Women Sexuality and Spinal Cord Injury: An Interdisciplinary Approach

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Disclosures

Presenter has no interest to disclose.

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Learning Objectives

At the conclusion of this activity, the participant will be able to:

1. Describe the biology of sexual function
2. Identify anatomical structures and functions of the female reproductive system.
3. Discuss physiological changes that occur post spinal cord injury that impact sexuality in women
4. Discuss psychological changes that occur post spinal cord injury that impact sexuality in women
5. Identify the role of the interdisciplinary team for education regarding the spinal cord injured woman in the areas of sexuality, fertility, pregnancy, and postpartum
Spinal Cord Injury Statistics

Spinal cord injury (SCI) is estimated to impact ~276,000 persons in the United States
- 79% are males

The remaining 21% (~5,800 persons) are women
- The large discrepancy in the amount of women vs men is the primary reason in which the needs of women with SCI are underrepresented in literature reviews
Patient inquiry

One of the most common questions asked at some time during rehabilitation for spinal cord injury (SCI) is....
  ◦ Can I ever have sex again?
  ◦ How do I have intercourse again?

Much of the literature present today regarding sexuality and reproduction is centered around male injured persons
  ◦ Leaving the questions/concerns for women left unanswered/unacknowledged
Role of Interdisciplinary Team (IDT)

Compromised of the following members:
- Physician
- OBGYN
- Occupational and Physical Therapist
- Nursing
- Psychologist
- Social Worker
- Dietician
- Vocational Rehab Specialist
- Recreational Rehab Specialist

Role
- Group of clinical experts whom provide input and recommendations for favorable patient outcomes
The Biology of Sexuality
Female External Anatomy and Function

External structures
- Labia minor/major: aids in protection of internal reproductive organs
- Clitoris: organ of pleasure which contains thousands of nerve endings which increases sensitivity to tactile stimuli
  - Homologous to erect penis

Internal structures
- Vagina: passageway that connects uterus to outside structures
- Uterus: organ whom primary job is to house the developing fetus
- Ovaries: produces eggs and hormones
- Fallopian tubes: passageway for eggs to travel from ovaries to uterus
How Does Sexuality Work

1. Emotions originated in limbic system active the amygdala
   ◦ Activated amygdala increases opiate production and seeking pleasurable activities (i.e. sex)

2. Activated amygdala also increases the production of estrogen (women) and testosterone (male)

3. Release of sex hormones causes physiological changes in genitalia (i.e. sexual arousal occurs)

4. Sexual intercourse is initiated with partner
Autonomic Regulation of Sexual Function

Sympathetic Nervous System
- Fight or flight system; blood is shunted to all necessary organs that are necessary for survival
  - In regards to sexuality, causes vasoconstriction and loss of erection
  - Originates in thoracic-lumbar segments (T11-L2) and sends messages to sympathetic chain ganglia, inferior messenteric ganglia, and pelvic ganglia

Parasympathetic Nervous System
- “Rest and digest” system; allows body to conserve energy
  - In regards to sexuality, causes dilation and relaxation of smooth muscle
  - Originates in sacral segments (S2-S4)
As a Result...Sexual Response Cycle Occurs

Four phases which have both psychological and physiological components:
- Desire
- Arousal
- Orgasm
- Resolution

Men and women experience all of the above phases; the time spent in each phase and the intensity of each phase varies from person to person.
Phase 1: Desire

Defined as the mental state that induces a need/want to be sexually active

Comprised of 3 components:

- Biological roots: Related to hormones
- Motivational roots: Based on intimacy, pleasure, and relationship status
- Cognitive awareness: Based on risk associated with intercourse.
Desire Physical Components

- Heart rate increases
- Flushing of skin
- Nipples become erect
- Vaginal lubrication increases
- Genitals become engorged by increased blood flow
Stage 2: Arousal

Defined as the stated when mental stimulation and physical changes related to sexual desire increase

- Engaging in sexual activity at this time

Consists of 3 components:
- Central mechanisms: Activation of thoughts, dreams, fantasies
- Non-Genital peripheral mechanisms: Salivation, sweating, cutaneous vasodilation
- Genital mechanisms: Clitoral, labia, vaginal engorgement
Arousal Physical Components

Physiological changes that occurred during Desire Phase are intensified

Breathing, heart rate, and blood pressure continue to increase
Orgasm

Defined as the an altered state of consciousness directly related to a pleasurable genital stimulation

Mechanism of Action:
- Multiple sensory afferent information passes from genitals up spinal cord to thalamic septum
- Threshold stimuli met in thalamus and sensory stimulus sent back down spinal cord for discharge of orgasm
  - In women, 1-second motor contraction of pelvic floor followed in 2-4 seconds by repeated uterine and vaginal smooth muscle contractions
Orgasm Physical Components

Breathing, heart rate, and blood pressure at highest during sexual activity

Muscle spams in feet are present

Unspecified involuntary contractions may occur

Vagina or penis contracts resulting in release of sexual tension
Resolution

Characterized by the following:

- Body returns to normal (basal) rate of function
- All erect body parts return to flaccid
- Often marked by overall sense of well-being and fatigue
Spinal Cord Injury Impact on Women’s Sexuality
Facts for Women Post Spinal Cord Injury

Due to the predominant influence of hormonal and brain activation during sexual desire and arousal, women can continue to have healthy sexual relationships post spinal cord injury.

