school	-	-
Secondary or high school	24 (53.3)	6 (30.0)
University, master, or doctorate degree	21 (46.6)	14 (70.0)
Income level		
< 2,000 (TL)	19 (42.2)	7 (35.0)
2,000-7,000 (TL)	26 (57.7)	12 (60.0)
>7,000 (TL)	-	1(5.0)
Current partner	24 (63.1)	6 (35.2)
Male partner	-	6 (100.0)
Female partner	24 (100.0)	-
Other (e.g., transgender, asexual)	-	-
Sexual orientation		
Male	-	17 (100.0)
Female	38 (100.0)	-
Other	-	-

SD: Standard deviation.

naire. Four (8.8%) TM did not answer the question about vaginal lubrication, 1 (2.2%) TM did not answer the question about orgasm, and 2 (4.4%) TM did not answer the question about satisfaction orgasm. The other items were fully answered by TM (Figure 1). Cronbach's alpha values in our samples were computed to be 0.63 in TM. According to GRISS, 19 (47.5%) TM had low sexual frequency, 10 (27.0%) had problems in communication, 1 (3.0%) had problem in avoidance, 4 (11.4%) had problem in sensation, 3 (9.0%) had problems in satisfaction, 8 (50.0%) had problem in vaginismus, and 6 (24.0%) had problems in anorgasmia. In contrast, 12 (26.6%) TM answered all questions of the GRISS questionnaire. In the subscales of the GRISS questionnaire, 40 (88.8%) TM answered all questions about frequency, 37 (82.2%) answered all questions about communication, 33 (73.3%) answered all questions about avoidance, 35 (77.7%) answered all questions about sensation, 33 (73.3%) answered all questions about satisfaction, 16 (35.5%) answered all questions about vaginismus, and 25 (55.5%) answered all questions related to anorgasmia (Figure 2). Cronbach's alpha

values in our samples were computed to be 0.55 in TM. The mean scores of TM in ASEX and GRISS are shown in Table 2 and 3, respectively.

Sexual Functions of Transgender Women

According to ASEX, 12 (92.3%) TW had sexual dysfunctions. In contrast, 2 (10.0%) TW had problems in sexual desire, and 1 (5.0%) had problems in sexual arousal. Three (23.0%) TW had problems in penile erection, 2 (10.0%) had problems in orgasm, 7 (35.0%) had problems in satisfaction of orgasm. Thirteen TW (65.0%) answered all questions of the ASEX questionnaire. Seven (35.0%) TW did not answer the question about a penile erection. The other items were fully answered by TW (Figure 1). Cronbach's alpha values in our samples were computed to be 0.76 in TW.

Eleven (84.6%) TW had low sexual frequency, 3 (23.0%) had problem in communication, 1 (7.1%) had problem in avoidance, none (0.0%) had problems in sensation, 1 (9.0%) had problem in satisfaction, 5 (41.6%) had problems in erectile dysfunction, and 1 (11.1%) had problems in premature ejaculation. In contrast, 10 (50.0%) TW answered all questions of the

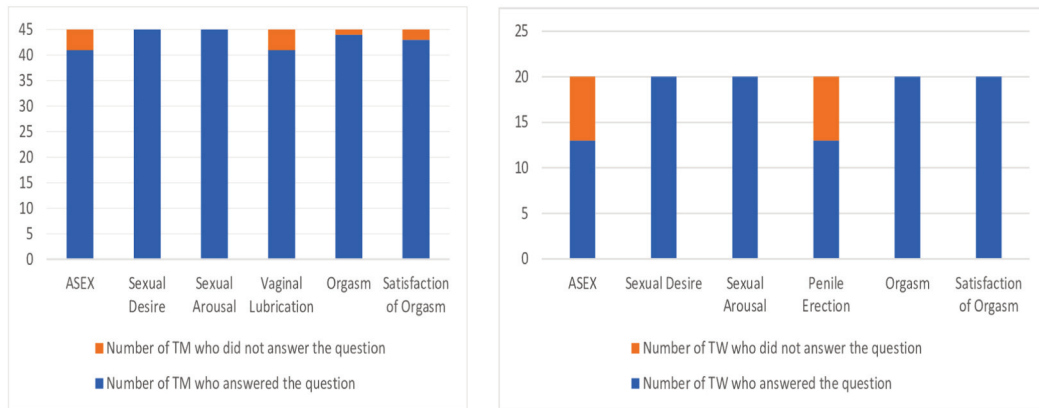


Figure 1. The rate of transgender people answered questions in Arizona Sexual Experiences Scale. Sexual desire, Sexual arousal, Vaginal lubrication, Satisfaction of orgasm; ASEX: Arizona Sexual Experiences Scale; TM: Trans men; TW: Trans women.

