

Penina Langer

FNES 365

Case Study – Mary Corbet

April 15, 2019

**All questions must be referenced using APA or AMA style.**

1. The patient has been increasing her alcohol intake. Discuss possible nutrition implications with increased alcohol.

One possible nutrition implication with increased alcohol is malnutrition. Other possible implications include insomnia, anorexia, weight changes, gastrointestinal cramping, decreased digestive enzymes, ulcers, muscle wasting, liver disease and abnormal glucose levels. Increased alcohol impacts digestion and absorption of essential nutrients. It also interferes with protein metabolism, which leads to low albumin, increased fluid in the abdomen, reduced blood clotting, and decreased urea production, which can increase the likelihood of altered brain function. Alcoholism can also cause liver disease, which changes the liver's ability to convert beta-carotene to vitamin A, causing disorders like night blindness (Salz, 2014).

2. The patient is also being evaluated for depression. What impact can depression have on nutrition status?

Depression can impact nutrition status in a few ways. Depression can cause patients to lose motivation to cook and eat, which leads to decreased appetite and intake (Westfal, 2018). Depression also leads to a disinterest in eating (Mahan & Raymond, 2017, p.162). The relationship between depression and nutrition is a real catch-22. In a study titled "Understanding Nutrition, Depression, and Mental Illnesses," it is written that depression causes people to make poor food choices, and these food choices might actually contribute to depression. Poor food choices can lead to nutrient deficiencies. For example, the amino acids tryptophan, methionine, tyrosine and phenylalanine are often helpful in treating mood disorders, such as depression. When someone is consuming a

poor diet, they might not be getting these amino acids, which in turn is not treating their depression (T. Rao, Asha, Ramesh, K. Rao, 2008).

3. Using a nutrition database, using the patient's diet recall, calculate how many calories and protein the patient is taking in. How does it compare to the estimated needs you have calculated?

Using the nutrition database [cronometer.com](http://cronometer.com), I calculated how many calories and grams of protein Ms. Corbet was taking in based on her diet recall. I accounted for:

- 4 cups of coffee: 10 calories, 1g protein (NCCDB, 2018)
- Granola bar: 130 calories, 2g protein (NCCDB, 2019)
- Salad: 40 calories, 1g protein (NCCDB, 2018)
- 12 oz can of diet cola: 0 calories, 0g protein (NCCDB, 2017)
- Palm sized portion of protein: 150 calories, 26g protein (NCCDB, 2017)
- 1 cup mixed vegetables: 130 calories, 6g protein (NCCDB, 2017)
- Dinner roll with butter: 190 calories, 3g protein (NCCDB, 2015)
- 2 glasses of wine: 400 calories, 0g protein (NCCDB, 2017)
- 1 glass of wine: 200 calories, 0g protein (NCCDB, 2017)
- 4 oz Bailey's Irish Cream: 385 calories, 4g protein (NCCDB, 2017)

This adds up to 1635 calories and 43g protein. Her calorie intake is within the range I calculated of 1475-1770 kcal/day. Her protein intake is significantly less than the needs that I calculated, which were 59-71g/day.

4. Discuss pertinent medications and any food-drug interactions for this patient.
  - The patient is taking Celebrex 200 mg PO QD. Celebrex is an NSAID (Mahan & Raymond, 2017, p.133). Nutritional side effects include abdominal pain, acid reflux, diarrhea, nausea, vomiting, and upset stomach (Mahan & Raymond, 2017, p.794). Celebrex does not harm the stomach, but there are side effects (Mahan & Raymond, 2017, p.795). Alcohol increases the risk of stomach irritation, gastritis, ulceration, and sudden serious gastric bleeding. The patient should take the medicine with food and milk (Westfal, 2018). There is a risk of interaction for this patient because of her alcohol intake.

