Running Head: FAMILY PROJECT: EXERCISE AND ACTIVITY

Family Project: Exercise and Activity in the Postpartum Period

University of Michigan

School of Nursing

Family Project

A. Introduction

The birth of a child is an exciting experience, especially when a couple is having their first child. Jane and John B. had their first child at 9:23am on December 3rd. As new parents, it is common to have many questions about parenthood and caring for the new baby. Teaching is one of the most important nursing interventions during the mother and baby's short hospital stay. This paper will cover a portion of their transition as a new family, and some of the teaching and learning experiences regarding their main concerns.

Jane is a G3 T0 P0 A2 L0, 29 year old female, who is married to her husband of five years. She presented to triage with spontaneous rupture of membranes and signs of labor. She was 40+2/7 weeks along in her pregnancy, having a normal pregnancy without problems or complications up until this point. Jane has a blood type of A+, is Hepatitis B negative, HIV negative and GBS negative, and has no known drug allergies. She was admitted to labor and delivery, with anticipated vaginal delivery. She received an epidural for labor pain management, and progressed to 10cm dilated and 100% effaced.

During the second stage of labor, Jane developed a fever of 102.2°F, and was diagnosed with chorioamnionitis. Additionally, the baby was experiencing fetal tachycardia, a sign of fetal distress. At this point, the doctors decided to proceed with an emergency Cesarean section (c-section). Jane had an estimated blood loss of 1000 mL during the c-section

A girl, Baby B., was born at 9:23am by c-section. She weighed 6 lbs, 15.3 oz, and measured 20 inches long; she is average size for gestational age. Baby B's Apgar scores were 7 at 1 minute and 9 at 5 minutes. Because of the suspected chorioamnionitis, Baby B. was sent to the Neonatal Intensive Care Unit (NICU) for observation to rule out sepsis. Baby B was

observed for a short period and released to the Mother/Baby unit at SJMH for rooming-in with her mother. Because of Jane's high temperature during labor, both Jane and Baby B were placed on IV antibiotics, Ampicillin and Gentamycin (Jane for 24 hours, Baby B for 36 hours) and monitored closely for signs and symptoms of infection. Neither mom nor baby has shown temperature fluctuation or any other signs of infection.

Jane has been breastfeeding Baby B. with some difficulty with latching, which is normal for a first-time mom. She has been working regularly with the lactation consultants, and has been showing signs of improvement. Jane's postpartum period has been unremarkable except for the antibiotics; she has scant bleeding, has been up to the bathroom and the shower without difficulty, and is tired, but in good spirits.

Throughout the pregnancy, Jane and John had planned for a normal, vaginal birth. She had discussed the possibility of an emergency c-section with her doctor during her prenatal care, but was not anticipating any problems, even as she was in labor. Given the emergent nature of the c-section because of fetal distress, Jane and John had little time to prepare themselves, mentally and physically, for this change. As we were discussing this educational project, they were very interested in finding out more information about activity and exercise after pregnancy. This is a great topic for this family, as their actual birth experience was different than their anticipated experience. Also, as likely with other new mothers and couples, the anticipation and preparation for the baby often overshadows the mother's care after the baby is born. This project offers Jane and John the opportunity to learn more about exercise and activity after pregnancy.

B. Annotated Bibliography

Sampselle, C.M., Seng, J., Yeo, S., Killion, C., & Oakley, D. (1999). Physical Activity and Postpartum Well-Being. *Journal of Obstetrical, Gynecological and Neonatal Nursing*. 28, 41-49.

The purpose of this research study was to describe the various activity and exercise patterns of women who are 6 weeks postpartum, and to identify benefits and risks associated with such activity. According to these researchers, physical activity has a significant contribution to physiological and psychosocial well-being in all aspects of life, and may also have a great impact during and after pregnancy. They acknowledge that while this seems to be an important association, research on the effects of physical activity on these variables is lacking. As such, their hypotheses were three-fold: women who exercised less would have greater weight retention; more intense exercise will be correlated with positive well-being; and participation in an intense exercise regimen will not be associated with difficulty breastfeeding.

