Health Promotion and Lifestyle Change During Pregnancy

Health policy on maternal nutrition, smoking, alcohol consumption, and pregnancy outcome

by Nina Mikirova, PhD, Director of Research

Many expectant parents are at one extreme or another when it comes to their lifestyle during pregnancy. They break habits and take up new habits, all in an attempt to bring a healthy baby into the world. In reality, most have an unclear idea of the role various lifestyle choices play during pregnancy. Will the cheeseburger I ate make my baby have health issues? If I drink alcohol, will my baby have development issues? It is a web of questions that seem to have a whole host of opinionated answers. But what does research say? For the best result possible, it is vital to understand the studied outcome of the choices we make while pregnant.

A growing body of evidence indicates that the pre-natal period is a sensitive period for later health outcomes and prenatal priming is a term increasingly used to describe the long-term effects on health outcomes programmed by pre-natal and early post-natal factors. Lifestyle changes are important to the health of the fetus during pregnancy and in early parenthood to create a health-promoting environment for the child.

HEALTHY POLICY ON MATERNAL NUTRITION

How important is maternal nutrition in determining the outcome of pregnancy? “Very important,” most lay persons, prenatal care providers and public health policy-makers would reply. But a careful examination of the available evidence does not strongly support such an answer.

What evidence is available from studies of actual nutritional intake among pregnant women? The extreme reduction in energy intake imposed by the Germans on the Dutch during the so-called “hunger winter” of 1944/45 led to large reductions in birth weight among the babies of women affected during the third trimester of pregnancy, but there was no perceptible impact on gestation duration or other pregnancy outcomes.
Eating healthy foods during pregnancy is vital, but that doesn’t mean you have to be afraid of everything you eat. You don’t even have to force yourself to eat foods you don’t like.

Some simple tips are to load up on folic acid, calcium, iron, zinc, and fiber, as well as, eat a colorful plate; limit your exposure to pesticides (choose organic and locally grown foods when possible); get your omega-3 fatty acids, and eat nutrient-dense foods like yogurt, peanut butter, chicken, and beef.

But remember—just because you are eating for two, does not mean you should literally eat for two. Also, don’t overdose on refined carbs like white bread; don’t overlook food safety for the sake of indulgence; don’t go more than two to three hours without eating, and don’t forget to drink around twelve 8oz glasses of water a day.

This issue of the Health Hunters Newsletter dispenses some typical prenatal eating misconceptions. Enjoy!

Amanda Hawkinson
Editor
newseditor@riordanclinic.org

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ALCOHOL CONSUMPTION IN PREGNANCY AS A RISK FACTOR FOR LATER MENTAL HEALTH PROBLEMS

There has been increasing interest in recent years about the possible mental health risks for children as a result of prenatal alcohol exposure. A controversial question has been asked about whether there is a safe amount of alcohol that can be consumed during pregnancy and whether international...
Health Promotion and Lifestyle Change During Pregnancy continued from page 2…

policy recommendations are based on evidence.

There are currently considerable international differences in policy recommendations about alcohol use in pregnancy. Some countries such as the USA, Canada and France recommend complete abstinence. This recommendation appears to be based on a precautionary approach, given that no clear research suggesting otherwise has been established. In contrast, until May 2007, guidelines in the UK were that pregnant women could safely drink one or two drinks per occasion up to 1–2 times per week (that is, up to a total of four alcoholic drinks per week). This approach seems to be based on the lack of available evidence about the relationship of alcohol consumption and adverse outcomes. However, these recommendations were recently revised to advocate refraining from drinking during pregnancy.

The National Perinatal Epidemiology Unit focused a recent review on literature concerning risks associated with low to moderate levels of alcohol consumption during pregnancy. There is more conclusive evidence related to higher levels of drinking, manifesting at the extreme end as fetal alcohol syndrome. In the USA, the occurrence of fetal alcohol spectrum disorder (FASD) has been estimated at around 1% of live births. In Europe, rates of FASD have been estimated at 2–4%. The majority of these children are described as having an alcohol-related neuro-developmental disorder, with visible problems with over activity, inattention, and behavior or learning difficulties. Outcomes such as these are associated with moderate alcohol consumption (for example, an average of one drink per day). These findings have been replicated in animal studies, suggesting there are critical vulnerable periods for neurodevelopment.

