
INTERCONCEPTION CARE

Importance

The Problem

Women who have had a poor birth outcome in a prior pregnancy are at increased risk for having another poor birth outcome in their subsequent pregnancy. The risk of recurrence is estimated at 15 to 30 percent for preterm delivery, 20 to 60 percent for pre-eclampsia. Risk of recurrence for low birth weight infants is 2 to 12 fold. Congenital anomalies have been linked to diabetic women whose blood sugars are not in control at conception and in the first trimester of pregnancies. In normal pregnancies, 1-2% of fetuses will have a recognizable structural defect. Among patients with diabetes and moderate blood glucose control, this number may be 4-6% with birth defects. Among women with poor control, the miscarriage rate may be doubled or tripled in the first trimester and surviving embryos can be expected to have a 25 to even 35% risk of birth defects. Short pregnancy interval also increases the risk for poor birth outcomes by 30 to 40 percent versus waiting 18 to 23 months. There are also racial and ethnic disparities that add to the poor birth outcome problems, African American women have nearly twice the risk of delivering a low birth weight infant.

Incidence and costs

- Preterm Births accounted for 12% of the 4 million births in the US in 2002 and have risen more than 25% since 1981
- Low Birth weight infants accounted for 7.6% of births in 2002
- Maternal antepartum hospitalization for preterm labor and tocolysis ranges from

3-21 days at a cost of \$600 - \$1000 per day.

- In 2000, charges for 23,000 hospital stays for infants with any diagnosis of prematurity were estimated at \$11.9 billion according to the March of Dimes
- By 18 months of age the cost of an extremely preterm infant is more than 8 times that of a normal term infant, and exceeds \$100,000 overall.
- Forty percent of low birth weight infants will have more than 3 hospital admissions during the first year of life.
- Approximately 2 to 5% of all births have a birth defect or congenital anomaly identified at birth. Another 2-5% are identified in the first year
- Congenital Anomalies and preterm birth are the two most costly conditions of the perinatal period.

Rationale

The risk of recurrence of poor birth outcomes can be significantly reduced with appropriate follow-up during the interconception period. For example, the risk of recurrent preterm births may be significantly reduced with interventions that help women with prior preterm births to achieve optimal pre-pregnancy weight through healthy nutrition, optimal interpregnancy interval through family planning, and optimal health through preventive and primary health care before their subsequent pregnancies. However, many women do not receive appropriate follow-up during the interconception period. For most low-income women, their contact with the health care system becomes limited with the termination of their pregnancy-only Medi-Cal at 60 days postpartum.

Interventions

Interventions need to be individualized and focus on the problems that can be identified with the specific woman. The case management model should be used to assess each woman's needs and coordinate the total care. The woman should have a primary care provider. The office or clinic should have the capacity to provide comprehensive women's health care, including family planning, preventive and primary health care for women. It should also have an established network of referral services, including but not limited to specialty care (for women with pre-existing medical conditions), dental care, nutritional services (including WIC and programs for smoking cessation or substance abuse), and social services. Ideal clinical settings should provide pediatric care (e.g. well-infant visits, immunizations) for the infant alongside interconception care for the mother. The schedule of interconception visit should be individualized. For women with few health or social problems, we anticipate that clinical visits at the interconception care clinic will take place every three months. For women with more extensive health and social problems, we anticipate that monthly visits may be necessary.

Interconception health care consists of three case managed and coordinated components:

- Risk assessment
- Health promotion
- Medical and psychosocial interventions

A trained professional should provide the case management with a degree in relevant fields of nursing, public health, social works, or other equivalent degrees. Trained lay personnel (e.g. Promotoras, doulas, resource mothers) can be utilized but should be supervised by the trained professional.

The case managers should provide on-site case management and care coordination at the interconceptional care clinic, as well as follow-up for each client and family enrolled in the program, including home visitations if necessary. While the activities of the case managers should be tailored to the individual needs of the clients and their families, their core activities are described below:

1. Psychosocial assessment for social stressors (e.g. domestic violence, financial hardship, working conditions, housing problems, child care needs),
2. Counseling and referral to social, financial, and vocational assistance programs,
3. Care coordination and case management to facilitate client follow-up with interconception care and referral services (e.g. facilitate transportation to attend interpregnancy care service appointments, counseling client and family about the availability of the warm-line and other services).

Key Principles

Many of the problems that contribute to poor birth outcomes can be identified and treated prior to a subsequent pregnancy and may avert multiple poor birth outcomes. In addition to healthcare needs, women who had a prior adverse birth outcome are likely to have a multitude of social needs, including those of caring for a sick child.

Steps to Implementing Interconception Care

Risk Assessment

1. Risk Assessment including Medical and obstetrical (historical)

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- assessment for past conditions, chronic and acute illnesses, medications, obstetrical history, and psychiatric history
 2. Psychological assessment for adverse health behaviors (tobacco, alcohol, illicit drug use), psychological conditions (including screening and referral for depression), and domestic violence
 3. Nutritional assessment for body mass index, dietary intake, food purchasing resources
 4. Reproductive plans assessment for future childbearing, barriers to family planning services utilization
 5. Periodontal disease assessment for presence of and severity of periodontal disease

Health Promotion

1. Promotion of health behaviors (proper nutrition; avoidance of smoking, alcohol, street drugs; avoidance of sexually transmitted infections; dental hygiene)
2. Advice and information on family planning, pregnancy spacing, and contraception
3. Counseling about the importance of planned pregnancies and, if pregnant, early registration and compliance with prenatal care;
4. Advice and information about need for on-going care for chronic health and dental conditions.

