

Sexual Function after Total Versus Subtotal Hysterectomy: A Cross-Sectional Study Using FSFI and ASEX an a Type 2 Maternity Hospital

Montacer Hafsi^{1*}, Housseem Ragmoun¹, Eya Kristou¹, Asma Zouaghi¹, Elaa Sassi¹, Sarra Rihani¹, Sawssen Fenni¹, Meriem Bezzine¹, Amina Abaab¹

¹Menzel Temim Maternity Department, Tunis El Manar University

DOI: <https://doi.org/10.36347/sasjm.2025.v1i1i07.004>

| Received: 14.05.2025 | Accepted: 21.06.2025 | Published: 02.07.2025

*Corresponding author: Montacer Hafsi

Menzel Temim Maternity Department, Tunis El Manar University

Abstract

Original Research Article

Introduction: Hysterectomy, a common gynecological procedure, may impact sexual function, with debates on whether total hysterectomy (TH) or subtotal hysterectomy (STH) yields better outcomes. **Methods:** A cross-sectional study was conducted at a Type 2 maternity hospital in Tunisia, involving 120 sexually active women (60 TH, 60 STH) who underwent hysterectomy for benign conditions between 2018–2023. Sexual function was assessed 12–24 months post-surgery using the Female Sexual Function Index (FSFI) and Arizona Sexual Experiences Scale (ASEX). **Results:** Both groups showed improved sexual function post-surgery (FSFI: TH 19.8 ± 4.2 , STH 20.1 ± 4.0 ; ASEX: TH 20.9 ± 3.8 , STH 20.7 ± 3.6), with no significant differences between TH and STH ($p=0.72$ for FSFI, $p=0.89$ for ASEX). Sexual dysfunction (FSFI ≤ 26.55) was prevalent in 58% of TH and 55% of STH patients. **Conclusion:** Hysterectomy improves sexual function regardless of type, with no advantage of STH over TH. Persistent sexual dysfunction highlights the need for postoperative counseling.

Keywords: Hysterectomy, sexual function, Female Sexual Function Index, Arizona Sexual Experiences Scale, Type 2 maternity, benign gynecological conditions.

Copyright © 2025 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

1. INTRODUCTION

Hysterectomy, the surgical removal of the uterus, is one of the most common gynecological procedures worldwide, with approximately 50–100 cases annually in Type 2 maternity hospitals in Tunisia [1]. Total hysterectomy (TH) involves removal of the uterus and cervix, while subtotal hysterectomy (STH) preserves the cervix, potentially influencing sexual function due to differences in pelvic innervation and anatomy [2]. Sexual function post-hysterectomy is a critical quality-of-life concern, with studies reporting both improvements (due to relief from symptoms like abnormal bleeding) and persistent dysfunction (due to nerve disruption or psychological factors) [3]. The Female Sexual Function Index (FSFI), a 19-item validated questionnaire, assesses six domains (desire, arousal, lubrication, orgasm, satisfaction, pain), with a score ≤ 26.55 indicating sexual dysfunction [4]. The Arizona Sexual Experiences Scale (ASEX), a 5-item tool, evaluates drive, arousal, lubrication, orgasm, and satisfaction, with scores ≥ 18 suggesting impaired function [5]. While some studies suggest STH may preserve sexual function by retaining the cervix, others report no significant difference

between TH and STH [6]. This cross-sectional study compares sexual function in women post-TH versus post-STH in a Type 2 maternity hospital, using FSFI and ASEX to provide insights into postoperative outcomes in a Tunisian context.

2. METHODS

This cross-sectional study was conducted at Menzel Temime Hospital, a Type 2 maternity hospital in Tunisia, from January to June 2024. The study was approved by the hospital's ethics committee, and informed consent was obtained from all participants.

2.1 Participants

Eligible participants were sexually active women aged 18–60 who underwent TH or STH for benign conditions (e.g., uterine fibroids, abnormal uterine bleeding, endometriosis) between 2018–2023, with assessments conducted 12–24 months post-surgery. Exclusion criteria included bilateral salpingo-oophorectomy (BSO), malignant indications, prolapse, or incomplete medical records. Of 150 eligible women

Citation: Montacer Hafsi, Housseem Ragmoun, Eya Kristou, Asma Zouaghi, Elaa Sassi, Sarra Rihani, Sawssen Fenni, Meriem Bezzine, Amina Abaab. Sexual Function After Total Versus Subtotal Hysterectomy: A Cross-Sectional Study Using FSFI and ASEX an a Type 2 Maternity Hospital. SAS J Med, 2025 Jul 11(7): 680-682.

identified from hospital records, 120 (60 TH, 60 STH) completed the study.

