Ilgen O, et al. J Reprod Med Gynecol Obstet 2020, 5: 061
DOI: 10.24966/RMGO-2574/100061

HSOA Journal of Reproductive Medicine, Gynecology & Obstetrics

Research Article

Sexual Dysfunction in Women who are Human Papillomavirus Positive

Orkun Ilgen*, Sefa Kurt, Hakan Kula and Murat Celiloglu

Department of Obstetrics and Gynecology, Dokuz Eylul University, Izmir, Turkey

Abstract

Female Sexual Dysfunction (FSD) is a prevalent disorder among women that has negative impacts on life quality. Human Papillomavirus (HPV) infection is the most common sexually-transmitted disease and has a negative emotional effect on women because of causing cervical cancer. This study aimed to investigate whether there is any effect of HPV infection on FSD. Women aged between 20-50 years with positive HPV results who were consulted to our hospital's gynecologic oncology department were included in this study. The Female Sexual Function Index (FSFI) was used to evaluate FSD and scores below 26 were considered FSD. HPV negative women who were matched for age, parity, BMI, socio-cultural and educational levels were taken as a control group. A total of 108 women were included in this study. 56 of them are HPV positive, 52 women are HPV negative. The mean score of the HPV positive group is 21.4 ± 1.4 and HPV negative group is 23.3 ± 0.9. Although there was a minimal lower mean score in HPV positive group, however, this difference was not statistically significant. FSD is prevalent among women independent of HPV status. Routine checking should be applied for FSD whether HPV positive or not.

Keywords: Female sexual dysfunction; Female sexual function index; Human papillomavirus

Introduction

Human Papillomavirus (HPV) infection is the most common sexually transmitted disease worldwide [1]. More or less 233.9 million women were infected by the HPV virus most of which were eliminated by the immune system [2]. It is spread by skin to skin contact and sometimes is occurred with a clinical lesion. In the event of persistent infection, HPV can be linked with mostly cervical cancer and less often with vulva, vagina, anus, rectum, oropharynx and penis cancer [2,3]. The screening test for HPV is Papanicolau (PAP) smear test or HPV test or both. More than 30 HPV types were detected specifically for the genital tract. Most oncogenic types are 16 and 18 among them. Abnormal PAP results and positive HPV tests can be stressful and cause anxiety and fear of cancer [4]. In a study that included more than 400 women, HPV positive test results broke down the women's sexual relationship with their partners [5]. In addition, precancerous genital lesions, especially on the vulva, are likely to result in apprehensions about sexual health according to the study of Naegele et al., More information and time should be given to these patients to reduce the anxiety and improve the adverse sexual outcomes [6]. Several studies were conducted about the socio-demographic features and sexual behavior of the HPV positive women, however, fewer studies were conducted to investigate the sexual disfunction of these women [7,8].

Female Sexual Dysfunction (FSD) is seen by approximately 40% of women of all ages. It harms the quality of life [9]. Although it is a common problem, patients cannot tell their doctors about this. The main reason is the shame about talking about this issue because of cultural infrastructure, especially in countries like us. FSD has several subtypes like reduced desire, impaired arousal, lack of lubrication, failed to achieve orgasm, reduced satisfaction and pain [10]. Low desire is the most detected subtype among them and approximately 39% of the women suffer from it [9]. Therefore, this study aims to determine the effect of HPV on sexual relations in women.

Materials and Methods

Study design

This study is a cross-sectional and based on a questionnaire comparing women with and without HPV positivity. The study was performed between January 2020 and April 2020 at the Department of Obstetrics and Gynecology, Dokuz Eylul University Hospital, Izmır, Turkey. The study was approved by the local ethics committee. Written informed consent was obtained from all patients.

Family health centers have screened women age between 30 and 65 with HPV-DNA tests to detect HPV status to prevent them from cervical cancer. Also any woman who wants to learn HPV status has access to go to special health centers to take the test. Women who visited the gynecologic oncology clinic with the positive HPV results were asked to complete questionnaire form. The patient's and partner's age, BMI, educational level, parity, and obstetric history were also recorded. In addition, the HPV type and duration of follow-up were recorded. HPV negative group was identified as a control group. The groups were matched for BMI, educational level, age, sociodemographic level and parity.

