Preconception and Interconception Health: A Life Course Approach to Improving Perinatal Outcomes

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Objectives

• Discuss 4 key components of preconception/interconception care in the clinical setting;
• Describe a Life Course approach to preconception/interconception health;
• Discuss strategies for improving preconception/interconception health messaging within a Life Course framework.
Importance of Preconception/Interconception Health

“One of the best protections available against low birth weight and other poor pregnancy outcomes is to have a woman effectively plan for pregnancy, enter pregnancy in good health with as few risk factors as possible, and be fully informed about her reproductive and general health.” (IOM, 1985)
Key Terminology

• **Preconception**: Health status and risks before first pregnancy; health status shortly before any pregnancy.

• **Periconception**: Immediately before conception through organogenesis.

• **Interconception**: Period between pregnancies.

• **Preconception Care**: Set of interventions that aim to identify and modify biomedical, behavioral and social risks to a woman’s health or pregnancy outcome through prevention and management.
Defining Life Course

Life Course:

• Looks at health as an integrated continuum;
• Suggests that a complex interplay of biological, behavioral, psychological, social, and environmental factors contribute to health outcomes across the course of a person's life;
• Builds on recent social science and public health literature that posits that each life stage influences the next and that social, economic, and physical environments interacting across the life course have a profound impact on individual and community health.
In Other Words …..

• Life Course is a theory or perspective that seeks to understand, explain, and improve health and disease patterns across population groups.

• Key questions within MCH Life Course Models:
  – Why do health disparities exist and persist across population groups?
  – What are the factors that influence the capacity of individuals or populations to reach their full potential for health and well being?

The Reproductive Life Plan

- Routine health promotion activities for all women and men of reproductive age should begin with screening women and men for their intentions to have or not have a baby in the short and long term and their risk of conceiving (whether intended or not).
- Providers should encourage patients (women, men, and couples) to consider a reproductive life plan and educate patients about how their reproductive life plan impacts contraceptive and medical decision-making.
- Every woman and man of reproductive age should receive information and counseling about all forms of contraception that are consistent with their reproductive life plan and risk of pregnancy.

CDC.. (2013). Reproductive Life Plan Tool for Health Professionals.
Application to Practice: MCH Service Pyramid

Direct services

Enabling Services

Population-based Services

Build an infrastructure to support health
Preconception/Interconception Health Within the Clinical Context

Optimize pregnancy outcomes by:

- Providing family planning opportunities
- Identifying risk factors
- Provide interventions to prevent the development of conditions that could jeopardize the health of the mother, fetus, or neonate.
Why Is Preconception/Interconception Care Important?

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Limitations of Prenatal Care

• Some problems are unpredictable;
• Damage may have occurred prior to initiation of prenatal care;
• Behavioral change requires time;
• Too late for prevention of abnormal pregnancy based on genetic testing and counseling.
Preconception/Interconception Health Promotion: Weight Status

**Obesity**
- Obesity is our fastest growing health problem
- 1/3 of US women are obese
- Linked to diabetes, hypertension, cancers, chronic diseases
- Weight retained from prior pregnancies contributes to obesity

**Low BMI**
- Low BMI associated with excess deaths
- Low prepregnancy weight associated with increased risk of preterm births, low birthweight, IUGR, and birth defects.
Recommendations on the Clinical Content of Preconception Care

• Family planning and reproductive life plan
• Nutritional status
• Immunizations
• Infectious Disease
• ATOD use
• Chronic disease profile
• Reproductive History
• Family/genetic history
• Medication use
Preconception/Interconception Health: Family Planning

• 49% of US pregnancies unintended
• Of these
  – 44% births
  – 42% abortions
  – 14% fetal loss
• 48% occur in a month where contraception was used.
Preconception/Interconception Health Promotion: Nutrition

- Most lack adequate vitamins A, C, B6< E, folate, calcium, iron, zinc and magnesium.
- $\leq$ 40% take folic acid
- $\leq$ 10% reach protective folate blood concentration with food alone
Folic Acid Recommendations

• All women: Minimum 400mcg folic acid/day
• At risk women:
  – Family member with NTD – 1.0mg folic acid/d
  – Prior birth with NTD – 4.0mg folic acid/d
• Dosing
  – OTC multivitamins – 400 mcg folic acid
  – OTC prenatal vitamins – 800 mcg folic acid
  – Prescription prenatal vitamins – 1 mg folic acid
Preconception/Interconception Health Promotion: Physical Activity