The sample in this study was comprised of 1,003 women who were considered low-to-moderate risk. Data collection was done via questionnaire at 4 points: at the first antepartum visit, 32 weeks gestation, immediately postpartum, and six weeks postpartum. Women completed an activity survey and the Lederman Postpartum Self-Evaluation Questionnaire, which measured maternal adaptation and well-being. Additionally, maternal weight and infant feeding method (bottle, breast or combination) was recorded. Statistical analysis such as t-tests, chi-square, and analysis of variance were used to determine relationships between variables, while regression methods were used to account for other confounding variables, such as demographics.

Results showed that about 35% women at 6 weeks postpartum reported engaging in vigorous physical activity, and that those who did participated approximately three times per week. Women who had higher levels of physical activity retained significantly less weight than those women who were less active (8.9 lbs vs. 11.3 lbs, $p<0.001$). Also, women who participated in vigorous exercise had better scores on the maternal adaption survey, which shows that postpartum exercise and maternal well-being are associated. Finally, they found that the distribution of exercising or non-exercising mothers was equal in all three feeding method groups; thus, exercise had no effect on lactation or feeding method.

The results showed that exercise had a positive effect on weight loss and maternal well-being, and had no effect on feeding method at 6 weeks postpartum. Statistical analysis of the data is reliable, as they used appropriate tests and methods, had a large sample size and accounted for confounding variables such as race, age, income or other extraneous circumstances. However, there are several flaws to the research. As a longitudinal study, it can often be difficult to retain subjects for the duration of the study, as was the case here. The paper reports that the final sample was comprised of mostly white, affluent women who had high levels of education. Thus, it is important to note that these results may not be extrapolated to other populations without further research. Additionally, the term “vigorous exercise” was not well defined. The survey method of the research requires self-report, so the data could be unreliable. Additionally, since there was no experimental and control groups, there can be no causation determined, only association.

Although it is older, this is scientifically-valid research that has been a cornerstone study in the field, as it was the self-claimed first project to determine the effects of exercise on maternal well-being.

Armstrong, K. & Edwards, H. (2003). The Effects of Exercise and Social Support on Mothers Reporting Depressive Symptoms: A Pilot Randomized Control Trial. *International Journal of Mental Health Nursing*. 12, 130-138.

Research has shown that physical activity improves both fitness and depressive symptoms in the general population. However, this association has not been well studied in pregnant and postpartum women. This randomized control trial compared women in an exercise-support group to a non-intervention control group, and looked for results in three areas. They hypothesized that women in the intervention group would have improved depressive symptoms, improved physical fitness, and better social support than the women in the control group.

The sample was composed of 20 women who were 6 weeks to 12 months postpartum. Additionally, they had to have a score of 12 or higher on the Edinburgh Postnatal Depression Score, indicating that they were suffering from postpartum depression. Women filled out other surveys providing information on social support and depressive symptoms. The women were pre-tested on their physical fitness level, measuring maximal heart rate and maximal aerobic capacity. Then the randomized experimental group began a 12-week intervention program, which included walking three times per week for 30-40 minutes with the group, and meeting once per week as a support group. The control group had no intervention during this time. After 12 weeks, both groups were re-tested on the physical fitness test, and completed the depression and social support screening questionnaires.

Results showed that women in the exercise-support group showed a significant decrease in their depressive symptoms after the 12-week program. Also, the intervention group showed significantly improved physical fitness in comparison to the control group. However, the groups did not differ in measures of social support following the 12 week program. There are some

limitations to the study. The sample size was small, and therefore it is difficult to project these findings to other populations (however, the sample size was validated by statistical measures, as noted in the study). Secondly, the physical fitness test used in this study (a modified treadmill test) is a questionable measure of physical fitness, and needs to be tested further to ensure validity.

This research is important in many ways for postpartum women. Postpartum depression is a very common occurrence, and it is important that women be educated on the ways that they can try to treat or prevent this from becoming a serious problem. Research indicating strong associations, or even causation, between exercise and decreased depressive symptoms may encourage women to take measures to decrease their risk. Additionally, although it seems common sense, it is notable that a regimented exercise program did help improve physical fitness. Programs aimed at structured exercise and activity could help improve weight loss efforts in postpartum women, in contrast to an unstructured self-defined efforts. The study cites further benefits that could be gleaned from this sort of exercise program, such as improved coping with daily activities, increased energy levels and more normalized sleep patterns. However, these additional effects require further research for validation.

