Ortho-Evra Patch: Thinking outside the square
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Introduction to Contraceptive Counseling
There are many birth control methods available to consumers today. Important considerations when choosing a particular method include the patient's personality, lifestyle, safety, need for secrecy, and the patient's ability to use the birth control method correctly and consistently. Compliance is an issue with any hormonal contraception. As health care professionals, we are always searching for a more efficient method to decrease the possibility of pregnancy while increasing compliance and minimizing side effects. It often appears the patient chooses a birth control method based on experiences her friends have had using a particular method. The HCP (health care provider) can customize the counseling to an individual patient and help her choose an appropriate birth control method. Research has found when methods are customized, a woman is more likely to continue the method successfully, maximize compliance, and minimize unnecessary concerns. A woman should leave the health care professional's office knowing the risks and benefits to the birth control method fitting her lifestyle, needs, and desires.

Ortho Evra Background:
Since 2001, a new contraceptive has been available to women that offers them once weekly dosing, better compliance, user control and method reversibility. Ortho-Evra, also called "the patch", is a non-invasive form of reversible contraception that is 99% effective when used correctly. It consists of a three-layer system containing 20 ug of ethinyl estradiol and 150 ug of norelgestromin, (an active metabolite of norgestimate found in the oral contraceptives of Ortho Cyclen and Ortho Tri-Cyclen) which is delivered transdermally daily to the systemic circulation.

The 3rd layer of the patch is a clear protective liner that is peeled away revealing a sticky surface that is applied directly to the skin. Similar to the pill, the patch works on a 28-day (4 week) cycle, however the patch is worn for 7 days at a time. On day 8 the patch is removed and a new patch immediately applied in a different location (excluding the breast), rotating the location of the patch with every application. If a woman is 2 days late starting her next patch she is not protected against pregnancy.

For first time users, the patient should wait until her menses to begin the patch. She can choose to do a first day start by placing the patch during the first 24 hours of menses or wait until the Sunday after her menses starts. Only women choosing the first day start are protected immediately against pregnancy; those with the Sunday start need to use other protection for the first week. If the patch becomes partially or completely detached, a new patch must be applied within 24 hours.

Participants can maintain their usual activities including bathing and swimming. They are advised not to use oils or creams around or on the patch site.

Women who decide to stop the patch to seek pregnancy should wait about 6 weeks for the hormone to clear out of the circulation. Women who should not use the patch include those with a history of heart attacks or strokes, blood clots, chest pain, known or suspected reproductive cancers, hepatitis or pregnancy. A complete list of reasons is found in the drug insert and should be reviewed with the patient.

Nutritional Counseling
Nutritional assessment and counseling should be offered to women on the Ortho Evra Patch. Several critical areas need to be addressed during such counseling, including the increased need for calcium, weight gain, present body weight and hormone choices, lab work, and potential side effects.

Calcium concerns
Bone loss begins when a woman reaches her thirties. Estrogen increases calcium absorption and decreases the concentration of minerals in serum and urine indicating bone reabsorption. There are no studies to date, which look at the patch and bone mass density. At this time only a correlation can be made. Birth control pill research suggests a history of oral contraceptive use increases bone mass density when compared to non-users. Women taking low dose hormonal contraception of 20 ug estrogen, as found in the patch, experience no bone loss, but those women taking greater than or equal to 20 ug daily demonstrated net gain of bone. It is possible the use of low dose hormonal contraception over a long period of time will show the same effects as a higher dose of estrogen. Many variables, such as tobacco and alcohol, need to be taken into account. Counseling should emphasize the need to decrease alcohol intake and cigarette smoking, both of which interfere with calcium absorption. Counseling should also focus on identifying dietary sources of calcium and the possible need for calcium supplements.

Weight gain and the patch
A frequent reaction to using hormonal contraception is "I don't want to gain weight, I heard hormones make you fatter." Research has shown that after one year of pill use, patients gained less than 5% of the base line weight, and many lost weight. Often times in teens, weight gain is from normal growth and development versus weight gain from combined hormone therapy. A nutritionist should calculate and assess the patient's BMI (body mass index) as for any patient. Assure the patient weight gain will be minimal, if at all. Any specific weight change would require counseling to address change in diet or exercise.

Body weight and hormone choice
Patients that weigh over 198 lbs. cannot use the patch system because the levels of the hormones provided by the patch do not reach the serum levels necessary to prevent pregnancy. There is a statistically significant pregnancy increase among women weighing more than the upper weight limit. Weight monitoring is extremely important, and practitioners should warn patients if they get near the cut off weight. Preliminary research has found increased pregnancy rates in women weighing more than 155 pounds while using other hormonal contraceptives, such as the oral contraceptive. There is no evidence to suggest that the patch is a better alternative for patients who weigh between 155-198 pounds.

Lab work
A randomized controlled study showed total cholesterol concentrations increased from baseline to the end of the patch use by a mean of 15.8 mg/dl. Triglyceride levels also increased more than seen by oral contraceptive users. On a positive note, other studies saw an increase of HDL with LDL/HDL ratio comparable to oral contraceptive useage. In the clinical setting, baseline lipids are not routinely obtained. Nutritionists may need to recommend such labs to assist with diet counseling.

Side Effects
There is no epidemiological data suggesting any difference in the side effects of Ortho-Evra to other hormonal contraceptives. Studies have shown the
most common side effects, in order of most common to least common, found in Ortho-Evra users can affect long term compliance. During the medical nutrition therapy session, the side effects and remedies reviewed below should be discussed.