- Obesity linked to GDM, PIH, preterm delivery, macrosomia, congenital anomalies
- Mood instability linked to depression
- May benefit pregnancy outcome through impact on weight control and mood stability
- Usually women can continue prepregnancy exercise program during pregnancy
Preconception/Interconception Health Promotion: Immunizations

- Up to date immunizations protect against entering pregnancy with infectious disease risk: tetanus, diphtheria, pertussis, varicella, MMR
- Pre-exposure vaccination for vaccine preventable STIs
- May need to avoid pregnancy for period of time if immunization given
  - i.e., minimum of 3 mo. following Rubella vaccine
- Review adult immunization recommendations from CDC website
Preconception/Interconception Health Promotion: Periodontal Health

Impact on Women’s Health
• Heart disease
• Stroke
• Serious threat to women with diabetes, respiratory diseases, osteoporosis

Impact on Reproductive Outcomes
• Evidence accumulating that may be a preventable cause of prematurity
Preconception/Interconception Health Promotion: Substance Use

• Current illicit drug use – 4.4%
  – 15 – 17yo – 16.2%
  – 18 – 25 yo – 7.4%
  – 26 – 44 yo – 1.9%

• Smoking 16.3% (26.7% NP)

• Alcohol 10.8% (54.7% NP)

SAMHSA, NSDUH, 2010
Preconception/Interconception Health Promotion: Medication Use

• Identify prescription medications
  – Of note: Accutane, valproic acid, anti-convulsants, anticoagulants
  – Discontinue/replace prescription medications with teratogenic potential

• Over the counter medications

• Contraceptives

• Alternative/complementary therapies
Preconception/Interconception Health Promotion: Infectious Diseases

• Sexually Transmitted Disease Exposure
  – ~ 19 million new STIs annually
  – ~ ½ occur in ages 15 – 24

• Other Exposures
  – Hepatitis B
  – Primary Maternal Toxoplasmosis
  – Rubella
Preconception/Interconception Health Promotion: Environmental Exposures

• May have teratogenic or mutagenic effects.
• Some linked to birth defects, SAB, infertility, fetal/neonatal loss, LBW, CNS disorders, developmental disorders
• Consider exposures in the home, workplace, hobbies...
  – Pesticides
  – Radiation
  – Animal feces
  – Lead
  – Mercury
Preconception/Interconception Health Promotion: Modify Psychosocial Risks

- Assess for intimate partner violence
- Lack of social support
- High stress and anxiety
- Inadequate resources
Preconception/Interconception Health Promotion: Genetic Counseling

• Advanced maternal age
  – Risk curve accelerates at age 35

• Genetically-linked disorders, such as
  – Tay-Sachs
  – Sickle cell anemia
  – Cystic fibrosis
  – Thalassemia

• Provide identification of carrier status
Components of Genetic Counseling

• Advise about what is known

• Severity, anticipated course, prognosis, & management of disorder

• Quantifiable risk of occurrence for this couple

• Choices available for avoiding occurrence or recurrence
Preconception/Interconception Health Promotion: Manage Chronic Disease

• Recognize chronic disease risks, newly diagnosed chronic diseases, or changes in chronic disease;

• Attempt to stabilize chronic conditions;

• Normalize blood nutrient substances:
  – Glucose
  – Phenylalanine (PKU)
  – Iron
SO.....

When is the **optimal time** for the preconception health visit?
What We *Don’t* Need... 
A new categorical service called the "Preconception visit"
What We *Do* Need... 
Reorientation of services to 
“Every Woman. . .Every Time”
But When Can I (the Provider) Do All of This????

“If you take care of women of reproductive potential . . .“It’s not a question of whether you provide preconception care, rather it’s a question of what kind of preconception care you are providing.”

Joseph Stanford
Three Tier Approach to Improving Preconception/Interconception Health

• General Awareness – public health campaigns, social marketing, information at every touch point.

• Routine Health Promotion - “Every woman, Every time”

• Specialty care
Health Promotion/Disease Prevention

• Health insurance plans must offer some preventive services without cost sharing (§ 2713)
  – Evidence-based items/services with an “A” or “B” rating in current USPTF recommendations;
  – Immunizations recommended by CDC’s ACIP
  – HRSA supported evidence-informed preventive care and screenings comprehensive guidelines for infants, children and adolescents
  – HRSA supported evidence-informed preventive care and screenings comprehensive guidelines for women

• List of preventive services is available at https://www.healthcare.gov/how-does-the-health-care-law-protect-me/#part=8
Well-Woman Visit: HRSA

Well-woman preventive care visit annually for adult women to obtain the recommended preventive services that are age and developmentally appropriate, including preconception and prenatal care. This well-woman visit should, where appropriate, include other preventive services listed in this set of guidelines, as well as others referenced in section 2713.

