

# Two-Week Nutritional Assessment

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*This project is for educational purposes only.*



## Introduction

The subject for this assessment was a 21-year-old female who weighs 220 pounds and is 66 inches tall. According to Heyward & Gibson (2014), Estimated Energy Requirement (EER) is physical activity level combined with basal metabolic rate (BMR). BMR can be calculated using the Harris-Benedict Equation:  $655.0955 + 9.463 [\text{Body Mass (kg)}] + 1.8496 [\text{Height (cm)}] - 4.6756 [\text{Age}]$ . BMR is 1813 kcal. Subject's physical activity level is classified as lightly active bringing her EER to 2507 kcal. Subject is lightly active, and should be consuming a balanced diet based off the AMDR. Diet was recorded by MyFitnessPal (Under Armour, 2019) Table 1 contains the subject's estimated AMDR values for carbohydrates, proteins, and lipids as well as the RDA for calcium and vitamin A.

	EER (kcal)	CHO (kcal)	Protein (kcal)	Lipids (kcal)	Water (L)	Calcium (mg)	Vitamin A (µg)
Recommendations (per day)	2507	1379 (55%)	501 (20%)	627 (25%)	2.7	1000	700

## Week 1

Figure 1 displays total kcals and average caloric distribution of the subject. The total kcals consumed in added sweeteners were 632 kcal or 8.1% of the weekly total. Although this is below the recommended 10%, there were 3 days above 15% (McGuire & Beerman, 2014). Weekly average daily intake of calcium was 88% of the RDA of 1000 mg/day and vitamin A was 52% of the RDA of 700 µg/day (McGuire & Beerman, 2014).

Day 5 was the furthest from the recommendations. Subject was approximately 800 kcals below BMR. Added sweeteners accounted for 16.2% of the total kcals. Carbohydrate consumption was close to AMDR at 52.6%. Protein intake was low at 12.8% resulting in lipid intake being high at 34.6%. 60% of the total kcals came from sweets. Subject ate one meal where the main source of protein was chicken tenders, 3% of the calcium RDA and 23% of the vitamin A RDA were reached. Water consumption met the weekly average of 24 ounces but was 65 ounces below the recommended amount. When the subject gets stressed, not a lot of food is consumed just like what happened in day 5. Food consumed under stress normally consists of sweet treats. In hindsight the subject realizes more work could have been done days before so less work had to be done at the deadline.

Day 1 was the closest to the subject's recommendations. Total kcal consumption was 2257. 250 kcals below EER. Added sweeteners accounted for 6.7% of total kcals. Carbohydrate consumption was approximately 8% below the 55% AMDR, protein was at the 20% AMDR, and lipid intake was 8% above the AMDR of 25%. Water intake was 16 ounces far off the recommendation of 91 ounces. Subject ate multiple meals with animal protein involved in each as well as a serving of vegetables. Getting good grades in school and a lighter homework load creates less stress and more free time causing good days.

## Recommendations

Subject should remove excessive added sugars from the current diet. To help make this possible, the subject should change their habit of procrastination and begin getting ahead on work. More water should be added to the diet to get closer to AMDR recommendations. Subject is recommended to carry a water bottle everywhere and drink the full container at least twice in addition to the water regularly consumed.

According to the Institute of Medicine (2010), the acceptable macronutrient distribution range for proteins is 10-35%. The specific amount recommended for the subject is 20%. The subject averaged 17% of total kcals coming from proteins for the week; however, one day had as low as 12% intake. Subject is recommended to increase animal protein intake to raise the protein percentage as well as increase her total kcals consumed (McGuire & Beerman, 2014). Subject only consumed 52% of the recommended RDA of 700 µg/day for vitamin A (McGuire & Beerman, 2014). According to the Office of Dietary Supplements (2019), fruits such as cantaloupe, apricots, and mangos are good sources to increase consumption of vitamin A.

## Week 2

Figure 2 displays total kcals and average caloric distribution of the subject. The total kcals consumed in added sweeteners was 280 kcals or 4.2% of the weekly total. Weekly average daily intake of calcium was 292% of the RDA of 1000 mg/day and vitamin A was 153% of the RDA of 700 µg/day (McGuire & Beerman, 2014).

Day 3 was the furthest from the recommendations. Total kcal count was 1493, 300 below BMR. Added sweeteners accounted for 12.3% of the total kcals. Subject consumed an Oreo milkshake and Canadian bacon with no other carbohydrates causing intake to be 28% carbohydrates, 15% proteins, and 57% lipids. 71% of the calcium RDA was met and vitamin A exceeded the recommended. Water consumption was 32 ounces. Family is unavoidable and life is unpredictable. Family stressors caused subject to become stressed and consume less food.

Day 5 was the closest to the subject's recommendations. Total kcal consumption was 1713. Only 100 kcals below BMR. No added sweeteners were consumed, well below the maximum of 10% (McGuire & Beerman, 2014). Kcal intake was 37% carbohydrate, 16% protein, and 42% lipid. Water consumption was the highest of all the days at 40 ounces. Multiple meals were eaten this day with a variety of proteins and vegetables. Unfortunately nothing could have been done to avoid the family stressor, but the family stressor was resolved and subject was able to relax more.

## Week 1 & 2 Data

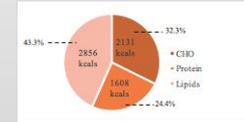


Figure 1. Week 1 Macronutrient Distribution.

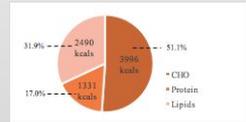


Figure 2. Week 2 Macronutrient Distribution.

## Conclusion

Throughout this assessment, the subject consumed less calories than the recommended, according to the AMDR standards (McGuire & Beerman, 2014). The subject's consumption pattern varied throughout the assessment, with considerable decline in calories in the second week.

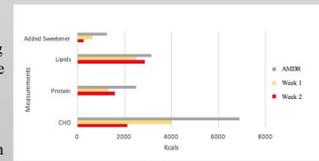


Figure 3. Two-Week Added Sweetener and Macronutrient Distribution.

The subject consumed less than the recommended amount of added sugars, which was 10% of the total caloric intake (McGuire & Beerman, 2014). However, this could have been impacted by the subject not consuming enough calories throughout the two week assessment. As seen in Figure 3, the subject consumed considerably less carbohydrates than the AMDR. However, the subject's lipid consumption nearly reached the AMDR in week 2. The subject followed the provided recommendation to increase protein and vitamin A consumption during week 2 of the assessment. The subject also increased water consumption, per the recommendation. By following the provided recommendations, the subject was closer to the caloric intake goal in week two.

## References

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