Female Sexual Dysfunction
Workshop 9
Monday 23 August 2010, 09:00 – 12:00

Time	Time	Topic	Speaker
09.00	09.05	Introduction	Ranee Thakar
09.05	09.20	Defining and assessment of Female Sexual Dysfunction	Catherine Matthews
09.20	09.35	Use of questionnaires to assess sexual function in women with pelvic floor dysfunction	Dorothy Kammerer-doak
09.35	09.50	Effect of pelvic floor dysfunction on female sexual function	Catherine Matthews
09.50	10.10	Sex after surgery for pelvic floor dysfunction	Dorothy Kammerer-doak
10.10	10.30	Sex after childbirth- Will it ever be the same again?	Ranee Thakar
10.30	10.50	Break	
10.50	11.10	Sex in the older woman- Does age matter?	Claudine Domoney
11.10	11.50	Therepeutic options – interactive case presentations Low sexual desire Sexual arousal disorder Orgasmic disorder Sexual pain disorder	Faculty
11.50	12.00	Discussion	

Background information:
Sexual dysfunction is a highly prevalent condition in women attending urogynecological services. However, only a minority of urogynaecologists screen patients for female sexual dysfunction (FSD). Lack of time, uncertainty about therapeutic options and older age of the patient have been cited as potential reasons for failing to address sexual complaints as part of routine history. A recent survey of the British Society of Urogynaecologists showed that 76% found training for FSD unsatisfactory. There is, therefore a need for better implementation of education and training.

Aims:

- To evaluate definitions of female sexual dysfunction (FSD).
- To present the relationship of FSD to pelvic floor dysfunction pre- and post- childbirth and to urogynecological surgery.
- To review physical, psychological, and pharmacological therapies.
- To illustrate the above points by citing specific cases

Key learning points

- Define female sexual dysfunction

- Understand the relationship between pelvic floor dysfunction and female sexual dysfunction
- Learn how to manage female sexual dysfunction

Take home messages

- Female sexual dysfunction is an under reported condition that is highly prevalent in women attending urogynecological services.
- If a sexual problem is identified, take time to understand the background and explore any possible psychosexual problem.
- Evidence from large prospective studies have shown that prolapse and/or incontinence adversely affect sexual function and treatment of these conditions improves sexual function.

Mars and Venus: Definition and assessment of female sexual dysfunction

Catherine Matthews, MD
Associate Professor
Urogynecology and Pelvic Reconstructive Surgery
Medical College of Virginia
Virginia Commonwealth University
Richmond, Virginia

The New York Times

What Do Women Want?

Incidence

- Poor epidemiologic data
- 10 – 52 % of men
- 25 – 63 % of women
- Prevalence is actually higher in premenopausal women

Frank et. al. N Engl J Med 1978
Rosen et. al. J Sex Marital Ther 1993
Spector et. al. Arch Sex Behav 1990

Incidence

- 43% of U.S. women report dissatisfaction with sexual function
  - Lack of interest- 33%
  - Arousal difficulties- 14%
  - Pain- 11%
  - Anxious about performance- 16%
  - No orgasm-15%

Laumann et. al. JAMA 1999

Risk Factors

- Racial group, age, marital status, and level of education impact prevalence significantly
- Poor physical and emotional health are highly associated with sexual dysfunction

Laumann et al. JAMA 1999

Diagnostic Classification

- Sexual desire disorders*
  - Hypoactive sexual desire
  - Sexual aversion disorder
- Sexual arousal disorder*
- Orgasmic disorder*
- Sexual pain disorders*
  - Dyspareunia
  - Vaginismus
  - Other sexual pain disorders

* Symptoms result in personal distress

Basson R et al. *J Urol.* 2000 Mar;163(3):888-93.

Sexual dysfunction and quality of life

- Strong negative association
- Increased longevity in couples who remain sexually active
- Highlights need for improved screening, evaluation, and treatment of sexual disorders

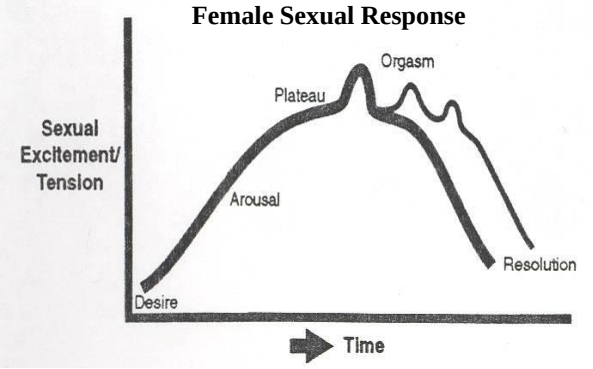
FSD: Are urogynecologists ready for it?

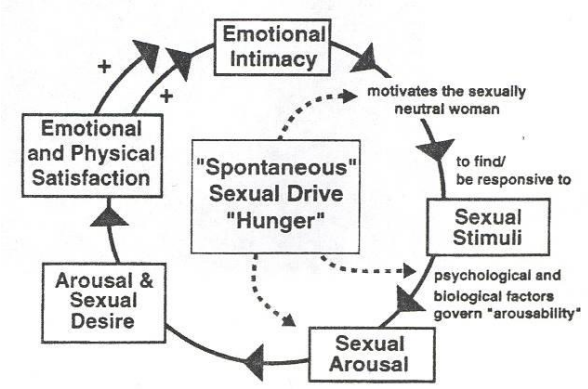
	BSUG (%)	AUGS (%)
Never/rarely	47	23
Most of the time	50	55
Always	0	22

Roos et al. Int Urogynecol J, 2009.

Neurobiology of Sex

- Sex steroids:
  - Testosterone (+) desire
  - Estrogen (+) arousal
- Hormones:
  - Prolactin (-) sexual excitement
- Neurotransmitters:
  - Dopamine and NE (+) desire, arousal
  - Serotonin (-) all aspects of sexual function





Sex differences in patterns of genital sexual arousal.

- Cohort study of men and women exposed to variety of sexual scenarious
- Recorded and correlated subjective and objective responses to visual stimuli

Chivers et al. Arch Sex Behav, 2008

Chivers et al

- In males, regardless of sexual orientation, "category specific" responses with good correlation between subjective and objective response
- In females, physical response did not in any way correlate with mental response.

What women want…

- Is to feel "desirable"
- Feeling "desirable" creates desire
- Not true in males

Sexual Influences

- Reproductive Endocrinology
  - Mid-cycle surge in libido
  - Increased desire when attempting to get pregnant
  - Reduced desire post partum (prolactin)
- Psychological Factors
  - Emotional stress
  - Body image
  - Depression
  - Relationship conflicts

Sexual Influences

- Pharmacology
  - Antidepressants, especially SSRIs
  - Anti-psychotic agents (inhibition of dopamine)
  - Cardiac meds
  - Herbal preparations: St. Johns Wort
  - Drugs of abuse
- Culture
  - Family attitudes towards sexuality
  - Difference between raising boys and girls

Master variables of desire

- Age
  - Frequency of Sex
  - Frequency of Sexual Dysfunction
- Gender
  - Female sex-drive is weaker and is more easily eradicated by social circumstances
  - Gender motivation differs

Master variables of desire

- Social situation
  - Attitude towards desire is strongly influenced by current social standing
- Health
  - Strong influence on sexual function.
  - Chronic medical conditions (diabetes, CAD, depression) biggest variable in older population

Hypoactive sexual desire disorder

- Most common
- Most difficult to quantify
- Most easily influenced by external factors
- Most difficult to treat
- Testosterone plays a definite role

Female Sexual Arousal Disorder

- The inability to reach or maintain a satisfactory sexual excitement resulting in personal distress
- Influenced by estrogen
- Poor vaginal lubrication and smooth muscle relaxation
- Impact of menopause
- May be caused by an unrecognized desire disorder

Vaginal Lubrication

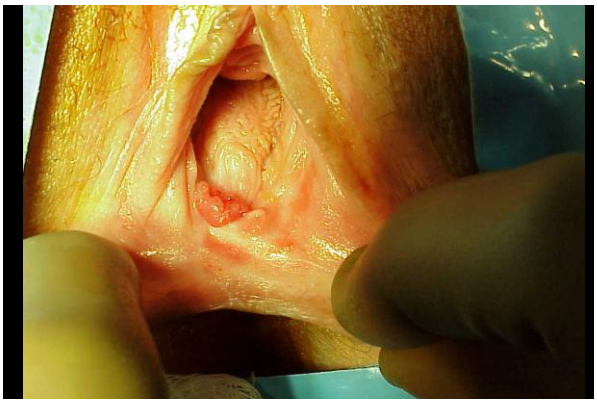
- Significant role in arousal disorders
- Menopause, lactation, some OCPs
- Local estrogen: Vagifem ™, Estring ™
- Astroglide ™
- Stay away from K-Y Jelly

Orgasmic disorder

- Recurrent or persistent difficulty to experience orgasm and results in personal distress
- Primary: Never experienced orgasm
  - insufficient stimulation
  - lack of experience
  - sexual abuse.
- Secondary: Hormone deficiency, desire and arousal disorders, psychological factors
- Sex aides can be very helpful

Sexual Pain Disorders

- Dyspareunia
  - Endometriosis
  - Pelvic mass
  - Levator ani syndrome
  - Pelvic organ prolapse
  - Intravaginal cervical elongation
- Vaginismus
  - Vestibulitis
  - Complications of perineal laceration repair: Matthews et al. J Pelvic Med & Surg, 2010.

