Infertility and Sexual Dysfunction: The Webs We Don’t Know We Weave

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Disclosures

- I have no relevant financial relationships to disclose
Objectives

- Understand the relationship between infertility and sexual dysfunction in the couple, men and women

- Understand factors linking male and female fertility to general health
Infertility and Sexual Dysfunction: The Basics

Infertility - 15% of couples with fertility difficulties

Sexual Dysfunction
- Women → 43%
- 12% with both a sexual problem and associated distress
- Men → 31%

Infertility Causes


Med Aspects Hum Sex. 2001;41.

JAMA. 1999; 281:537.
Sexual Dysfunction in the Infertile Couple, Man, and Woman

The Couple

The Man
- Fertility & Sexual Function
  - Fertility & Health

The Woman
- Fertility & Sexual Function
  - Fertility & Health
Sexual Dysfunction and Infertility in the Couple – A Life Crisis

**Sexual Function and Childbearing**
- Important aspects of a partnership
- Deeply impact quality of life

**Infertility – A Life Crisis**
- Comparable to cancer, AIDS/chronic illness, loss of a loved one

**Feelings at Odds**

**Normal Couple**
- Warmth
- Affection
- Emotional connection

**Infertile Couple**
- Loss, Anger, Guilt
- Depression, Shame
- Anxiety

The Impact of Sexual Dysfunction in the Infertile Couple

Sexual dysfunction is common in infertile couples

Impact on Both Men and Women
- Depression
- Dissatisfaction with sex life
- Difficulty feeling sexual → frustrated / unhappy
- Loss of desire

Infertility

# Childless Years

Sexual Dysfunction

↓ Reproductive Potential

↓ Relationships

↓ Sexual Activity

↓ Self-Image

Infertility and Sexual Dysfunction in Men

Few male sexual dysfunctions CAUSE infertility

**Sexual Dysfunction**
- Depression
- Medications
- Orgasmic dysfunction
- Ejaculatory dysfunction
- Erectile dysfunction
- Peyronie’s Disease
- Low sexual desire
- Anejaculation

**Male Infertility**
- Sperm production defects
- Varicocele
- Sperm function / transport
- Lifestyle / environment
- Hypogonadism
- Known genetic disorders
- Cryptorchidism
- Cancer
- Idiopathic infertility
- Hypospadias
Psychosocial Implications of Infertility and Sexual Dysfunction in Men

Infertility — a psychological and relationship stressor

Male infertility for 3-6 years associated with:
- Relationship stability
- Sexual activity
- Sexual satisfaction

Effects in Men in Infertile Relationships:
- Ejaculatory control
- Satisfaction with sexual performance
- Risk of depression
- ED incidence → 22% (vs. 7-9% in normal 18-39 yo)

Male and Female Partners

Infertility

Sexual Activity

Reproductive Potential

Relationships

Self-Image

J Sex Med. 208; 179:1056.
Male Infertility is Linked to Markers of Health

Male fertility is a marker of general men’s health

Male Fertility Evaluation Detects Medical Pathology
- Significant pathology identified in 13/1,236 (1.1%) men presenting for fertility evaluation
  - Endocrine abnormalities
  - Mesonephric duct abnormalities
  - Klinefelter’s syndrome
  - Testicular, brain, spinal cord tumors

Pathologies detected can impact the health of the patient or the offspring
Infertile Men Are More Likely To Have Health Problems

**Eisenberg et al. 2015**

- 76,083 infertile vs. 112,655 vasectomy vs. 760,830 controls
- Mean age 35.1 years
- Compared rates of cancer vs. national average

<table>
<thead>
<tr>
<th>Cancer</th>
<th>HR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Cancer</td>
<td>1.49 (1.37-1.63)</td>
</tr>
<tr>
<td>Testis</td>
<td>1.99 (1.47-2.70)</td>
</tr>
<tr>
<td>Prostate</td>
<td>1.78 (1.41-2.25)</td>
</tr>
<tr>
<td>Bladder</td>
<td>2.29 (1.49-3.50)</td>
</tr>
<tr>
<td>Thyroid</td>
<td>1.52 (1.01-2.30)</td>
</tr>
<tr>
<td>Hodgkin’s</td>
<td>1.67 (1.04-2.67)</td>
</tr>
<tr>
<td>Non-Hodgkin’s</td>
<td>1.76 (1.39-2.23)</td>
</tr>
<tr>
<td>Leukemia</td>
<td>1.82 (1.29-2.59)</td>
</tr>
</tbody>
</table>

Semen parameters also linked to other comorbidities and mortality
Infertility and Sexual Dysfunction in Women