**Breast symptoms** Breast symptoms are dose related. The higher the estrogen, the more symptoms are seen. The symptoms include bilateral breast discomfort, engorgement and breast pain. These symptoms are more significant during the first two cycles and are related to fluid retention, and/or weight gain. Recommend that the patient decrease caffeine intake. In addition patients can wear a more comfortable supportive bra. Symptoms usually decrease after the first 2 months of consistent Ortho Evra use.

**Headaches** The HCP needs to rule out other causes of headache before assuming the hormonal contraceptive has caused this symptom. Note the timing of the headaches in the cycle. Headaches are often caused by estrogen withdrawal during the fourth week. When headaches are associated with neurological or visual symptoms the patient should contact her health care provider immediately.

**Nausea** The least of any reported side effect, nausea is more common in the first two months of hormone use. Nausea does decrease with increasing use of contraceptive hormones. Theoretically, the nausea should decrease during the patch-free week. Less nausea should occur compared to oral contraceptives because the hormones in the patch are absorbed through the skin, rather than the gastrointestinal tract. Similar to early weeks of pregnancy symptoms can be moderated by the consumption of dry crackers.

**Break through bleeding** Break through bleeding and spotting is any bleeding occurring during days 1-21 and using a pad or tampon on any of those days. It is more common with patients during the first two cycles. Of all patch users, 20% of patients experience break through bleeding in the first cycle. Over time this rate decreases to less than 10% of all users reporting break though bleeding. Mid cycle bleeding is more commonly found when low dose hormones less than or equal to 20 ug is used. This side effect is one of the major reasons for discontinuation of contraceptive hormones. The patch has significantly higher rates of break through bleeding and spotting compared to oral contraceptives initially, but there is no difference between pills and the patch after several cycles. If bleeding continues, the patient should follow up with her GYN or health care provider.

Break through bleeding is of concern for women that are anemic who are started on contraceptive hormones to help decrease blood loss during menses and decrease risk of morbidity related to anemia. Break through bleeding can increase their anemic status. Counselors should ask patients about the bleeding history occurring during the patch free week, any break-through bleeding, or early bleeding. Nutritionists should ask about patch application at the correct time and any interactions with herbs, vitamins or medications. The patient's hemoglobin should be checked if she has a history of anemia and needs to be counseled regarding the need for diet changes and/or iron supplements.

**Other Side Effects** Three percent of patch users discontinued the patch because of application site reactions. Reassure the patient that a reaction is not common and it will fade. To reduce irritation to the skin, rotate the patch to the various locations. The patch was not associated with either phototoxicity or phototoxicity and demonstrated only mild skin irritation in a minority of patients. Refer the patient back to her GYN or physician if she expresses a concern or is uncomfortable.

Several serious adverse effects have been reported when using the patch that require the patient to be referred immediately to her GYN or primary health care provider. These serious effects include: abdominal pain, migraine headaches, dehydration, sleep disorders, diabetes, manic-depressive, pycnotic, or cholelithiasis.

**SUMMARY**

Special consideration needs to be given to women who have medical problems. Nutritionists will see women with polycystic ovaries, irregular menses, type 1 and type 2 diabetes, sickle cell disease, impaired glucose tolerance, bleeding disorders, and acne. It is important when reviewing the patient’s nutritional background to know what form of birth control/ side effects the patient is experiencing, or what blood work the contraceptive hormone could affect. Ortho Evra is an effective low dose birth control method having fewer side effects for women. A nutritionist can counsel a woman on managing the side effects to improve compliance.

**References**


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**Table 1: Sample Rotations First Day Start**

<table>
<thead>
<tr>
<th>Patch Change Day</th>
<th>Sample Rotation (Change according to season)</th>
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<tbody>
<tr>
<td></td>
<td>Lower Abdomen</td>
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<tr>
<td><strong>Within 24 hours of menses starting</strong></td>
<td></td>
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<tr>
<td>Day 1</td>
<td>X</td>
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<tr>
<td>Day 8</td>
<td>X</td>
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<tr>
<td>Day 15</td>
<td>X</td>
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<tr>
<td>Day 22-26</td>
<td>X</td>
</tr>
<tr>
<td>Day after 28th new cycle</td>
<td>X</td>
</tr>
</tbody>
</table>

**Notes**

- Do not use oils, creams or cosmetics on or near the patch
- Rotate patch to avoid irritation to skin

**No back-up contraception needed if patch placed within 24 hours of menses starting**
Greetings from the Chair of WHRN! Fall is my favorite time of year. There is an air of excitement as we get ready to start a new academic year and look forward to the holidays and the change of seasons. For our DPG, this year has marked a major change, as we broaden our scope to include women's health across the lifespan, beyond the reproductive years. We have an exciting program planned for FNCE this year, with a return by popular demand of our day-long Breastfeeding Workshop. Our DPG-sponsored program at FNCE continues this important theme, with presentations by Mary Hediger, PhD and Kay Dewey, PhD on Breastfeeding and Childhood Obesity Risk. Please join us at the Member's Reception on Sunday evening if you are attending FNCE.

Our DPG has grown over the past few years, and we are always looking for help. If you would like to become more involved with ADA, starting at the level of your DPG is the perfect place to begin! Feel free to contact me at bluke@med.miami.edu. Best wishes for a healthy and productive fall!