Downs, D.S. & Hausenblas, H.A. (2004). Women's Exercise Beliefs and Behaviors During Their Pregnancy and Postpartum. *Journal of Midwifery and Women's Health*. 49, 138-144.

The main purpose of this study was to look at women's beliefs surrounding exercise and activity, comparing these ideas from pre-pregnancy to pregnancy to postpartum. As noted by the researchers, pregnancy is an important time in a woman's life to encourage exercise and physical

activity to combat obesity. As suggested by other studies and noted here, in comparison to men, women's differential life experiences may put them at higher risk for decreased physical activity, thus increasing their risk of obesity. These researchers hypothesized that women's activity levels would be decreased in pregnancy and postpartum in comparison to pre-pregnancy levels. Also, interestingly, they did not generate a hypothesis in regards to women's beliefs about exercise, stating that people's "beliefs are expected to vary across time and situation" (pg. 140).

The sample in this study consisted of 74 women who were within 1 year postpartum, who were asked to participate at postpartum office visits. Participants completed two surveys, the Leisure Time Exercise Questionnaire and the Exercise Beliefs Questionnaire, along with demographic questions. The two questionnaires were a mix of multiple choice-type answers and open-ended questions.

Results showed that there were differences between women's attitudes and beliefs about exercise in the pregnancy period compared to the postpartum period. The most frequent behavior belief about exercise during pregnancy was that it improved mood, while during the postpartum period most women believed that exercise was important to control weight. In both time periods, women noted that their husband/partner was the most influential on their exercise behaviors. Finally, women most frequently said that physical limitations were their main barrier to exercise during pregnancy, while time constraints were their main barrier during the postpartum period. Also, as hypothesized, women's activity levels were highest in the pre-pregnancy period in comparison to pregnancy and post-partum.

This study brings to light important components about women's feelings and beliefs surrounding exercise. According to these researchers, these results are important because they may help shape education about exercise. For instance, since women most frequently stated that

physical limitations were the most significant barrier to exercise during pregnancy, education on different types of exercise, such as aqua therapy or other specific exercises designed for pregnant women may increase exercise frequency during that time. Also, since most women stated that their partner was the most influential person in their exercise routines, encouraging exercising together may be another way to increase exercise in pregnant and postpartum women.

A careful evaluation of this study shows some flaws. First, the sample population was not very diverse, with the majority of the women being white, married and having a college education. Because beliefs are often consistent across populations, these results may not be representative of the population at large. Secondly, there are other confounding factors that the study did not take into consideration, such as other children. Additionally, researchers stated that while the sample was supposed to be women within 1 year postpartum, most of the women were 3-4 months postpartum. It would be helpful to study a wider variety of women to see how beliefs differ and change as the women progress through the postpartum period; this would be an important area for further research.

Mason, L., Glenn, S., Walton, I. & Hughes, C. (2001). The Instruction in Pelvic Floor Exercises Provided to Women During Pregnancy or Following Delivery. *Midwifery*. 17, 55-64.

Pelvic floor exercises were first introduced by Kegel in 1948. The benefits of these exercises have been demonstrated by numerous studies. However, in previous research it has also been documented that it is difficult to teach these exercises to women. The purpose of this research study was to examine the teaching provided to women in both the antepartum and postpartum periods, and the educational needs that women themselves described.

The sample for this study was comprised of 717 women who were recruited at antepartum visits, and then followed longitudinally until 8 weeks postpartum. Women were

questioned through the survey method with two questionnaires; among the questions, the women were asked if they were experiencing problems with urinary leakage, if they had been taught about pelvic floor exercises, and if they had, who had taught them and what the method of teaching was. If the women were still experiencing urinary leakage at 8 weeks postpartum, they were asked to participate in an interview to obtain further information. Responses were coded and statistically analyzed.

