

**Georgia State University  
Dietetic Internship Program  
Evaluation of Written Assignments – Case Study**

Name Lauryl Whitfield Date \_\_\_\_\_ Topic Case Study  
 Evaluator Sabine Suchmeister

	Comments
<b>Preparation (10 points)</b> Appearance is neat; assignment is legible; scheduled deadline met (10)	✓
<b>Introduction (5 points)</b> Provided a brief introduction to the topic (5)	✓
<b>Content (50 points)</b> Organized the information into appropriate sub-topics. Summarized the relevant research; identified the relationship and understanding between the existing knowledge, strengths and limitations of the current knowledge; comprehensive coverage of subject. The literature review was comprehensive and up-to-date. (42)	- Interpretation of lab values (-5) - Social History (-2) - publication date of 3 references > 5 years, #ing incorrect (-5)
<b>Style (25 points)</b> Assignment was organized; correct spelling and word usage; appropriate sentence structure; proper use of punctuation. (20)	- watch for appropriate word usage
<b>Bibliography: (10 points)</b> All were references were listed and complete information was provided. The reference citation format as specified in the guidelines to authors in the Journal of the American Dietetic Association was followed. (9)	- minor errors, review reference style
<b>Overall</b>  Total Points <u>86</u> /100 pts	

# **Case Study**

**Lauryn Whitfield**  
**IP 3**  
**August 19, 2008**

### Introduction

In the clinical setting, it is not uncommon to see a patient with multiple existing disease conditions for which one must determine the most pressing dietary issue and thus, the most appropriate dietary intervention. In such patients, disease states may present conflicting dietary needs; therefore, it is imperative that the registered dietitian make decisions using not only clinical judgment but also evidenced based practice. Though much research remains to be done in the field of dietetics, much already exists upon which dietitians can and should make clinical judgment calls. ~~Such is the case in~~ This patient who presents with congestive heart failure (CHF) exacerbation likely a result of his hypertension (HTN) and coronary artery disease (CAD). The intervention provided for this patient will be presented and analyzed in accordance with the literature and evidence based guidelines for treating a patient with such conditions.

### Case Presentation

#### Assessment

<p><b>FOOD/NUTRITION HISTORY:</b></p> <ul style="list-style-type: none"> <li># EATS FAST FOOD DAILY; SODAS, GATORADE</li> <li># NON DIET COMPLIANCE</li> <li># NUTRITION RELATED KNOWLEDGE DEFICIT</li> </ul>	<p><b>BIOCHEMICAL DATA, MEDICAL TESTS, AND PROCEDURES:</b></p> <ul style="list-style-type: none"> <li># INCREASED BLOOD GLUCOSE- 182MG/DL</li> <li># INCREASED BLOOD UREA NITROGEN (BUN)- 30MG/DL</li> <li># INCREASED CREATININE- 2.3MG/DL</li> <li># DECREASED CALCIUM- 8.4MG/DL</li> <li># DECREASED ALBUMIN- 2.3G/DL</li> <li># INCREASED PHOSPHORUS- 4.8MG/DL</li> <li># DECREASED ALT- 13U/L <i>Interpretation?</i></li> </ul>
<p><b>Anthropometric Measurements:</b></p> <ul style="list-style-type: none"> <li># Height: 73 inches (6'1")</li> <li># Weight: 195 pounds (88.6 kg)</li> <li># Body Mass Index: 25.7 (overweight)</li> <li># Recommended Body Weight: 189 pounds (85.9 kg) - <i>based on?</i></li> </ul>	<p><b>Client History:</b></p> <ul style="list-style-type: none"> <li># Medications: Aspirin, Heparin, Hydralazine, Insulin, Isosorbide Mononitrate, Simvastatin, Acetaminophen, Diphenhydramine, and Promethazine</li> <li># Medical History: CHF, HTN, DM, CRI, Asthma</li> </ul> <p style="text-align: center;"><i>Social History?</i></p>

The patient is a sixty-two year old male who presents with CHF exacerbation and a past medical history of HTN, diabetes (DM), <sup>1 or 2?</sup> asthma, CAD, and chronic renal insufficiency (CRI). According to the patient's medical chart, he has a knowledge deficit related not only to nutrition, but also to existing medical conditions, medications, and treatment. The patient is receiving a list of medications including Aspirin, Heparin, Hydralazine, Insulin, <sup>Type?</sup> Isosorbide Mononitrate, Simvastatin, <sup>Drug-Food Interaction?</sup> Acetaminophen, <sup>Indication for medications?</sup> Diphenhydramine, and Promethazine. According to the patient, he eats fast food everyday, drinks sodas and Gatorade, and does not comply with his prescribed diet. <sup>result of what?</sup> As a result, the patient also states that he wishes to comply with dietary restrictions and would be interested in nutrition education regarding eating for his disease states. The patient is currently receiving a 2000 kcal diabetic, 2 gram Na, 1 L fluid restricted diet.

