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Best Practices for Nutrition Care of Pregnant Women in Prison

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Abstract

Approximately 3% to 4% of women are pregnant upon their admission to prison. Pregnant inmates present unique challenges for correctional health providers, including meeting the nutritional needs for healthy pregnancy outcomes. The authors outline six recommendations for nutrition care for pregnant inmates, including (1) test for pregnancy; (2) prescribe prenatal vitamins; (3) follow nutrition recommendations outlined by the Academy of Nutrition and Dietetics; (4) provide additional food, monitor over time, and allow for modifications to meet pregnancy needs; (5) ensure regular access to water; and (6) provide inmates with resources and education on healthy diet. The degree to which correctional facilities address the nutritional needs of pregnant women may have short- and long-term consequences for the health of women and their offspring.

Keywords

female inmates; pregnancy; women's health; nutrition; correctional health care

Introduction

Over the past two decades, the number of women incarcerated in the United States has dramatically increased. In 1990, there were 43,845 women incarcerated in state or federal prisons in the United States (Cohen, 1991) and by 2011, that number nearly tripled to 111,387 (Carson & Sabol, 2012). More than three quarters (76%) of incarcerated women are of childbearing age (18 to 44 years old; Carson & Sabol, 2012), and nearly two thirds (61%) are mothers of minor children (Glaze & Maruschak, 2008). The Bureau of Justice Statistics estimated that between 3% and 4% of imprisoned women in the United States are pregnant at the time of admission (Glaze & Maruschak, 2008). However, data from the Pew Center on the States (2011) suggest that pregnancy rates may be substantially higher; in New York City, for example, nearly 30% of female inmates were pregnant at the time of admission.

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Because the correctional health care system was established to serve a predominantly male population, health care in most correctional settings falls short of meeting the basic needs of women (Braithwaite, Treadwell, & Arriola, 2005). Health care services for women in correctional settings have been described as inadequate (Clarke et al., 2006; Ferszt & Clarke, 2012; Wilper et al., 2009). For example, in their study of the health care practices of pregnant women in 19 state prisons, Ferszt and Clarke (2012) described living conditions, health care, and counseling practices that failed to meet women's basic needs.

Incarcerated women, particularly those who are pregnant, face considerable social and health risks (Fisher & Hatton, 2009). Pregnant inmates are more likely to have risk factors associated with poor perinatal outcomes when compared to women in the general population, including preterm infants and infants who are small for their gestational age (Bell et al., 2004; Knight & Plugge, 2005). These outcomes are likely a result of several risk factors that preceded incarceration and may be exacerbated during incarceration; nutrition is one such risk. Incarceration may, therefore, offer a unique opportunity to reach a highly vulnerable population and improve the health of women and their offspring.

Good nutrition promotes healthy pregnancy outcomes (Proctor & Campbell, 2014). For example, adequate folic acid intake through supplements or fortified foods early in pregnancy and throughout pregnancy can protect the fetus from neural tube defects, low birth weight, and prematurity (Timmermans, Jaddoe, Hofman, Steegers-Theunissen, & Steegers, 2009). In addition, adequate levels of omega-3 fatty acids have been associated with longer pregnancies and increases in fetal weight gain (Larqu, Gil-Snchez, Prieto-Snchez, & Koletzko, 2012). Moreover, deficiencies in these fatty acids along with other nutrients such as protein, zinc, and iron have been shown to disturb brain development and place children at risk for conduct problems (Liu, 2011).

Although the Eighth Amendment to the U.S. Constitution protects inmates' rights to health care, there are no federal regulations on the minimum standards for nutrition in state prisons (Collins & Thompson, 2012). Furthermore, while the National Commission on Correctional Health Care (2014) recognizes the unique health needs of pregnant women in prisons and individual states and facilities often have their own policies, there is limited specificity regarding diet and nutrition. Nutrition guidelines for pregnant women are particularly important in corrections environments where the availability, type, portion, timing, and quality of food are controlled by the facility. Inmates have limited control over their diets and limited access to foods that contain the nutrients that are associated with a healthy pregnancy outcome, including whole grains and fresh fruits and vegetables.