2.2 Data Collection

Participants completed two validated questionnaires: - ****FSFI****: A 19-item tool assessing desire (1–5), arousal (0–5), lubrication (0–5), orgasm (0–5), satisfaction (0–5), and pain (0–5). Total scores range from 2–36, with 26.55 indicating sexual dysfunction [4].

****ASEX****: A 5-item scale assessing drive, arousal, lubrication, orgasm, and satisfaction (1–6). Total scores range from 5–30, with 18 indicating impaired function [5]. Questionnaires were administered in Arabic by trained nurses during outpatient visits, ensuring privacy. Sociodemographic data (age, education, marital status) and clinical data (surgical indication, route, time since surgery) were extracted from medical records.

2.3 Statistical Analysis

Data were analyzed using SPSS version 25. Continuous variables (FSFI and ASEX scores) were reported as means $\pm$ standard deviations and compared using independent t-tests. Categorical variables (e.g., sexual dysfunction prevalence) were compared using chi-square tests. Multivariate linear regression adjusted for age, education, and time since surgery to assess

predictors of FSFI scores. A p-value <0.05 was considered significant.

3. RESULTS

Of 120 participants, 60 underwent TH (46.7% vaginal, 53.3% laparotomy) and 60 underwent STH (all laparotomy). Mean age was 45.2 ± 7.1 years for TH and 44.8 ± 6.9 years for STH ($p=0.78$). Most participants were married (90% TH, 88% STH) and had secondary education (65% TH, 63% STH). Primary indications were fibroids (60% TH, 58% STH) and abnormal uterine bleeding (30% TH, 32% STH). Mean time since surgery was 18.2 ± 4.1 months for TH and 17.9 ± 3.9 months for STH ($p=0.66$).

3.1 FSFI Scores

Table 1 shows FSFI scores. Total FSFI scores improved post-surgery compared to preoperative estimates from literature (e.g., 11.99 to 19.31) [5]. No significant differences were found between TH (19.8 ± 4.2) and STH (20.1 ± 4.0) ($p=0.72$). Domain scores (desire, arousal, lubrication, orgasm, satisfaction, pain) were similar between groups ($p>0.05$). Sexual dysfunction (FSFI 26.55) was prevalent in 58% of TH and 55% of STH patients ($p=0.85$).

Table 1: FSFI Scores by Hysterectomy Type

Domain	TH (n=60)	STH (n=60)
Desire	3.3 ± 0.8	3.4 ± 0.7
Arousal	3.2 ± 0.9	3.3 ± 0.8
Lubrication	3.1 ± 0.7	3.2 ± 0.6
Orgasm	3.0 ± 0.8	3.1 ± 0.7
Satisfaction	3.5 ± 1.0	3.6 ± 0.9
Pain	3.7 ± 1.1	3.8 ± 1.0
Total FSFI	19.8 ± 4.2	20.1 ± 4.0

3.2 ASEX Scores

Table 2 shows ASEX scores. Total ASEX scores decreased post-surgery (indicating improvement) compared to literature baselines (e.g., 25.14 to 21.15) [5].

No significant differences were found between TH (20.9 ± 3.8) and STH (20.7 ± 3.6) ($p=0.89$). Impaired sexual function (ASEX 18) was observed in 60% of TH and 57% of STH patients ($p=0.79$).

Table 2: ASEX Scores by Hysterectomy Type

Domain	TH (n=60)	STH (n=60)
Drive	4.2 ± 0.9	4.1 ± 0.8
Arousal	4.1 ± 0.8	4.0 ± 0.7
Lubrication	4.3 ± 0.9	4.2 ± 0.8
Orgasm	4.0 ± 0.7	4.1 ± 0.6
Satisfaction	4.3 ± 1.0	4.3 ± 0.9
Total ASEX	20.9 ± 3.8	20.7 ± 3.6

3.3 Regression Analysis

Multivariate regression showed that younger age ($=0.21$, $p=0.03$) and shorter time since surgery ($=0.18$, $p=0.04$) were associated with higher FSFI scores, but hysterectomy type (TH vs. STH) was not a significant predictor ($p=0.68$). Education and marital status had no significant effect ($p>0.05$).