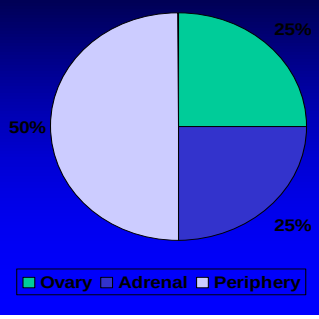


Sex after Hysterectomy

- No difference in sexual function between vaginal, abdominal, or supracervical hysterectomy
- Dyspaurenia and anorgasmia may improve following hysterectomy
- Hysterectomy may enhance sexual function as menses and fear of pregnancy are eradicated

Thacker et. al. NEJM 2003
Rhodes et. al. JAMA 1999
Gutl et. al. J Psychosom Obstet Gynecol 2002

Androgen Sources in Women



Sex after Oophorectomy

- During menopause, ovarian stroma still produces testosterone. Levels of free testosterone rise due to falling SHBG.
- With oophorectomy, women may have significantly more sexual dysfunction- must weigh against risk of ovarian cancer
- HOPE (Hysterectomy with Ovarian Preservation Evaluation) study in planning stages

Judd HL et al. J Clin Endocrinol Metab, 1974
Zussman et al. Am J Obstet Gynecol, 1981
Nathorst-Boos et al. Gynecol Obstet Invest, 1992

Clinical Evaluation

- 3 simple questions (Plouffe et al)
  - Are you sexually active?
  - Are there any problems?
  - Do you have any pain with intercourse?
- Validated sexual function questionnaires (PISQ-12)
- Careful review of all medicines (RX and OTC)

Patient Assessment

- Pelvic examination
  - Labia
  - Vestibule
  - Levator ani
  - Vaginal epithelium
  - Cervix, uterus, bladder, rectum, uterosacral ligaments

Patient assessment

- Laboratory studies generally not needed:
  - Testosterone values not helpful
  - FSH can confirm menopause
  - No clinical utility of checking LH
  - Don't overlook thyroid disease or a prolactinoma in women who are anovulatory

If a sexual problem is identified

- Take time to understand the background of the problem
- Take time to establish a relationship with the patient that will allow sensitive topics to emerge
- Take time to explore any possible psychological relationships with the problem

Sexual Function Questionnaires in Women with Pelvic Floor Dysfunction

Dorothy Kammerer-Doak, MD
Women's Pelvic Specialty Care
Clinical Associate Professor UNMH
Albuquerque, New Mexico
USA

Objectives

Review

- **Questionnaire development**
- **Sexual function questionnaires used in Urogynecology**
- **Experience and publications of sexual function questionnaires in Urogynecology**

Questionnaire Development

Validation

- assures that the information obtained from patients is the information that the researcher intended to collect in a quantifiable manner

Reliability testing

- Internal consistency
- Questions perform the same/are answered the same when given more than once

Questionnaire Development

Validation

- Content or face validity
  - Appropriate questions asked
  - Measures intended information
- Construct validity
  - Evaluates behavior of questionnaire in different populations
- Criterion validity
  - Correlation with gold-standard measure
- Ongoing process

Questionnaire Development

- Reliability testing
  - Questions perform the same/are answered the same when given more than once
  - Internal consistency
    - Chronbach's alpha determines each question's contribution to domain and questionnaire as a whole
  - Reproducibility
    - Variability (intra and inter-rated reliability)
      - Questionnaire repeated and answers compared
      - Same results multiple studies
- Responsiveness
  - Ability to detect effect of treatment

Questionnaires, Sexual Function and the Pelvic Floor

- Quality of Life
- Generalized Sexual Function
- Condition Specific Sexual Function
  - PFD: UI, POP, FI

Questionnaires and Sexual Function: Quality of Life

- King's Health Questionnaire
- Incontinence Impact Questionnaire
  - PFD Condition specific questionnaires not focused on sexual function
  - Several questions about sexual function
  - Deal with impact of PFD on QOL/well-being
- Extensive validation
- Extensive reliability testing

Kelleher Br J Obstet Gynecol 1997;104:1374
Wyman Obstet Gynecol 1987;70:378

Questionnaires and Sexual Function

General Questionnaires Focused on Sexual Function

- Not condition specific
  - Not designed to evaluate women with PFD
  - May not be sensitive enough to detect differences due to a disease process in a specialized population
- Sexual History Form 12
- Female Sexual Function Index (FSFI)

Creti Canadian Psychological Association 1988
Rosen J Sex Marital Ther 2000;26:191

Questionnaires and Sexual Function

- Condition specific questionnaires focused on sexual function
  - Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire: PISQ
    - Validation, reliability testing
  - International Consultation on Incontinence Questionnaire Vaginal Symptoms: ICIQ-VS
    - Construct validity and reliability testing (Internal validity)
    - No external validation
      - Not correlated to gold standard
      - Recent validation in Portuguese

Rogers Int Urogyn J 2003;14:164
Price BJOG 2006;113:700
Tamanini Int Urogyn JPFD 2008 May

Table 4.2 Instruments for assessment of sexual function

Instrument	Content face validity	Domain analysis	Reliability internal consistency	Criterion construct validity	Population used for validation	Item #	?PFD in women?	ICS rating
PISQ 2000 Pelvic organ Prolapse Incontinence Sexual Questionnaire	Expert	Yes (3) – behav-emot, physical, partner	Cronbach> or = K= Item total correlations Test-retest reliability	Validated against age, depression indices, SHF-12 IIQ	180 women with and without pop/ui	31 short=12	Yes	Not rated
SRS 1995 Sabbatsberg Sexual Self Rating Scale	Expert	None	Cronbach alpha .95, item-total Correlations .61- .86, No test-retest	Compared to SF-36, HADS, social class, hormone levels, worse scores in women with vaginal dryness, dyspareunia	40s heterosexual women both with FSD and normals	12	?	Not rated
FSFI 2000 Female Sexual Function Index	Expert and focus group for further analysis	Yes (6) – desire, subjective arousal, lubrication, orgasm, satisfaction and pain	Cronbach's > or =.82 K=.79 to .86	Different for two groups, divergent validity with scale of marital satisfaction, factorial/ discriminate/divergent	131 normals	18 FSAD (21-69 y/o)		
GRISS 1985 The Golombok-Rust Inventory of Sexual Satisfaction	Expert	Yes, (4) – anorgasmia, vaginismus, impotence, and premature ejaculation, avoidance, dissatisfaction and non-sensuality, infrequency and no communication about sex	Chronbach's .61-83, Thalf reliability .94.	Therapist's rating, differences between clinical population and normals, correlated with therapists evaluations	Heterosexual couples – 51 clinic couples and 36 normals, 88 sex therapy couples	28	Small study in unwanted sexual activity and DI	Highly recommended Grade A
SHF-12 1988 Sexual History Form	Expert opinion/ focus group further analysis	Yes (6) – desire, subjective arousal, lubrication, orgasm, satisfaction, and pain	Chronbach's> or = .82, K=.92, item total correlations - .18-.85	Other measures correlated significantly .38 to .73 to Locke Wallace MAS, SII total and scale 6, question about sexual satisfaction and sexual drive, 12 women completed the GRISS as well overall score correlated .65., difference between 29 controls, 8 dysfunctional women and 8 partners of dysfunctional men, also correlated with age	27 married women, see above	19	Yes	Not rated