- The patient is taking Advil 800 mg. Advil is also an NSAID. Taking Advil with alcohol may increase the risk of gastrointestinal ulceration and bleeding (Mahan & Raymond, 2017, p.131). There is a risk of interaction for this patient because of her alcohol intake.
  - The patient is taking Metformin 1000 mg PO QD. Metformin is an antihyperglycemic drug (Mahan & Raymond, 2017, p.133) used to normalize glucose and insulin (Mahan & Raymond, 2017, p.134). Metformin is used for type II diabetes and should be taken with food to minimize stomach problems (Mahan & Raymond, 2017, p.600). Alcohol should not be taken with this medication. There is a risk of interaction for this patient because of her alcohol intake.
  - The patient is taking Maalox and Pepcid PRN most days. These medications are PPIs and H2 Blockers. They work to reduce the production of gastric acid. These medicines may reduce the absorption of B12, iron and calcium. Enteral nutrition should be stopped one hour before and after taking (Westfal, 2018). It is important that the patient knows to wait to eat before/after taking this medication.
  - The patient is taking Melatonin 5-10 mg HS PRN or Benadryl 25 mg HS PRN. Melatonin is safe to take for up to three months. Side effects include headaches, nausea and drowsiness. Melatonin can lower blood pressure and disrupt hormone balance (Mahan & Raymond, 2017, p.204). Benadryl can cause dry mouth which leads to dental cavities, loss of teeth, gum disease, stomatitis, glossitis, nutritional imbalance and weight loss. It can also cause constipation, so it is important to stay hydrated (Mahan & Raymond, 2017, p.133). Alcohol can interfere with both of these medications, which causes a risk of interaction for this patient.
5. Discuss any abnormal lab values and possible etiology of abnormal values for this patient.
- The patient has high ALP. This test reflects the function of the liver. It is increased in those with liver diseases or injuries (Mahan & Raymond, 2017, p.101). The patient likely has high ALP because of her excessive alcohol intake.

- The patient has high ALT. This test also reflects the function of the liver. It is used to monitor liver function (Mahan & Raymond, 2017, p.101). The patient likely has high ALP because of her excessive alcohol intake.
  - The patient has high AST. The ASP test also reflects the function of the liver. It may be used to screen for cardiac abnormalities. This test is used to monitor liver function. The patient most likely has high AST because of her excessive alcohol intake.
  - The patient has high levels of glucose. A glucose test is used to screen for diabetes and to monitor patients with diabetes. High glucose levels indicate diabetes mellitus (Mahan & Raymond, 2017, p.100). We know that the patient has diabetes and is taking Metformin to control her glucose and insulin levels. It is possible that the patient has is not taking her Metformin regularly which would explain why she has high glucose levels.
  - The patient has high total protein. Total protein reflects albumin and globulin in the blood. This test is not a useful measure of protein or nutrition status (Mahan & Raymond, 2017, p.101). It is possible that her protein is elevated because of dehydration or from the stress on her body.
  - The patient has high total cholesterol. This is correlated with risk for cardiovascular disease (Westfal, 2018). This is likely because of the patient’s poor diet.
  - The patient has high LDL cholesterol. LDL cholesterol is the “bad cholesterol,” which indicates a positive risk factor for cardiovascular disease. It is responsive to diet (Westfal, 2018). This is most likely because of the patient’s poor diet.
  - The patient has high triglycerides. Levels are increased by high sugar foods and alcohol ingestion (Westfal, 2018). The patient likely has high triglyceride levels because of her alcohol intake.
6. Calculate the following and provide a classification for each: IBW, %IBW, BMI, UBW, %UBW, and % weight change if applicable.
- a. IBW- first 5ft = 100 lbs, add 5 lbs/inch over (Westfal, 2018)  
$$IBW = 100 \text{ lbs} + 5(6in) = 130 \text{ lbs}$$
  - b.  $\% IBW = \frac{ABW}{IBW} \times 100$  (Westfal, 2018)

$\% IBW = \frac{186}{130} \times 100 = 143\%$  , which is classified as obesity (Westfal, 2018)

c.  $BMI = \frac{weight}{(height)^2} \times 703$  (Westfal, 2018)

$BMI = \frac{186}{(66)^2} \times 703 = 30.0$ , which is classified as obese class I (Westfal, 2018)

d.  $UBW = 206$ . I got this number by taking her current weight of 186 and adding her sudden 20-pound weight loss (Hartman, 2019).

e.  $\% UBW = \frac{ABW}{UBW} \times 100$  (Westfal, 2018)

$\% UBW = \frac{186}{206} \times 100 = 90.3\%$ , which is classified as a mild nutrition risk (Westfal, 2018)

f.  $\% BWL = \frac{UBW-ABW}{UWB} \times 100$  (Westfal, 2018)

$\% BWL = \frac{206-186}{206} \times 100 = 9.7\%$ , which is classified as severe weight loss (Westfal, 2018)

7. Calculate the patient's energy, protein, and fluid needs. Explain your rationale for each (why did you choose that estimated energy formula/amount/range).