- Includes sexual pleasure, orgasm, menstrual cycle, pregnancy, breastfeeding, and menopause.
Psychological Factors that Impede Sexual Satisfaction in SCI Woman

Altered self-image
Uncertainty of ability to satisfy partner
Uncertainty of partner’s ability to satisfy them
Relationship with partner fluctuates
Embarrassment from possible bowel/bladder accident
PHYSICAL FACTORS THAT IMPACT SCI WOMEN AND SEXUALITY

Bladder/Bowel Incontinence
- Due to the location of the vagina between the bladder (anteriorly) and the rectum (posteriorly) in conjunction with non-voluntary sphincter control, the probability of incontinence increases with vaginal stimulation
- Rule to assist with managing: Empty bowel and bladder prior to sexual intercourse
  - If needed, can insert indwelling catheter to prevent bladder incontinence (be aware of contamination issues this may cause)
  - If needed, can place pad to prevent bowel incontinence
Autonomic Dysreflexia

- Women are more susceptible to men to develop AD during sexual activity
  - Unknown reason; more research to be conducted

- Causative agents:
  - Orgasm
  - Harmful stimulation of bladder, bowel, skin
  - Anal sex
SPASTICITY

- Can be elicited by positioning during sexual intercourse, “sensations” related to sexual activity, and orgasm
- Can be helpful in facilitation of movements or partner satisfaction
- Monitoring spasticity during sexual activity can assist with helping medical providers consider treatments options
PHYSICAL FACTORS THAT IMPACT SCI WOMEN AND SEXUALITY continued

Skin Integrity

- Friction and pressure is increased to various areas during sexual intercourse
  - Important to perform skin check prior to and after sexual activity
- Changing positions at regular intervals during intercourse can assist prevention of pressure ulcer development
  - Be aware pressure ulcers develop over bony prominence with altered sensation (i.e. sacrum, lateral malleolus, fibular head, ischium, elbows, etc.)
- Utilize water-based lubricant for genital lubrication to decrease incidence of shearing
  - Be aware that vaginal lubrication is decreased as well as pre-ejaculatory fluid
PHYSICAL FACTORS THAT IMPACT SCI WOMEN AND SEXUALITY continued

Sexual Transmitted Diseases (STD)
- Any person who is sexually active is at risk for STD
  - Important to be tested prior to beginning sexual relationship, utilize condoms or other barrier methods
PHYSICAL FACTORS THAT IMPACT SCI WOMEN AND SEXUALITY continued

Gynecological Health/Examinations
- Accessible exam rooms preferably with lift for patients unable to transfer independently
- If AD is possible, please make treating physician aware.
IDT and Sexuality Education

Physician (PM&R and OBGYN)
- Assist with evaluation of patient during annual physical evaluation and during annual well-women exam
- Clearance to engage in sexual activity
- Medication prescription if needed for vaginal lubrication, spasticity, birth control options
- Screen for STDs
- Options for bowel/bladder management techniques that are safe effective
IDT and Sexuality Education

Psychologist

Topics of discussion

- Begin the discussion regarding body image
- How does the newly injured woman see herself?
- Does she still feel that she is attractive to others?
- Does she have a desire to be in a romantic relationship?
- Was she previously in a romantic relationship?
- What is your overall life satisfaction?
- Are you depressed?
IDT and Sexuality Education

Physical/Occupational Therapist

- Assist with positioning
- Continue education on skin checks prior to and after sexual intercourse
- Prescribe assistive devices for donning/doffing condoms/diaphragms
- Assess mattress for pressure relieving properties and appropriateness
IDT and Sexuality Education

Nursing
◦ Educate/review effective bowel/bladder care prior to sexual activity
◦ Educate patient/partner on supplies that need to be readily available at beside
◦ Educate patient/partner on decreasing risk of exposure to STDs
◦ Educated patient/partner on safety issues during sexual activity
Menstrual Cycle and Spinal Cord Injury
Menstrual cycle

Immediately following SCI 44%-58% of women experience amenorrhea

Menstruation usually returns in 4-6 months
  ◦ Some studies suggest there is a change in duration of flow, cycle length, amount of flow, and/or amount of pain associated with cycle

Upon resumption of menstrual cycle, SCI woman can become pregnant.
  ◦ Menstrual cycle, ovulation, pregnancy are hormonally based
IDT and Menstrual Cycle

Physician
- Prescribe appropriate medications for use of dysmenorrhea
- Discuss pros/cons of use of tampons vs sanitary pads

Physical/Occupational Therapist
- Assistive devices that can be utilized for assistance with inserting tampons or placement of pads
- Assistive devices for management of clothes when changing feminine hygiene products
- Positioning recommendations for caregivers if assistance is needed for changing feminine hygiene products
- Ordering/demonstration of use of specialty commode seats
IDT and Menstrual Cycle