Instrument	Content face validity	Domain analysis	Reliability internal consistency	Criterion construct validity	Population used for validation	Item #	?PFD in women?	ICS rating
IRS 1986 Intimate Relationship Scale	Expert opinion	Yes (3) – personal or emotional, physical, and cognitive or communication	Chronbach's> or = .87, K=.92, item total correlations >.25, no test-retest reliability	Not done	194 couples – postpartum	12	No	Not rated
BISF-W 1994 Brief Index of Sexual Functioning for Women		Yes (3) – sexual interest desire, sexual activity, and sexual satisfaction; revised to evaluate eight domains: thoughts, desire, arousal, frequency of sexual activity, receptivity/ initiation, pleasure orgasm, relationship satisfaction, and problems affecting sexual function		Compared to the Derogatis Sexual Function Interview, able to discriminate between women with surgical menopause and those without limited to assessment of the last 30 days	269 heterosexual and homosexual women ages 20–73, seeking routine gyn care, white, married, healthy women with organic and inorganic causes of sexual dysfunction, past 30 days, surgical menopause	22	No	Recommended
DISF, DISF-SR (PAIS) Derogatis Interview for Sexual Functioning: Related to the Psychosocial Adjustment to Illness Scale	Expert	Yes, sexual cognition and fantasy, sexual arousal, sexual behavior and experiences, orgasm, and sexual drive and relationship. Verimax rotation	Cronbach's alpha = .8 to .93 interrater reliability .81-.86	Compared to the Global adjustment to Illness Scale, the SCL-90R. affect balance scale, and patient's attitudes, information and experiences scale, Alsom compared patients with and without lung cancer: high correlations with this and global adjustment scores (GAIS) .13-.46, able to discriminate between women who screen positive and those who screen negative	Community populations – available in English, Danish, Dutch, French, German, Italian and Norwegian and Spanish, past 30 days including today – renal dialysis, acute burn, hypertension, cardiac, cancer	25 interview and self-administered questionnaire, PAIS domain of six questions	Yes	Recommended
WSFQ Watts Sexual Function Questionnaire						17		Mentioned
SFQ Sexual Function Questionnaire		7 – desire, physical arousal, lubrication, enjoyment, orgasm, pain, partner satisfaction			731 women with sexual dysfunction and 201 women without sexual dysfunction	31	No	Mentioned

Table 4.2 Instruments for assessment of sexual function—cont'd

Instrument	Content face validity	Domain analysis	Reliability internal consistency	Criterion construct validity	Population used for validation	Item #	?PFD in women?	ICS rating
Ploufle's 1985 Simple Questionnaire	Expert	No – 3 questions only, 4 with Walters – did urinary symptoms interfere with sex?	No	Compared to interview by psychiatrist, sexual dysfunction more common in incontinent subjects	98 sexually active women	31	Yes	Potential
Bristol 1999 BFLUTSsex Female lower urinary tract symptoms	Expert	No – 4 questions only – pain or discomfort due to a dry vagina, whether sex life has been spoiled by urinary symptoms, pain on sexual intercourse, leakage on intercourse. Also asked how much of a problem it is for them.	69.6–91.1%, no Cronbach's alpha testing	Difference between women with PFE and those without although differences disappeared when controlled for baseline data		4	Yes – pelvic floor muscle training, other study	With potential
ASEX Arizona Sexual Experiences Scale	Not explained, BISF	Drive, arousal, vaginal lubrication, orgasm, satisfaction from orgasm – no domain analysis	91 = Cronbach's alpha, Pearson's r = .80 for patients and .89 for controls	Patients reported more dysfunction than controls, correlated with physician-diagnosed sexual dysfunction	38 control subjects and 58 patients with depression	5	No	None

Key: pop/ui, pelvic organ prolapse/urinary incontinence; HADS, Hospital Anxiety and Depression Scale; FSAD, female sexual arousal disorder; DI, detrusor instability; PFE, pelvic floor exercises. The author wishes to gratefully acknowledge Rebecca Rogers, MD for her assistance in compiling Table II.

Omotosho Int Urogyn J 2009;20(S):S51

Female Sexual Function Index

19 item survey developed by experts in FSD

- 6 domains
  - FSAD: lubrication (4), arousal (4)
  - Desire (2)
  - Pain (3)
  - Orgasm (3)
  - Satisfaction (3)
- Designed to measure outcomes and obtain epidemiological data
- Validated based on DSM-IV diagnosis of FSAD, FSOD and HASDD
- Does not address personal distress
- Scores ≤ 26 consistent with FSD
  - Domain scores ≤ 3.5 abnormal

Rosen J Sex Marital Ther 2000;26:191

PISQ

- 31 questions: 3 Domains
  - Behavioral-Emotive
  - Physical
  - Partner-Related
- Likert scale (0=never, 4=always)
  - Reverse scoring on some questions
  - Higher scores=better sexual function; max 125
    - No "norms"
- Short form: 12 questions
  - max 48, X2.58 for long PISQ score
  - All domains represented
    - Reported as single score
- Spanish version validated (USA and Spain)
- Multiple publications {34} (external validity)
  - Differences between groups
  - Assess response to treatment of PFD

Rogers Int Urogyn J 2003;14:164

PISQ for FSD in General Population

- PISQ-12, PFDI-20, PUF, Beck's Depression Inventory-II, and Index of Female Sexual Function (IFSF)
- Cross sectional survey 557 twin sisters
- Cronbach's α 0.70 for PISQ-12
- Mean PISQ 40+/-4 sexually active w/o PFD vs 36 +/-5.6 (P<0.001)
- PISQ and IFSF scores good correlation (r>0.50)
- PISQ < with depression and ↑PUF (P<.001)
  - PISQ-12 reliable in general population w/o PFD
  - Normative mean score 40

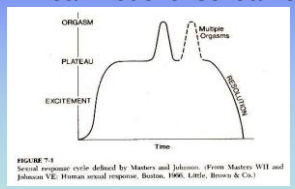
Aschkenazi OBGYN 111(4S);2008:10S

Female Sexual Dysfunction

Existing definitions FSD

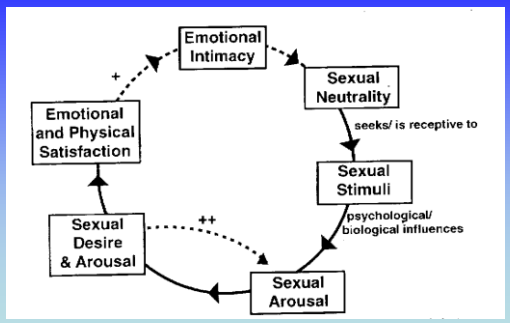
Diagnostic & Statistical Manual-IV

- Based on linear model of sexual response

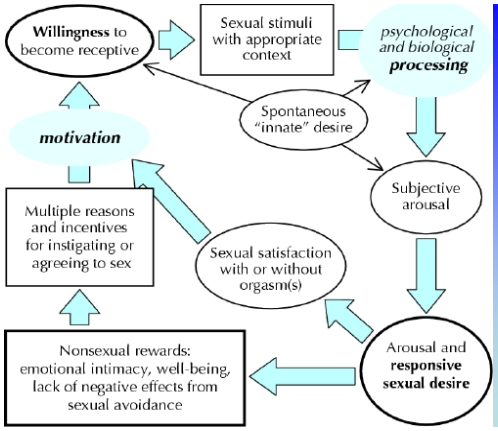


Basson CMAJ 2005;172:1327

Sexual Response Circle



Basson J Sex Marital Ther 2001;27:105



Basson CMAJ 2005

Female Sexual Dysfunction

Problems with existing definitions FSD

- Based on linear model of sexual response
  - Desire, arousal, orgasm, resolution
- Presumed absence of desire: disorder
  - Normal for desire NOT to proceed arousal
- Presumed correlation between subjective arousal and genital congestion
  - Poor correlation in women
  - Arousal modulated by thoughts, emotions

Basson CMAJ 2005;172:1327

Female Sexual Dysfunction

Sexual "Problem" vs "Dysfunction"

When does a "less than perfect" sex life become female sexual dysfunction?

- when it causes personal distress
- determined by the affected woman
  - not necessarily the partner
- Sexual function questionnaire vs FSD

Gierhart Obstet Gynecol 2006;107:751

Female Sexual Dysfunction

- Sexual Desire/Interest Disorder
  - Absent or ⇓ lack of responsiveness w/ appropriate stimuli
- Sexual Arousal Disorder
  - Absent or ⇓ from any type of stimulation
  - Combined, subjective, genital
- Orgasmic Disorder
  - absent, ⇓, or markedly delayed despite subjective high levels of arousal
- Pain disorders

Basson J Sex Med 2004;1:40

Sexual Function after Surgery for Stress Urinary Incontinence and/or Pelvic Organ Prolapse: A Multi-Center Prospective Study

R Rogers, D Kammerer-Doak,
A Darrow,K Murray, M Barber, A Olsen

Am J Obstet Gynecol 2006;195:e1

	Preop N=102	Postop N=75	P Value
PISQ total	89.4 ± 12.3	94.9 ± 11.9	<0.001
Behavioral-Emotive	39.7 ± 7.8	40.2 ± 9.2	0.57
Physical	31.0 ± 6.4	35.5 ± 3.2	<0.001
Partner related	18.6 ± 3.1	19.3 ± 2.9	0.004
IIQ-7	52 ± 26	15 ± 24	<0.001

Am J Obstet Gynecol 2006;195:e1

Sexual Function After Vaginal Surgery for POP and SUI

- **51 women (26 POP only, 25 POP + SUI)**
- **98% sexually active**
- **FSFI, UDI-6, IIQ-7**
- **standardized questionnaire**
  - ***assess sexual frequency and barriers to sexual activity**
  - ***pre and 6 months postoperatively**
- **significant improvement in UDI-6 and IIQ-7 but sexual function unchanged (FSFI)**

Pauls RN Am J Obstet Gynecol

Sexual Function After Vaginal Surgery for POP and SUI

- Barriers to sexual function
  - Preoperative: vaginal bulging (dryness, ↓desire)
  - Postoperative: vaginal pain (dryness,↓desire)
    - No change in FSFI pain domain scores
- No change in sexual function overall "due to exchange of one sexual problem for another"

Pauls RN Am J Obstet Gynecol 2007;197:622.e1-7

Problems With Research

Assessing sexual function

- Different groups i.e. prolapse and incontinence
- Different surgical techniques and approaches
- Different surgeons
- Different populations
- Different questionnaires
- Are sexual problems distressful?

