Table S1. Items developed by the authors to evaluate reasons for changes in sexual quality of life

|  |  |  |
| --- | --- | --- |
|  | **Question** | **Response options** |
| Q1*Sexual life prior to breast cancer* | Before I was diagnosed with cancer, my sexual life was:  | 1. Very unsatisfying
2. Unsatisfying
3. Rather unsatisfying
4. Rather satisfying
5. Satisfying
6. Very satisfying
 |
| Q2*Change in sexual life* | Has your sexual life changed from before you were diagnosed with cancer until now? | 1. It has become much worse
2. It has become a little worse
3. It has not changed
4. It has become a little better
5. It has become much better
 |
| Q3*The experienced impact of breast cancer treatment on sexual life* | *If the respondent has experienced a change in her sexual life, she is further encouraged to answer:* Has your sexual life changed due to the breast cancer treatment? | 1. Yes, that is the primary cause
2. Yes, but it is not the primary cause
3. No, my sexual life has changed due to other causes
4. I do not now
 |
| Q4*Reasons for aggravation in sexual life* | *If her sexual life has become worse (response option 1) and 2) in Q2)*:What caused the change in your sexual life from before you were diagnosed with breast cancer until now? | 1. Urinary symptoms (pain in relation to sexual intercourse, dry vagina, urine leakage or similar)
2. Lack of sexual desire/interest
3. Physical malaise (fatigue, nausea or similar)
4. Relationship issues (lack of intimacy, communication or similar)
5. Partner’s sexual problems (erectile dysfunction or similar)
6. New partner
7. Have become single/no partner
8. Have felt less attractive
9. Other (explain)
 |
| Q5*Reasons for improvement in sexual life* | *If her sexual life has become better (response option 4) and 5) in Q2):*What caused the change in your sexual life from before you were diagnosed with breast cancer until now? | 1. Use of sexual aids (local hormone treatment, vaginal lubricants, sex toys or similar)
2. Couples therapy, cognitive therapy or similar support/guidance
3. Increased desire/interest
4. Improved physical condition
5. Relationship improvements (enhanced intimacy, communication or similar)
6. Improvements in partner’s sexual function
7. New partner
8. Have become single/no partner
9. Have felt more attractive
10. Other (explain)
 |

Table S2. Sociodemographic characteristics of breast cancer survivors included in analysis of sexual dysfunction (sexually active) vs. breast cancer survivors not included in analysis (sexually inactive or no intercourse due to no partner)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable** | **Sexually active (N=227)****N** | **(%)\*** | **Sexually inactive (N = 106)****N** | **(%)\*** | **P e** |
| **Age**, years< 50≥ 50Mean ± SD (range) | 5117656.9 ± 9.6 (24-80) | (22)(78) | 149262.6 ± 10.3 (22-80) | (13)(87) | <0.05┼<0.01┼ |
| **Ethnicity**CaucasianOtherMissing | 22331 | (99)(1) | 1090 | (100)- | 0.61 |
| **Education,** years≤ 13> 13Missing | 81146- | (36)(64) | 49561 | (47)(53) | 0.06 |
| **Relationship status**Living with a partnerSingleAmong BCS with a partnerNew partner since BC | 217911 | (96)(4)(5) | 44620 | (42)(58)- | <0.01┼0.13 |
| **Menopause status**- at time of diagnosePreaPeribPostcMissing- at time of study entryPreaPeribPostcMissing | 81191261792101 | (36)(8)(56)(3)(4)(93) | 17386-12103- | (16)(3)(81)(1)(2)(97) | <0.01┼0.94 |
| **Smoking status**Current Previous NeverMissing | 2590112- | (11)(40)(49) | 2148361 | (20)(46)(34) | 0.01┼ |
| **Alcohol**Never drinkDrinkMissing | 35192- | (15)(85) | 23812 | (22)(78) | 0.14 |
| **BMI**16-25 25-30 >30 MissingMean ± SD (range) | 1167832125.5 ± 4.3 (16.4 - 45.2)  | (51)(35)(14) | 414024127.1 ± 5.3 (17.0 – 53.9)  | (39)(38)(23) | 0.06<0.01┼ |
| **Use of medication** (>3 days)Sleep medicationAntidepressantsAnxiety medication | 131710 | (6)(8)(5) | 12148 | (12)(13)(8) | 0.060.090.23 |
| **SQOL prior to BC**DissatisfiedSatisfiedMissing | 212042 | (9)(91) | 275425 | (33)(67) | <0.01┼ |