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The Facts: What Every Dietitian Needs to Know About Birth Control
Michael J. Franklin, Dietitians Incen

Introduction
Although many women use birth control to avert unintended pregnancies, the fear of possible side effects such as weight gain, weakened bones, and cancer remain foremost in their minds. Some women would prefer to risk an unwanted pregnancy than use a method of birth control. In a survey of 704 women ages 18 to 45 years, 20% reported they would not take, or would stop taking, oral contraceptives because they feared weight gain. Approximately 20% cited fear of weight gain as a reason for discontinuation. Does scientific evidence suggest birth control use causes weight gain? What effects does birth control have on bone density? What evidence supports the myth that birth control causes cancer? In addition, is breastfeeding a reliable method of birth control for those unwilling to use conventional forms of contraceptives? The purpose of this article is to present current evidence to help the registered dietitian counsel women when birth control options are being considered.

Weight Gain
Although weight gain is one of the most common complaints of women using oral contraceptives (OC) and a frequent reason for many to discontinue, studies demonstrate minimal evidence supporting this perception. A recent placebo-controlled study showed no difference in weight gain between women taking a low-dose oral contraceptive of ethinyl estradiol 20ug/levonorgestrel 100ug and a placebo. Another study compared the weight gain among adolescents using DMPA for contraception to adolescents using oral contraceptives. After one year of contraceptive use, the average weight gain was 6.6 pounds in the adolescents using the DMPA and 5.3 pounds when using oral contraceptives. Furthermore, only 7% of those on oral contraceptives gained more than 10% of their body weight, while 25% of those on DMPA gained more than 10%. Another study analyzed the daily weights of 128 women during four cycles of tri-phasic OC use. The average weight at the end of the fourth cycle of use was the same as baseline weight (average weight change). The largest proportion of women, 52%, remained within 2 pounds of their starting weight while 72% of the women had no weight change or weight loss. Of note, during the first weeks of the menstrual cycle, minor weight shifts were observed which showed a mean weight rise by one-half pound, but then falling by the same amount the last few days.

The weight gain associated with OC use may be a result of fluid retention caused by high doses of estrogen. The estrogen in the pill stimulates the kidney production of a substance called reninangiotensin that causes water retention. Evidence suggests high doses of estrogen caused an insulin resistance effect for some women, which may contribute to increased appetite and weight gain. If women experience weight gain and/or fluid retention after initiating oral contraceptives they should inquire about lower dosage estrogen alternatives. The "mini-pill".

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I can hardly believe that it is the middle of June and here I am, writing a column for the newsletter that you won’t be reading until September! I am not even done with my first month of work as the Editor for our newsletter, but I can’t say enough about how much I am enjoying this position.

I hope that you will enjoy the two articles related to birth control and nutrition issues. While working in a prenatal setting within Planned Parenthood, many of my clients expressed concerns about birth control and weight gain, and several shared frustrations with their disappointment in the birth control effects of breastfeeding! I currently work with adolescents where knowledge about birth control options offers me one more way to work with a challenging population.

We are also fortunate to have a detailed article on renal disease and pregnancy. If renal disease isn’t complicated enough, imagine being pregnant with renal disease! As one of the many people who reviewed this article for publication, I can tell you how much I learned from it!

I hope you have already read the Lactation Case Study appearing for the first time in this newsletter. I am so grateful to Ginger Carney for getting us started but also to the many people who set me in the right direction to make it happen so soon after Barbara Luke suggested it!

I want this newsletter to be the best it can be…please let me know if you have any ideas for the future. E-mail me at kscalzo@lij.edu.

Michael Elfant, MS RD
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Have you ever looked at your career and marveled “How did I end up here?” That’s how Michael Elfant, MS RD, Public Health Nutrition Consultant, with the California State WIC Program feels. His job now involves activities like leading seminars on “learner-centered” education, developing multi-media computer-based trainings, and entertaining hundreds of people across the state and country with musical spoofs of WIC related issues - a far cry from the training he received at the University of Texas that launched his career in dietetics over 20 years ago.

For the past eight years, Michael has worked for the State WIC program in California, focusing on staff training, including helping to develop a comprehensive competency-based certification process for paraprofessionals. His current passion is helping California WIC revitalize their nutrition education, by introducing learning-centered principles and practices, as set forth by Dr. Jane Vella and others. One of his goals is to see ADA members embrace this approach to education and become leaders in the health field in using learning-centered education. (Michael has agreed to write a feature article for the WHRN report giving more details.)

Michael has fallen into another rather unexpected, but welcome, sideline for a registered dietitian: work-related musical spoofs. With coworkers, he has woven revised versions of popular songs into a variety of loose skits that make fun (in a respectful way) of the WIC world. In his own words: “Think of something like “Saturday Night Live”sings about WIC. People absolutely love it. We sing (and sometimes dance) to tunes like WIC-arena, Breastfeed the World, and Taking Care of WIC Biz (to the tunes of Macarena, We are the World and Taking Care of Business).” He has learned that there are few things more cathartic than laughing hysterically at yourself and the frustrations of your day-to-day work situation with several hundred coworkers! Definitely, at moments like that, he sometimes wonders, “How did I end up here?” but loves his job all the same.
Nutrition Management in Kidney Disease and Pregnancy

Heather-Ann Toumker, RD, CNSD
Transplant Nutritionist
Hackensack University Medical Center, New Jersey

Pregnancy complicated by kidney disease creates many challenges for medical nutrition therapy. Individualizing a patient's nutrient needs is most important, regardless of the treatment modality or stage of disease. This article will address the nutritional guidelines for pregnant patients with renal insufficiency, as well as those requiring hemodialysis, peritoneal dialysis, and post-renal transplantation.