The most common way that women obtained information about pelvic floor exercises antenatally was through voluntary childbirth classes. Only about 50% stated that they had received education during this period. 85% of women received instruction following birth, usually from a handout or pamphlet. During the interviews, many women said that a pamphlet was the only method of instruction that they received, and that this method of instruction was not adequate. Many women made comments about the poor timing of the teaching, the fact that no one verbally taught them or ensured that they understood, or made sure that they could even read. Many stated that they would have liked the opportunity to demonstrate the exercises with a healthcare provider, and have the opportunity to ask questions.

These findings have extremely important implications about the teaching of pelvic floor exercises. According to the women, instruction by reading only is insufficient. It seems that teaching in person, with demonstrations and discussion, would be a more effective way to convey the information. Provision of a handout that women could use as a reference or a reminder would also be useful. Other methods of teaching, such as instructional videos, may be an alternate source of information for women who cannot read. The timing of the teaching is also important. Many women stated that they would have liked to be given instruction during the antepartum period so that they could begin a routine of these exercises.

There are limitations to this study. The survey method calls for self-report, and since incontinence is such a sensitive topic, there is a high likelihood that responses were not all truthful. Further, the study reported a rather low response rate, at only 23% with the final surveys. This could skew the data also, with either more or less women experiencing symptoms reporting back. Also, because of the great deal of interpretation that was done by interviewers, it is highly possible that there were elements of interviewer bias involved. The nursing implications of this study are important, as this study brings to light the importance of proper teaching of pelvic floor exercises.

Fowles, E.R. & Walker, L.O. (2006). Correlates of Dietary Quality and Weight Retention in Postpartum Women. *Journal of Community Health Nursing*. 23(3), 183-197.

Good nutrition during pregnancy is a common topic for prenatal teaching, and many women are able to make changes to their diet that aid in the growth and development of their baby. But, as noted by these researchers, these dietary habits often don't transition to the postpartum period. This study was designed to examine the relationship between dietary quality and postpartum weight retention; researchers hypothesized that a higher quality diet would lead to decreased weight retained at 4 to 5 months postpartum.

Subjects for this study were recruited through birth announcements in the newspaper; 100 women were recruited. Data collection was completed by mailed surveys, including demographic information (age, number of children, pre-pregnancy weight, among others), the Feelings and Thoughts about Weight Scale, and 5 questions about dietary intake (indicate the number of servings of each food group per day).

Results showed that the researchers' hypothesis was incorrect; there was no correlation between dietary quality and postpartum weight retention. However, they did find that only 44% of the women in this study were found to have an adequate dietary intake, most frequently not consuming enough vegetables and grains. An interesting finding was that dietary quality was correlated with breastfeeding, such that breastfeeding women had a higher quality reported diet than non-breastfeeding mothers. Also, white women were more likely than minority women to consume an adequate diet.

These findings have significant implications for nutrition education for women during the postpartum period. As this research demonstrates, there is a need for reinforcement of education provided during the pregnancy period. These researchers hypothesize that a woman's changing roles after pregnancy could be one reason for decreased nutrition, as the focus moves away from the mother and towards the growing baby. This implies that better education and nutrition programs targeted at new mothers is necessary. Interestingly, women who were breastfeeding showed significantly improved dietary intake in comparison to their non-breastfeeding counterparts. This increased intake is important, as breastfeeding mothers do need higher amounts of calories and nutrients than non-breastfeeding moms. The nursing implications for this study are that postpartum nutrition needs to be a priority teaching topic in order to improve the dietary intake of postpartum mothers.

One of the shortcomings of this study is the sample population, which was small, but also not very ethnically or economically diverse. Also, the self-report method of survey research may not yield reliable, truthful results. Further research needs to be done using more accurate methods of tracking food intake, and a larger, more diverse sample.

C. Research/Teaching Presentation

The topic of exercise, activity and nutrition after childbirth is an important teaching topic for nurses. Often times, the focus shifts from the mother to the baby following childbirth, leading to decreased exercise and activity, poor nutrition and often, postpartum depression symptoms. But, with adequate instruction and information, postpartum women can avoid the complications that come along with decreased activity level. Education after childbirth is a nursing responsibility, and postpartum exercise should be a priority teaching topic for a variety of reasons. This topic was chosen by the participating couple as a subject of interest and concern. After a thorough literature review, the following teaching summary was compiled on exercise and activity following childbirth. This information was covered in depth through a phone conversation and email contact with Jane, as discussed in Section D.