Nursing

- Education on menstrual cycle and feminine hygiene products
- Education with placement/insertion of feminine hygiene products
- Education for set-up of supplies at bedside or commode to be readily accessible for use when needed
Pregnancy and Spinal Cord Injury
Considerations Prior to Pregnancy

- Understanding that SCI injured woman can still become pregnant upon resumption of menses
- Understanding the options of birth control
- Understanding the importance of involving SCI physician and SCI team during pregnancy
Birth Control Options

Types of Birth Control:
- 1. Penile condom
- 2. Diaphragm
- 3. Surgical tubal ligation
- 4. Oral contraceptives

Considerations for prescription:
- Quality of LE circulation- risk of DVT
- Alteration in genital sensation
- Manual dexterity for placement of penile condom or diaphragm
- Avoidance of skin breakdown
- Allergic reactions
Pregnancy

As long as ovulation is occurring to coincide with menses, pregnancy can occur.

- Preparation is the key to safe pregnancy and delivery in woman with SCI
Gestational Time

The fetus without complications grows at normal trajectory

In SCI population, can cause the following:

- Decreased diaphragm movement
- Nutritional demands increase which can cause weight gain
- Incontinence due to increased pressure on bowel and bladder
- Increased pressure on legs can lead to blood clots
- Increased weight can lead to skin breakdown
- Independence level can decrease to weight gain
- Spasticity increases
- Be aware that other etiologies of pregnancy can develop such as gestational diabetes, pre-eclampsia, or incompetent cervix
IDT and Pregnancy

Physician (PM&R and OBGYN):
- Assist with development of pregnancy plan
- Monitor mother and fetus throughout pregnancy for any signs of distress
- Review medications and ensure all are appropriate for use during pregnancy
- Discuss bladder and bowel management as pregnancy progresses
- Autonomic dysreflexia treatment/management if applicable
- Treatment of urinary tract infections
IDT and Pregnancy

Psychologist
Assist with the following:
◦ Anxiety Management
◦ Emotional Adjustment
◦ Monitoring any changes that may foreshadow post-partum depression
◦ Reinforce birthing plan

Physical/Occupational Therapist:
◦ Equipment assessment and acquisition
◦ Transfer training
◦ ADL management
◦ Educate on effective pressure reliefs
◦ Appropriate therapeutic exercise if appropriate
◦ Reinforce birthing plan
IDT and Pregnancy

Nursing
Education regarding:
◦ Bladder management techniques (ICP vs Foley)
◦ Bowel program adjustments if needed
◦ Signs/symptoms of labor
◦ Expectations during birthing process
◦ Reinforce birthing plan

Dietician
◦ Assist with management of weight and nutritional guidance during pregnancy to ensure mother and baby are healthy
Labor and Delivery

- Spinal cord injured woman can make full term if no complications are noted
  - Contractions can be seen by the tightening and rise/fall of uterus
  - Labor and delivery may elicit spasticity, autonomic dysreflexia, shortness of breath
  - Are able to have vaginal births or cesarean section
  - Important to have labor plan
  - Be aware of complications that can occur in non spinal cord injured woman during labor/delivery are still prevalent in spinal cord injured women
IDT for Labor and Delivery

Physician (PM&R and OBGYN):
- Safe delivery of baby
- Ensure safety of mother during delivery
- Execute birthing plan
- Explain any risk/complications that may arise during labor/delivery

Physical/Occupational Therapist:
- Ensure all equipment in place
- Reinforce birthing plan

Nursing:
- Reinforce birthing plan
- Provide support for mother and baby
Post-Partum Considerations

Episiotomy dehiscence or cesarean section surgical site healing
  ◦ Precautions with transfers and bed mobility

Burning from lights on perineal area if heat lamps utilized

Pressure ulcer development

Resumption of bowel and bladder management

Orthostatic hypotension

Development of UTI
Caring for Infant

Important to develop schedule with support system on caring for infant and spinal cord injured woman

- Taking into consideration that the SCI woman has vital objectives throughout the day she must meet such as bladder/bowel management, ADL completion, transfers, etc. in conjunction with new needs of being a mother
- Arrange home to place all items and bassinet in access of SCI woman
- Acquire carrying devices that will allow SCI woman to carry infant and utilize manual or power wheelchair
Breastfeeding

- Hormonally based process that is elicited by prolactin and oxytocin
- Occurs in 3 stages:
  1. Milk development while infant in utero
  2. Cascade of events and hormones released during labor and delivery along with nipple stimulation cause milk to be secreted
  3. Autocrine system takes over to meet the supply needed from infant
IDT and Breastfeeding/Caring for Infant

Physician (PM&R and OBGYN)
- Continuing to monitor mother and infant
- Adjusting medications and ensuring safety of infant if breastfeeding

Psychologist
- Assisting with emotional adjustment post partum
- Assisting with management of changing roles in life

Physical/Occupational Therapist
- Equipment acquisition
- Transfer training
- Home visits in necessary for safe transition home
Questions???