Patient selection

Sexually active women aged between 20 and 50 years with HPV positive test results were included in the study. Exclusion criteria were as following; women with the systemic-chronic disease,

***Corresponding authors:** Orkun Ilgen, Department of Obstetrics and Gynecology, Dokuz Eylul University, Izmir, Turkey, Tel: +90 5062884461; Fax: +90 2324123149; E-mail: mdorkunilgen@gmail.com

Citation: Ilgen O, Kurt S, Kula H, Celiloglu M (2020) Sexual Dysfunction in Women who are Human Papillomavirus Positive. J Reprod Med Gynecol Obstet 5: 061.

Received: October 30, 2020; **Accepted:** November 19, 2020; **Published:** November 26, 2020

psychiatric disorder or taking psychiatric medication, pregnancy, obesity (BMI>30), premature menopause, pelvic surgery that causes FSD, pelvic organ prolapse, a medication that effect sexual-function such as anti-arrhythmic, anti-hypertensive, sedative drugs, etc., dermatologic disorders that affect the genital area.

Questionnaire form

Female Sexual Function Index (FSFI) forms were used as a questionnaire. This self-report questionnaire was developed by Rosen et al., to evaluate the sexual function of women to detect FSD. There are 19 questions and 6 domains that evaluate desire, arousal, lubrication, orgasm, satisfaction and pain during the last four weeks [11]. Each domain has a score range between 0 to 5 and a higher score means better sexual function. Two of the questions are about sexual desire, followed four questions are to detect arousal, four questions for lubrication, three questions for orgasm, three questions for satisfaction, and the last three questions for evaluating the pain. The total score ranges between a minimum of 1.2 to a maximum of 36 points. Lower scores indicate the impaired sexual function that implies FSD. Turkish reliability and validity for this test were performed and the Cronbach alfa coefficient was determined 0.98 in the reliability study. That means FSFI is a reliable and valid measure of sexual function for Turkish women. A total score of less than 26 was considered as FSD.

Statistical analysis

All analyses were performed by using IBM SPSS Statistics Version 25. The normality test was performed by the Kolmogorov-Smirnov test. Data were presented as means ± SD for continuous variables. The Independent t-test was used to determine the differences between variables. Mann-Whitney U and Kruskal-Wallis tests were used for variables without normal distribution $p<0.05$ was considered statistically significant.

Results

A total of 108 women were included in this study. 56 of them were HPV positive, 52 women are HPV negative. The descriptive characteristics of the patients were shown in table 1. No significant difference was determined between the age, partner's age, BMI and parity. There was also no significant difference between the educational level and obstetric history according to HPV status.

According to total FSFI scores, the mean score of the HPV positive group is 21.4 ± 1.4 and HPV negative group is 23.3 ± 0.9. The FSFI scores between groups were shown in table 2. Although there was a minimal lower mean score in HPV positive group, however, this difference was not statistically significant. All of the domain scores that include desire, arousal, lubrication, orgasm, satisfaction, pain were lower in HPV positive group in comparison to HPV negative group, however, no significant difference between was determined between them.

Discussion

This study was designed to determine whether there is any difference according to FSD between the HPV positive and negative women. FSD is a very common disorder in women especially with HPV positive. However, there was no significant detected difference between groups in this conducted study. By contrast to our study, Uysal et al., found that FSFI scores were lower in HPV positive patients [12]. Cervical cancer caused by HPV is common cancer among females [3]. Although with the HPV test screening, preinvasive lesions are diagnosed earlier and give us a chance to take cautions before developed cancer, these diagnoses constitute anxiety in women with HPV. FSD is a little known area in the field of medicine, there were lots of women suffering from it worldwide [9,10].

	HPV positive N: 52	HPV negative N: 56	P value
Age (y)	34 ± 0.7	36.3 ± 0.8	0.05
BMI (kg/m²)	25.9 ± 0.5	26.6 ± 0.5	0.4
Number of children	1.7 ± 0.0	1.8 ± 0.1	0.5
Type of delivery, N (%)			
Vaginal birth	26 (24.1)	23 (21.3)	0.8
Cesarean section	26 (24.1)	33 (30.6)	0.8
Educational level, N (%)			
Not-educated	1 (0.9)	2 (1.9)	1.1
Primary-Middle school	8 (7.4)	8 (7.4)	1.1
High school	28 (25.9)	34 (31.5)	1.1
University	15 (13.9)	12 (11.1)	1.1
Partner's age (y)	35.8 ± 5.4	38.1 ± 6.6	0.05

Table 1: Characteristics of groups.