As is true throughout the lifespan, exercise can have a significant impact on the health and well-being of postpartum women. One of the most common concerns of women after childbirth is getting rid of the extra pounds gained during pregnancy. Average weight women should gain about 25 to 35 pounds during their pregnancy (Ricci, 2007). Weight loss is often dramatic during the first two to three weeks; this is because of the decreasing blood volume and fluid retention that has accumulated during pregnancy. However, after those first few weeks, weight loss tends to slow dramatically (Walker, Sterling, Kim, Arheart & Timmerman, 2006). Many women become frustrated with this slowing of weight loss. But, exercise can help. In a randomized control study by Armstrong and Edwards (2003), women who exercised lost significantly more weight than those who didn't. Women who were in the exercise group walked three times per week for 30 to 40 minutes, and showed improved physical fitness in comparison to the control group. Additionally, a study by Sampselle, Seng, Yeo, Killion & Oakley (1999) showed that women who participated in vigorous physical activity retained less weight than

those who were not physically active (8.9 lbs vs. 11.3 lbs). Weight loss during the postpartum period is important, because excess weight gain and retention at any point in life can lead to obesity, and other related complications (Larson-Meyer, 2002). Studies have shown that women who have not returned to their pre-pregnant weight by 6 months postpartum are more likely to retain the weight long-term (Ricci, 2007, pg 408).

One of the other important benefits of exercise during the postpartum period is improvement in maternal well-being. Exercise has been shown to improve measures of well-being across the lifespan, and the same is true during the postpartum period. Women who exercise show better scores on tests of maternal well-being, such as satisfaction with life circumstances, satisfaction with motherhood, and confidence in mothering abilities (Sampselle et al., 1999).

Postpartum depression, or the baby blues, is a common occurrence for postpartum women. Many changes come along with childbirth, from physical to social to emotional change. While it may seem that exercise would be another thing to complicate this already hectic period, studies have shown that exercise during the postpartum period can decrease depressive symptoms. Edwards and Armstrong (2003) did research using mothers who had a diagnosis of postpartum depression (qualified by the Edinburgh Postpartum Depression Scale). Women in an experimental exercise group showed significantly decreased symptoms of depression in comparison to a non-exercising control group. It is important to note, then, that exercise has the potential capacity to improve well-being in women who already had a postpartum depression diagnosis, and women who were showing no signs of postpartum depression (Edwards & Armstrong, 2003; Sampselle et al., 1999). However, despite any efforts to keep these feelings at bay, it is important to be aware of the symptoms of postpartum depression. Mood swings,

sadness, insomnia, anxiety and poor appetite are all signs of postpartum depression; if symptoms begin to interfere with the woman's daily life, or she has thoughts of harming herself, her baby or others, it is important to notify a healthcare professional right away (Ricci, 2007, pg 417).

Many women have questions about when it is safe for them to start exercising after giving birth. First and foremost, it is important to advise women to check with their healthcare provider before beginning any kind of exercise regimen. For women who were in generally good health prior to and during their pregnancy, and who had an uncomplicated vaginal birth, it is generally fine for them to begin exercise immediately postpartum (Ricci, 2007, pg. 408). Cesarean sections, however, are a major abdominal surgery. Women who have had c-sections should avoid any heavy lifting (anything heavier than their newborn) and strenuous activity for at least 6 weeks postpartum (Women's Health Advisor, 2005). At that time, if the incision site and internal structures are healing properly, a woman's healthcare provider will clear her for increased exercise and activity. In either case, it is important that women resume activity slowly and carefully. Even if the woman was active during her pregnancy, it is likely that her body has undergone significant detraining, and as such, she will not be able to exercise at the level that she did pre-pregnancy (American College of Obstetricians and Gynecologists (ACOG), 2002). Activities that can cause physical harm, such as contact sports, should be avoided for a longer period, especially in women who have had c-sections. While resuming activity, it is important to watch for signs of complications. These signs include any vaginal bleeding, especially a return to lochia rubra or bright red bleeding, difficulty breathing, chest pain, headache, dizziness, weakness or calf pain (ACOG, 2002).