Estimated energy needs (EEN) are calculated based upon 25-30 kcal/kg recommended body weight (RBW). Based upon these recommendations, the patient's EEN are 2100-2500 kcals. The patient's estimated protein needs (EPN) are calculated based upon 0.8-1.0 g/kg RBW, or, 68-85 grams.

### *Diagnosis*

Based upon assessment data, a nutrition diagnostic statement, or a PES (problem, etiology, signs/symptoms) statement, is developed to identify a specific nutrition related problem treatable through intervention by a dietitian. In accordance with this patient's assessment data, nutrition problem NI-51.2, or excessive fat intake, was chosen. The diagnostic statement in PES format is as follows: Excessive fat intake related to non-diet compliance as evidenced by CHF exacerbation and patient report of eating fast food and <sup>drinking</sup> sodas daily.

### *Intervention*

In keeping with the Nutrition Care Process, a nutrition intervention is chosen to address one (or more) of four categories including food and/or nutrient delivery, nutrition education, nutrition counseling, or coordination of nutrition care (1). Based upon the nutrition diagnosis, the interventions ND-1 and E-1, or meals and snacks and initial/brief nutrition education, respectively, are chosen. Specifically, the patient's diet should be changed to a 1L fluid, <sup>restriction</sup> low fat, diabetic, renal diet and the patient will be educated

on a heart healthy, low sodium diet. <sup>This</sup> ~~Such a~~ diet will provide the patient with 2000-2400 kcals and 50 grams of protein, meeting his EEN though falling short of his EPN, which is acceptable due to the patient's history of CRI. Then you should have used a different # for EPN!

#### *Monitoring and Evaluation*

According to the Nutrition Care Process, monitoring and evaluation can be organized <sup>to</sup> ~~in these~~ four categories: nutrition-related behavioral and environmental outcomes, food and nutrient intake outcomes, nutrition-related physical sign and symptom outcomes, and nutrition-related patient/client-centered outcomes (1). For this patient, the appropriate monitoring and evaluation includes monitoring lab values and evaluating the patient's acceptance and <sup>tolerance</sup> ~~toleration~~ of the dietary expectations discussed in the nutrition education session.

#### *Intervention Provided and Evaluation Based on Literature Review*

In accordance with the patient's diagnosis, the intervention consisted of two parts, the first being a change in the diet to a 1 L fluid, <sup>restriction</sup> low fat, diabetic, renal diet based upon his CHF, DM, HTN, and CRI. According the American Dietetic Association (ADA), heart failure is a result of "uncontrolled hypertension, coronary artery disease, myocardial infarction, valvular disease, idiopathic cardiomyopathy, and alcohol and/or drug abuse" (2). The ADA goes on to provide Evidence Based Nutrition Practice Guidelines for the treatment of heart failure "developed using a systematic process for identifying, analyzing and synthesizing scientific evidence" (2). The guidelines suggest that treatment of heart failure should include a complete nutrition assessment to ensure the meeting of patient needs and nutrition goals should include reducing sodium and fluid while providing adequate calories and protein (2). It is well documented that elevated blood pressure is directly linked to cardiovascular disease (2, 3) and that an increased intake of sodium is a direct cause of hypertension (3); therefore, the intervention for this patient addresses the issue through diet change that provides the patient with 2 g sodium per day. Because the patient verbalized his current food choices, it is safe to assume his intake of sodium is similar to that of the typical American, roughly 8-12 g sodium per day (3, 4). Research has shown that providing a sodium restricted diet results in a decrease in blood pressure and that the greater the reduction in sodium, the

greater the reduction in blood pressure (3, 4, 5, 6, 7). According to the American Heart Association, “a reduction in salt intake would therefore have a major effect on heart failure” (3). Using the results of these studies as well as the Dietary Approaches to Stop Hypertension (DASH) trial, the ADA concludes that treatment of patients with heart failure should include fluid restriction and sodium intake of about 2 g per day for enhanced quality of life and reduced clinical symptoms (2, 3, 7, <sup>8</sup>(11)). Referral to a registered dietitian for Medical Nutrition Therapy (MNT) is also advised in order to provide the patient with an individualized approach to eating a heart healthy, low sodium diet (2).

In addition to the patient’s CHF, he also presents with a history of DM and CRI and is thus placed on a diabetic, renal diet as well in accordance with the literature. The diabetic diet at Grady delivers carbohydrates in a controlled, evenly distributed manner throughout the day in order to reduce glucose fluctuations and maintain a desirable HbA1c (8). The renal diet restricts protein to 50 g per day as studies show that “dietary protein restriction slows the progression of both diabetic and nondiabetic renal diseases” and is associated with declines in glomerular filtration rate and albuminuria (9, 10).