	HPV positive N: 52	HPV negative N: 56	P value
Desire	3.4 ± 0.1	3.6 ± 0.1	0.3
Arousal	3.4 ± 0.2	3.6 ± 0.2	0.8
Lubrication	3.7 ± 0.2	3.8 ± 0.1	0.2
Orgasm	3.5 ± 0.2	4 ± 0.1	0.3
Satisfaction	3.5 ± 0.2	4.2 ± 0.2	0.1
Pain	3.7 ± 0.3	4 ± 0.2	0.5
Total FSFI	21.4 ± 1.4	23.3 ± 0.9	0.7

Table 2: FSFI total and domain scores between groups.

FSD is not a rare disorder in Turkey. FSD prevalence was detected by 25% by Cayan et al., Another study was determined the FSD prevalence of 41% in women with the age range between 18 to 30 [13,14]. This difference comes from socio-cultural and educational level differences. Low desire, the most common sexual dysfunction, was determined by 39% of women and found an association with distress [9]. HPV positive results result in worries about the hygiene of the sexual partner [5]. In addition, colposcopic evaluation is another additive distress factor [15]. FSFI domains with lower scores were considered as a result of anxiety in HPV positive women. Lower scores were also obtained from HPV positive group in the present study. The reasons that cause FSD are multifactorial. Although the history of pelvic surgery was excluded, fatigue and reliance on relationships are also the strong factors that affect FSFI scores independent of HPV status.

Genital warts among men were found associated with sexual dysfunction in a study that was conducted by Kucukunal et al., [15]. However, in this study women with genital warts excluded because sexual dysfunction in people with genital warts not only comes from anxiety but also from physical effects that make intercourse

uncomfortable. By contrast to genital warts, less is known about the deteriorative effect of HPV on the cervix that has a possible negative effect on the FSFI domains such as orgasm, satisfaction, lubrication, and arousal. In a study that had a purpose to determine the differences in sexual activity between the women who had cesarean section and vaginal delivery, however, there was no detected significant difference in FSFI scores between groups [16]. In our study, the total FSFI score was found lower in the vaginal birth group in comparison to the caesarian section group. However, this result was not statistically significant.

Limitations of this study are that; firstly we did not evaluate the sexual function of the male partner and did not ask the participants to fill Beck or Stress questionaries to assess anxiety status. However, patients who were asked whether they have any psychological disorders were excluded from this study. Also, we did not follow the patients for a long time, therefore, this study did not include the long-term effects of HPV infection on FSD. The strength of this study is coming from the use of standard, reliable, and proved questionnaires to determine FSD. In conclusion, the results of this study showed that, FSD is a prevalent disorder among women whether HPV positive or not. FSFI scores can be lower in HPV positive women, however, this cannot be meaningful.

Conclusion

Therefore, checking for sexual dysfunction should be in our routine in the field of gynecology and comprehensive care should be given to the women who are suffering from FSD by a multi-disciplinary team.

Disclosure Statement

The authors declare that they have no conflicts of interest.

Statement of Ethics

The study was approved by the local ethics committee of Dokuz Eylul University, Izmir, Turkey. Written informed consent was obtained from all patients.

Author Contributions

All authors made equal contributions in all parts of the study. O.I., S.K. and M.C. designed and work on the study and participated in data collection, manuscript preparation, and revision. All authors read and approved the final manuscript.