Walking is one of the most common postpartum exercise activities. The aforementioned study by Armstrong and Edwards (2003) showed significant improvements in variables such as

weight retention and depressive symptoms with a walking program of 30 to 40 minutes three times per week. ACOG (2002) recommends 30 minutes of moderate exercise, such as walking, daily for postpartum exercise. Walking is also a good activity that can be done with others, such as a partner or other new mothers. In a study by Downs and Hausenblas (2004), women indicated that their husband or partner was their most influential motivator for exercise. Encouraging women to exercise with this support person may help increase activity as well. Walking is also an activity that can be done with the baby, as long as proper safety precautions are taken.

Another important set of exercises that should be performed postpartum are pelvic floor exercises, also known as Kegel exercises. The muscles of the pelvic floor prevent urinary and fecal leakage, provide a source of sexual stimulation and support the internal organs. During pregnancy, there is an additional strain put on these muscles because of the weight of the growing uterus and fetus. It is especially strained, and often damaged during vaginal birth. Pelvic floor exercises following childbirth can help to strengthen this muscle, decreasing the embarrassing consequences of incontinence (Berzuk, 2007). There are a variety of recommendations about the specific regimen for these exercises. First, women must locate these muscles. Contracting the pelvic floor muscles feels like an upward and inward pulling, using the muscles you would use if you were trying to stop a stream of urine or hold in gas. Once the muscles are isolated, recommendations are to contract the muscles and hold it for 5 seconds, then relax for 10, and repeat 10 times; repeat this set 10 times daily. As with any muscle, these muscles will be weak at first, and will tire easily. It is important to start slowly and increase the frequency as strength develops. (Refer to the teaching tool in the Appendix for more specific instructions). These exercises are easy, require no equipment and can be done anywhere without other people's knowledge (Berzuk, 2007). Another important note is that most women

interviewed in a study indicated that a simple pamphlet without explanation or the opportunity to ask questions was inadequate (Mason, Glenn, Walton & Hughes, 2001). Therefore, it is important that nurses try to provide face-to-face teaching as early as possible, with the addition of a pamphlet or brochure for later reference. In this case, as the discussion and teaching were done over the phone, there was unfortunately no opportunity for any teaching in person. However, Jane did indicate understanding, and stated that she was comfortable with these exercises because she has been taught them previously.

There are many other types of exercises that are useful during the postpartum period. Exercises such as modified sit-ups/head lifts, abdominal breathing or pelvic tilts can be useful in early postpartum weeks when more vigorous activity may be limited. Modified sit-ups are done by lying on a flat surface with knees flexed and feet on the floor. The woman should then lift her head, hold for 3 to 5 seconds and then relax back, repeating 8 to 10 times. Abdominal breathing is also done lying on the back, taking a deep breath while expanding abdominal muscles and holding for 3 to 5 seconds, then exhaling. The pelvic tilt is done on the back. The woman should be instructed to contract her abdominal muscles while lifting her pelvis towards the ceiling, holding for 3 to 5 seconds and then relaxing. All of these exercises, as with any postpartum exercise, should be started slowly and increased as strength builds (Ricci, 2007, pg. 409).

Nutrition is another component of postpartum care. An adequate diet is important for healing and strength during the postpartum, and especially when exercising to provide additional energy. The new food pyramid, MyPyramid, is a great resource for postpartum mothers, outlining exactly how many servings from each food group they should be eating. This resource is easily used online, at www.mypyramid.gov. For women who do not have internet access, it is advisable that they consume 6-11 servings of grains (at least half of that should be whole grains),

2-4 servings of fruits, 3-5 servings of vegetables, 2-3 servings of protein and 2-3 servings of dairy products. Sweets, fats and oils should be used sparingly. Women who are breastfeeding need increased nutritional intake to meet the needs for milk production. They should consume an additional 500 calories, 20 grams of protein and 400 mg of calcium. The protein and calcium components can easily be taken care of by consuming 4 or more servings of milk (Ricci, 2007, pg. 411). Nutrition education should be an important nursing consideration. A study by Fowles and Walker (2006) showed that only 44% of postpartum women have adequate intake. They noted that the nutrients most frequently missing are grains and vegetables. It is important that nurses and other healthcare providers reinforce teaching on adequate nutrition, perhaps using the 4th trimester theory, which states that women should eat a similar diet in the postpartum period as during their pregnancy (Fowles & Walker, 2006).