Conclusions

- Female Sexual Dysfunction
  - Common
  - Multifactorial: psychosocial, vascular, neurogenic, endocrine
    - Contribution of age, chronic diseases
- FSD: "distress" vs sexual function evaluation
  - definition
- Female Sexual Function and Dysfunction
  - Difficult to measure/characterize
- Sexual Function Questionnaires
  - Condition specific vs. generalized
    - Validated, reliable

Questionnaires, Sexual Function and the Pelvic Floor

- Quality of Life
- Generalized Sexual Function
- Condition Specific Sexual Function
  - PFD: UI, POP, FI
  - Differences in sexual function are condition specific
  - Postoperative changes are also probably condition specific

Questionnaires, Sexual Function and the Pelvic Floor

Condition specific

- PISQ-31
  - 3 domains
  - Robust statistical evaluation
- PISQ-12
  - Routine research/response to treatment

Generalized

- Probably will NOT show difference
- Assess sexual function overall

Questionnaires for Office Screening

How to Screen

- Simple questions as effective as lengthy interviews
  - Are you sexually active?
  - Are there any problems?
  - Do you have any pain with intercourse?
  - Intake questionnaire helpful

Plouffe Am J Obstet Gynecol 1985;151:166

Do pelvic floor disorders affect female sexual function?

Catherine A. Matthews, MD
Associate Professor
Urogynecology and Pelvic Reconstructive Surgery
Virginia Commonwealth University Medical Center

Which factor is responsible?

- Knowing that sexual function is a complex arena that is highly prevalent in "normal" populations and may be influenced by a multitude of psychological and physical factors, how can we reliably determine the impact of pelvic floor disorders?
- Importance of validated and condition-specific questionnaires

Sexual function in women with POP and/or UI

Rogers et al. Int Urogynecol J (2001) 12:361-5

	UI/POP N=83	No UI/POP N=56	P-value
Age	50 ± 12.4	39.1 ± 1.6	<.001
Parity	2.7 ± 1.4	1.7 ± 1.7	<.001
Total PISQ	92.6 ± 13.5	100.1 ± 8.8	.003

Study conclusions

- More women with UI/POP had difficulty achieving orgasm
- More women in UI/POP group restricted sexual activity for fear of incontinence
- Satisfaction with sexual relations did not differ between groups
- Study limitations: Self-identified PFD and significant demographic differences

Sexual function in women with UI and POP

Barber et al. Obstet Gynecol, 2002;99:281-9

- Secondary analysis of 343 women with POP and/or UI in 3 clinical trials
- Women with POP or DI were more likely to cite pelvic floor symptoms as reason for sexual inactivity
- Overall sexual satisfaction was independent of pelvic floor diagnosis

Question	POP	SUI	DI
Sexual relations			
Very satisfactory	7 (58)	46 (42)	6 (40)
Somewhat satisfy	3 (25)	39 (36)	7 (47)
Pain			
Almost always	2 (17)	26 (24)	1 (4)
Always	0 (0)	18 (16)	0 (0)
Has UI or POP affected your ability to have sex?			
Not at all?	11 (52)	127 (69)	31 (72)
Somewhat	3 (14)	31 (17)	9 (20)

Barber et al. Obstet Gynecol, 2002

Evaluation of sexual complaints in women with PFD undergoing hysterectomy.

- N= 1299
- Overall, women with PFD were less likely to be sexually active (65% vs 73%, p<.01)
- Urinary incontinence associated with low libido (OR 1.96) and dyspareunia (OR 2.04)
- POP not associated with any sexual complaint

Handa et al, Am J Obstet Gynecol, 2003

Sexual activity, satisfaction and PFD

Lukacz et al, AJOG 2007

- Community-based survey of 12,200 women in Kaiser HMO: Women were NOT seeking care for PFD
- Epidemiology of POP and UI questionnaire was used to identify women with PFD
- Non-validated questions regarding sexual function
- Univariate analysis: Having PFD decreased the likelihood of being sexually active for all conditions except SUI.

Prevalence of FSD in Women with PFD

Lukacz ES et al. *AJOG.* 2007;197:88.e1-6.

N=2620

	Odds Ratio	95% Confidence Interval
Age	0.94	0.92–0.95
Menopause	0.41	0.21–0.78
No desire	0.16	0.11–0.22
Current HRT	1.81	1.11-2.97
Divorced	3.37	1.16-9.81

Pelvic symptoms in women with POP

Burrows et al, Obstet Gynecol 2004; 104:982-8

- Retrospective study of 330 women with POP
- Correlated degree of POP with symptoms related to sexual or bowel function
- Overall, 83% reported being satisfied with their sexual relationship
- No clinically significant differences in any vaginal compartment/ degree of POP for symptoms relating to sexual function

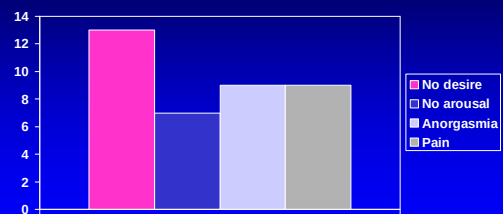
Evaluation of sexual function in women seeking gyn or urogyn care

Handa et al. Obstet Gynecol 2008; 111:1045-52

- N=301: 80 had PFD, 221 benign gyn problems or annual examinations
- Sexual function assessed by the Personal Experiences Questionnaire, validated in peri-menopausal women regardless of partner status

Impact of PFD on FSD

Handa et al. Obstet Gynecol, 2008



Women with a sexual partner: N=223

Impact of demographic variables

	Decreased libido	Decreased arousal	Decreased orgasm	Increased pain
Age	1.3 (1.1-1.5)	1.2(1.1-1.4)	1.1(1.0-1.3)	0.9 (0.8-1.1)
Married	2.1 (1.1-4.2)	3.1 (1.6-6.3)	2.9 (1.5-5.6)	1.1 (0.6-2.1)
Menopause	3.1 (1.9-5.8)	2.6 (1.6-4.2)	2.2 (1.3-3.5)	1.6 (0.9-2.7)
Depression	1.0 (0.9-1.0)	1.0 (1.0-1.1)	1.0 (1.0-1.1)	1.1 (1.0-1.1)
Love for partner	0.8 (0.6-0.9)	0.5 (0.4-0.6)	0.7 (0.6-0.9)	1.1 (0.8-1.4)
Vaginal dryness	1.2 (1.0-1.4)	1.3 (1.1-1.5)	1.2 (1.1-1.4)	1.6 (1.3-1.8)

Impact of PFD on FSF

Handa et al, Obstet Gynecol 2008

	Decreased libido	Decreased arousal	Decreased orgasm	Increased pain
PFDI (adjusted)	1.05 (0.99-1.11)	1.09 (1.03-1.16)	1.09 (1.03-1.15)	1.11 (1.04-1.18)
Urinary score	1.07 (0.95-1.19)	1.20 (1.07-1.33)	1.16 (1.04-1.29)	1.13 (1.00-1.28)
POP 0	Ref	Ref	Ref	Ref
POP I	0.9 (0.4-2.02)	1.29 (0.57-2.89)	1.49 (0.69-3.23)	0.68 (0.29-1.60)
POP II	1.41 (0.60-3.31)	1.85 (0.78-4.40)	2.06 (0.89-4.77)	0.98 (0.40-2.42)
POP III-IV	1.83 (0.58-5.77)	1.36 (0.43-4.35)	3.60(1.20-10.8)	0.36 (0.10-1.33)

Conclusions

- Women with PFD may be more sexually inactive because of their problem
- If they are sexually active, POP does not seem to have a major impact
- Urinary incontinence may have a greater impact on FSD than POP
- Sexual function is complex

Sex After Surgery for Pelvic Floor Dysfunction

Dorothy Kammerer-Doak, MD
Women's Pelvic Specialty Care
Clinical Associate Professor UNMH
Albuquerque, New Mexico

NO DISCLOSURES

The University of New Mexico

Objectives

Review

- Impact of Surgery for Pelvic Floor Dysfunction on Sexual Function
  - Pelvic organ prolapse
  - Urinary incontinence
  - Fecal incontinence

Questionnaires, Sexual Function and the Pelvic Floor

- Female sexual function complex
- Type of SF questionnaire used important
  - Condition specific vs generalized
    - Designed to evaluate & validated in general population
    - Not designed to evaluate women with PFD
    - May not be sensitive enough to detect differences due to a disease process in a specialized population

Pelvic Floor Dysfunction

•adversely effects sexual function

Surgery for Pelvic Floor Dysfunction and Effect on Sexual Function

Does Pelvic Floor Surgery Cause FSD?