References

1. Min K-J, Kwon S-H, Kim S, Kim H-J, Seong SJ, et al. (2016) Preventive vaccination against cervical cancer: Korean Society of Gynecologic Oncology Guideline. J Gynecol Oncol 27: 30-30.
2. Vinodhini K, Shanmughapriya S, Das BC, Natarajaseenivasan K (2012) Prevalence and risk factors of HPV infection among women from various provinces of the world. Arch Gynecol Obstet 285: 771-777.
3. Forman D, de Martel C, Lacey CJ, Soerjomataram I, Lortet-Tieulent J, et al. (2012) Global burden of human papillomavirus and related diseases. Vaccine 30: 12-23.
4. O'Connor M, Gallagher P, Waller J, Martin CM, O'Leary JJ, et al. (2015) Adverse psychological outcomes following colposcopy and related procedures: A systematic review. An Int J Obstet Gynaecol 123: 24-38.
5. McCaffery K, Waller J, Forrest S, Cadman L, Szarewski A, et al. (2004) Testing positive for human papillomavirus in routine cervical screening: Examination of psychosocial impact. An Int J Obstet Gynaecol 111: 1437-1443.
6. Nagele E, Reich O, Greimel E, Dorfer M, Haas J, et al. (2016) Sexual Activity, Psychosexual Distress, and Fear of Progression in Women With Human Papillomavirus-Related Premalignant Genital Lesions. J Sex Med 13: 253-249.
7. Alhamlan FS, Khayat HH, Ramisetty-Mikler S, Al-Muammar TA, Tulbah AM, et al. (2016) Sociodemographic characteristics and sexual behavior as risk factors for human papillomavirus infection in Saudi Arabia. Int J Infect Dis 46: 94-99.
8. Taberna M, Inglehart RC, Pickard RK, Fakhry C, Agrawal A, et al. (2017) Significant changes in sexual behavior after a diagnosis of human papillomavirus-positive and human papillomavirus-negative oral cancer. Cancer 123: 1156-1165.
9. Shifren JL, Monz BU, Russo PA, Segreti A, Johannes CB (2008) Sexual Problems and Distress in United States Women: Prevalence and Correlates. Obstet Gynecol 112: 970-978.
10. Clayton AH, Juarez EMV (2019) Female Sexual Dysfunction. Med Clin North Am 103: 681-698.
11. Rosen R, Brown C, Heiman J, Leiblum S, Meston C, et al. (2000) The Female Sexual Function Index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function. J Sex Marital Ther 26: 191-208.
12. Uysal G, Bas S, Gokulu SG, Okcu NT, Destegül E (2018) Sexual Dysfunction in Human Papillomavirus Positive Females during Reproductive Age. Reproductive System & Sexual Disorders: Current Research 7: 2.
13. Cayan S, Akbay E, Bozlu M, Canpolat B, Acar D, et al. (2004) The prevalence of female sexual dysfunction and potential risk factors that may impair sexual function in Turkish women. Urol Int 72: 52-57.
14. Ergun O, Simten M (2006) Prevalence and risk factors for female sexual dysfunction in Turkish women. J Urol 175: 654-658.
15. Kucukunal A, Altunay IK, Mercan S (2013) Sexual Dysfunction in Men Suffering from Genital Warts. J Sex Med 10: 1585-1591.
16. Hosseini L, Iran-Pour E, Safarinejad MR (2012) Sexual function of primiparous women after elective cesarean section and normal vaginal delivery. Urol J 9: 498-504.