Other studies have shown that even low levels of drinking during pregnancy may affect a child’s mental health. A study in the USA indicated that up to 3–4 drinks per week was directly linked to behavioral problems in children between 6 to 7 years old. Recently, the UK extended the findings. It was found that less than one drink per week in the first trimester could result in higher levels of mental health problems when the child is between 4–8 years.

In summary, when debating whether or not to have a drink, remember that even moderate drinking (1–2 drinks per day) of alcohol during pregnancy could result in childhood attention and behavioral problems. Evidence has shown that the risks from alcohol consumption in pregnancy may persist over time. Cohort studies also suggest ongoing learning problems, behavioral difficulties, and adult psychiatric disorders such as personality and substance use disorders in adolescence and early adulthood.

SMOKING DURING PREGNANCY: MATERNAL CHARACTERISTICS AND PREGNANCY OUTCOMES

Have you debated quitting smoking? This decision is one of the most important actions an expectant mother can take to improve the outcome of her pregnancy. Women know how smoking can affect their health and that of their unborn children. Because of this, pregnancy may be the perfect time to successfully quit smoking. Nevertheless, most smokers do not stop smoking during pregnancy. Two-thirds of women who

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smoke during their first pregnancy also smoke during their second, exposing their infant to tobacco smoke both in utero and after delivery.

Many countries consider smoking during pregnancy as the most important preventable risk factor for an unsuccessful pregnancy outcome. Smoking is causally associated with fetal growth restriction, and increasing evidence also suggests that smoking may cause stillbirth, preterm birth, placental abruption, and possibly sudden infant death syndrome. Smoking during pregnancy is generally associated with increased risk of spontaneous abortion, ectopic pregnancies, and placenta previa. It may also increase risks of behavioral disorders in childhood.

There is a direct link between the exposure to smoke and the diagnosis of childhood attention deficit hyperactivity disorder (ADHD). Although findings are not clear, the association between the two has been demonstrated across various samples controlling for potentially confounding effects. They analyzed a dose-dependent relation, and results indicated that risk increases with the quantity of cigarettes smoked. It has also been proposed that the fetus could be affected by smoking through biologically plausible pathways.

Is it possible that smoking during pregnancy could play a role in infant/childhood obesity? A recent systematic review and meta-analysis showed that if a mother smokes during pregnancy there are increased odds that her child will be overweight.

Publications from the Avon Longitudinal Study of Parents and Children (ALSPAC) have demonstrated that if an expectant mom smokes, there is an increased likelihood that her child will be shorter than average at 7 ½ years old and have issues with weight to height proportions (from 7 to 10 years old). According to the study, children who have been exposed to smoking had more severe behavioral problems with greater externalizing symptoms and more conduct and oppositional defiant disorder items, lower verbal IQ, and a sluggish cognitive profile on the Continuous Performance Test (CPT). Linear regression analyses revealed a relationship between the average number of cigarettes smoked per day during pregnancy and verbal IQ, CPT omission errors T score and several other clinical variables. Animal models demonstrate alterations in brain structure and function following prenatal nicotine exposure.

So, when contemplating whether or not to quit smoking, studies have shown that maternal smoking before or in pregnancy could result in risk of obesity in 5- or 6-year-old children. In addition, maternal smoking during pregnancy is associated with long-term neurobehavioral and cognitive deficits in children.

Educating yourself on the outcomes of your choices is the most important step expectant parents can make. By understanding the research behind your doctor’s suggestions, you become better equipped to handle the ups and downs of pregnancy. Research suggests that expectant parents should refrain from alcohol and smoking and take advantage of proper nutrition. These small steps can help produce a healthy child and will decrease your child’s risk of cardiovascular disease, obesity, as well as various other behavioral and neurological issues.
A Healthy Appetite makes for Healthy Development

by: Laurie Roth-Donnell | Master Herbalist and Holistic Health Practitioner

From the time of conception through the first year of life, a child undergoes an impressive cycle of rapid physical growth and development. On average, a newborn grows 10 inches and triples in weight by their first birthday. After the parents experience this year of rapid growth, they often become concerned when the growth slows. More concerning to new parents however, is not the child’s decrease in growth rate, but an obvious slump in appetite. Both are normal development patterns for toddlers, as the expected growth rate slows to approximately two inches a year until adolescence.