Although conception is uncommon for women with end stage renal disease, the number of reported cases is increasing. This may be a result of an improvement in dialysis treatments, easier accessibility to dialysis and/or the use of erythropoietin, a hormone normally produced by the kidneys. Erythropoietin stimulates red blood cell production in the bone marrow. It is used in the dialysis population to successfully manage anemia and has enabled some women on dialysis to resume their regular menstrual cycles. The resumption of normal menstruation may be related to the increase in pregnancies.

The National Kidney Foundation reports an estimated seventy-five pregnancies each year in patients receiving dialysis in the United States. Patients on peritoneal dialysis are two to three times less likely to become pregnant than those receiving hemodialysis. However, research indicates that renal transplantation is still the best option for successful pregnancy.

It is imperative to consider individualization for specific nutrient needs, regardless of the dialysis modality or renal transplantation. The multidisciplinary approach, with close and regular follow-up, offers the patient the best possible care. The multidisciplinary team should consist of renal and obstetric physicians, a nurse, a social worker and a renal dietitian. Regular follow-up by the team is suggested to avoid nutritional challenges and to promote the best possible outcome.

Maternal problems during pregnancy are of a major concern to the healthcare team. Exacerbation of hypertension and bleeding are the most serious risks for the pregnant patient. In the peritoneal dialysis patient, close monitoring for infections is most important, especially uterine infections, which has been shown to lead to peritonitis. Anemia is often worsened by pregnancy and erythropoietin (EpoGen) requirements may be increased. Studies indicate that dialysis treatments must be increased to at least 20 hours per week, in order to prevent premature delivery.

Medical Nutrition Therapy

Nutrition interventions and management for the pregnant woman with kidney disease (chronic renal insufficiency, dialysis and transplantsations) require close monitoring. The primary nutrition goal for these women is to meet the nutrient needs of the fetus without jeopardizing the health of the mother. A more liberal diet may be prescribed for a pregnant woman who is receiving more frequent dialysis treatments. Prior to addressing nutrition guidelines, the practitioner should focus on a thorough nutritional assessment. The following paragraphs will address these points as they relate to renal insufficiency, hemodialysis, peritoneal dialysis and transplantation.

Chronic Renal Insufficiency

Renal insufficiency is the term used for patients who have lost one-third of their renal function or have a serum creatinine of 1.5 mg/dl or greater. At this level, the literature states there is an increased risk of acceleration in the disease progression. In patients with chronic renal insufficiency, protein requirements must be well balanced to prevent a uremic state, which can have a further detrimental effect on renal function. It has been demonstrated that proper dietary control of protein may delay the progression of kidney failure. Approximately 20% of the women who start dialysis for worsening renal insufficiency during their pregnancy require continued dialysis postpartum.

Along with monitoring for proteinuria, the patient must be closely monitored for a decline in albumin level. Although not the only indicator used for assessing protein status and nutritional status, serum albumin is the most observed parameter used by clinicians. The goal is to prevent the albumin level from dropping below 3.5 g/dl. This can be very challenging, especially if the patient has a poor appetite and has decreased her food intake. As with the pregnant patient without renal complications, theses patients must be closely monitored for high blood pressure and the development of preeclampsia. Vitamin and mineral recommendations for renal insufficiency are limited. As seen with regular pregnancies, the recommendation is to provide a prenatal vitamin supplement with iron.

DIALYSIS (Hemo/Peritoneal dialysis)

The initial nutrition assessment incorporates a variety of parameters. This may include obtaining a current height and pre gravid weight, a detailed weight history, and determining an appropriate weight gain pattern. A nutritional evaluation includes a review of the patient's usual food intake and an evaluation of a food diary for protein, sodium, potassium, phosphorus, and calcium. An assessment of the woman's appetite, use of vitamin/mineral supplements and any gastrointestinal complaints are also addressed. Regular follow-up of nutrition intervention is also crucial to proper care for these patients.

Biochemical Outcomes:

Assessment of biochemical data is an important consideration, as in the non-pregnant dialysis patient. During pregnancy, it is possible to observe an increase in sodium re-absorption, excretion of protein, increased plasma blood volume and an increased GFR. The following biochemical indices are usually observed regularly.

Potassium

The ideal goal for the potassium level is 3.5-5.5 mg/dl. Adjustments may be warranted when there is an increase in the frequency of dialysis treatments. Adjustments in the dialysate potassium maybe made and the diet is very often liberalized.

Albumin

Albumin is one of the main indicators used by most practitioners to monitor nutritional status. The primary goal of nutrition therapy in dialysis patients is to maintain intact protein stores, with a target goal of 3.5 g/dl. Albumin can decrease by 0.5-1.0 g/dl per dialysis treatment. It is difficult to be specific with a patient's dietary protein, due to the varying degrees of azotemia. It is suggested that dietary protein not be restricted, unless adjusting the dialysis cannot control the azotemia. The recommendation is for pregnant women to increase their daily intake by 10gms per day of high biological value protein. For those women on peritoneal dialysis, an increase in the frequency of dialysis may result in excessive protein losses. These must be considered when determining dietary protein.