In their analysis of the nutritional value of the meals served in South Carolina and Horry County correctional institutions, Collins and Thompson (2012) found that servings of vegetables, fruits, and milk fell below dietary reference intake (DRI) recommendations. When Collins and Thompson's (2012) findings are compared to recommended servings for pregnant women specifically (Kaiser & Campbell, 2014), the inadequacies of the standard prison diet for a healthy pregnancy outcome become more apparent. For example, the DRI goals for a 25-year-old pregnant woman include 350 mg of magnesium and 28 g of fiber per day (Kaiser & Campbell, 2014); however, Collins and Thompson (2012) found that the

meals served at the South Carolina correctional institution contained only 274.5 mg of magnesium and 16 g of fiber when averaged over 42 days. Although pregnant inmates are often prescribed a medical diet or given a “pregnancy snack pack” containing additional food, Collins and Thompson (2012) only considered the standard prison diet. The contents of such medical diets have not been systematically assessed; therefore, the adequacy of nutritional intake among pregnant inmates remains unknown.

A correctional system’s success or failure to address the nutritional needs of a pregnant woman may have short- and long-term implications for women’s health and that of their offspring. Furthermore, a growing body of evidence indicates that the effects of many social determinants of health—including nutrition—may have effects across generations (Braveman, Egerter, & Williams, 2011). We outline six recommendations to optimize the nutritional status of incarcerated pregnant women.

Recommendations

Pregnancy test upon intake

In their study of the health care practices of pregnant women in state prisons, 6 of the 19 prisons surveyed did not routinely pregnancy test inmates on admission (Ferszt & Clarke, 2012). Likewise, many jails across the country do not routinely conduct pregnancy tests on female inmates at intake because of the high turnover and limited resources to provide prenatal care (Medel, Mullins, Kelsey, Dallaire, & Forestell, 2015). Because early identification is key to initiating prenatal care and changes in lifestyle that would promote a healthy pregnancy outcome, we recommend that correctional facilities routinely test all women of reproductive age for pregnancy at the time of admission to the facility. Pregnancy testing all incarcerated women presents interesting challenges when trying to balance public health and individuals’ rights; thus, we recommend, as Colbert and Silko (2015) have, that women be given the opportunity to opt out of such testing.

Prescribe prenatal vitamins upon diagnosis of pregnancy

Upon first diagnosis of pregnancy or by 12 weeks’ gestation, correctional health providers should order an over-the-counter prenatal vitamin to be administered daily. All prenatal vitamins contain folic acid and iron, which help prevent neural tube defects and anemia (Hovdenak & Haram, 2012; Peña-Rosas & Viteri, 2009). Although, it is recommended that a vitamin–mineral supplement be administered before conception, we recognize that this is not feasible with this population in this setting. We recommend using any brand that contains folic acid, calcium, and iron, in addition to vitamin D, vitamin C, vitamin E, and zinc (additional information about specific nutrients is below).

Follow the nutrition recommendations outlined by the Academy of Nutrition and Dietetics for healthy pregnancy

Correctional facilities should follow the nutrition recommendations outlined by the Academy of Nutrition and Dietetics for healthy pregnancy (Kaiser & Allen, 2008; Procter & Campbell, 2014). Given the potentially grave consequences for fetal health if not met, particular attention should be paid to the meeting the DRIs for folic acid, iron, calcium, zinc,

and vitamin D. While the effect of folic acid on reducing neural tube defects is dependent upon it being taken before and around the time of conception and implantation, folic acid intake is important throughout pregnancy due to its roles in DNA synthesis and gene expression (Carmel, 2012).