Energy: I used the rule of thumb for  $BMI > 30$  which is 25-30kcal/kg of IBW to calculate the patient's energy needs. The patient's IBW is 130 lbs which is equivalent to 59 kg. Her energy =  $25 \times 59$  through  $30 \times 59 = 1475-1770$  kcal/day. I chose to use the rule of thumb because it is used in a practical setting and it is a quick calculation that can easily be made on the spot. (Westfal, 2018).

Protein: I decided that the patient should have 1.0-1.2g/kg/day of protein, which comes out to 59-71g/day. She is not in the non-stressed, healthy population so she definitely needs more than 0.8g/kg/day of protein (Westfal, 2018), but I don't think that her current medical problems of diabetes, arthritis, back pain, obesity, insomnia, and subjective gastrointestinal upset (Hartman, 2019) would require a higher number than 1.2g/kg/day.

Fluid needs: the general rule of fluid needs is 1 ml/kcal (Westfal, 2018), so the patient needs 1475-1770 ml of fluid/day. I chose to use this rule because similar to the rule of thumb, it is a quick and easy way to calculate fluid needs on the spot.

8. From the NCP terminology, provide a nutrition diagnosis with a complete PES statement.
  - a. Excessive alcohol intake related to “retiring” from her job as evidenced by the alcohol audit which states she drinks 4 or more times a week and abnormal lab values (ALP 150, ALT 45, AST 38).
  - b. Predicted inadequate nutrient intake related to excessive alcohol consumption as evidenced by the alcohol audit which states she drinks 4 or more times a week and abnormal lab values (ALP 150, ALT 45, AST 38).
  
9. For each PES statement, provide an intervention using NCP terminology.
  - a. Intervention: Use the strategy of cognitive restructuring to help the client cope in other ways besides for alcohol. Use relapse prevention to assist with decreasing alcohol intake and enhance long-term behavior change outcomes. Have collaboration and referral of nutrition care including a referral to a community program such as Alcoholics Anonymous.
  - b. Intervention: Patient should eat a general healthful diet and decrease provision of alcohol. The patient should have nutrition influence on health education. Strategies include goal setting and self-monitoring. Coordination of care should include a referral to another nutrition professional to provide long term counseling and a referral to a community program such as Alcoholics Anonymous.
  
10. Use the NCP terminology, then describe what you will monitor and evaluate.
  - Types of food and meals should be monitored and evaluated; the patient will begin to eat three meals a day.
  - Alcohol intake should be monitored and evaluated to see drink size/volume, frequency and pattern of alcohol consumption; patient will limit intake to one drink 2-3 times a week.
  - Monitor and evaluate cholesterol estimated intake; patient will choose chicken/fish over meat for dinner to lower cholesterol.

- Protein intake should be monitored and evaluated to see if the patient is reaching estimated protein requirements; patient will include protein with breakfast and lunch to reach estimated requirements.
- Carbohydrate intake should be monitored and evaluated; patient will lower the amount of carbohydrates eaten to decrease glucose levels.
- Monitor and evaluate prescription medication use and over the counter medication use to prevent misuse of medication- make sure the patient knows about the risks of mixing medications with alcohol.

11. Provide SMART goals for your interventions.

- a. Patient will decrease alcohol intake to 1 drink a day over the next week.
- b. Patient will eat 3 meals a day at least three days this week.

12. Complete and submit the ADIME note from EHR Go.

13. Each question should be referenced correctly within the answer and a complete reference list provided at the end of the case. AMA or APA style may be used.

## References

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