Calcium/Vitamin D and Phosphorus

Calcium needs may vary depending on the dialysis mode, the level of calcium used in the dialysate bath and the amount of calcium used as a binder. Calcium needs may be met without supplementing with additional calcium, depending on the frequency of dialysis. If a patient is on continuous peritoneal dialysis (CAPD), 1 gram of calcium is recommended. It is thought by researchers that parathyroid hormone (PTH) levels increase during pregnancy. These increased levels must be controlled with use of supplements and frequent monitoring of blood levels.1 In renal failure, vitamin D is not converted to its active form; supplementation will vary according to the frequency of treatments. It is recommended that vitamin D levels be monitored in the second trimester of pregnancy and supplemenations used only if vitamin D levels are low, and both phosphorus and the calcium/phosphorus product are controlled. Thirty grams of calcium is necessary for calcification of the fetal skeleton.1 With increased dialysis time, phosphorus removal is increased, leading to a decreased dosage of phosphorus binders, thus avoiding hypercalcemia and hypophosphatemia.

Iron

Additional iron is needed during pregnancy, as a result of increased maternal red cell production. During dialysis, there is a daily loss of iron through blood loss. Serum iron and ferritin levels usually decrease during pregnancy, and iron deficiency may be seen later in the pregnancy. Correction of anemia usually occurs with erythropoietin (EpoGen), depending on the woman's iron stores. Although intravenous (IV) iron is commonly used, its safety is not well studied during pregnancy. Supplemental levels are recommended as high as 325 mg ferrous sulfate, three times per day. Some data suggests IV iron should be considered only after all attempts with oral iron have been exhausted. If used, it should be administered in small doses to decrease the risk of acute iron toxicity.

TRANSPANTATION

Physicians continue to discourage pregnancy in women afflicted with chronic renal insufficiency and
COME JOIN US IN SAN ANTONIO
Food and Nutrition Conference & Expo

Women's Health and Reproductive Nutrition
Dietetic Practice Group

PRE-CONFERENCE WORKSHOP

Helping Mothers Successfully Initiate Breastfeeding

Speakers: Barbara Wilson-Clay, BS, IBCLC; and Dr. George Sharpe
Date: Friday, October 24, 2003
Time: 8:00 a.m. — 5:00 p.m.
Location: Marriott Rivercenter, Grand Ballroom, Salon M, San Antonio, Texas

Back by popular demand, we are offering our hands-on breastfeeding workshop, but this year, we've expanded the program to a full day! You will develop valuable knowledge through skills-building activities, such as, test weights, pumps, the correct use of nipple shields, latching-on, hooking up a SNS, etc. Our speakers will discuss the risk factors associated with breastfeeding and milk banking. Ms. Wilson-Clay maintains a busy private practice specializing in difficult breastfeeding situations in Austin, TX. She is an internationally known speaker on clinical breastfeeding assessment and the co-author of The Breastfeeding Atlas. Dr. Sharpe was Chief of Neonatology at Brackenridge Children’s Hospital, also in Austin. He is a leading proponent of the benefits of human milk for premature infants. The cost of the workshop is $95.00, but if you register by September 1st, the cost is only $85.00. The registration form is available on the WHRN website at: www.dietetics.com/wrmdp or by calling 765-284-7929. 7 CPEs and CERP’s have been applied for. Partial sponsorship is being provided by Medela and Ameda/Hollister. No funds for this workshop have been accepted from the formula industry.

EDUCATIONAL SESSION

Breastfeeding and Childhood Obesity Risk
Speakers: Kathryn Dewey, PhD and Mary Hediger, PhD
Date: Sunday, October 26, 2003
Time: 10:30 a.m. — 12:00 p.m.
Location: Henry B. Gonzalez Convention Center, San Antonio, Texas

This presentation will feature a discussion on the evidence of human milk’s possible role in the protection against childhood obesity and the biosocial context of infant feeding as it relates to nutritional status in childhood.

MEMBER RECEPTION

Date: Sunday October 26, 2003
Time: 6:30 p.m. — 9:30 p.m.
Location: Marriott Rivercenter, Grand Ballroom, Salon K, San Antonio, Texas

Come and meet the WHRN Board and network with fellow members. This reception is sponsored by Martek Biosciences and will also feature highlights of our accomplishments.
October
La Leche League Lactation Specialist Workshop. Various locations and dates in October http://www.lalecheleague.org/ed/LactSpec03.html


continued from page 3
which contains progesterin-only, may be a better choice for women having contraindications to combined oral contraceptives. The progesterin-only pills provide many of the benefits of combined oral contraceptives such as decreased menstrual cramps, less bleeding, and decreased PMS symptoms 1.

Bone Density
A cross-sectional study evaluating the effect of long-term (>1 year) contraceptive use on bone density can be found in the June 2002 issue of Contraception 2. The study group included 59 women on oral contraceptives, 34 on DMPA, and 62 controls. There were no differences in the age of menarche, BMI, smoking habits, alcohol consumption, caffeine consumption, or physical activity level. The study found a decrease in lower spine bone density among the DMPA users. The reduction in that area was associated with a decreased ovarian estradiol production while on DMPA. Once DMPA use is suspended, though, bone density returns to baseline values.

