Pre-Conception Counseling

KELLY WARD M. D.

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FAMILY PRACTICE REFRESHER COURSE
Disclosures

- I have nothing to disclose
Objectives

- Understand folic acid recommendations and when increased doses are required
- Understand the chronic conditions that deserve special attention prior to attempting pregnancy
- Describe how Zika virus exposure affects reproductive planning
- Explain heath lifestyle recommendations (exercise, immunizations) for the young reproductive aged woman
Pretest #1

- The recommended dose of folic acid for most women is...
  - A. 4 mg
  - B. 400 mcg
  - C. 800 mcg
  - D. 4 mcg
  - E. None…food is fortified with enough
Pretest #2

Preconception should screen all of the following except:

A. Medical and surgical history
B. Family/genetic history
C. Environmental exposures
D. Medications
E. Substance abuse
F. Psychosocial risk factors
G. Driving record
Pretest #3

For patients traveling to areas with Zika virus present – it is recommended that they do not attempt pregnancy for -

- A. 2 weeks
- B. 4 weeks
- C. 8 weeks
- D. 6 months
- E. They don’t need to wait unless affected
Background

- 50% of pregnancies are unintended
  - Preconception interventions identify and modify behaviors, identify medical and social risks through prevention and management
- Preconception counseling/identification is not a single medical visit but should be considered with every medical decision and treatment
- Family planning is an important component of preconception care
- All women should be asked about their desire for pregnancy; depending on their intentions - contraception counseling should be considered
CDC tool

- Assists clinicians with patient counseling about contraception
- Reproductive life plan tool
  - [www.cdc.gov/preconception/reproductiveplan.html](http://www.cdc.gov/preconception/reproductiveplan.html)
- Free to providers and patients
- Includes individual goals and childbearing and a plan for achieving them
Preconception Care – General Issues

- Environmental exposures – dry cleaning, manufacturing, agriculture; mercury exposure
- Family/Genetic History – screen for any congenital or genetic disorders and refer couples when risk factors are identified
- Medications – screen for teratogenic medications; switch & fewest meds
- Psychiatric Illness – screen for depression and anxiety
- Psychosocial – screen for partner violence and refer as needed
- Substance abuse – screen for alcohol and tobacco abuse – refer and counsel on importance of cessation
Infectious Disease Screening

- Chlamydia – screen high risk women and treat
- Gonorrhea – screen high risk women and treat
- Herpes simplex virus – counsel about the risk of vertical transmission
- HIV – offer screening; refer if positive to specialized clinic
- Syphilis – screen high risk women and treat
- Tb – screen high risk women and treat active and latent Tb prior to pregnancy
Immunization Preconception

- Hepatitis B – vaccinate all high risk women before pregnancy; counsel chronic carriers about the prevention of vertical transmission
- Influenza – vaccinate all women who will be pregnant during the flu season
- MMR – screen for immunity and vaccinate all nonimmune women who are not pregnant (the must wait 4 weeks before attempting pregnancy)
Folic Acid

- 400 mcg
- Start prior to pregnancy and continue 6-12 weeks post conception
- Reduced neural tube defects by 75%
- One study showed that patients were 5 times more compliant with folic acid consumption when recommend by their PCP
- 4 mg recommended for women who have carried a fetus with a neural tube defect or other birth defects linked to folic acid deficiencies – oral facial cleft, structural heart disease, limb defect, urinary tract anomaly, hydrocephalus
- Women with epilepsy, IDDM, obesity (BMI>35) or family history of NTD should also take the higher dosage
Preconception nutrition

- Folic acid – 400 mcg (0.4 mg) daily
- Calcium - 1,000 mg daily
- Caffeine – 200-300 mg per day
- Remove alcohol, nicotine and drugs
Maternal Weight/BMI

- United States Women
  - 26% of women 20-39 – overweight (BMI 25-29.9)
  - 29% of women 20-39 – obese (BMI 30 or greater)
- Overweight and obese women are at increased risk of
  - Diabetes
  - Hypertension
- Conditions are associated with adverse pregnancy events
  - Macrosomia
  - Congenital anomalies
  - Stillbirth
  - Shoulder dystocia
  - IUGR
  - Preeclampsia
  - Operative delivery
  - SAB
  - Eclampsia
Intervention regarding weight loss should happen prior to pregnancy

- Weight watchers was one of the least costly reviewed out of 5 commercial diets
- Women maintained a 3.2% weight loss after the intervention
- May be more of a lifestyle change than a diet
- Online options/apps available

Overweight/obese women may have difficulty with conception due to insulin resistance and oligomenorrhea.
Bariatric Surgery

- Avoid pregnancy 12-18 months
- Stabilize weight loss and nutritional status
- Many have a history of infertility but fertility may return as the weight loss occurs
- Oral contraceptive pills may be less effective following malabsorptive bariatric surgery
- These patients are at risk of deficiencies in vitamin A, D, E, K, B1, B6, B12, folic acid, & iron
- Recommended that they take 2 multivitamins per day plus...Iron 65 mg, folic acid 400 mcg, vit D 400-80 IU and B12 350 mcg
Underweight women

- BMI less than 18.5
- Associated with preterm birth and low birth weight
- Associated with:
  - Nutritional deficiencies
  - Osteoporosis
  - Amenorrhea
  - Infertility
  - Arrhythmias
- Infants at higher risk for gastrochisis
- Assess for eating disorders and counsel about the above risks
Chronic Medical Conditions

- Asthma
- Diabetes
- Hypertension
- Thyroid disease
- Seizure disorder
- Thrombophilia
Asthma