Iron is a key nutrient during pregnancy; it is estimated that 1,000 mg of additional iron are required during pregnancy to support fetal and placental growth (300 mg), increase red blood cell mass to promote oxygen transport across the placenta (450 mg), and accommodate blood loss at delivery (250 mg). Iron deficiency during pregnancy is associated with an increased risk of preterm delivery and low birth weight as well as lower cognitive and gross motor function and increased risk of attention deficit among children (Cortese, Angriman, Lecendreux, & Konofal, 2012; Peña-Rosas, De-Regil, Dowswell, & Viteri, 2012). Most women do not consume adequate amounts of iron from food sources, so 30 mg of supplemental iron are recommended for all pregnant women by 12 weeks' gestation (end of the first trimester; Agricultural Research Service, 2014; Centers for Disease Control and Prevention, 1998).

Vitamin D and calcium are nutrients that play an important role in bone formation, placental development, and blood pressure regulation; supplementation of both nutrients among primiparous young women has been associated with lower risk for preeclampsia (Hofmeyr, Belizán, von Dadelszen, & CAP Study Group, 2014; Hyppönen et al., 2013). Vitamin D also supports normal immune function and may reduce inflammation and infection, two mechanisms that explain the vitamin's effect in reducing the risk of preterm birth. Supplementation of vitamin D may be particularly important for incarcerated women due to reduced exposure to sunlight (Jacobs & Mullany, 2015; Nwosu et al., 2014); most vitamin D is made in the body in response to sunlight exposure and very few foods contain vitamin D, none in amounts that could meet daily requirements. Vitamin D needs for women are difficult to estimate given variations in synthesis and metabolism based on skin tone (individuals with darkly pigmented skin are less efficient at synthesizing vitamin D than lighter skinned individuals) and on geographic latitude.

Zinc is an important nutrient during pregnancy due to its role in RNA and DNA synthesis and immune response, in addition to acting as an antioxidant. As with vitamin D, the anti-inflammatory and infection-fighting properties of zinc are likely mechanisms that underlie its role in the prevention of preterm birth. The DRI goal for pregnant women is 11 mg of zinc (Kaiser & Campbell, 2014).

Provide additional food, monitor over time, and allow for modifications to meet pregnancy needs

On average, pregnant women need an additional 340 calories during the second trimester and an additional 452 calories during the third trimester (Kaiser & Campbell, 2014). It is therefore essential to provide pregnant inmates with additional food to meet caloric requirements associated with increased energy needs. In their study, Ferszt and Clarke (2012) found that many of the study's state prisons failed to meet these nutritional recommendations for pregnant women. For example, although 15 (79%) of the 19 facilities surveyed provided women with additional milk or an evening snack, only 7 (47%) provided

women with additional cereal (presumably fortified). Furthermore, only eight (53%) facilities reported that pregnant women received peanut butter and nine (60%) facilities reported that pregnant women received additional fruit.

Many correctional facilities put pregnant women on a medical diet and/or provide pregnant inmates with a pregnancy snack pack that typically contains a sandwich, a container of milk, and a piece of fruit. Although the intended goal of this pack is to meet a pregnant woman's increased energy needs, the contents of this pack, and thus its nutrition value, are often not modified over the course of the woman's pregnancy. We recommend that all pregnant inmates are provided additional food to meet their energy needs and that this food (both content and quality) is monitored and changed over time by the woman's health care provider (in consultation with a registered dietitian nutritionist [RDN]). Additional consideration should be given to women who are pregnant with multiples, follow a vegetarian or vegan diet, or have other health conditions (e.g., lactose intolerance, food allergy; Kaiser & Campbell, 2014).