A Swedish study reported that OC use by women in their 40’s reduced the risk of hip fractures by 30% compared to non-users. The protective effect of oral contraceptives on bone density depends strongly on the age of the women when the pill was initiated and the duration of use. Women should always be encouraged to meet their daily recommendation for calcium to insure maximum bone strength.

Breast Cancer
The Women’s Contraceptive and Reproductive Experience study examined the use of oral contraceptives as a risk factor for breast cancer in women aged 35- to 64 years. The study examined 4,575 women who were diagnosed with breast cancer between 1994 and 1998, and 4,682 women who did not have breast cancer. The participants’ health status, reproductive history, family history of disease, and oral contraceptive use were compared. The results indicated current or former use of OC among women ages 35 to 64 did not significantly increase the risk of breast cancer. Factors such as longer duration of use, a higher dose of estrogen, and oral contraceptive use by women with a family history of breast cancer were not associated with an increased risk of the disease. This research also provided evidence that OC use does not increase the risk of breast cancer later in life 2.

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PREMATURITY:
It’s a Bigger Problem Than You Think

Preterm births, those occurring before 37 weeks of pregnancy, are on the rise. In 2001, preterm births accounted for 11.9% of all births in the U.S., the highest ever reported. That is 476,250 babies born too early in 2001 alone. The rate of preterm births for all racial and ethnic groups has been rising for the last two decades, and no one knows why.

In New Jersey, 12.2% of all babies are born prematurely. However, the percentage of black infants born prematurely is even higher - an alarming 18.4%. Nearly 50% of all premature births have no known cause. The March of Dimes has launched a $75 million dollar campaign of research and education to try to find answers to this problem.

Although, with medical advances, doctors are able to save many of these very small babies, premature birth is still the leading cause of death in the first month of life. In addition to mortality, prematurity is a major determinant of illness and disability among infants. Babies born prematurely usually have less developed organs than full term babies, and are more likely to face serious multiple health problems following delivery. Premature babies are at risk for developmental delays, cerebral palsy, chronic respiratory problems and vision and hearing impairment.

Some of the known risk factors for preterm labor are a previous preterm birth, multiple birth pregnancies, smoking, diabetes, anemia, high blood pressure, unplanned pregnancy, infections, stress and poor nutrition. Infants born to mothers younger than 20 or older than 35 are also at increased risk for preterm birth. Remember, however, that women who have none of these risk factors also have premature babies.

The March of Dimes campaign aims to increase public awareness of the problems of prematurity and to educate women to recognize the signs of preterm labor. Warning signs include: menstrual like cramps, a dull backache, pelvic pressure, abdominal cramps and an increase or change in vaginal discharge. Once a woman learns to recognize the signs of preterm labor, she may be able to delay or stop it by changing her activity, resting on her left side, and drinking two or three glasses of water. If the symptoms do not go away in one hour, she needs to call her health care provider or go the hospital right away.

Partners with the March of Dimes Prematurity Campaign are the American Academy of Pediatrics, the American College of Obstetricians and Gynecologists, and the Association of Women’s Health, Obstetric, and Neonatal Nurses.

For more information on the Campaign, or to become involved, please call Tracey Reed at 973-882-0700 ext. 35, or email her at treed@marchofdimes.com.

LISTSERV ANNOUNCEMENT

The listserv a member benefit - for members only - so you will need help signing onto the closed list. If you would like to be a part of the WHRN DPG listserv, please send a request to Theresa Romano at fooddiva@aol.com.
Kidney Disease continued from page 4
for dialysis patients, although less aggressively than in earlier years. Pregnancy is not recommended if the transplant occurred within two years. Planning for pregnancy is highly suggested, as this group of patients often takes numerous medications, especially immunosuppressive drugs. For instance, corticosteroids may lead to hyperlipidemia, sodium retention, weight gain and / or glucose intolerance. Cyclosporine therapy may lead to hyperkalemia, hypertension and hyperlipidemia. Anemia is usually less severe in transplant patients. Transplant recipients considering pregnancy should be encouraged and educated to follow a low-sodium, high-quality protein diet. A major point of concern is proper blood sugar control when steroid therapy is used and maintenance or achievement of their ideal body weight. If diabetes does develop, strict adherence to dietary modifications, glucose monitoring and insulin adjustments is required.

Vitamin and Mineral Supplementation
The recommendations for vitamin and mineral supplementation in pregnancy complicated by renal disease remain limited. As previously mentioned, a prenatal vitamin with iron should be given to patients with renal insufficiency. Patients who have received transplants should follow this same requirement. The recommendations for those patients who require dialysis suggest providing two renal formula vitamin supplements daily. (See table 1).

Dry Weight
Monitoring the weight of any dialysis patient is very important. A dry weight assessment and/or monitoring of interdialytic weight changes are conducted in the same way as in a non-pregnant dialysis patient. However, the difficulty assessing a dialysis patient’s dry weight increases in pregnancy. It is more effective to assess the weight frequently, due to the ongoing changes in tissue and fetal weight. Dietary considerations must be considered for nausea, vomiting and diarrhea. Inadequate or excessive weight gain can lead to hyponatremia, which may compromise fetal outcome. If there is no weight gain and caloric intake is poor, then nutritional supplementation or nutrition support is considered. Fluid recommendations will vary according to the extent of residual kidney function. The goal is to avoid fluid overload and restrict fluid as necessary.