While healthy growth and development are fundamental goals of parenting, introduction of solid healthy foods is a challenge to many parents. When it comes to healthy foods, most can relate to the phrase, “Eat it, it’s good for you!” But, this reasoning falls short on a finicky toddler asked to try spinach. There are several ways to naturally enhance any appetite while increasing nutrition absorption and these simple suggestions can be adapted by any one, at any age. Here are several of Mother Nature’s herbs designed to stimulate appetite and increase nutritional absorption:

- **Emblica Officinalis** (Indian Gooseberry) helps to increase body mass by stimulating protein synthesis, while promoting a healthy metabolism. The edible fruit contains protein concentration 3-fold and ascorbic acid concentration, which is 160-fold compared to the apple. This berry also contains a considerably higher concentration of most minerals and amino acids than our favored apple.

- **Trigonella Foenum-Graecum** (Fenugreek) is one of the most ancient Indian healing herbs to enhance digestion, reduce gastric inflammation and be used in cases of weight loss, poor appetite and even in treatment of anorexia nervosa. Fenugreek has three culinary uses, as a cooking herb (dried or fresh leaves), a spice (toasted seeds), and a vegetable (fresh leaves, sprouts, and micro-greens). Many use it in salads, pickling, and curry dishes.

- **Zingiber Officinale** (Ginger) naturally stimulates digestion and calms stomach upset and is used to flavor many Asian dishes.

  *GINGER TEA:* Combine 1 tablespoon of grated fresh ginger root to 1 cup of boiled water, steep covered for 10 minutes, sweeten to taste with honey.

  *GINGER SODA:* Slice 2 large clumps of fresh ginger root and add to 1 quart of water, simmer 20 minutes covered, strain, and chill ginger root base. Combine 1/8 cup ginger base to sparkling water and a natural sweetener to taste- serve over ice. Kids and adults alike love this, and ginger is usually available at most grocers.

- **Borago Officinalis** (Star Flower) is a native of Syria. This hairy plant has thick leaves that taste of cucumber and are used to bring freshness to food. The oil is extracted for numerous pharmaceutical uses. In Germany, sauces are prepared from this and other herbs. A green sauce from Frankfurt is an ancient recipe that contains—parsley, chervil, chives, cress, sorrel, burnet, and borage. The leaves of borage are cooked with cabbage and cauliflower or chopped and added to soup. The flowers are used in food garnish, and many summer cocktails are garnished traditionally with leaves and flowers of borage.

  If you have a toddler faced with food fussiness, please give a few of the above ideas a try. Also, remember to consult your primary care physician regarding any new health regime.

**SOURCES:**
- NativeRemedies.com
- 101herbs.com
- Health-from-nature.net
- Laurie@DonnellsHealingGarden.com

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Prenatal Care Vitamins

It is important to know the purpose of your supplements. Before starting any supplement regimen consult your physician.

<table>
<thead>
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<th>Supplement</th>
<th>Regular Price</th>
<th>Sale Price</th>
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<tr>
<td>5-MTHF (Folic Acid)</td>
<td>$17.17</td>
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<tr>
<td>ProDHA 1000</td>
<td>$26.10</td>
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<td>Flax Seed Oil</td>
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<tr>
<td>Blue Heron</td>
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Breastfeeding Suggestions & Benefits
by Jennifer Kaumeyer, ND

Many new mothers worry about breastfeeding. How do you establish it? What do you do if you have nipple soreness? Is there a specific diet you need to maintain? What happens if a duct is clogged? Are there really any benefits to it? The following article will help answer these questions.

ESTABLISHING BREASTFEEDING:
• Find a comfortable position away from stress to nurse. This allows easy milk flow.
• Bring the baby to the breast rather than the other way around. This avoids pulling on the nipple which creates poor suction and nipple soreness.
• Allow the baby to develop their own patterns; attempts to schedule increases parental anxiety and imposes stress on the baby. Allow time for adjustment to the outer world. A pattern will develop between you and your baby.
• Babies will feed between 8 to 18 times a day. Some learn the skill of sucking more quickly than others. Allow for your baby’s uniqueness.

NIPPLE SORENESS:
Temporary soreness usually occurs when beginning breastfeeding. These suggestions may help:
• A quality diet with high vitamin C intake.
• Apply warm black tea bags to the nipples between feedings using a bandaid to keep it in place.
• Apply lanolin cream on the nipples after feeding unless you are allergic to wool.
• Air drying the nipples after feeding is helpful.
• Break the suction by placing a finger in the baby’s mouth before removing the baby from the breast.
• Apply vitamin E out of a capsule directly to the sore nipple.
• Don’t wash breasts with soap. Use only water.
• Try different positions for holding the baby which help him or her to grasp the areola.

