

ANTHROPOMETRICS
SUNY COLLEGE @ ONEONTA
DEPARTMENT OF HUMAN ECOLOGY
NUTR 240: Nutrition Assessment
Dr. Helen E. Battisti R.D., C.D.N.

Name: _____ Age: 29

Measured by: Kayla Slater

Ht: 63.5 in. 161.4 cm. Current Wt: 141.4 lb. 64.3 kg Usual weight: 138.5 lbs.

Ideal Body Weight: 120 lbs. (Hamwi) IBW using Met Life Tables: 124-138

117.8% IBW (Hamwi) 102.1% UBW Wt. Wt. Percentile: between 50th + 75th percentile

Wrist circumference(cm): 15.1 (r: 10.8) Frame size: medium

Body Mass Index: 23.8 Waist Circumference: 77.2 cm Hip Circumference: 100.0 cm

Risk Category 0.77 (Based on waist to hip ratio)

Mid Arm Circumference: 29.3 cm 293 mm
(MAC)

Mid Arm Muscle Area (MAMA): 34.2 cm² MAMA Percentile: 27.7 *between 25th + 75th percentile

Triceps Skinfold (TSF): 27.3 mm Subscapular Skinfold (SSSF): 24.7 mm

TSF + SSSF = 52 TSF + SSSF Percentile = 75th percentile

Bioelectrical Impedance Data: Recorded weight 141.5 lb.

% Body fat 32.53 % Body lean 67.47 % Water 49.39%

Calorie Needs using the Harris-Benedict equation (don't forget the Activity Factor!)

Using your client's 24-recall Multiple Pass Intake, please analyze using the Food Processor.

ASSESSMENT NOTES:

Weight: Her current weight is 141.4 lbs. Client was compliant and weighed without shoes. This is not her usual weight. She is about 20 lbs + her actual weight.

Body Fat: Her BMI is in the healthy range. But when used the bioelectrical impedance, her % body fat was above average (high).

Body Lean: This was tested using the bioelectrical impedance. Her lean mass is not low or high.

Hydration: Her total percent body water was ^{good} low when took body composition measurements using the bioelectrical impedance. Her % body fat results should be accurate. She is well hydrated.

Dietary Intake: According to the 24 hour recall, my client is under the recommendation for her age, weight, + height for grains, vegetables, + fruit. Caloric intake meets her calculated recommendation.

Activity Level: Her activity level is light. She does not regularly participate in 30-60 min moderate-vigorous exercise daily, but does walk a lot daily.

Additional Information (clinical or biochemical): Her frame size is medium. She does not look overweight or unhealthy.

Overall: My client is in the normal or high ranges, but in the at risk or obese ranges.

Complete a 24-recall using the Multiple Pass Method

	Quick List	Forgotten Foods	Time and Occasion	Detail Cycle	Final Probe
<u>Breakfast</u>	oatmeal coffee	water for coffee skim milk in coffee packet of stevia in coffee	coffee at 9am oatmeal at 10am in dorm room	high fiber instant brown sugar oatmeal (1, 45g packet) 6oz. hot water 2oz. skim milk w/ vit. A+D 1, 2g packet of stevia	Quaker oatmeal stevia - no calorie sweetener
<u>Lunch</u>	ham + swiss sandwich yogurt	lettuce tomato bread water	2pm - mills Marketplace	<ul style="list-style-type: none"> • ham - 3 slices, water-thin • 1 slice swiss cheese • 1 leaf lettuce • 1 slice tomato • 2 slices sourdough bread • 6oz. low fat blueberry yogurt 	• bought sandwich premade
<u>Dinner</u>	lentil spinach soup chickpea salad pasta w/ marinara sauce butter pecan ice cream	parmesan cheese feta cheese water	5pm - Dining Hall	<ul style="list-style-type: none"> • 1c. soup • 1/2c. chickpea salad • 1/4c. whole wheat penne • 1/4c. marinara sauce • 1/2T. grated parmesan cheese • 1 in. cube feta • 1/2c. ice cream 	Chickpea salad: chickpeas w/ green/red bell peppers soup - homemade
<u>Snacks</u>	applesauce cereal baby carrots colby-jack cheese cubes hershey kisses		3pm 8pm 8pm 8pm 4pm	<ul style="list-style-type: none"> • 1/2c. applesauce • 1 1/2 oz. Apple Jacks • 10 baby carrots • 1oz. colby-jack cheese cubes • 5 Hershey Kisses 	<ul style="list-style-type: none"> • cinnamon applesauce • Kellogg's apple jacks • milk chocolate kisses
<u>Other</u>					

Recy? ?
weekend

good!