a Regular menstruation, b Irregular menstruation, c Menstruation stopped,

d Experienced “somewhat” or “a lot”

e chi2 or *t* test, ┼ Level of significance (p<0.05)

\* Calculated based on received responses (excluded missing)

BCSs= Breast cancer survivors, BMI= body mass index, BC= breast cancer, SQOL = sexual quality of life

Table S3. Clinical characteristics of breast cancer survivors included in analysis of sexual dysfunction (sexually active) vs. breast cancer survivors not included in analysis (sexually inactive or no intercourse due to no partner)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable**  | **Sexually active (N=227)****N** | **(%)** | **Sexually inactive** **(N = 106)****N** |  **(%)** | **p e** |
| **Median time since surgery** (range), months | 27.25 (3-132) |  | 26.20 (4-144) |  | 0.87 |
| **New primary BC** | 16 | (11) | 7 | (8) | 0.88 |
| **Tumor grading**IIIIIINA1 | 531164018 | (23)(51)(18)(8) | 1764205 | (16)(60)(19)(5) | 0.25 |
| **Mean tumor size ± SD** (range)**,** mm | 17.9 **±** 11.9 (0-100) |  | 18.2 **±** 9.8 (0 - 75) |  | 0.79 |
| **Lymph node involvement**Yes NoNo. of lymph nodes Median (range) | 791482 (1-16) | (35)(65) | 33732 (1-31) | (31)(69) | 0.500.43 |
| **Type of surgery**LumpectomyMastectomyReconstruction | 1487928 | (65)(35)(12) | 693711 | (65)(35)(10) | 0.990.59 |
| **Treatment**AET aloneAET combined with:- Chemotherapy- Radiotherapy- Trastuzumab | 915119235 | (4)(67)(85)(15) | 8558712 | (8)(52)(82)(11) | 0.170.01┼0.560.32 |
| **Current AET**Letrozole Tamoxifen | 127100 | (56)(44) | 8224 | (77)(23) | <0.01┼ |
| **Duration of AET,** months3-1213-36>36Median (range) | 60808723.4 (3-118) | (27)(35)(38) | 25483322.0 (3-120) | (24)(45)(31) | 0.210.80 |

1 Patient had mucinous or micropapillary carcinoma of the breast, or received neoadjuvant chemotherapy

e chi2, median test or *t* test, ┼ Level of significance (p<0.05)

BC= breast cancer, AET = adjuvant endocrine therapy

Table S4. Urogenital and psychosocial scores of breast cancer survivors included in analysis of sexual dysfunction (sexually active) vs. breast cancer survivors not included in analysis (sexually inactive or no intercourse due to no partner)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Instrument**  | **Variable** | **Sexually active** | **Sexually inactive** |  |
|  |  | **N** | **Median** | **Range** | **N** | **Median** | **Range** | **p\*** |
| **ICIQ** | Urogenital symptoms | 206 | 1.5 | 0 - 11 | 33 | 1.0 | 0 - 9 | 0.80 |
| **BDI** | Psychological well-being | 225 | 5.25 | 0 - 32 | 104 | 6.0 | 0 - 31 | 0.74 |
| **CARES** | Body imageQuality of partnered relationshipSingle women’s interest in dating | 2272179 | 0.330.221.0 | 0 - 40-2.890 - 3 | 1064651 | 0.330.241.0 | 0 – 40-2.110 - 4 | 0.390.220.85 |

\* Wilcoxon-Man-Whitney test

ICIQ = International Consultation on Incontinence Modular Questionnaire, BDI= Beck Depression Inventory, CARES= Cancer Rehabilitation Evaluation System