FOODS:
Be sure to:
• Drink many fluids. Have a glass of liquid with every feeding.
• Eat plenty of high quality foods. Remember, you are still eating for two, so what you eat can affect your child.

Try to avoid:
• Coffee and chocolate frequently cause colic.
• Broccoli, cabbage, cauliflower, and brussel sprouts may cause colic in some babies.
• Dairy may cause congestion or rashes. Watch for signs and try removing dairy for a few days.

CLOGGED DUCT:
• Treat as soon as possible to prevent inflammation of the breast.
• Nurse more frequently.
• Continue nursing on affected breast. Cessation of nursing can increase stasis, increase discomfort, and even endanger milk supply. Nurse frequently but just enough to empty breast.
• Apply warm towels.
• Gently massage breast inward toward nipple to encourage drainage of lymphatic tissue.
• Castor oil pack: Soak washcloth in the oil and apply to the breast. Cover cloth with plastic wrap, then hot towels for 20 minutes. Wash the oil off with baking soda solution.
• Carrot poultice: Grate a raw carrot and apply directly to the breast. This will help draw out infection.
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• Drink 2 quarts of water a day.

• Take vitamin C and Echinacea to support your immune system, as directed by your physician.

BENEFITS OF ECHINACEA:
• Nursing contracts your uterus which helps to prevent postpartum bleeding.
• The nutrients in your milk change according to the needs of your baby. For example, the

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and happy. Help, my now growing family is healthy and in my life. With all of the doctor’s to have the Riordan Clinic by my side with our health. I am very fortunate. Since then, it has been smooth sailing in the hospital when they contract RSV. fortunate because most infants are put a quick recovery. It was very fortunate because most infants are put in the hospital when they contract RSV.

Almost 5 months passed free and clear from the cold and flu. Then at the end of January, my son developed respiratory syncytial virus (RSV). Between breathing treatments and an increase in supplements with the addition of zinc, my 4 month old infant made a quick recovery. It was very fortunate because most infants are put in the hospital when they contract RSV.

Since then, it has been smooth sailing with our health. I am very fortunate to have the Riordan Clinic by my side and in my life. With all of the doctor’s help, my now growing family is healthy and happy.

This patient’s story is a great example of the exceptional care you will receive at the Riordan Clinic. To find out more or to make an appointment, call 316-682-3100 to start your journey to a healthier you.

Eating For Two: Increased Nutritional Needs During Pregnancy by Jennifer Kaumeyer, ND

Pregnant women require increased nutritional needs for fetal, maternal and placental tissue growth and development. The most important of these additional needs are: calories, protein, calcium, iron, zinc, folic acid and magnesium. The quality of the calories from foods consumed during pregnancy will be a necessary consideration as many nutrients may be supplied through a wholesome diet.

Recommended Dietary Allowances

<table>
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<tr>
<th>Calorie Level</th>
<th>Non-pregnant 1,500–2,200 kcal</th>
<th>Pregnant 1,800–2,600 kcal</th>
<th>Difference 300–400 kcal</th>
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<tbody>
<tr>
<td>Calories</td>
<td>1,500–2,200 kcal</td>
<td>1,800–2,600 kcal</td>
<td>300–400 kcal</td>
</tr>
<tr>
<td>Protein</td>
<td>46g</td>
<td>60g</td>
<td>14g</td>
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<tr>
<td>Calcium</td>
<td>1,200 mg</td>
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<td>no difference</td>
</tr>
<tr>
<td>Iron</td>
<td>15 mg</td>
<td>15 mg</td>
<td>15 mg</td>
</tr>
<tr>
<td>Zinc</td>
<td>12 mg</td>
<td>15 mg</td>
<td>3 mg</td>
</tr>
<tr>
<td>Folic Acid</td>
<td>180 mcg</td>
<td>400 mcg</td>
<td>220 mcg</td>
</tr>
<tr>
<td>Magnesium</td>
<td>280 mcg</td>
<td>320 mcg</td>
<td>40 mcg</td>
</tr>
</tbody>
</table>

Calories (300–400 kcal approx)