Post-Partum Breastfeeding
Following delivery, it is just as important for the patient to continue close follow-up medical care. Patients with renal insufficiency may experience a further decrease in renal function and will then require continued diet modification. Diet modifications will need to be reevaluated for women on dialysis, and re-education provided. For the post transplant patients, reevaluation of calories will be required to help these women achieve their pre-pregnancy weight. A restricted diet is usually not required.

Current literature does not discourage breast-feeding in dialysis patients. However, one article does discuss the quality of breast milk produced in dialysis patients may be higher in urea, possibly leading to dehydration in the newborn. It is recommended the mother supplement her breast milk with infant formula and ensure the baby is receiving adequate water to help avoid this problem. Due to the strict medication regimen that post transplant patients must follow, breast-feeding is not recommended in this population.

Conclusion
Successful fetal outcome for pregnancies in women with all levels of renal disease has improved over the last two decades. However, further research to identify proper nutrition interventions is still necessary in this population. The renal dietitian and other members of the healthcare team are faced with the difficulties of combining the needs of pregnancy with limitations of dialysis to ensure a positive patient outcome, for both mother and infant.

REFERENCES:

Birth Control continued from page 5
A 1996 New York Times article spoke of the research involving the BRCA1 gene and its connection to breast cancer. The BRCA1 protein is synthesized in the ribosomes of the gene and packaged in the golgi apparatus, where it is then secreted from the breast tissue into the extra-cellular fluid. This protein is particularly important in preventing breast cancer because it inhibits unruly cell division. The BRCA1 gene is most active toward the end of the pregnancy when high levels of estrogen are present. Based on these findings, the increased estrogen levels similar to those found in oral contraceptives may actually be beneficial in the prevention of breast cancer.

Breastfeeding and Contraception
Although breastfeeding can provide contraceptive protection during the first 6 months postpartum, the degree of protective effects depends on the duration and exclusivity of breastfeeding. The Lactation Amenorrhea Method (LAM) of contraception has demonstrated a 98% protection rate from pregnancy. For this method to work correctly, the mother is required to exclusively breastfeed, which is defined as not providing other liquid or solid to the infant. Also, the mother must not supplement feedings, allow long periods to pass without breastfeeding (longer than 6 hours), and the baby must be less than 6 months old. The effectiveness of this method is strongly associated with the mothers’ compliance to the LAM requirements. The Lactation Amenorrhea Method of contraception is a demanding practice that may not be feasible for many women; therefore alternative forms of contraception should be discussed.

Conclusion
Some women spend the majority of their reproductive years trying to avoid an unintended pregnancy. More than 3 million unintended pregnancies occur every year in the United States. This pervasive public health problem occurs regardless of age, marital status, socioeconomic status, race, or ethnicity. The registered dietitian can have an influential role in clarifying the common misconceptions surrounding certain birth control methods. With a variety of birth control options available, women should be encouraged to seek methods suitable for them. Today’s dietitian plays a critical role in family planning; having sound and readily available information will give women the opportunity to make the best decision.

About the Author: Michael Franklin is a graduate of the Department of Health and Senior Services WIC internship. He is currently working at St. Joseph’s Hospital, which is the main office for one of New Jersey’s largest WIC programs.

References
2. Hordsinsky M, Waschenk K, Harrison DD, Weber ME. No difference in weight change among women using a low-dose oral contraceptive. The 8th World Congress of the International Society of Gynecological Endocrinology. December 9, 2000; Florence, Italy.

Table 1: Supplement Recommendations

<table>
<thead>
<tr>
<th>CALORIES</th>
<th>POST TRANSPLANT</th>
</tr>
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<tbody>
<tr>
<td>35 kcal/kg of IBW, &gt; 300 kcal</td>
<td>35 kcal/kg/day = 300 kcal in 2nd and 3rd trimester</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>PROTEIN</th>
<th>6 - 8 gms/kg of pregravid IBW, &gt; 10 gms</th>
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<tbody>
<tr>
<td>PO: 1.2 - 1.3 gms/kg of pregravid IBW</td>
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</tr>
<tr>
<td>IBW + 10gms</td>
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</table>

<table>
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<tr>
<th>VITAMINS</th>
<th>No specific recommendations</th>
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<tbody>
<tr>
<td>VIT E</td>
<td>No specific recommendations</td>
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<tr>
<td>VIT C</td>
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<tr>
<td>E</td>
<td>1.8 mg/day</td>
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<tr>
<td>MINERALS</td>
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<tr>
<td>Calcium</td>
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<tr>
<td>Phosphorus</td>
<td>800-1200 mg/day</td>
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<tr>
<td>Magnesium</td>
<td>200-300 mg/day</td>
</tr>
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<td>Zinc</td>
<td>11 mg/day</td>
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<tr>
<td>Sulfate</td>
<td>2000-3000 mg/day</td>
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<tr>
<td>Potassium</td>
<td>2000-3000 mg/day</td>
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<table>
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<tr>
<th>FLUID</th>
<th>No restrictions unless needed</th>
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</thead>
<tbody>
<tr>
<td>Output</td>
<td>1000-2000 ml + urine</td>
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</tbody>
</table>

continued on page 7
Lactation Case Study
Submitted by Ginger Carney, RD., LDN., IBCLC

Presentation to IBCLC (International Board Certified Lactation Consultant)
The mother of a 7-day old baby boy presented to the lactation consultant when he was admitted to the Le Bonheur Children's Medical Center with hyperbilirubinemia, dehydration, and weight loss of 12 ounces (13% birth weight of 3.73kg).