We also recommend that health care providers and other corrections staff be mindful of pregnancy-related symptoms that may impact a woman's diet. For example, acid reflux is common in pregnancy and may be exacerbated by highly acidic foods. Allowing the woman to exchange an orange for another piece of fruit can easily address this concern. Nausea is particularly common during pregnancy. In a corrections environment, when mealtimes are highly controlled, a nauseous pregnant woman may choose not to eat during a scheduled meal. It is important that this woman has access to food that she can eat when the nausea has passed. In general, we recommend that pregnancy-related symptoms that impact a woman's diet be monitored and that corrections staff make modifications necessary to ensure that the dietary recommendations for a healthy pregnancy outcome are met.

Ensure that pregnant inmates have regular access to water

Adequate hydration is essential to a healthy pregnancy outcome. Dehydration in pregnancy can increase the risk of contractions and preterm labor. Given that pregnant women need 3 L/day—and some of these fluids are consumed through milk, juice, and high-moisture food—approximately 10 additional cups (2.3 L) of water a day are needed to meet this recommendation (Institute of Medicine of the National Academies, 2005). For correctional facilities, this means that pregnant inmates must have access to drinking water throughout the day. Although most facilities are designed to provide inmates with access to water in their cells and living units, we recommend that drinking water is also available when pregnant inmates are participating in educational programming or are working in settings where water may otherwise be limited. Correctional health care staff should counsel pregnant inmates on adequate hydration and work with facility administrators to ensure that barriers to meeting this recommendation are reduced.

Provide inmates with resources and education on healthy diet and make nutrition information for food available in the cafeteria and the commissary

Many state departments of corrections have an RDN on staff who oversees the nutritional value of meals served to inmates and evaluates the delivery of medical diet meals to inmates

with special dietary and nutritional needs, including pregnant inmates. We recommend that RDNs implement educational programming that focuses on healthy diets for pregnant inmates. Ideally, education and health promotion programs would be offered in different languages and through various modes (e.g., group-based education, print resources, and videos) to reach an audience with varied literacy and health literacy skills. In addition, inmates should meet one-on-one with an RDN following the diagnosis of pregnancy and again during each trimester to monitor health and weight status. Inmates should also be permitted to consult with the RDN, either via Skype or in person.

Labeling all foods available in the cafeteria and throughout the commissary with the contents and nutrition facts provides inmates with the information necessary to make informed and healthy choices. Correctional facilities can, for example, provide a list of commissary items that may be healthy options for pregnant women. For example, pregnant women need 400 mg/day of synthetic folic acid from fortified foods. Most breakfast cereals are fortified and often available through commissary; labeling such foods allows pregnant inmates to make informed choices and may increase self-efficacy and promote adherence to nutrition recommendations. In addition, correctional facilities should include a list of items that may be unsafe for pregnant women (e.g., uncooked deli meat) and foods that should be consumed in moderation.

Conclusion

Pregnancy presents unique considerations for correctional health providers and, in many ways, other operations in correctional facilities. In this article, we outlined six recommendations for nutrition care for pregnant inmates, including (1) test for pregnancy upon intake; (2) prescribe prenatal vitamins upon first diagnosis; (3) follow the nutrition recommendations outlined by the Academy of Nutrition and Dietetics; (4) provide additional food, monitor over time, and allow for modifications to meet pregnancy needs; (5) ensure that pregnant inmates have regular access to water; and (6) provide inmates with resources and education on healthy diet and make nutrition information for food available in the cafeteria and the commissary.

There are inherent challenges in implementing these recommendations, most notably the associated costs incurred by the correctional facilities and the staff time needed to implement these recommendations. Additional costs may include pregnancy tests, prenatal vitamins, additional food, and staff. We encourage facilities to consider how these recommendations could be implemented by maximizing the staffing resources already available (e.g., utilizing the RDN on staff). Additionally, corrections administrators should consider partnerships with local or state public health departments that could share costs associated with pregnancy tests and prenatal vitamins. Such costs may ultimately be offset at a state level through savings associated with improved maternal and child outcomes. The degree to which correctional facilities address the nutritional needs of a pregnant woman may have both short- and long-term consequences for the health of women and their offspring.

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