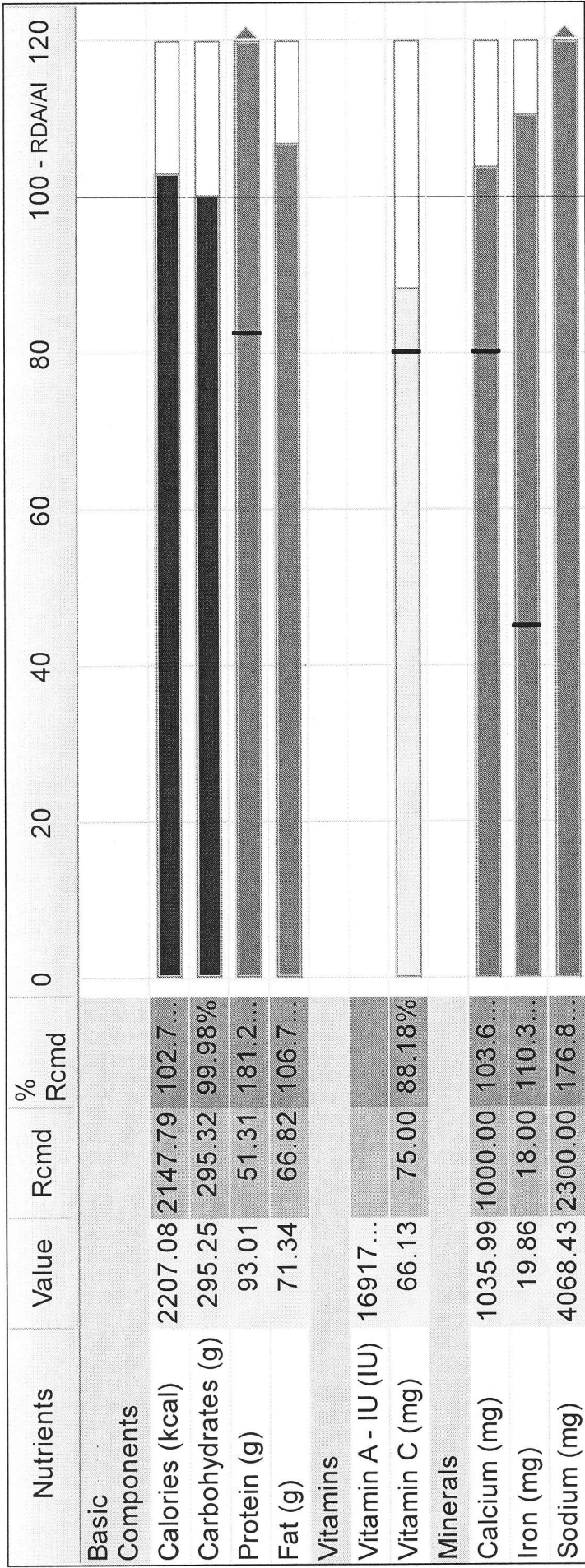
Spreadsheet: ~~Patsy Heister~~ * | All Days

Spreadsheet

Item Name	Quant...	Meas...	Cals (kcal)	Carb (g)	Prot (g)	Fat (g)	Vit A-IU (IU)	Vit C (mg)	Calc (mg)	Iron (mg)	Sod (mg)
<input type="checkbox"/> Patsy Heister			2207.08	295.25	93.01	71.34	16917...	66.13	1035.99	19.86	4068.43
<input type="checkbox"/> Day 1 (11/16/2012)			2207.08	295.25	93.01	71.34	16917...	66.13	1035.99	19.86	4068.43
<input type="checkbox"/> Breakfast			198.13	39.87	6.64	2.20	125.00	0.30	62.50	1.19	138.57
<input type="checkbox"/> Lunch			615.52	79.41	40.17	12.68	781.86	11.99	494.64	3.75	1797.18
<input type="checkbox"/> Afternoon Snack			184.99	27.60	1.94	7.55	35.38	12.20	49.76	0.35	22.61
<input type="checkbox"/> Dinner			903.06	100.94	34.74	38.96	2715.48	12.68	404.42	7.72	1650.41
<input type="checkbox"/> Evening Snack			305.38	47.42	9.53	9.95	13259...	28.96	24.68	6.85	459.67
% Recommendation			102.76	99.98	181.27	106.77		88.18	103.60	110.33	176.89