D. Summary & Conclusions

The teaching session that I had with Jane went very smoothly. She was eager to learn about the information that I had gathered, as it was a topic of great interest to her. We first began with a brief discussion of how things have been going in the two weeks since she has been home from the hospital. She stated that things are going well; most importantly for her, breastfeeding has become a lot easier since her mature milk has come in. She had been very concerned about this after much difficulty at the beginning, while she was still in the hospital. She also said that her mother and her husband's mother had been visiting frequently, and that they have been a great source of help and support for her. Baby B has had her first visit to the pediatrician, and Jane is scheduled for her first postpartum visit within the week.

It is important to note at this point that Jane has a college education, and is currently working as an engineer with her masters' degree. She stated that she was comfortable with and

interested in any discussion of research findings, and that she would ask for clarification on any issue that she didn't understand.

I began with the information about nutrition, as it is the most pertinent to Jane's current situation (since she is only about 2 weeks postpartum, she has not started exercising much yet). We discussed her diet, which was a good balanced diet, incorporating whole grains, fruits and vegetables. I brought up the concept of the "4th trimester" (Fowles & Walker, 2006), suggesting that her diet should be similar to her diet during pregnancy. Since she is breastfeeding, we also discussed the importance of the extra nutrients that she needs to be taking in; I reminded her that she should be consuming an extra 500 calories, 400 mg of Calcium and 20 grams of protein. We also discussed the importance of adequate fluid intake, at 6-10 glasses of water of fluids per day, avoiding caffeinated drinks (Ricci, 2007, pg. 411). Jane asked appropriate questions, and frequently repeated information back to me, which reassured me that she was adequately learning the material.

We next began to discuss exercise and activity. Because Jane had a c-section, it is extremely important for her to continue her activity and lifting restrictions until she is at least 6 weeks postpartum. We discussed the importance of discussing any exercise routine with her doctor before beginning one, and also that the heaviest thing she should be lifting until that time is her newborn (Women's Health Advisor, 2005).

We first discussed the different methods of exercise that she might try, beginning with walking. I gave her lots of information about the benefits of aerobic exercise like walking, such as decreasing weight retention, improving energy level and decreasing depressive symptoms (Edwards & Armstrong, 2003). We discussed starting slow and moving up as she feels comfortable, and especially watching for warning signs of complications, like vaginal bleeding,

headache, dizziness, weakness, chest pain of difficulty breathing (ACOG, 2002). I described an example routine to her, 30-40 minutes, 3-5 times per week, which she stated that she had been doing during pregnancy as well. Jane was engaged in the conversation, asking appropriate questions and making comments, which showed that she was interested and learning the material we were covering.

We then moved on to Kegel exercises and abdominal exercises. We discussed the proper method of doing both types of strengthening exercises (see teaching tool, attached). Jane stated that she was familiar with all of these, and as we were going through, she stated that she didn't have any questions or concerns about them at this point. After asking if she had any further concerns, to which she responded no, we ended the conversation.

I feel that my teaching session with Jane went quite well. I believe that the contact that we have had, along with sending her the teaching tool that I've compiled have been an adequate amount of education for her. It was a great opportunity for me to learn more about a topic while providing some much desired information to a new mother. Sending the teaching tool, along with going over the information orally, was a good teaching method, as she had the opportunity to ask questions, but also has a reference for later use.

This assignment is a great way to really connect with a family, and make a difference in their postpartum care and new life together. By researching a topic of their choosing, students are able to make this a very personal experience for the mother. This project is a good way to learn more about a specific topic through research, but also through teaching it to someone else.

E. Teaching Tool

Please see attached.

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