- Neuroanatomic
- Psychological
- Other factors

Does Pelvic Floor Surgery Cause FSD?

- Neuroanatomic
  - Somatic pathways
  - autonomic nerves
  - Vascular changes
  - Shortening of vagina
  - Reduction in vaginal introitus

Does Pelvic Floor Surgery Cause FSD?

- Psychological factors
  - Women's perception of genital health after surgery
  - Fear of damage to internal organs
  - Partner's apprehension
- Other factors
  - Concomitant chronic illness
  - Age, HRT

Effects of Gynecologic Surgeries on Sexual Function

Review 1975-2005

- 36 articles, total 4534 patients
  - 12 studies used validated questionnaires
  - Conflicting results POP +/- SUI surgery
  - Improved after hysterectomy
- "paucity of properly validated data about sexual function after gynaecological operations"
  - Comparisons between studies difficult

Ghielmetti EJOG 2006;129:104

Sexual Function after Surgery for Stress Urinary Incontinence and/or Pelvic Organ Prolapse:

A Multi-Center Prospective Study

R Rogers, D Kammerer-Doak, A Darrow,K Murray, M Barber, A Olsen

Am J Obstet Gynecol 2006;195:e1

	Preop N=102	Postop N=75	P Value
PISQ total	89.4 ± 12.3	94.9 ± 11.9	<0.001
Behavioral-Emotive	39.7 ± 7.8	40.2 ± 9.2	0.57
Physical	31.0 ± 6.4	35.5 ± 3.2	<0.001
Partner related	18.6 ± 3.1	19.3 ± 2.9	0.004
IIQ-7	52 ± 26	15 ± 24	<0.001

Am J Obstet Gynecol 2006;195:e1

Effect Of POP Surgery On PISQ Scores

Postoperative	POP Surgery	SUI Surgery	P Value
PISQ total	94.9 ± 11.7	95.0 ±13.1	0.94
Behavioral-Emotive	40.4 ± 8.7	39.1 ±11.4	0.67
Physical	35.1 ± 3.1	37.2 ± 3.2	0.03
Partner related	19.2 ± 2.7	19.7 ± 3.6	0.65
IIQ-7	15.8 ± 24.6	4.5 ± 6.6	0.003

Am J Obstet Gynecol 2006;195:e1

Posterior Repair & Sexual Function

- PISQ pre and 3-6 mos postop
- 73 women (30 with, 43 w/o)
- PISQ scores ↑ postop
  - No differences between groups
- ↓ dyspareunia w/o post. repair
- NO change in dyspareunia w/ post.repair

Komesu Am J Obstet Gynecol 2007;197(1):101.e1-6

Uterosacral Ligament Vault Suspension
Silva Obstet Gynecol 2006

- 5 yr follow up, retrospective
- N=72 with 34 sexually active (47%)
- FSFI
  - Normal arousal, lubrication, orgasm, satisfaction and pain scores
  - Desire score low
  - 94% satisfied with sexual activity

Sexual Function After Vaginal Surgery for POP and SUI

- 51 women (26 POP only, 25 POP + SUI)
- 98% sexually active
- FSFI, UDI-6, IIQ-7
- standardized questionnaire
  - *assess sexual frequency and barriers to sexual activity
  - *pre and 6 months postoperatively
- significant improvement in UDI-6 and IIQ-7 but sexual function unchanged (FSFI)

Pauls RN Am J Obstet Gynecol

Sexual Function After Vaginal Surgery for POP and SUI

- Barriers to sexual function
  - Preoperative: vaginal bulging (dryness, ↓desire)
    - Postoperative: vaginal pain (dryness,↓desire)
      - No change in FSFI pain domain scores
- No change in sexual function overall "due to exchange of one sexual problem for another"

Pauls RN Am J Obstet Gynecol 2007;197:622.e1-7

Sexual Function after Surgery for POP

- FSFI pre and 3-4 months postoperatively
  - Anterior and/or posterior repair w/o mesh
- Significant increases in total FSFI and desire, arousal, lubrication, orgasm and satisfaction
  - FSFI total 15.9±10.7⇒21.9±11.1
    - < 26 consistent with FSD
    - Low scores for satisfaction, pain (≤3.5)
    - Mean age 36±5.4 years

Azar Int Urogyn J 2008;19:53-7

Sexual Function following Pelvic Floor Surgery

- PISQ-31, Sheffield Prolapse Symptom Q, KHQ pre and 4 months after prolapse and SUI surgery (n=35)
- Significant improvement PISQ overall, physical, and partner-related domains
- Correlation some domains KHQ and SPSQ w/ PISQ (r≈0.5)

Thakar Int J Gyn Ob 2008 May 6

Sexual Function After Surgery For SUI

- Coital incontinence cured 70-90%
- Sexual function improves
- PISQ-12 scores improve after TVT
  - Physical, partner-related domains
  - No difference in behavior-emotive
- RCT Burch RPU vs no Burch at time of ASC improved sexual function
  - No difference in dyspareunia or PISQ-12

Salonia E Urol 2006;50:44
Ghezzi Int Urogynecol J 2006;17:54
Handa Am J Ob Gyn 2007;197:629

Mesh Use in Prolapse Surgery

Prolapse repair using mesh
Milani R et al 2005

- Prospective study (n=63) with 1 yr F/U
- Polypropylene mesh (Prolene)
- Ant repair (n=32) & Post repair (n=31)
- Mesh erosion 13%
- King's Health Questionnaire
- Sexual activity ⇓ by 12% w/ posterior repair

Dyspareunia

Operation	Pre-op	Post-op
AR	18%	38%
PR	6%	69%

Prolapse Repair Using Mesh

PISQ-12, 1 yr F/U, kits w/ trocar guidance

- Prospective studies (2)
  - No change in PISQ-12 pre to postop
    - PISQ-12 ⇑59.4%
    - ⇓in avoiding sexual activity d/t POP
    - ⇑Intensity of orgasm
  - Significant decrease
    - ? Selection bias (PISQ ⇓15.5⇒11.7)

Sentilhes Int Urogyn J 2008;19:763
Altman ObGyn 2009;113:127

Prolapse Repair Using Mesh

PISQ-12, 1 yr F/U, kits w/ trocar guidance

- RCT anterior compartment mesh vs none
  - No change in PISQ-12
  - No differences PISQ-12 between groups
  - Mesh ⇑success
  - Slight ⇑PISQ-12 mesh group (p=0.07)
    - N=37 each group

Nguyen ObGyn 2008;111:891

Sexual Function after Rectocele Repair

- Acellular porcine dermis graft vs. site-specific repair (n=100)
- PISQ pre and 6 mos postop
- Graft group w/ ↑SUI and concomitant surgeries
- Two different surgeons
- Improvement in PISQ in both groups postop
  - Significantly greater improvement in graft group
    - 101.3 +/- 6.4 vs 89.7 +/- 7.1
    - Significant improvement in Physical Domain only

Novi Int Urogyn J PFD 2007 Jan 11

Posterior Repair & Sexual Function

- RCT three techniques, 1.5 yrs F/U
  - Traditional, site-specific, porcine graft
  - N=105, but only 50% sexually active
- Significant increase in PISQ-12
- No difference in dyspareunia
  - Preop 51% vs postop 36%
  - No difference between groups
- Greater failure with graft (46 vs 18%)

Paraiso Am J Ob Gyn 2006;195:1762

Sexual Function Before and After Abdominosacrocolpopexy

Handa Am J ObGyn 2007;197:629.e1-6

- Pelvic Floor Disorder Network

Preop vs 1 year postoperative

- 34.1 vs 37.3 mean PISQ-12 score (0-48) *
- 66% vs 76% sexually active*
- 30% vs 7% POP sx's interfere with sex *
- 10% vs 3% fear of UI restricts sex *
- 48% vs 5% avoid sex because of vaginal bulge *
- 39% vs 21% intercourse limited by pain *
- No difference in % with infrequent sex desire

* < 0.05

Sexual Function after Anal Sphincteroplasty

- Sexual function scores not correlated to continence scores (n=86)
  - No difference in any PISQ-12 questions and continence scores
  - Higher dyspareunia with overlap
- Retrospective review (n=32) reported improved sensation, satisfaction, libido ~33% and less avoidance secondary to fears of FI (~25%)
  - 6% "physically unable" to have sex

Trowbridge Am J Obstet Gynecol 2006;195:1753
Lewicky Dis Colon Rect 2004;47:1650

Problems With Research

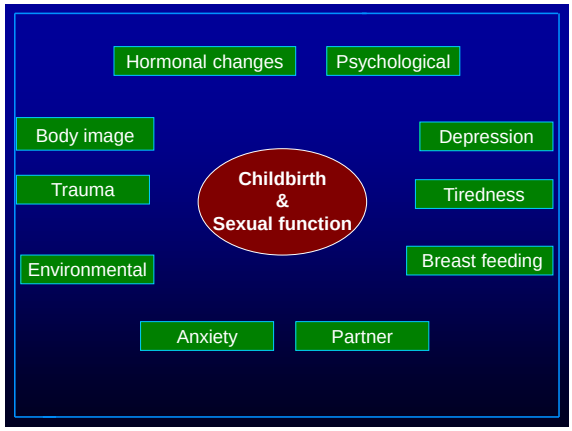
- Different groups i.e. prolapse and incontinence
- Different surgical techniques and approaches
- Different surgeons
- Different populations
- Non-validated, non-condition specific questionnaires
- Are sexual problems distressful?