Bar Graph - Diet Adequacy Report: ~~Patsy Heist~~* | All Days

Bar Graph



Anthropometrics Assessment Assignment

1. Evaluate weight for height using all measurements taken: IBW, weight percentile, BIA desirable wt., & BMI. Is your client underweight, desirable, or overweight?

According to my client's IBW, weight percentile, BIA desirable weight, and BMI, she is not at a desirable weight, but is not overweight. My client's ideal body weight according to the Hamwi equation is 120 lbs. and her current weight is over 20 lbs. Her weight percentile is between the 50th-75th percentiles, so her weight is above average. Her BIA desirable weight is 125 lbs. and her current weight is more than 125 lbs. All these values are over her current body weight which would suggest my client is overweight. But my client's BMI is 23.8 which is in the healthy range. Her BMI is at the high end and close to the overweight range. Since her BMI is still in the healthy range and even though the other values suggest my client is overweight, she is above her desirable weight, but not overweight.

good discussion

2. Evaluate amount of body fat using sum of skinfolds percentile and BIA % fat. Is your client's body fat low, desirable, or high? What about the fat distribution (waist to hip ratio)?

My client's body fat is in the healthy range, but at the high end. The sum or the skinfold's percentile is in the 75th percentile which means her body fat % is higher than the average. Her BIA % is 32.53% which is healthy, but at the very high end. According to her body fat percentile and BIA %, she is very close to being overweight or obese (according to other charts). The fat distribution is normal. She is moderate, but at low health risk. Since her body fat percentile and BIA % is close to the overweight range, but her fat distribution is normal, her body fat is higher than desirable. - good

3. Evaluate percent body leanness and somatic protein status using MAMA and BIA % lean. Is his/her percent body leanness low, desirable, or high?

According to my client's MAMA percentile and BIA % lean her percent body leanness is desirable. Her MAMA percentile is 27.7 which is almost average (30 is average). My client's MAMA percentile is between the 25th-50th percentile. Her BIA % lean is 67.47% which is not too low or high. The higher percent body leanness increases metabolism, so a higher body leanness is desired. Since my client is above 50% lean body mass and between the 25th-50th percentile, she is at desirable leanness, but on the low side.

4. My client's total caloric intake according to the 24-hour recall meets her calculated energy needs. Her calculated energy needs are about 2205 calories according to the Harris Benedict Equation. Her total caloric intake from the 24 hour recall was 2,207 calories.

Harris Benedict equation

$$\begin{aligned} \text{BEE} &= 655.1 + (9.6 \times 64.3 \text{ kg}) + (1.8 \times 161.4 \text{ cm}) + (4.6 \times 29 \text{ yrs. old}) \\ &= 1696.3 \end{aligned}$$

$$\begin{aligned} \text{CCR} &= \text{BEE} \times \text{activity factor (x stress factor)} \\ &= 1696.3 \times 1.3 \\ &= 2205.19 \end{aligned}$$

My client's inadequate in various nutrients in her diet. She is under the recommendation for grains, vegetables, and fruit. She meets the recommendations for carbohydrates, but not all of her carbohydrates were whole grains. She did not eat much fruit or vegetables according to the 24 hour recall. Also, her intake in vitamin C is low. Since she did not intake much fruit, her vitamin C is also low. Her intake for protein rich foods and dairy foods is adequate. Meat and cheese was included her diet. Her sodium was high, according to ESHA, but this may be lower since the soup was homemade and not canned. Canned soups have higher sodium content than homemade soups.

5. Comment on his/her hydration status and activity level.

My client's hydration is good. She is well hydrated. When tested for hydration during the bioelectrical impedance assessment, she was at 49.39% water which is between the 37- 49% range which means she is adequately hydrated.