Advances In Industrial Biotechnology | ISSN: 2639-5665

Advances In Microbiology Research | ISSN: 2689-694X

Archives Of Surgery And Surgical Education | ISSN: 2689-3126

Archives Of Urology

Archives Of Zoological Studies | ISSN: 2640-7779

Current Trends Medical And Biological Engineering

International Journal Of Case Reports And Therapeutic Studies | ISSN: 2689-310X

Journal Of Addiction & Addictive Disorders | ISSN: 2578-7276

Journal Of Agronomy & Agricultural Science | ISSN: 2689-8292

Journal Of AIDS Clinical Research & STDs | ISSN: 2572-7370

Journal Of Alcoholism Drug Abuse & Substance Dependence | ISSN: 2572-9594

Journal Of Allergy Disorders & Therapy | ISSN: 2470-749X

Journal Of Alternative Complementary & Integrative Medicine | ISSN: 2470-7562

Journal Of Alzheimers & Neurodegenerative Diseases | ISSN: 2572-9608

Journal Of Anesthesia & Clinical Care | ISSN: 2378-8879

Journal Of Angiology & Vascular Surgery | ISSN: 2572-7397

Journal Of Animal Research & Veterinary Science | ISSN: 2639-3751

Journal Of Aquaculture & Fisheries | ISSN: 2576-5523

Journal Of Atmospheric & Earth Sciences | ISSN: 2689-8780

Journal Of Biotech Research & Biochemistry

Journal Of Brain & Neuroscience Research

Journal Of Cancer Biology & Treatment | ISSN: 2470-7546

Journal Of Cardiology Study & Research | ISSN: 2640-768X

Journal Of Cell Biology & Cell Metabolism | ISSN: 2381-1943

Journal Of Clinical Dermatology & Therapy | ISSN: 2378-8771

Journal Of Clinical Immunology & Immunotherapy | ISSN: 2378-8844

Journal Of Clinical Studies & Medical Case Reports | ISSN: 2378-8801

Journal Of Community Medicine & Public Health Care | ISSN: 2381-1978

Journal Of Cytology & Tissue Biology | ISSN: 2378-9107

Journal Of Dairy Research & Technology | ISSN: 2688-9315

Journal Of Dentistry Oral Health & Cosmesis | ISSN: 2473-6783

Journal Of Diabetes & Metabolic Disorders | ISSN: 2381-201X

Journal Of Emergency Medicine Trauma & Surgical Care | ISSN: 2378-8798

Journal Of Environmental Science Current Research | ISSN: 2643-5020

Journal Of Food Science & Nutrition | ISSN: 2470-1076

Journal Of Forensic Legal & Investigative Sciences | ISSN: 2473-733X

Journal Of Gastroenterology & Hepatology Research | ISSN: 2574-2566

Journal Of Genetics & Genomic Sciences | ISSN: 2574-2485

Journal Of Gerontology & Geriatric Medicine | ISSN: 2381-8662

Journal Of Hematology Blood Transfusion & Disorders | ISSN: 2572-2999

Journal Of Hospice & Palliative Medical Care

Journal Of Human Endocrinology | ISSN: 2572-9640

Journal Of Infectious & Non Infectious Diseases | ISSN: 2381-8654

Journal Of Internal Medicine & Primary Healthcare | ISSN: 2574-2493

Journal Of Light & Laser Current Trends

Journal Of Medicine Study & Research | ISSN: 2639-5657

Journal Of Modern Chemical Sciences

Journal Of Nanotechnology Nanomedicine & Nanobiotechnology | ISSN: 2381-2044

Journal Of Neonatology & Clinical Pediatrics | ISSN: 2378-878X

Journal Of Nephrology & Renal Therapy | ISSN: 2473-7313

Journal Of Non Invasive Vascular Investigation | ISSN: 2572-7400

Journal Of Nuclear Medicine Radiology & Radiation Therapy | ISSN: 2572-7419

Journal Of Obesity & Weight Loss | ISSN: 2473-7372

Journal Of Ophthalmology & Clinical Research | ISSN: 2378-8887

Journal Of Orthopedic Research & Physiotherapy | ISSN: 2381-2052

Journal Of Otolaryngology Head & Neck Surgery | ISSN: 2573-010X

Journal Of Pathology Clinical & Medical Research

Journal Of Pharmacology Pharmaceutics & Pharmacovigilance | ISSN: 2639-5649

Journal Of Physical Medicine Rehabilitation & Disabilities | ISSN: 2381-8670

Journal Of Plant Science Current Research | ISSN: 2639-3743

Journal Of Practical & Professional Nursing | ISSN: 2639-5681

Journal Of Protein Research & Bioinformatics

Journal Of Psychiatry Depression & Anxiety | ISSN: 2573-0150

Journal Of Pulmonary Medicine & Respiratory Research | ISSN: 2573-0177

Journal Of Reproductive Medicine Gynaecology & Obstetrics | ISSN: 2574-2574

Journal Of Stem Cells Research Development & Therapy | ISSN: 2381-2060

Journal Of Surgery Current Trends & Innovations | ISSN: 2578-7284

Journal Of Toxicology Current Research | ISSN: 2639-3735

Journal Of Translational Science And Research

Journal Of Vaccines Research & Vaccination | ISSN: 2573-0193

Journal Of Virology & Antivirals

Sports Medicine And Injury Care Journal | ISSN: 2689-8829

Trends In Anatomy & Physiology | ISSN: 2640-7752