Whole wheat bagel with 1 oz cream cheese
Small rice and bean burrito with salsa
Tuna sandwich (½ C tuna + 2 tsp mayo)
Vegetable burger (wheat bun & 1 tbsp avocado)
2 egg omelet with sauteed veggies
½ C rice, 1 C veggies + 2 T tahini dressing
½ C oatmeal, 2T raisins + 1T nuts/seeds
4.5 oz fish with small baked potato
Stuffed chicken breast with ½ C veggies
Apple + 2T peanut butter

Protein (examples of 14g)

2 oz chick, turkey, beef, pork, lamb
2 eggs
½ oz firm tofu
2 oz wheat gluten (seitan)
2 oz cheese
½ C tuna, canned
½ C nuts/seeds and nut/seed butter
½ C cottage cheese
1 C beans, cooked

Calcium

120–180 mg
121–128 mg
212 mg
176 mg
172 mg
75 mg
86 mg
1 C kale, chard, or mustard greens, cooked
1 C navy or Great Northern beans, cooked
1 C black-eyed peas, cooked
2 T sesame seeds
1 T blackstrap molasses
2 T almonds
1 C almond butter
164 mg
72 mg
302 mg
138 mg
320–400 mg
130 mg
160–320 mg
1 C carrot juice
1 C broccoli, cooked
1 C milk
2 T parmesan cheese
1 C yogurt
1 C tofu (with calcium sulfate)
1 C soy milk (enriched: 20–40% calcium)
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In Gratitude...
As a not-for-profit organization, we rely on many to make our vision a reality. **So many come together to provide our patients with a place of hope, health and healing.** Here are just a few we’d like to thank.

• L.S. for the kind words sent via email to our staff. We love hearing about the difference we’ve made in the lives of those we help.

“...I just wanted to say thank you to Dr Ron & the staff for all they’ve done for me. When I first came to your office, I was pretty much desperate & had completely lost hope. Your clinic gave me back my hope in life. Every time I feel like my disease is taking over again, you guys are right there for me with something new to try. Your dedication to research & thinking outside the box is inspiring. Although I am not “healed” I feel like you will never give up on trying to help me live a “normal” life. After having so many doctors either give up, blow me off or simply pile on the drugs to mask the symptoms, it is so refreshing to have a place like the Riordan Clinic helping me fight my battle. Thank you for being there & never giving up on your patients!” L. S., June 2012

• All individuals and groups who have donated to our cause through financial support, including:
  • Price R. and Flora A. Reid Foundation Trust
  • M.S., Pickering, OH to the Patient Scholarship Fund
  • W.M., Sharon Springs, KS to the Patient Scholarship Fund
  • C.P., Winfield, KS to the Patient Scholarship Fund
  • USD 259 Wichita Public Schools and Crestcom International for event/meeting space rental

Know Your Nutrients: Fiber and Pregnancy
by Amanda Hawkinson

There are many benefits to increasing the amount of fiber in your diet during pregnancy. Increasing fiber intake can lower blood pressure and help relieve the constipation that is often associated with pregnancy. In addition, a new study has shown that eating more fiber during your first trimester seems to reduce the risk of developing preeclampsia.

According to the Preeclampsia Foundation, some 5 percent to 8 percent of women experience the dangerous condition during pregnancy. The only way to end preeclampsia is to deliver the baby—obviously a more reasonable strategy the further along a pregnancy is.

Risk factors of preeclampsia include obesity, a family history of type-2 diabetes and/or hypertension, depression, anxiety, diets low in fruits and vegetables, and low levels of physical activity.

The findings, published July 17, 2008 in the online edition of the American Journal of Hypertension, seem to corroborate previous findings on the subject from somewhat smaller studies.

The conducted study compiled a list of the questionnaire answers to 1,500 pregnant women in Washington State. Results showed that women who consumed 21.2 grams a day or more of fiber were 72% less likely to develop preeclampsia compared with women who ate less than 11.9 grams a day. It also showed that triglyceride concentrations were lower and levels of HDL or “good” cholesterol concentrations higher.

A fiber-rich diet is very important during pregnancy, not only for lowering preeclampsia but for the overall health of the mother and child.

Source: healthday.com

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• KUMC IVC Ovarian Cancer Study • Sullivan
• Better Oxygen Utilization Improves Cancer Outcomes • Shallenberger
• The Dental Link to Cancer • Margolis
• IVC Prevents and Treats Cancer Associated Sepsis • Gonzalez and Miranda-Massari
• IVC, Inflammation, and Bi-oxidant Paradox • Hunninghake, Hinshaw, and Mikirova
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