Conclusions

- After surgery for POP and/or SUI
  - Majority improve sexual function (~70%)
    - Validated condition specific questionnaires
    - Improvements are in physical domains NOT arousal, desire, orgasm (behavioral emotive)
  - Some studies show no difference
- More studies needed
  - Standardized definitions and outcome measures

Sex after childbirth
Will it ever be the same again?

Ranee Thakar
Mayday University Hospital
Croydon, Surrey, UK



Childbirth and sexual function

- Prospective study
- 1st and 3rd trimester and 6 months postpartum
- Poorest body image in the postpartum period

Barrett G et al 2000

During pregnancy
- ↑ oestrogen X 50 times
- ↑ progesterone X 10 times
- ↑ Cortisol X 3 times
- ↑ Prolactin X 7 times

} Normal postpartum

Bloch M et al 2003

Childbirth and sexual function

- 1-2% post-traumatic stress disorder
- 10-20% depression
- " I can remember thinking, you horrible thing, you've done this to me, and what are you doing here, you evil child".....Ruth said

Ayres S et al 2006

- 38% Too tired for sex
- 78% Baby sleeping in the bedroom
- 10% Worried that love making would wake the baby

Rogers R et al 2000

Childbirth and sexual function

- Prospective study (n=316)
- Significant delay in resumption in sexual activity amongst breastfeeding women compared to bottle feeding

Rowling et al 2005

- Lower testosterone
- Lower androstenedione

Alder et al 1986

Childbirth and sexual function

- "the result that has left me absolutely feeling terrible is the fact that my vagina is just so mutilated.....it's like a picture of someone being battered.....totally wonky, swollen, cut like brutalized"

Ayres S et al 2006

- Change in social role
- Partner role
- Financial changes
- Isolation

Childbirth is a journey, not a single event

Hormonal changes
Psychological
Body image
Depression
Trauma
Childbirth & Sexual function
Tiredness
Environmental
Breast feeding
Anxiety
Partner

Sexual problems often present as part of that journey

What bothers first time parents?

- Prospective survey (19 sexuality topics)
- Only 11% mothers and 17% fathers had no problems
- Top 4 concerns at 4 months
  - When to resume intercourse
  - Birth control
  - Sexual impact of physical recovery
- At 12 months
  - Concerns regarding body image
  - Desire discrepancy
  - Child rearing differences

Pastore L et al 2007

Sexual function after childbirth

- Up to 93% of women resume intercourse within the first 3 months of delivery
- During this period, two of three mothers experience at least one problem related to sexual function
- However, these symptoms resolve over time

Handa VL 2006

Sexual problems

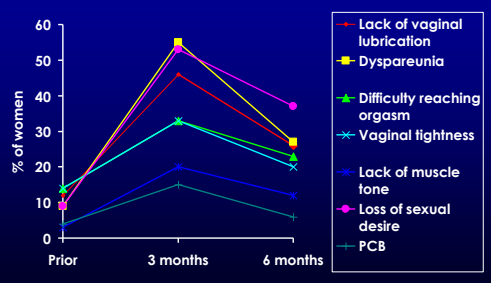
796 primiparous women

Sexual health problems

- Prepregnancy – 38%
- 3 months postpartum - 83%
- 6 months postpartum - 64%

Barrett G et al 2000

Sexual problems



Sexual function after childbirth

- Only 16% seek professional help

Barrett G et al 2000

- 68% young mothers do not remember their gynaecologist talking to then about sexuality during prenatal period

Sydow J 1999

"There is something asexual about maternity care and the very conspiracy of silence serves to overshadow any discussion of sexuality and sexual issues."

Sherr L 1995

Classification

Report of the international consensus 2002

- Pain disorder
- Desire disorder
- Arousal disorder
- Orgasmic disorder

Sexual pain disorder

796 primiparous women

- Prepregnancy – 12%
- 3 months postpartum - 62%
  - Associated with vaginal delivery
  - Previous experience of dyspareunia
- 6 months postpartum - 31%
  - Breast feeding
  - Pre-pregnancy dyspareunia

Barrett G et al 2000

Desire disorder

796 primiparous women

- Prepregnancy – 9%
- 3 months postpartum - 53%
- 6 months postpartum - 37%

Barrett G et al 2000

- 6 weeks postpartum – 61%
- 6 months postpartum – 26%

Oboro VO & Tabowei TO 2002

Arousal and orgasmic disorder

796 primiparous women

- Prepregnancy – 14%
- 3 months postpartum - 33%
- 6 months postpartum - 23%

Barrett G et al 2000

Sexual problems

Risk factors

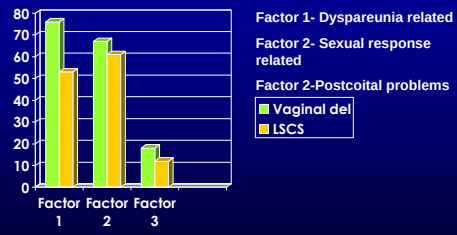
- Vaginal delivery
- Assisted vaginal delivery
- Severity of perineal trauma
- Depression
- Previous dyspareunia
- Not being sexually active at 12 weeks gestation

Vaginal delivery

- Term breech trial
- Randomised study (n=1596)
- Follow-up at 3 months and 2 years post partum
- No impact of planned method of delivery
  - resumption of sexual relations
  - pain during sex
  - satisfaction with sexual relationships

Hannah ME et al 2002
Hannah ME et al 2004

Sexual problems by type of birth



No difference between the two groups at 6 months

Barrett G et al 2005

Assisted vaginal delivery

Buhling et al 2005

- n= 1613 questionnaires
- 41% significant pain at time of first sexual intercourse
- More severe pain after AVD (10%) than CS (4.3%) or NVD (5.2%)

Type of delivery	Persistent dyspareunia
NVD (intact perineum)	3.5%
CS	3.4%
Episiotomy/ perineal laceration	11%
AVD	14%

Perineal trauma

Rogers R et al 2009

- Prospective cohort (n=565)
- Low risk vaginal deliveries (episiotomy and operative deliveries excluded)
- Genital trauma documented
  - Minor – no trauma or first degree lacerations or any trauma not requiring suturing
  - Major – 2nd, 3rd and 4th degree or any trauma requiring suturing
- Sexual function assessed at 3 months
  - Intimate relationship scale

Perineal trauma

Rogers R et al 2007
Rogers R et al 2009

- 70% minor trauma and 30% major trauma
- 85% resumed sexual activity
- No difference in sexual activity
- No difference in IRS scores
- Major trauma reported less desire to be held, touched and stroked by partner
- Women who required suturing had lower scores than those not sutured

Sexual activity

Van Brummen et al 2006

- Prospective longitudinal cohort study
- Sexual intercourse at 1 year and dissatisfaction with the sexual relationship
- Dissatisfaction with sexual realtionship at 1 year associated with not being sexually active at 12 weeks gestation
- Satisfaction with the sexual relationship may NOT be dependent on pregnancy and parturition associated factors

Presentations

- Early
- Intermediate
- Late

Overt
- Desire disorder
- Arousal disorder
- Orgasmic disorder
- Pain

Covert
- PTSD
- Avoidance
- Requests for CS
- Trauma
- Requests for genital surgery

Assessment

Medical model
- Presenting complaint
- Past medical history
- Drug history and allergies
- Social history
- Examination
- Investigations
- Management

Assessment

Patient centered model - Psychosexual
- L isten
- O bserve
- F eel
- T hink
- I nterprete

- History
- Examination

Dyspareunia

Detailed examination of the perineum

No structural abnormality

? Vaginal dryness
Lubricants
Oestrogen cream
? Psychosexual problems

Structural abnormality

Abscess
Antibiotics, I&D
Undissolved suture
Remove
Post web - Divide
Fusion of labia - Divide
Scar tissue – Injections

Dyspareunia – Scar tisue

lidocaine hydrochloride gel 2%
30 minutes before coitus

↓

Identify site of maximal tenderness and inject
10 ml 0.5% Bupivicaine
1500 IU Hyaluronidase
40mg Depo-Medrone (methylprednisolone acetate)

↓

If pain recurs → repeat injection after 6 weeks

↓

Vaginal dilators
Psychosexual counselling

Future research

- Improve understanding of the mechanism of sexual dysfunction
- More comprehensive characterisation of postpartum sexual function
- Prospective long term follow-up studies of obstetric interventions
- Include partner in further studies

Conclusion

- Sexual problems occur frequently during the postnatal period
- However, they resolve with time
- Many women do not seek help or are not offered help for their problem
- Health workers may need further training
- Sexual needs to be placed high on the agenda when giving information in antenatal classes and during postnatal period

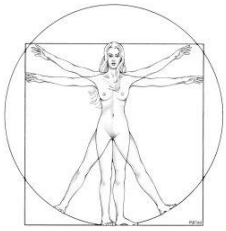
Conclusion

- Emphasis needs to be placed on identifying and resolving sexual problems during the postnatal period
- Counselling or psychosexual therapy may be needed

Sex in the older woman – does age matter?

