



The pharmacist’s role in promoting preconception health

by Shareen Y. El-Ibiary, Erin C. Raney, and Merry-K. Moos

Abstract

Objective: To review the pharmacist’s role in preconception health.

Data sources: PubMed search using the terms preconception, immunizations, epilepsy, diabetes, depression, tobacco, asthma, hypertension, anticoagulation, pharmacist, pregnancy, and current national guidelines.

Data synthesis: Preconception health has become recognized as an important public health focus to improve pregnancy outcomes. Pharmacists have a unique role as accessible health care providers to optimize preconception health by screening women for tobacco use, appropriate immunizations, and current medication use. Counseling patients on preconception risk factors and adequate folic acid supplementation as well as providing recommendations for safe and effective management of chronic conditions are also critical and within the scope of practice for pharmacists.

Conclusion: Pharmacists play an important role in medication screening, chronic disease state management, and preconception planning to aid women in preparing for healthy pregnancies.

Keywords: Preconception health, pharmacist, pregnancy.

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Learning objectives

At the conclusion of this knowledge-based activity, the pharmacist will be able to:

- Explain the rationale for a preconception health orientation.
- Discuss the variety of preconception influences on pregnancy outcomes.
- Assess immunization needs prior to pregnancy.
- Screen medications for appropriate use during pregnancy.
- Identify chronic diseases that require special attention prior to conception.

Preactivity questions

Before participating in this activity, test your knowledge by answering the following questions. These questions will also be a part of the CPE assessment.

1. Which of the following is the approximate percentage of women who report using a prescription medication during the first trimester of pregnancy?

a. 20%	c. 50%
b. 30%	d. 80%

2. Which of the following medications is best to avoid in pregnancy?

a. Valproate	c. NPH insulin
b. Regular insulin	d. Inactivated influenza vaccine

3. Which of the following immunizations is recommended during pregnancy?

a. Tdap	d. HPV
b. Varicella	
c. MMR	

Introduction

The United States has long had an infant mortality rate far in excess of comparable countries.¹ In the last several decades, a new approach for preventing excessive rates of poor pregnancy outcomes in the United States has emerged.² This new strategy, known as preconception health promotion, evolved with recognition that prenatal care starts too late to have an impact on many causes of fetal and neonatal morbidity and mortality, and, most strikingly, congenital anomalies. Embryogenesis begins within 3 days of the first missed menstrual period and is generally complete by 56 days after conception. Therefore, even women starting prenatal care early will not have a first prenatal visit before the critical period of organogenesis is under way or complete.

Focusing appropriate preconception health promotion education and intervention only on women and couples who are actively planning a pregnancy will not address preconception health status for a large percentage of pregnancies in any year: at least 50% of pregnancies in the United States are unintended, and the rate has begun to increase.^{3,4} Thus, all women capable of becoming pregnant should be provided critical information to advance their own health as well as the health of their children.

Many contributors to poor pregnancy outcomes are already present and irreversible at initiation of prenatal care.^{5,6} These factors include planning of the pregnancy (associated with timing of entry to prenatal care and exposure to harmful substances such as teratogenic drugs, alcohol, and tobacco), inadequate nutrition (fo-

lic acid and iron intake), poor chronic disease control, and risk factors for low birth weight and prematurity (abnormal placentation, short interpregnancy intervals, maternal pregravid weight, tobacco use, and others). Prenatal care, the traditional approach for advancing healthy pregnancy outcomes, starts too late to protect against early first-trimester birth defects and other poor pregnancy outcomes.

Preconception health promotion has become accepted as an important pathway for the primary prevention of many poor pregnancy outcomes. In 2006, CDC, in a public-private partnership, established the Preconception Health and Health Care Initiative.⁷ The initiative defined preconception care as a 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.⁷ A framework for reaching women with information and interventions that will provide both health promotion and disease prevention for immediate and long-term health is three-pronged and echoes routine primary care: give protection (e.g., against communicable diseases including sexually transmitted infections, against unintended pregnancies), manage conditions (e.g., chronic and acute diseases), and avoid harmful exposures (e.g., alcohol, tobacco, recreational drugs). Impacting women's health through this framework will improve preconception health status for those women who intentionally or unintentionally become pregnant, because healthy women have healthier pregnancies and outcomes.^{5,8} The health care system routinely devotes attention to reducing the risks for cardiovascular disease and cancer, and similarly has the opportunity to reduce the risks for unintended pregnancies and support promotion of healthier outcomes.

Evidence-based clinical content for preconception health care was critically examined and put forth in 2008.⁶ Using an adaptation of the U.S. Preventive Services Task Force criteria for determining the quality of the evidence and assigning strength to specific recommendations, guidance was offered for the following topics: (1) routine health promotion for all women of reproductive age (including family planning and reproductive life planning; physical activity; weight status; nutrient intake and folate supplementation; immunizations; substance exposures and prevention; and identification and treatment of sexually transmitted diseases), (2) immunizations, (3) infectious diseases, (4) medical conditions, and (5) medications.

Pharmacists are in a promising position to incorporate a number of these evidence-based recommendations for promoting healthy pregnancy outcomes in their routine interactions with women of childbearing age who have coexisting health conditions. For example, among women aged 18 to 44 years old, 9% have been diagnosed with arthritis; 14% with asthma

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