A lactation/breastfeeding history revealed that the mother was gravida-one, para-one. She reported a normal 37-week gestation with an epidural during her 12-hour labor. The baby was put to breast approximately 1 hour after birth and was offered the breast 6-8 times daily during the hospital stay. A bottle was offered twice during the hospital stay when the baby seemed hungry; she took about 1 ounce of formula each time. The mother's nurse observed two breastfeeds, noting a good latch, although a slightly weak suck. She encouraged the mother to breastfeed at least 8 times/24 hours. The infant was circumcised before discharge; an appointment for a 2-week well-baby visit was made with the pediatrician.

At home, the mother reported nipple soreness beginning on post-partum day four. She reported the baby would nurse 45 minutes to 1 hour at a time and then appear hungry 30-60 minutes afterwards. She began to provide formula supplementation about twice a day. At 6 days of age, the mother noticed he was sleeping excessively and feeding less often. He had a decrease in wet and dirty diapers. At one week, the baby went 12 hours without urinating, and would not arouse to feed effectively. The mother immediately took the infant to the pediatrician; he was then admitted to Le Bonheur.

Maternal Exam
The mom reported her breasts became very engorged on day 4 after delivery. The infant seemed to have a difficult time taking the breast, but eventually seemed to latch on well after some colostrum was expressed to soften the nipple. She reported fullness between feedings while she was home with the baby, but was beginning to feel somewhat soft the day before the baby was admitted. She confirmed that her nipples had become very tender. Upon examination, the nipples appeared very pink, with several cracks and open skin on each breast with a scab forming on the right nipple. The mother was very full, but not engorged. Pure lanolin was being used for healing. A bilateral, hospital-grade breast pump was obtained to offer relief to the mother, and obtain milk for the infant's feedings. The mother expressed only about 20cc from each breast.

Care Plan for Breastfeeding Dyad
The baby was placed under phototherapy for a bilirubin level of 17mg/dl and given IV fluids for rehydration x 12 hours. At this time, he was offered a bottle-feeding of 15cc formula (breast milk was not yet available). The baby was sluggish with feedings for the first 24 hours. Feedings were increased gradually, using whatever breast milk was available, and formula as needed. The baby improved with feedings after 24 hours on IV fluids.

After an unremarkable oral examination of the baby, the IBCLC recommended stopping bottle feeds and re-introducing the breast to the infant. The mother was encouraged to offer her breast frequently throughout the day (8-10 times) using proper positioning and supporting her breast as demonstrated by the IBCLC. "Kangaroo care" was suggested to re-acquaint her baby with her skin and touch, as well as to help increase her levels of prolactin. (Kangaroo care includes the mother holding the infant, clothed only in a diaper, between her breasts, skin-to-skin. A blanket is then placed over the baby to form a "pouch" of warmth, and a place where baby can hear mother's heartbeat and cuddle next to her soft skin.) After 20 minutes of breastfeeding, the mother was to offer 1 ounce of breast milk (or formula if BM not available) using an infant cup so that nipple confusion would be minimized. She was to continue to utilize the bilateral hospital-grade breast pump at least 8 times daily for 15-20 minutes each time. She was given hydrogel breast pads to wear between pumping sessions to help heal her damaged nipple tissue.

Hospital course
The above plan was followed for the next 72 hours. The bilirubin dropped gradually, and both the phototherapy and IV fluids were stopped after 48 hours. The baby's weight increased consistently from admission weight of 2.37 kg to 2.64 kg on discharge. After using the electric pump x 48 hours, mother was able to express an average of 50cc from each breast at each pumping session. On the 3rd day of admission, the infant was taking the breast very well, with a correct and comfortable latch. Mother was providing 8-ounces of supplement daily (1 ounce after each feeding); 50% was her own milk. Supplementation decreased to 5-6 ounces daily before discharge.

Discharge Plans / Outcome
At discharge, the mother's need to express her milk decreased to 4 times daily since the infant's effectiveness at the breast had improved. She was instructed to continue to stimulate her milk production using a similar electric pump for home use and to wear the hydrogel breast pads until healing of the nipple tissue was complete. The baby was to be offered the breast using correct latching technique 8-12 times daily with supplementation only if he did not take the breast well or acted hungry after a feeding. The mother was encouraged about her comfort and the baby's recovery. A referral was made to the IBCLC at her PCPs office for follow-up in 3 days.

IBCLC Comments
Education and support are extremely important in assuring successful breastfeeding. Expectant parents should attend prenatal breastfeeding classes to become familiar with the breastfeeding process. A knowledgeable, supportive resource person should be available to assist the mother after delivery. An excellent resource for support is an IBCLC, who has been trained specifically in the field of lactation and breastfeeding support, and serves as the expert on the medical team. The IBCLC should work in conjunction with the obstetrician and pediatrician. The role of the IBCLC is to provide accurate breastfeeding information to the mother and her family, as well as the support to achieve whatever goal is set for breastfeeding.

Congratulations ....
Teresie O'Connell and Michelle Snyder, members of WHRN, are now officially IBCLCs and eligible to call themselves Board Certified Lactation Consultants! Both Terese and Michelle completed their trainings and passed the certification exam given in July 2002. Bravo!

Birth Control References continued from page 6
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http://www.dietetics.com/wrndpg

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