Intervention Strategies

1. Primary health care for mothers and infants throughout the interpregnancy care period (for at least 24 months);

2. Linkage to appropriate treatment of medical and dental conditions through established referral network;
3. Gynecologic screening and treatment of reproductive tract infections as indicated (including sexually-transmitted infections and bacterial vaginosis);
4. Referral to family planning counseling and treatment services through the Family PACT program;
5. Referral for treatment of adverse health behaviors (tobacco, alcohol, illicit drug use)
6. Appropriate immunization
7. Nutrition classes, micronutrient supplementation, and referral to WIC program (as appropriate).

Opportunities for Collaboration

Collaboration is recommended to provide a comprehensive approach. Types of organizations to provide comprehensive services to women and to address women's health topics would include but not limited to:

- Clinics and Doctor's Offices
- Faith Based Organizations
- Community Based Organizations
- WIC and social services sites
- Hospital Based Organizations
- Businesses (nail salons, hair salons, others)

Tools for Implementation

No specific tools for implementation exist however the preconception materials can be used.

Medem Website at www.medem.com does a search for "Planning your Pregnancy" in the medical library.

The March of Dimes also provides some information regarding preconception and training for providers at www.modimes.com

Potential Outcome Measures

Measurement of the success of this intervention may include some of the following criteria:

- Proportion of women with recurrent early preterm births or VLBW
- Proportion of women with recurrent fetal or infant death
- Proportion of women with recurrent congenital anomalies
- Proportion of adolescent women with repeat pregnancies
- Pregnancy interval

Source Materials & Useful Resources

There are no specific tool kits for these interventions however the preconception materials and tools can be utilized.

References/Resources:

Adams MM, Elam-Evans LD, Wilson HG, Gilbertz DA. Rates of and factors associated with recurrence of preterm delivery. *JAMA*. 2000 Mar 22-29;283(12):1591-6.

Patient information. Planning for pregnancy. *Advance for Nurse Practitioners* 2001;9:82.

Information from your family doctor. How to prepare for pregnancy. *American Family Physician* 2002;65:2521-22.

Adams MM, Bruce FC, Shulman HB, Kendrick JS, Brogan DJ. Pregnancy

planning and pre-conception counseling. *The PRAMS Working Group. Obstetrics & Gynecology* 1993;82:955-9.

Allaire AD, Cefalo RC. Preconceptional health care model. [Review] [28 refs]. *European Journal of Obstetrics, Gynecology, & Reproductive Biology* 1998;78:163-68.

American Diabetes Association. Preconception care of women with diabetes. *Diabetes Care* 2000;23 Suppl 1:S65-S68.

Cullum AS. Changing provider practices to enhance preconceptional wellness. [Review] [20 refs]. *JOGNN - Journal of Obstetric, Gynecologic, & Neonatal Nursing* 2003;32:543-49.

Czeizel AE. Ten years of experience in periconceptional care. *European Journal of Obstetrics, Gynecology, & Reproductive Biology* 1999;84:43-49.

Frishman G. Preconceptional counseling and care: a unique window of opportunity. [Review] *Medicine & Health, Rhode Island* 2003;86:16-18.

Hellerstedt WL, Pirie PL, Lando HA, Curry SJ, McBride CM, Grothaus LC et al. Differences in preconceptional and prenatal behaviors in women with intended and unintended pregnancies. *American Journal of Public Health* 1998;88:663-66.

Hobbins D. Full circle: the evolution of preconception health promotion in America. *JOGNN - Journal of Obstetric, Gynecologic, & Neonatal Nursing* 2003;32:516-22.

Jack BW, Culpepper L, Babcock J, Kogan MD, Weismiller D. Addressing preconception risks identified at the time of a negative pregnancy test. A randomized trial. *Journal of Family Practice* 1998;47:33-38.

The interconception Health Promotion Initiative Final Report, June 9, 2003. The Research and Evaluation Group Department of Family Medicine University of Colorado.

Korenbrod CC, Steinberg A, Bender C,
Newberry S. Preconception care: a
systematic review.[comment]. [Review] [66
refs]. Maternal & Child Health Journal
2002;6:75-88.

The American College of Obstetricians and
Gynecologists <http://www.acog.org/>
Phone 800-762-ACOG

The March of Dimes Birth Defects
Foundation at <http://www.modimes.org>

Medem, Inc. 649 Mission Street, 2nd Floor
San Francisco, CA 94105| Member
Services: (877) 926-3336 Corporate: (415)
644-3800 | Fax: (415) 644-3950 web site at
www.medem.com

For more information contact, Janice French, CNM,
MS at LA Best Babies Network, 213-250-7273
Contact@LABestBabies.org; 350 S. Bixel St,
Suite 100, Los Angeles, CA 90017
