

Developing Portion Questions for the Automated Self-Administered 24-hour Dietary Recall

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Automated Self-Administered 24-hour Dietary Recall (ASA24)

- 4 year effort funded by the National Cancer Institute
- Collects 24-hour recall data following the USDA Automated Multiple Pass Method (AMPM)
- Fully auto-coded using USDA Food and Nutrient Database for Dietary Studies (FNDDS)



Objective

To develop portion questions for NCI's ASA24 food probe database, based on:

- Portion questions from USDA's AMPM
- USDA's FNDDS portion codes
- Presentation criteria for ASA24 application



ASA24 Database Development: Portion questions from USDA AMPM

- Automated interviewer-administered 24HR
- Developed by USDA, used in NHANES
- Specific sequence for each food



ASA24 Database Development: Portions auto-coded with USDA FNDDS

- Publicly available database of foods, their nutrient content, and gram weights
- Developed by USDA, used to analyze NHANES data
- Food codes have portion codes for gram weights



ASA24 Database Development: Portion requirements of the ASA24

- Portions have to be displayed by photograph
- User-friendly
 - Up to 8 photographs per screen
 - Presented in tile arrangement



Requirements

- AMPM portion answers
- FNDDS portion codes
- Presentation of portion photographs



1. Review AMPM portion questions

- Dimensions (length, width, thickness)
- Volume (cups, tablespoons)
- Packages (by weight or size)
- Weight



Example: Carrots

How much of the carrots did you actually eat?

- 1 whole medium carrot
- 4 baby carrots
- 3 large sticks
- ½ cup



2. Correlate AMPM and FNDDS

AMPM answers	FNDDS portion code
1 whole carrot, medium	1 medium (6"-7" long)
4 baby carrots	1 baby carrot
3 large sticks	1 large strip or stick
1 cup	<i>1 cup, mashed</i>
	<i>1 cup, diced</i>
	<i>1 cup, sliced</i>
	<i>1 cup, baby carrots</i>
	<i>1 cup, carrot balls</i>
	<i>1 cup, NFS</i>



3. Determine portions to display

- Range of portions
 - $\frac{1}{4}$ to 1 whole item
 - Volume measures = $\sim 3 \times$ QNS value
- Distribution
 - Usually equally divided into 8 or 4 portions



Portion photographs: Cups of carrots

Carrots : Amount eaten?



1/4 cup



1/2 cup



3/4 cup



1 cup



1 1/4 cups



1 1/2 cups



1 3/4 cups



2 cups





- Less than 1/4 cup
- More than 2 cups
- Don't know









Whole carrots

Carrots : Size?

 <input type="radio"/> Baby	 <input type="radio"/> Small	 <input type="radio"/> Medium
 <input type="radio"/> Large	<input type="radio"/> Don't know	

Carrots : Amount eaten?

 <input type="radio"/> 1/4 whole vegetable	 <input type="radio"/> 1/2 whole vegetable	 <input type="radio"/> 3/4 whole vegetable
 <input type="radio"/> 1 whole vegetable	<input type="radio"/> Less than 1/4 whole vegetable <input type="radio"/> More than 1 whole vegetable <input type="radio"/> Don't know	



Summary

1. Review AMPM portion questions
2. Correlate AMPM and FNDDS
3. Determine portions to display

ASA24 Demo Site

<https://asa24.westat.com/>