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Case-Study Diet Project

Nutrition Assessment

The client is a 27 year old female, who is 5'6" tall and weighs 142 pounds. Her current BMI is 22.9, which is within the normal range (18.5-24.9). Biochemical data for the client indicates her current lipid profile is normal, with: 156 mg/dL total cholesterol (TC), 74 mg/dL low density lipoprotein (LDL), and 71 mg/dL high density lipoprotein (HDL). Her fasting blood glucose is also in the normal range, at 93 mg/dL. While her iron study information is not given, it is the opinion of her doctor that she is suffering from iron deficiency anemia. Two months before this assessment, the client gave birth to a baby, and pre-pregnancy, her weight was 134 pounds, which gave her a BMI of 21.6, also in the normal range. There is nothing to indicate her weight was outside the normal BMI range over the last six months as she was pregnant for four of those months and no weight was reported during that time.

Her three day dietary journal indicates some deficiencies of food groups and insufficiencies of calories, while at the same time it indicates her percentage of kilocalories (kcals) from carbohydrates are low and her fat intake, especially saturated fat, are high.

From her intake data, the client works part-time while attending school full-time, similarly to her spouse, and they receive grants to supplement their income, so she has enough money to pay for food and other living expenses. However, she does have a two-month old baby, school, and work, and doesn't have enough time to make food for herself, which likely leads to the dietary insufficiencies indicated in her food journal.

While the client has acceptable cholesterol and fasting blood glucose levels, her doctor has indicated she is iron-deficient anemic, and this could be a result of her overall lower than average intake of protein and leafy green vegetables, which are the two main groups providing dietary iron. For someone of her size, age, and as a lactating female, she should be consuming around 6.5 ounces of "meat and beans" per day, according to the recommended food intake pattern determined by MyPyramid.gov. As reported in her food journal, her average intake of protein is 4.33 ounces, which meets only 67% of her daily needs. Her vegetable intake averages 1¼ cup/day, while her pattern recommends 3 cups, showing a deficiency of greater than 50%.

Nutrition Diagnosis

While the client is considered to be "sedentary," she does have a busy life with work, school, and family. Her EER based on weight, height, age, and gender is 1987 kcals a day in order to maintain her current weight, yet according to her food journal, she is averaging 1,470. Since she is lactating, she should be consuming 400-500 additional kcals a day in order to meet her nutritional needs, therefore her daily intake should be between 2,387 and 2,487 kcals/day, approximately a full 1,000 kcals/day more than she is consuming now. Part of this could be met by increasing her fruit consumption, which she does not report consuming at all. Additionally, while she is in the normal range for kcals from protein, she could still increase the amount she is consuming of both the "meats and beans" and "milk" groups as she is not meeting the amount indicated by her MyPyramid pattern.

The client is also not meeting the Adequate Intake (AI) of most of her micronutrients, especially iron, phosphorus, vitamin E, and vitamin D, for which she is barely meeting half the AI. As indicated previously, the client's doctor has diagnosed her

with iron-deficiency anemia, which can be brought on not only by a diet lacking in iron, but in being pregnant and lactating, as the body ensures the baby meets its iron needs by "robbing" from the mother's iron stores.

(P) Inadequate energy intake and inadequate micronutrients intake, including iron **(E)** related to inadequate intake of fruits, meats, and dairy products along with a busy schedule including school, work, and a new baby **(S)** indicated by evaluating the foods listed that were consumed by the client in her three day food journal.

Nutrition Intervention

The client needs to increase her consumption of proteins, fruits, and vegetables, as they all contain micronutrients she lacks. Since she seems to be short of time to prepare meals and is currently breastfeeding, she needs to supplement with iron in order to help reverse her anemia, which will give her more energy and help restore her iron stores. Her lack of fruit, reduced intake of vegetables, and consumption of mainly processed white grains (white bread sandwiches, white rice, pasta) are all depriving her of fiber, and while this does not seem to be having a negative effect on her lipid profile, fiber may play a roll in lowering her blood glucose level, which is on the high side of normal despite her lower than average carbohydrate consumption. She would benefit from both iron and multivitamin supplement specifically containing calcium, iron, magnesium, phosphorus, zinc, vitamin A, vitamin E, thiamin, vitamin B6, vitamin B12, vitamin D, and vitamin C to bring her up to "adequate intake" (AI) in some instances and "recommended dietary allowance" (RDA) in others.

The client may want to lose a few pounds in order to get back to her pre-pregnancy weight, but for now, she should focus on attaining adequate nutrition for both herself and her baby and focus on a weight loss program a little farther down the

line. Additionally, adequate intake of liquids, such as water or milk, will help with her feelings of dehydration.