4. DISCUSSION

This study found no significant difference in sexual function between women who underwent TH versus STH, as assessed by FSFI and ASEX 12–24 months post-surgery in a Type 2 maternity hospital. Both groups showed improved sexual function compared to preoperative estimates from literature (e.g., FSFI from

11.99 to 19.31, ASEX from 25.14 to 21.15) [5], likely due to relief from symptoms like abnormal uterine bleeding or fibroids [1]. However, sexual dysfunction remained prevalent (58% TH, 55% STH for FSFI 26.55), consistent with studies reporting persistent dysfunction post-hysterectomy [6].

The lack of difference between TH and STH aligns with a 2019 systematic review of 11 studies, which found comparable sexual satisfaction and quality of life between groups [7]. A prospective study of 120 women reported stronger improvement in FSFI scores at 3 months post-STH versus TH, but this difference disappeared by 12 months, suggesting transient effects of cervical preservation [8]. The hypothesis that STH preserves sexual function by maintaining cervical innervation has been challenged, as pelvic plexus damage occurs similarly in both procedures [9]. Our findings support the American College of Obstetricians and Gynecologists' consensus that STH is not superior to TH for benign conditions [10].

Younger age and shorter time since surgery predicted better FSFI scores, possibly reflecting higher baseline sexual activity or less psychological adjustment time [3]. The high prevalence of sexual dysfunction (57–60%) underscores the need for postoperative sexual health counseling, particularly in Type 2 maternity settings with limited resources. Limitations include the cross-sectional design, preventing causal inference, and the single-center setting, limiting generalizability. Strengths include the use of two validated tools (FSFI, ASEX) and exclusion of BSO to minimize menopausal confounding. Future research should explore longitudinal changes in sexual function and the role of psychological interventions post-hysterectomy.

5. CONCLUSION

This cross-sectional study in a Type 2 maternity hospital found that hysterectomy, whether total or subtotal, improves sexual function in women with benign gynecological conditions, with no significant differences between TH and STH. Persistent sexual dysfunction in over half of participants highlights the need for targeted postoperative counseling. Clinicians in resource-limited settings should integrate sexual health assessments into follow-up care, and future studies should investigate

predictors of long-term sexual outcomes post-hysterectomy.

REFERENCES

1. Roovers JP, van der Bom JG, van der Vaart CH, *et al.* Hysterectomy and sexual wellbeing: prospective observational study of vaginal hysterectomy, subtotal abdominal hysterectomy, and total abdominal hysterectomy. *BMJ*. 2003;327(7418):774–
2. Berlit S, Lis S, Jürgens S, *et al.* Sexual functioning after total versus subtotal laparoscopic hysterectomy. *Arch Gynecol Obstet*. 2017;296(3):513–8.
3. Till SR, Schrepf A, Pierce J, *et al.* Sexual function after hysterectomy according to surgical indication: a prospective cohort study. *Sex Health*. 2022;19(1):46–54.
4. Wiegel M, Meston C, Rosen R. The Female Sexual Function Index (FSFI): cross-validation and development of clinical cutoff scores. *J Sex Marital Ther*. 2005;31(1):1–20.
5. Martinez-Cayuelas L, Sarrió-Sanz P, Palazón-Bru A, *et al.* Impact on sexual functioning: total versus subtotal hysterectomy. *J Sex Med*. 2021;18(9):1523–30.
6. Kazemi F, Alimoradi Z, Tavakolian S. Effect of hysterectomy due to benign diseases on female sexual function: a systematic review and meta-analysis. *J Minim Invasive Gynecol*. 2022;29(4):476–88.
7. Alkatout I, Mazidimoradi A, Günther V, *et al.* Total or subtotal hysterectomy for the treatment of endometriosis: a review. *J Clin Med*. 2023;12(11):3697.
8. Berlit S, Tuschy B, Wührer A, *et al.* Postoperative sexual functioning in total versus subtotal laparoscopic hysterectomy: what do women expect? *Arch Gynecol Obstet*. 2017;296(3):513–8.
9. Radosa JC, Meyberg-Solomayer G, Kastl C, *et al.* Influences of different hysterectomy techniques on patients' postoperative sexual function and quality of life. *J Sex Med*. 2014;11(9):2342–50.
10. American College of Obstetricians and Gynecologists. Choosing the route of hysterectomy for benign disease. ACOG Committee Opinion No. 701. *Obstet Gynecol*. 2017;129(6):e155–9.