Ms Claudine Domoney MRCOG
Consultant Obstetrician and Gynaecologist
Chelsea and Westminster Hospital,
London,UK

- Female well being
- Quality of life
- Relationship



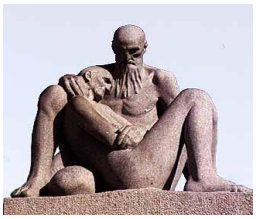
21st Century woman
'Celibacy is the new deviation'
Hart G, Wellings K. BMJ 2002

Definitions

- What is normal?
- What is abnormal?
- What is female sexual dysfunction (FSD)?
- Normal frequency and satisfaction rates
- Age related factors
- Dyspareunia and sexual dysfunction rates
- What cultural differences/variables are recognised?

Sexual activity and age

- ↑ dysfunction with age
- ↓ activity with age
  - 32% >60
  - 56% married women
    - Diokno et al 1990
- Married women > unmarried
  - Increased satisfaction with relationship
  - Benefit for genital aging

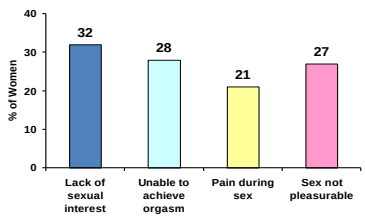


Prevalence

- US study age 18-59
  - 43% women FSD
  - 31% men
    - Laumann et al 1999
- Widely cited study
- Controversy over diagnosis of FSD
- But no specific age related decline

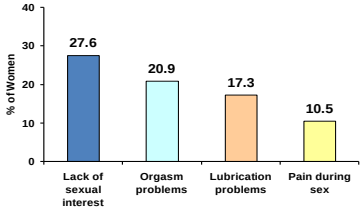
- Variation amongst European women country by country
  - N = 601 age 45-60
  - Frequency intercourse only significantly different factor
  - BMI
    - Dennerstein & Lehert 2004
- Australian study age 45-55
  - FSD 42% → 88% from early to late menopause
  - Constant factor oestrogen deficiency
    - Dennerstein et al 3002
  - But lower rate if diagnose **'personal distress'**
    - Hayes et al J Sex Med 2008

Prevalence of FSD



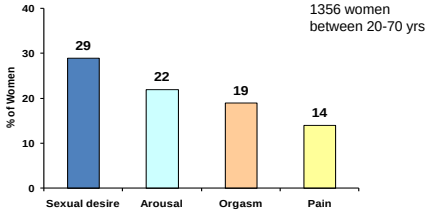
Laumann EO 1999

Prevalence of FSD (Europe)



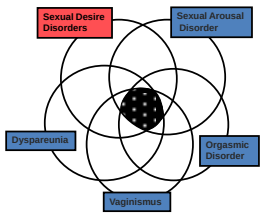
Laumann EO 2005

Prevalence of sexual disorders
in European women
(Women's International Sexuality and Health Survey –WISHeS)



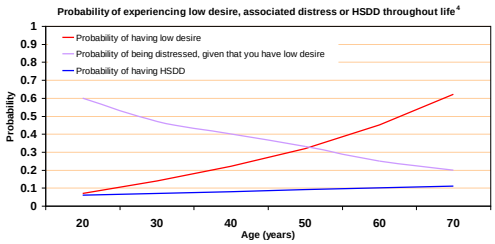
Graziottin J Sex Med 2007

Comorbidities



Hypoactive Sexual Desire Disorder
Persistent or recurrent deficiency (or absence) of sexual fantasies/thoughts, and/or desire for or receptivity to sexual activity, which *causes personal distress*

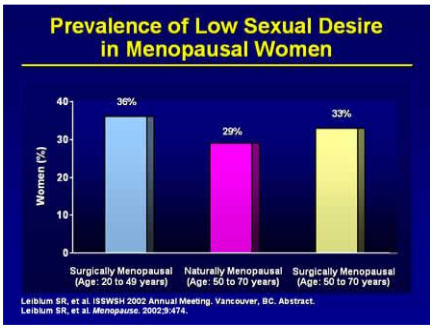
FSD and personal distress



Hayes et al 2005

Relationships

- National Sexual Attitudes and Lifestyles Survey 2001 (UK sample)
  - unmarried, cohabiting couples sex x3 /wk
  - 1st year of marriage x3/ 2wks
  - ages 33-45 x1/wk
  - ages 45-55 x1/month couples



Impact of Oestrogen Deficiency on Sexual Function

- Changes in Urogenital Anatomy
  - Shortening and loss of elasticity of the vagina
  - Increased pH
  - Reduced secretions
  - Thinning of vaginal epithelial layers
- Reduced nerve transmission
- Reduced blood flow
- Sleep disruption
- Mood alterations

Sarrel PM Obstet Gynecol 1990;75:26s-30s
Bachman et al Menopause 2004;11:120-130

Testosterone and Age

- Testosterone levels fall with age
  - Women in 40's have approx 50% less than women in 20's
- Post oophorectomy testosterone levels will fall by 50%
- Melbourne Women's Midlife Project:
  - **Found no significant fall in total testosterone.**
  - **SHBG fell significantly (increasing bio available testosterone)**
  - **DHEA-S fell with aging not menopause**

Burger HG et al. J Clin Endocrinol Metab. 2000;85:2032-2838
Guthrie et al Climacteric 2004;7(4):375-89

Predictors of decreased libido in women during the late reproductive years.

- **Prospective cohort study.**
- **326 women 35-47 years**
- **Followed for 4 years with serial hormone assays and standardized questionnaires**

RESULTS:

- **326 women, 27% reported a decreased libido**
- **Hormone levels over the study were similar among both groups.**
- **Total testosterone fluctuation significantly different between groups.**
  - **Women with high testosterone level fluctuation 3.8 -21.5 ng/dL likelihood of reporting ↓ libido OR 4.0 (95% CI, 1.6-10.0) compared with those with little fluctuation.**
- **Independent factors for reduced libido**
  - **Depression** **OR 3.4 (95%CI, 1.9-6.1)**
  - **Vaginal dryness** **OR 3.5(95%CI, 1.8-6.6)**
  - **Children living at home** **OR 1.4 (95%CI, 1.1-1.7)**

Gracia et al. Menopause. 2004

Change over time: 1970s-2000s

- Beckman et al BMJ 2008
  - 70 year old Swedish populations
  - Improvement in sexual experiences over 30 year period
    - Higher satisfaction
    - Less sexual dysfunction
    - More +ve attitude
  - 2000-1 cf 1971-2
    - 57% vs 40% men happy
    - 52% vs 35% women
  - Sexual debut <20
    - 52% to 77% men
    - 19% to 64% women

Sexuality and older people

- Research findings -cessation more likely to be male driven – consistent for 40 years
- Last 30 years? ⇧ejaculatory problems and dissatisfaction cf ED (but phosphodiesterase inhibitors)
- Earlier sexual debut linked with more +ve attitudes
- Satisfaction increasing in women overall

BMJ Editorial Kleinplatz 2008

Dyspareunia

- One component only
- Common
- 313 women in 30's
  - 61%
  - 33.5% persistent
    - Ghatt et al O&G 1990
- Elderly women 12.8% repeated pain
  - Bachmann & Leiblum 1991
- Women in 60's
  - 17% dyspareunia
  - 61% difficulty lubrication
  - 56% ↓ sexual interest
  - 44% ↓ arousal
  - 32% anorgasmia
    - Bachmann 1991

NB: more commonly reported in younger women

Dyspareunia

- Superficial
- Deep
- Psychosomatic

- Non coital sexual pain disorders

Pain may be an easy symptom to report to a doctor – yet the pain may not be physical

Vaginismus

- Symptom NOT diagnosis
- Treatments
  - Psychosexual
  - Behavioural
  - Interventions
  - Pharmacological
    - Medical
    - Non medical
- Primary or secondary

Vaginal atrophy

- >40% of 60-70yr women
- 66% >75yrs women
- Have some symptoms related to lower genital atrophy
  - Robinson D et al 2000