My client's activity level is light. She does not regularly participate in moderate exercise 30-60 min/day. Although, she does not regularly exercise, she does a lot of walking on campus and to class.

6. Overall conclusions

In conclusion, my client is healthy, but very close to the overweight and at risk for body fat ranges. Her BMI is within the healthy range, but her other measurements as well as body fat % are high. Some charts say that over 32% is obese, but my client is not obese which was determined by a physical examination. She does not look overweight or obese and her % body leanness is desirable, since it's not low or high. Since most measurements were near the high end, she is not at a desirable weight for her height or her body fat. But she is not overweight since her BMI is in the healthy range and her body fat is not in the high risk range. Even though she is not overweight, she is close to being overweight since many measurements were at the high end, close to the overweight range.

My client is well hydrated, but she may consume more calories than needed. Since she is not highly active in moderate activity, she may need less calories than the calculated energy needs from the Harris Benedict Equation. Her diet is inadequate in many food groups. But since her diet intake was only based on the 24 hour recall, she may not have an inadequate diet. A food frequency and food record or diary would be a good assessment to do to understand if she is inadequate in these nutrients over time. According to the information obtained, my client is healthy, but very close to becoming overweight.

*nicely done -
98*

*2
where did you find these #s*

Please re-check these #s - let me know if you have questions

Evaluation

Menu Pattern vs. ESHA

The nutritional adequacy of my menu is not fully accurate, even though my values are in the ranges for calorie, protein, and fat needs. My menu in ESHA does not meet the same values in my meal pattern. This may be explained by the foods that I choose in ESHA where not the correct foods. Many foods to choose from are from fast food places and not many choices are from Sysco or another foodservice supplier. This makes it difficult to choose the most accurate foods. But my meal pattern was helpful in planning the menu in ESHA. - good

Day 1

Total calories are higher than my meal pattern, but lower than 2000 calories and still in the range. Carbohydrates are higher possibly because of the carbohydrate content in the cereal and bread. They may have higher carbohydrate content on ESHA. Protein is accurate. Fats are lower, but still in the recommended range. Vitamin C is high, most likely because the orange juice has a high content of vitamin C. A different juice with less vitamin C could be used instead. Iron is very high. Many foods may be enriched with iron, so increase the iron content such as cereals, breads, and pasta. Sodium is very high. Many of the foods to choose from are processed foods which will increase sodium. Foods that are enriched, fortified, or processed should be limited and used with caution.

Day 2

Total calories are higher than my meal pattern, but are still in the recommended range. Carbohydrates are higher than the recommended range, but still in the range. Protein is high, most likely due to counting more protein in the eggs, bacon, and yogurt. Greek yogurt has more protein, but I could not select a yogurt that was 2% and not Greek. A regular yogurt should actually be used instead. Fat is lower, but still in the adequate range. Vitamin C is accurate, but calcium is low. More dairy should be added. Iron and sodium amounts are high. Many foods may be enriched with iron which increases the iron content in various foods which would contribute to this discrepancy. Also, many of the foods to choose from are processed foods which will increase sodium. Foods that are enriched, fortified, or processed should be limited and used with caution

Day 3

The total calories are higher than my meal pattern, but are still in the recommended range. Carbohydrates are high and are 3.0 g over. Carbohydrates may be high because more carbohydrates are counted in salad dressings, cereals, vegetables, and breads. Protein is lower, but in the range. Fat is low, but still in the range. Calcium levels are low, so more milk or dairy should be added. Iron and sodium are high. Many foods may be enriched with iron which increases the iron content in various foods and many of the foods to choose from are processed foods which will increase sodium. Many of the foods to choose from are processed foods which will increase sodium. Foods that are enriched, fortified, or processed should be limited and used with caution.

Adequacies

Joe Donald meets his recommended needs for carbohydrates, fat, and protein. But according to the bar graph, he does not have enough fat or calcium. Even though these amounts are below the RDA, he still is above 80% of the recommended value.

Excesses

According to the bar graph, protein, Vitamin C, iron, and sodium are over the recommended intake level. Protein can be reduced by not using Greek yogurt. Joe Donald should have less fruit or fruit juice to lower his vitamin C amounts. Iron could be reduced by not using fortified or enriched foods. Sodium could be reduced by using less processed foods.

very nice