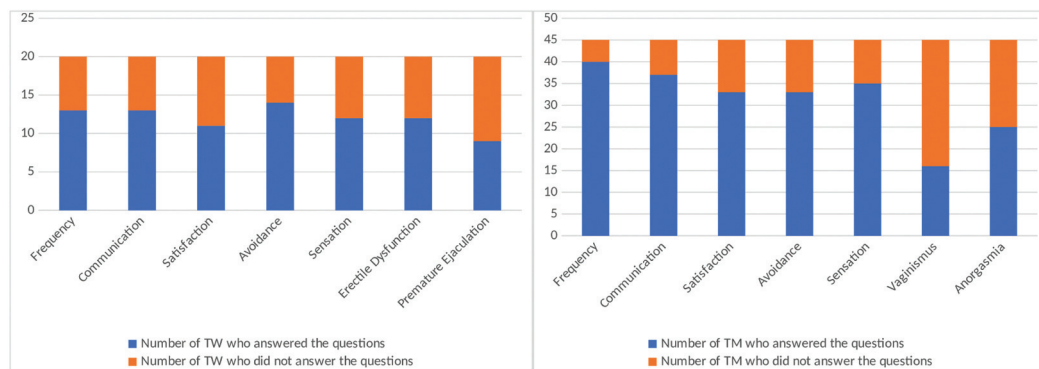


Figure 2. The rate of transgender people answered questions in Golombok-Rust Inventory of Sexual Satisfaction. Erectile dysfunction, Premature ejaculation; GRISS: Golombok-Rust Inventory of Sexual Satisfaction; TW: Trans women; TM: Trans men.

GRISS questionnaire. Thirteen (65.0%) TW answered all questions about frequency, 13 (65.0%) answered all questions about communication, 14 (70.0%) answered all questions about avoidance, 12 (60.0%) answered all questions about sensation, 11 (55.0%) answered all questions about satisfaction, 12 (60.0%) answered all questions about erectile dysfunction, and 9 (45.0%) answered all questions concerned with premature ejaculation (Figure 2). Cronbach’s alpha values in our samples were computed to be 0.40 in TW. The mean scores of TW in ASEX and GRISS are shown in Table 2 and 3, respectively.

Discussion

According to ASEX, sexual dysfunction rates were found to be high before gender transi-

tion among TW and TM. In addition, the satisfaction of orgasm was a common problem among TW and TM. According to the common subscales of the GRISS scale, the low frequency of sex was the most common problem among TW and TM.

Body dissatisfaction has an important role in sexual function. Nikkelen and Kreukels showed a positive relationship between body satisfaction and sexual behavior and feelings in transgender individuals (3). In this study, the percentage of TW who were dissatisfied with their sex life was 38% and 39% in the no treatment desire (no treatment and no desire to receive treatment) and unfulfilled treatment desire (with treatment or without any treatment and desire to do so or more) groups, respectively. In TM, these percentages were 39% and 39%, respectively (3).

Table 2. The average scores of transgender individuals in Arizona Sexual Experiences Scale.

	ASEX	Sexual desire	Sexual arousal	Vaginal lubrication (For TM)	Penile erection (For TW)	Orgasm	Satisfaction of orgasm
Average Scores (TM) (mean±SD)	14.5±3.6	2.04±1.02	3.04±1.10	3.20±1.12		3.30±0.91	2.98±1.33
Average Scores (TW) (mean±SD)	15.9±5.09	3.10±1.41	2.85±1.13		3.54±1.19	3.10±1.16	3.15±1.34

SD: Standard deviation; ASEX: Arizona Sexual Experience Scale; TM: Trans men; TW: Trans women.

Furthermore, no significant difference was found between the no treatment and no desire to receive treatment group and unfulfilled treatment desire (with treatment or without any treatment and desire to do so or more) group in terms of satisfaction in their sex life (3). We found a lower rate of dissatisfaction than that reported in this study. The percentage of dissatisfaction in transgender individuals who have not received any treatment (hormonal/surgery) is unclear due to the lack of studies. In contrast, questions about satisfaction in the GRISS were related to being satisfied with the sexual partner of the participant rather than sexual life. Although we did not evaluate the relationship with the partner of participants, the strong relationship of the trans individuals with their partner could be responsible for this low dissatisfaction rate. Moreover, the small number of transgender individuals in our study could have caused these low rates. Holmberg et al. reported that it can be difficult for transgender individuals to find partners that respect them (15). Moreover, Blair et al. reported that the willingness to date transgender individuals was very low (16). Therefore, it can be difficult to initiate and maintain sexual activity for transgender individuals. In this context, compatible results are reported in the literature. Kerckhof et al. detected that initiating and seeking sexual contact in the no medical treatment group was one of the most common sexual dysfunctions in transgender individuals (17). In our study, low sexual activity in transgender individuals before gender transition could be attributed to these reasons. The results of the work by Mate-Kole et al. support our re-

sults. In this study, less sexual intercourse was found in TW without sex reassignment surgery (18). The course of sexual desire may differ between TW and TM before and after the gender transition period. In a study by Wierckx et al., 62% of TW reported that sexual desire decreased after gender-affirming treatment, whereas 71% of TM reported that sexual desire increased (11). Similarly, Kerckhof et al. reported that although the sexual desire of TW without gender-affirming treatment was high, the sexual desire of TM without gender-affirming treatment was low (17).