**Infertility in Women**
- 6.7 million (11%) women 15-44 years old with impaired fecundity

**Sexual Dysfunction**
- Depression
- Medications
- Desire disorders
- Orgasmic dysfunction
- Chronic illness
- Malignancy
- Genito-pelvic pain / penetration disorder

**Female Infertility**
- Ovulation defects
- Premature ovarian failure
- Hormonal dysfunction
- Tubal obstruction
- Endometriosis
- Uterine / cervical causes
- Genetic causes
- GU/GI Pathology
- Lifestyle / environment

http://www.cdc.gov/nchs/nsfg/key_statistics/i.htm-impaired
Infertile Women Have a High Rate of Sexual Dysfunction

**Prevalence of Sexual Dysfunction**
- Normal women → 43%
- Infertile women
  - Primary infertility → 65%
  - Secondary infertility → 77% \( p=0.003 \)

**Risk of Sexual Dysfunction – Primary vs. Secondary**
OR 9.53 (2.27-40.01)

**Female-Specific Relationship Effects of Infertility**
- Severe marital strain
- Anorgasmia
- Sexual inhibitions / decreased interest in sex

Psychosocial Implications of Infertility and Sexual Dysfunction in Women

**Infertility stresses are more apparent in women:**
- 281 non-mothers prior to fertility treatment, 289 mothers

<table>
<thead>
<tr>
<th>Variable</th>
<th>Patients (%)</th>
<th>Controls (%)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coital Frequency</td>
<td>High – 16%</td>
<td>High – 45%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Low – 22%</td>
<td>Low – 3%</td>
<td></td>
</tr>
<tr>
<td>Sexual Interest</td>
<td>More – 6%</td>
<td>More – 29%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Less – 32%</td>
<td>Less – 8%</td>
<td></td>
</tr>
<tr>
<td>Pleasure</td>
<td>More – 5%</td>
<td>More – 17%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Less – 26%</td>
<td>Less – 8%</td>
<td></td>
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</tbody>
</table>

**Female partner stress in infertile couples is high:**
- 119 women, 2-3 years after IVF
- 59% → “very negative” impact on sexual relationship

Infertile Women are More Likely to Develop Malignancy

Yang et al. 2015
- 8,153 cases, 11,713 controls from 2 cohort and 12 case-control studies
- Associated the risk of endometrial cancer with parity and infertility

<table>
<thead>
<tr>
<th>Factor</th>
<th>Risk of Endometrial Cancer OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nulliparity</td>
<td>1.76 (1.59-1.94)</td>
</tr>
<tr>
<td>Infertility</td>
<td>1.22 (1.13-1.33)</td>
</tr>
<tr>
<td>Infertility from Endometriosis</td>
<td>1.80 (1.34-2.42)</td>
</tr>
<tr>
<td>Infertility from Structural Defects</td>
<td>1.35 (1.13-1.62)</td>
</tr>
</tbody>
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- Ovarian and breast cancer associated with infertility

Women with PCOS are At Risk for Multiple Comorbidities

Sirmans et al. 2014
- Louisiana Medicaid claims data
- Linked PCOS with other comorbidities

<table>
<thead>
<tr>
<th>Comorbidity</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>4.35 (3.63-5.21)</td>
</tr>
<tr>
<td>Dyslipidemia</td>
<td>3.56 (3.04-4.19)</td>
</tr>
<tr>
<td>Dysmetabolic Syndrome</td>
<td>23.46 (13.64-40.36)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>2.76 (2.41-3.18)</td>
</tr>
<tr>
<td>Obesity</td>
<td>5.79 (5.07-6.62)</td>
</tr>
<tr>
<td>Infertility</td>
<td>1.94 (1.55-2.44)</td>
</tr>
<tr>
<td>OSA</td>
<td>6.47 (3.62-11.55)</td>
</tr>
<tr>
<td>Bipolar Disorders</td>
<td>1.94 (1.55-2.44)</td>
</tr>
</tbody>
</table>

How Do We Take Care of These Patients?

- Physician(s)
- Mental Health Specialist
- Physical Therapist
- Fertility
- The Couple
- The Man
- The Woman
- Health
- Physical Therapist
Conclusions

- Infertility and sexual dysfunction in men, women, and couples are inter-related.

- Emotional and psychological ramifications of both conditions affect both the individuals and the couple as a whole.

- Male and female fertility are markers of general health.

- The relationship between sexual function, fertility, and health should continue to be defined.
Management of Sexual Dysfunction in Men and Women: An Integrated Approach


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Thank you!

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