- 44% menopausal women c/o lubrication problems

- May also be significant postpartum

- Use it or lose it
  - X3/month to maintain vagina
    Leiblum 1983

- E2 cream better than oestriol
  1998 HUT committee Obstet Gynecol

- Cochrane review
  - Suckling 2006
  - Tablets>ring>placebo

Importance of attribute to quality of life (Score 4-5 on 5 pt scale)
AARP Modern Maturity Sexuality Survey 2004

Respondents	Total 1612 %	Gender		Male				Female			
		M	F	45-49	50-59	60-69	70-79	45-49	50-59	60-69	70-79
		760 %	856 %	160 %	263 %	163 %	172 %	153 %	270 %	196 %	230 %
Being good spirits	97	97	97	95	97	96	98	96	96	99	96
Being healthy, physically active	94	94	94	90	94	96	93	94	93	96	93
Close ties with friends and family	90	85	94	83	84	85	87	93	94	94	96
Financial security	90	88	91	85	88	91	89	91	93	91	91
Personal independence	88	87	89	77	88	89	93	85	89	90	92
Good relationship with partner	87	90	85	94	90	87	88	91	85	83	82
Spiritual well being	81	75	86	70	77	74	78	85	84	90	87
Being productive for society	75	72	76	70	74	73	70	78	74	83	78
Satisfying sexual relationship	56	66	48	68	74	63	53	65	52	39	37

Impotence in males in AARP Modern Maturity Sexuality Survey 2004

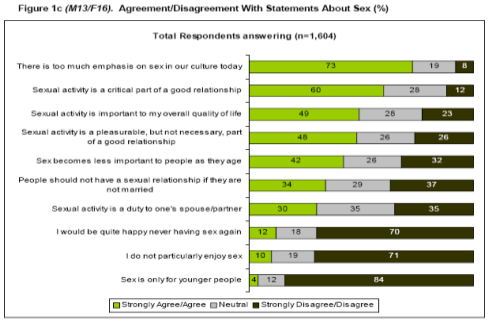
Respondents	1999					2004				
	Total	45-49	50-59	60-69	70-79	Total	45-49	50-59	60-69	70-79
	616	130 %	203 %	147 %	134 %	761	159 %	267 %	1962 %	174 %
Complete/Moderate	26	0	12	34	57	31	13	20	38	60
Complete	12	1	3	14	32	12	2	6	11	32
Moderate	15	7	9	20	25	19	11	14	26	28
Minimal/Not	74	91	88	66	43	69	87	80	62	40
Minimally	24	22	22	28	24	25	18	27	30	22
Not impotent	49	69	65	38	19	44	69	53	32	19

- 56% feel satisfying sexual relationship important (62% in 1999 survey)
- Less important to women and older group

- 31% men completely or moderately impotent (⇧from 26% in 1999)

- 3/4 too much emphasis on sex
- 6/10 critical part of relationship

Sexual attitudes in AARP Modern Maturity Sexuality Survey 2004: **agreement with statements about sex**



Sexual drive: AARP Modern Maturity Sexuality Survey 2004: **frequency of sexual thoughts, fantasies or dreams**

Respondents	Total	Gender		Male				Female			
		M	F	45-49	50-59	60-69	70-79	45-49	50-59	60-69	70-79
	1652 %	769 %	883 %	161 %	264 %	164 %	180 %	153 %	272 %	196 %	263 %
≥Once a week	51	76	29	87	86	72	53	48	38	24	12
> Once a day	14	26	3	38	31	19	13	8	3	1	2
1-3 x per week	28	35	22	37	36	37	30	30	30	21	10
2-3 x per month	10	8	11	3	7	9	12	10	14	9	10
Once a month	5	3	6	3	1	3	6	8	8	5	5
< once a month	14	6	20	6	2	7	12	18	18	22	22
Not at all	21	7	33	1	3	8	17	16	22	39	51

Sexual activities: AARP Modern Maturity Sexuality Survey 2004: **sexual activities ≥ once/week in last 6/12**

Respondents	Total	Gender		Male				Female			
		M	F	45-49	50-59	60-69	70-79	45-49	50-59	60-69	70-79
	1554 %	743 %	809 %	157 %	264 %	156 %	165 %	146 %	260 %	183 %	219 %
Kissing /hugging	69	76	62	83	83	73	64	73	69	58	49
Sexual touching/ caressing	53	61	46	68	67	54	54	60	57	41	27
Sexual intercourse	38	41	31	54	49	36	22	46	43	24	14
Self stimulation	20	34	8	55	36	28	15	16	11	3	3
Oral sex	14	19	10	24	26	15	8	23	10	7	2
Engaged in any above in last 6/12	86	95	78	99	99	94	87	92	85	76	63
Did not engage in any above in last 6/12	14	5	22	1	1	6	13	8	15	24	37

Other data from AARP Modern Maturity Sexuality Survey 2004

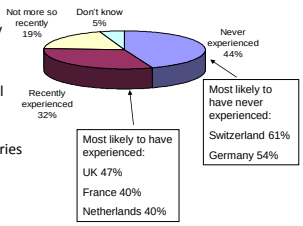
- Reduction in sexual activity
  - With medical condition
  - On prescription medication
  - Not having physically active life
- Frequency of orgasm
  - 2/3 men
  - 1/3 women
  - Younger > older
- 4% men same sex partner, 1% women
- 2/3 satisfied with sex life
- 14% used medications to treat sexual problem (including hormones)

European perception of sexuality around the menopause –Nappi & Nijland 2008

- 1805 women age 50 -60
- Telephone survey

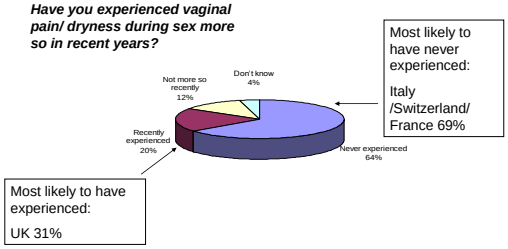
Have you experienced a reduced sex drive more so in the last few years than any other time of life?

- 36% reduced sex drive
- 21% vaginal pain / dryness/ discomfort
- >50 sample reported sexual contact at least 4x/month
- Differences between countries



European perception of sexuality around the menopause – Nappi & Nijland 2008

Have you experienced vaginal pain/ dryness during sex more so in recent years?



European perception of sexuality around the menopause –Nappi & Nijland 2008

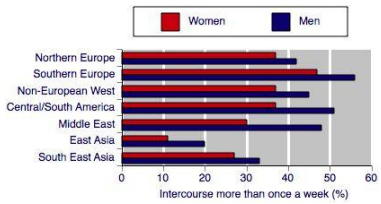
- It is important that I have a satisfying sex life
  - Agree strongly 46%
  - Agree slightly 33%
    - France 90%
    - Germany 81%
- Sex is an important part of my relationship with my partner
  - Agree strongly 43%
  - Agree slightly 34%
    - Italy 86%
    - Switzerland 82%
- It is important that I maintain an active sex life
  - Agree strongly 37%
  - Agree slightly 34%
    - Netherlands 52%
    - UK 65%
- Over the last 5 years I have become less interested in sex
  - Agree strongly 20%
  - Agree slightly 33%
    - UK 60%
    - France 58%

Responders with partner 1488/1805

Worldwide survey of attitudes to sex and problems in men and women

Nicolosi et al Urology 2004

Men and women reporting intercourse frequency of more than once a week



Worldwide survey of attitudes to sex and problems in men and women

Nicolosi et al Urology 2004

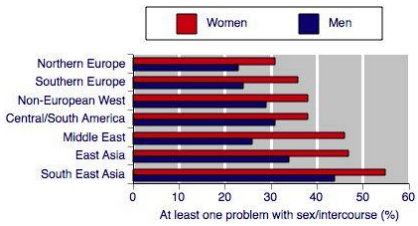
Prevalence of sexual dysfunctions in women, total cohort

Problem	% with problem
Lack of interest in sex	21
Inability to achieve organsm	16
Lubrication difficulties	16
Sex not pleasurable	15
Pain during sexual intercourse	10
At least one problem	39
Denominator is the number of women with at least one sexual encounter in the previous 12months	

Worldwide survey of attitudes to sex and problems in men and women

Nicolosi et al Urology 2004

Women and men with at least one problem, by world region



Sexually transmitted diseases in older people

- STIs in > 45 yr olds doubled in last 10 years
- >50yrs 2000-2005
  - Warts most common
  - X2 chlamydia
  - X3 HSV
  - HIV 0.7% to 2.2%
- Increase in new partners in older age group
- Less understanding of safe sex
- Less/no need for contraception
- Symptoms misdiagnosed as menopausal

Conclusions

- With age women become less interested in sex, and less distressed by this
- Men may become less able with age
- Women generally continue with sexual activity if with an able partner – health and sexual status being important determining factors
- Sexual pain is less common in older women or less commonly reported