In our study, the response rate of questions about the organs belonging to the sex that they were assigned at birth was lower than that to other questions in the GRISS and ASEX questionnaires. In contrast, some transgender individuals answered questions about the organs belonging to the sex that they were assigned at birth on the GRISS and ASEX scales. Although one of the important causes of sexual dysfunction is body dissatisfaction, some transgender people use their genitals during sexual activity. For instance, a study performed by Cerwenka et al. reported that transgender individuals were asked if they used their genitals during sexual activity before genital affirming treatment; 60% of TW and 50% of TM involved their genitals in sexual contact with a partner (19). Furthermore, some transgender individuals do not intend gender affirming-treatment for various reasons such as complications of the surgery, waiting for better techniques to develop, or not being able to afford (17,20-22). Evaluation of sexual function in transgender individuals without gender-affirming treatment is important in

Table 3. The average scores of transgender individuals in Golombok-Rust Inventory of Sexual Satisfaction.

	Frequency (GRISS)	Communication (GRISS)	Satisfaction (GRISS)	Avoidance (GRISS)	Sensation (GRISS)	Vaginismus (GRISS)	Anorgasmia (GRISS)	Erectile dysfunction (GRISS)	Premature ejaculation (GRISS)
Average scores (TM) (mean±SD)	3.7±2.3	2.4±2.0	4.5±2.9	2.1±2.6	5.4±3.5	9.2±3.8	6.1±3.2	-	-
Average scores (TW) (mean±SD)	6.3±1.9	2.3±1.6	7.2±2.0	4.5±3.5	4.2±2.5	-	-	7.6±3.7	5.5±2.8

GRISS: Golombok-Rust Inventory of Sexual Satisfaction; TM: Trans men; SD: Standard deviation; TW: Trans women.

terms of social life, motivation, and relationship with their partners. It is important to consider these situations when a questionnaire is prepared for sexual function. Thus, the scale to be prepared should include all stages, including the before gender transition period in trans individuals.

Previous studies have mostly evaluated the sexual function of transgender individuals after hormone therapy and/or the gender-affirming surgery period (3,4). A few studies have evaluated the sexual experiences of transgender individuals who wanted to receive treatment but have not yet received it or who did not want to undergo gender-affirming surgery (19,23,24). Such transgender individuals have been ignored in terms of sexual function. Furthermore, the presence of sexual dysfunction before gender-affirming surgery could predict poor sexual function after gender-affirming surgery (25). Therefore, it is essential to evaluate the sexual function status in transgender individuals at every step of treatment for healthy sexual function. Although the ASEX was developed to measure the sexual functions of cisgender and heterosexual individuals, Cronbach's alpha values and response rates in ASEX encouraged us to use ASEX before gender-confirming interventions.

Our study had certain limitations. First, the number of participants, especially TW was small. Second, we did not have any control group, such as transgender individuals receiving hormone and/or surgical therapy or cisgender individuals. Third, we could not use a validated scale about sexual functions in transgender individuals due to the absence of one.

Conclusion

In conclusion, some transgender individuals do not intend to undergo gender-affirming surgery. Sexual life is important both in transgender individuals without gender-affirming surgery and those undergoing gender-affirming surgery. Poor sexual life before gender transition can predict the poor sex life after gender transition. Therefore, evaluating sexual function before the gender transition period is important in the management of sexual dysfunction.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Pinar Kadioğlu, Serdar Şahin;
Design: Pinar Kadioğlu, Şenol Turan, Serdar Şahin, Hande Mefkure Özkaya; Control/Supervision: Pinar Kadioğlu, Şenol Turan, Hande Mefkure Özkaya, Serdar Şahin; Data Collection and/or Processing: Serdar Şahin, Özge Polat Korkmaz, Emre Durcan; Analysis and/or Interpretation: Pinar Kadioğlu, Şenol Turan, Hande Mefkure Özkaya, Serdar Şahin; Literature Review: Pinar Kadioğlu, Şenol Turan, Hande Mefkure Özkaya, Serdar Şahin; Writing the Article: Serdar Şahin; Critical Review: Pinar Kadioğlu, Şenol Turan, Serdar Şahin.

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