The second component of the patient’s intervention involved providing him with nutrition education. Based upon the patient’s statement regarding his daily intake of fast food and sodas and his expressed willingness to learn how to comply with a heart healthy, low sodium diet, a brief nutrition education session detailing the basics of such a diet, <sup>was</sup> were provided. Research indicates that nutrition counseling provided by a registered dietitian (RD) results in significant improvements in clinical symptoms of chronic diseases as well as greater adherence to a prescribed diet (11, 12). One study found that “patients with type 2 diabetes and/or CVD who received a single nutrition counseling session from the same RD had improved nutritional and medical status compared <sup>spell out first time used</sup> with patients with these same chronic diseases who did not receive nutrition counseling” (11) while another <sup>study</sup> found data to support the role of the dietitian in nutrition education stating, “our data support the concept that clinical nutrition education should be delivered by an RD or a team that includes and RD to be effective...” (12). Based upon this evidence, the need for a dietitian’s expertise in clinical care is apparent, especially for those patients with multiple disease conditions who may experience conflicting dietary needs. According to the research, just

one session with an RD can greatly improve the patient's clinical outcomes and dietary adherence, resulting in an overall increase in quality of life (11, 12).

### *Conclusion*

In the case of this patient, the most effective interventions included a change in his diet and introductory education to explain the reasoning for the diet change and how he can maintain adherence to his diet upon his release from the hospital. These interventions are well documented in the literature, having been proven effective in many studies over the years. Although the particular intervention involving a reduced sodium intake presents a variety of challenges, as sodium is quite prevalent in the food supply, the dietitian's education session should provide the patient with the knowledge needed to make dietary decisions in accordance with the guidelines provided. Overall, the combination of a motivated patient and the implementation of evidenced based guidelines provided for a sound intervention with the patient's best interests as the central focus.

## Reference List

1. *Pocket Guide For International Dietetics and Nutrition Terminology (IDNT) Reference Manual*. 1 ed. Chicago: American Dietetic Association; 2008.
2. ADA Heart Failure Evidence-Based Nutrition Practice Guideline. <https://www.adaevidencelibrary.com/topic.cfm?cat=3249>. Accessed August 19, 2008.
3. He F, MacGregor G. How Far Should Salt Intake Be Reduced? *Hypertension*. 2003;42(6):1093-1099.
4. Geleijnse J, Kok F, Grobbee D. Impact of dietary and lifestyle factors on the prevalence of hypertension in Western populations. *European Journal of Public Health*. 2004;14(3):235-239.
5. Geleijnse J, Kok F, Grobbee D. Blood pressure response to changes in sodium and potassium intake: a metaregression analysis of randomised trials. *Journal of Human Hypertension*. 2003;17:471-480.
6. Sacks F, Svetkey L, Vollmer W, Appel L, Bray G, Harsha D. Effects On Blood Pressure Of Reduced Dietary Sodium And The Dietary Approaches To Stop Hypertension (DASH) Diet. *N Engl J Med*. 2001;344(1):3-10.
7. Hypertension Evidence-Based Nutrition Practice Guideline. <https://www.adaevidencelibrary.com/topic.cfm?cat=3259>. Accessed August 19, 2008.
8. Nielsen J, Jonsson E, Ivarsson A. A Low Carbohydrate Diet in Type 1 Diabetes: Clinical Experience-A Brief Report. *Uppsala J Med Sci*. 2005;110(3):267-273.
9. Hansen H, Christensen P, Tauber-Lassen E, Klausen A, Jensen B, Parving H-H. Low-protein diet and kidney function in insulin-dependent diabetic patients with diabetic nephropathy. *Kidney International*. 1999;55:621-628.
10. Pedrini M, Levey A, Lau J, Chalmers T, Wang P. The Effect of Dietary Protein Restriction on the Progression of Diabetic and Nondiabetic Renal Diseases: A Meta-Analysis. *Ann Intern Med*. 1996;124:627-632.
11. Gaetke L, Stuart M, Trusczyńska H. A Single Nutrition Counseling Session with a Registered Dietitian Improves Short-Term Clinical Outcomes for Rural Kentucky Patients with Chronic Diseases. *J Am Diet Assoc*. 2006;106:109-112.
12. Wilson C, Brown T, Acton K, Gilliland S. Effects of Clinical Nutrition Education and Educator Discipline on Glycemic Control Outcomes in the Indian Health Service. *Diabetes Care*. 2003;26:2500-2504.