- Optimize prior to conception; poor control before pregnancy often worsens during pregnancy
  - Risk for neonatal hypoxia, IUGR, preterm birth, low birth weight and death
- Inhaled corticosteroids and beta agonists preferred agents
- Use of oral steroids in the first trimester is associated with oral cleft, low birth weight and preeclampsia
- Inhaled corticosteroids are preferred to oral steroids
- Smoking cessation should be encouraged/avoidance of second hand smoke
Diabetes

- Most serious disease to affect mother/fetus
- 10% of reproductive age women
- Glucose is teratogenic at high levels
  - Congenital fetal anomalies are related to glycemic control in the first trimester
Hypertension

- 3% of reproductive age women
- Chronic htn associated with preterm birth, placental abruption, IUGR, preeclampsia, and fetal death
- 25% develop superimposed preeclampsia
- No evidence treating mild/moderate htn in pregnancy improves perinatal outcomes
- Treating severe htn 180/110 improves pregnancy outcomes
- All ACE inhibitors/ARBs should be avoided
  - Associated with renal anomalies and fetal death
Thyroid disease

- Hypothyroidism – affects 2.5% of women; more have subclinical disease
  - First trimester associated with cognitive impairments
  - Increase risk of preterm labor, low birth weight, placental abruption & fetal death
  - Dose may need adjustment throughout the pregnancy – often by 30% or more
Seizure Disorders

- Most common neurological disorder affecting pregnant women
- 1/3 will have more frequent seizures during pregnancy
- Associated with miscarriage, low birth weight, developmental disabilities, microcephaly, hemorrhagic disease
  - Increases the risk of congenital anomalies
  - 4 mg folic acid should be started 1 month prior to conception – until 12 weeks
Exercise prior to pregnancy

- Maintaining fitness prior to and throughout pregnancy is safe
- 30 minutes of walking per day helps with mood, posture, promotes muscle tone and may help improve sleep
- After the first trimester – avoid exercises flat on the back
- Avoid contact sports
- “if it hurts – don’t do it”
Zika Virus

- Women who have Zika virus should wait at least 8 weeks after symptom onset to attempt pregnancy.
- Men with Zika virus should wait at least 6 months after symptom onset to attempt pregnancy.
- Women and men with possible exposure should wait at least 8 weeks after exposure to attempt pregnancy.
- Possible exposure is defined as travel to an area of active Zika virus transmission.
- CDC updates recommendations regularly.
  - As of March 2016, there are 39 countries and US territories reporting Zika virus transmission.
Environmental Exposures

- Pesticides
- Exposure to workplace chemicals
- Water supply – age of home; water supply
- Avoiding mercury in food – shark, swordfish, king mackerel, tilefish
Mercury - Neurotoxin

- Exposures: eating fish, skin lightening creams sold out of the USA, inhalation of vapors at work
- Exposure reduction
  - Avoid skin lightening creams
  - Avoid eating fish high in mercury
  - No more than 6 oz. of albacore tuna per week
  - 2 servings of low mercury fish for omega-3 fatty acids
- Occupational exposures
  - Dental amalgams
  - Manufacture of fluorescent lamps
  - Paper pulp industry
- www.nrdc.org
Lead - Neurotoxin

- Exposures: pica, traditional remedies, cosmetics from outside the USA, lead glazed pottery, home renovations prior to 1970
- Screening: Venous lead level
  - >5 mcg/dl - reduce exposure and retest
  - >10 mcg/dl - reduce exposure, retest and refer to health department to investigate possible exposures
  - >20 mcg/dl - contact toxicologist or occupational/environmental health specialist for advice on testing and treatment
Lead reduction

► Avoid eating non food
► Eat balanced diet with iron and calcium sources
► Avoid cosmetics, food additives, and cosmetics from outside the USA
► Avoid hobbies with lead exposure
► Test water if pipe contamination is suspected
► Remove shoes at the front door
Pesticides

- Prenatal exposure increases the risk of IUGR, congenital anomalies, leukemia, decreased performance on neurodevelopmental testing
- Exposures: pesticides on produce, use of pesticides in home/garden or on pets
- Occupational: live/work in agricultural settings
- Inner city/urban environments have risk - rodenticides
Pesticides – exposure reduction

- Avoid application of pesticides, avoid areas with recent treatment
- Do not use chemical tick/flea collars
- Use licensed pesticide applicators
- Use bait traps instead of sprays, dusts and bombs
- Seal cracks at the outside of buildings
- Cover garbage cans
- Wash all fruit and vegetables prior to eating
- Leave shoes at the front door
- www.ewg.org
Environmental exposure reduction

- Increase fresh/frozen food
- Decrease canned food
- Decrease processed food
- Use glass, ceramic or stainless steel for food storage
- Avoid plastics with recycling codes #3 and #7
  - Do not microwave food in soft plastic
- Use vacuum with HEPA filter
- Decrease use of personal care products/cosmetics
- Decrease thermal contact paper
30 year old woman with htn and diabetes presented for preconception visit; never has been pregnant and has never used birth control

- BMI 45
- HgA1c 10%
- Taking Metformin and Lisinopril

Recommend weight loss and discuss reproductive life plan

She decided to have bariatric surgery

Contraceptive counseling – elects for a Mirena IUD

One year following surgery her BMI = 29; off meds for DM and htn; HgA1c 6%

- Vitamin levels checked and folic acid supplementation given

What should you check prior to removal of her IUD?
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Thanks for your invitation to speak...

Questions??