Well-Woman Visit Frequency: HRSA

Annual, although HHS recognizes that several visits may be needed to obtain all necessary recommended preventive services, depending on a woman’s health status, health needs, and other risk factors.

Refer to recommendations listed in the July 2011 IOM report entitled Clinical Preventive Services for Women: Closing the Gaps concerning individual preventive services that may be obtained during a well-woman preventive service visit.

Every Woman, Every Time

- Identify modifiable and nonmodifiable risk factors that can impact health and pregnancy outcome
- Provide timely counseling about risks
- Provide risk reduction strategies consistent with best practices.
A Reproductive Life Plan Model

- Do you hope to have any (more) children?
- How many children do you hope to have?
- How long do you plan to wait until you (next) become pregnant?
- How much space do you plan to have between your pregnancies?
- What do you plan to do until you are ready to become pregnant?
- What can I do today to help you achieve your plan?
Leverage Opportunities During Health Care Touch Points

The Usual

- All initial OB/GYN visits
- All annual OB/GYN visits
- Discontinuance of contraceptive method
- Negative pregnancy test
- Seek infertility care
- Seek preconception care
- Postpartum visits

The not so usual

- All non-OB/GYN related initial visits
- All non-OB/GYN annual visits
- Pediatrician Visits
- Chronic disease visits
- Lactation visits
- Newborn/postpartum Home visits
The Targeted Preconception/Interconception Visit

• Provide baseline data
  – Physical exam
    • Include all body systems, reproductive organs, breasts, endocrine
  – Baseline labs
    • H & H
    • rubella titre
    • Pap
    • Rh factor
    • STD screen, including Hepatitis panel and HIV
Family Health History

• Mother’s pregnancy history - Pregnancy related problems
• Ethnic background
  – African descent – sickle cell
  – Mediterranean descent – thalassemia
  – Jewish – Tay-Sachs
• Genetic disorders – Cystic fibrosis, PKU, NTD ...
• Significant Medical History – Diabetes, HTN, Cancers
Personal Health History

• Age
  – Teens – increased risk of LBW
  – Over 40 – increased risk of Down’s, other medical problems (HTN, etc.)

• Weight
  – 24 hr recall
  – Nutrition counseling

• Pre-existing medical conditions
  – DM, HTN, kidney disease, CVD, asthma, thyroid problems, blood dyscrasias, cancers, etc.
OB/GYN History

- Abnormalities of the reproductive organs
  - Uterine anomalies
- Hx. PID
  - Hx. STDs
- Endometriosis
- Fibroids
- Surgeries
- Infertility
- Pregnancy history
- History of preterm births/poor pregnancy outcomes
Preconception/Interconception Evaluation for High Risk Conditions

• Preexisting medical diseases which could result in compromised health for the woman, the fetus or the neonate should pregnancy occur.

• Other definitions of high risk conditions, include such as factors as previous poor pregnancy outcome, lifestyle or behavioral health components.
Considerations for Specialty Services

• Identify conditions that place the woman at high risk for poor health and pregnancy outcomes and provide information on the nature of the risks

• Provide evidence based referral to appropriate specialist or subspecialist prepared to offer consultation or to assume management of the woman’s condition

• Consideration of lifespan issues beyond their own specialty so that the woman receives comprehensive assessments and care

• Planned care transitions and coordination among referring and referral providers to avoid patient confusion, improve quality and efficiency, and optimize patient outcomes.
Preconception/Interconception Maternal Fetal Medicine Referral

- Pregestational Diabetes
- Renal insufficiency
- Lupus
- History of Thromboembolism
- Antiphospholipid syndrome
- Significant cardiac disease
- History of malignancy
- Crohn’s disease
- Severe pulmonary disease
- History of organ transplantation
Preconception/Interconception Health: What Do Men Have to Do With It?

- Ensure pregnancies are planned and wanted
- Improve pregnancy outcome by enhancing men’s health
- Improved reproductive health biology for both partners
- Improve reproductive health practices for both partners
Men’s Preconception/Interconception Health Care

- Reproductive Life Plan
- Family history and genetic risk
- Social history – work, hobbies, environment
- Lifestyle
- Mental health
- Health promotion
- Disease management
Improving Pregnancy Outcome Through Preconception/Interconception Care

- Life Course
- Every Woman, Every time
- Targeted visit
- Specialty care
Where Does the Nurse Fit In?
Contact Information

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Special acknowledgement: Portions of this presentation are adapted from the CDC’s National Preconception Curriculum and Resource Guide for Clinicians, available at 222.beforeandbeyond.org.