

Comparing Reported Dietary Supplement Intakes between Two 24-Hour Recall Methods: The Automated Self-Administered 24-Hour Dietary Assessment Tool and the Interview-Administered Automated Multiple Pass Method



TusaRebecca E. Pannucci, PhD, MPH, RD; Frances E. Thompson, PhD, MPH; Regan L. Bailey, PhD, MPH, RD; Kevin W. Dodd, PhD; Nancy Potischman, PhD; Sharon I. Kirkpatrick, PhD, MHSc, RD; Gwen L. Alexander, PhD, MPH; Laura A. Coleman, PhD, RD; Lawrence H. Kushi, ScD; Michelle Groesbeck; Maria Sundaram, MSPH; Heather Clancy, MPH; Stephanie M. George, PhD, MPH, MA; Lisa Kahle; Amy F. Subar, PhD, MPH, RD

ARTICLE INFORMATION

Article history:

Submitted 10 June 2016

Accepted 19 February 2018

Keywords:

Adults

ASA24

Dietary assessment

Dietary supplement

Evaluation

2212-2672/Copyright © 2018 by the Academy of Nutrition and Dietetics.

<https://doi.org/10.1016/j.jand.2018.02.013>

ABSTRACT

Background The Automated Self-Administered 24-hour Dietary Assessment Tool (ASA24) includes a highly standardized multipass web-based recall that, like the Automated Multiple Pass Method (AMPM), captures detailed information about dietary intake using multiple probes and reminders to enhance recall of intakes. The primary distinction between ASA24 and AMPM is that the ASA24 user interface guides participants, thus removing the need for interviewers.

Objective The objective of this study was to compare dietary supplement use reported on self-administered (ASA24-2011) vs interviewer-administered (AMPM) 24-hour recalls.

Design The Food Reporting Comparison Study was an evaluation study designed to compare self-reported intakes captured using the self-administered ASA24 vs data collected via interviewer-administered AMPM recalls. Between 2010 and 2011, 1081 women and men were enrolled from three integrated health care systems that belong to the National Cancer Institute–funded Cancer Research Network: Security Health Plan Marshfield Clinic, Wisconsin; Henry Ford Health System, Michigan; and Kaiser Permanente Northern California, California. Quota sampling was used to ensure a balance of age, sex, and race/ethnicity. Participants were randomly assigned to four groups, and each group was asked to complete two dietary recalls: group 1, two ASA24s; group 2, two AMPMs; group 3, ASA24 first and AMPM second; and group 4, AMPM first and ASA24 second. Dietary supplements were coded using the 2007-2008 National Health and Nutrition Examination Survey Dietary Supplement Database. Analyses used the two one-sided tests, known as TOST, to assess equivalence of reported supplement use between methods.

Results Complete 24-hour dietary recalls that included both dietary and supplement intake data were available for 1076 participants (507 men and 569 women). The proportions reporting supplement use via ASA24 and AMPM were 46% and 43%, respectively. These proportions were equivalent, with a small effect size of less than 20%. There were two exceptions in subgroup analyses: reported use among those 40 to 59 years of age and reported use by non-Hispanic black subjects were higher for ASA24 than AMPM.

Conclusions This study provides evidence that there is little difference in reported supplement use by mode of administration (ie, interview-administered vs self-administered recall).

J Acad Nutr Diet. 2018;118(6):1080-1086.

APPROXIMATELY HALF OF ADULTS IN THE UNITED States report consuming a dietary supplement in the previous 30 days based on data collected in the National Health and Nutrition Examination Survey (NHANES).^{1,2} Close to one-third of adults report regular use of multivitamin-mineral supplements for the purpose of improving overall health, and nearly 20% of women report regular use of calcium supplements for bone health.^{2,3} The contribution of dietary supplements to total nutrient intake among users can be considerable, even to the point of being potentially excessive.⁴⁻⁶ It is important to measure and include the contribution of supplements in dietary assessment because their exclusion leads to error in estimates of total nutrient intake and of the proportions of sample populations meeting or exceeding thresholds of nutrient intake.

Food frequency questionnaires have traditionally been the typical method of choice for collecting food intake data, especially in large studies. Dietary supplement intake data are also commonly collected on frequency-type questionnaires that query respondents about supplement types (eg, multivitamin-mineral, calcium-containing, B-complex) and frequency of use.⁷ Although valuable information regarding supplement use has been obtained by means of frequency questionnaires, such as the most frequently used types and the demographic characteristics of users, it is also useful to collect supplement data using more detailed dietary assessment instruments, such as 24-hour recalls (24-HRs) to obtain total nutrient intake for a given day.

Use of interview-administered 24-HRs in large studies, with or without questions regarding dietary supplement use, can be costly because of the reliance on trained staff to conduct and code recalls.⁸ The Automated Self-Administered 24-hour Dietary Assessment Tool (ASA24), a freely available web-based tool, was developed to make it feasible to collect multiple high-quality recalls from large samples, eliminating the need for an interviewer.⁹ The Food Reporting Comparison Study (FORCS) was designed to compare reported intakes using ASA24-2011, a self-administered recall, with intakes collected using the Automated Multiple Pass Method (AMPM), an interview-administered recall, in a large sample of adults in the United States.¹⁰ The main analysis examined differences in reported intakes of foods and beverages and showed that for energy and most nutrients and food groups reported, intakes were equivalent between ASA24 and AMPM.¹⁰ The purpose of this secondary analysis is to evaluate whether reporting of dietary supplement use is comparable between ASA24 and AMPM recalls.

METHODS

Sample

Methods of FORCS have been described in detail by Thompson and colleagues.¹⁰ In 2010 and 2011, 1081 men and women were enrolled from three integrated health care systems belonging to the National Cancer Institute–funded Cancer Research Network: Security Health Plan Marshfield Clinic, Wisconsin; Henry Ford Health System, Michigan; and Kaiser Permanente Northern California, California. Sites identified current users of their online system and drew pools of age-eligible users into sampling strata defined by sex, age (20 to 34, 35 to 54, and 55 to 70 years), and race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic). Quota

sampling was used to ensure a balance of sex, age, and race/ethnicity.

The institutional review boards of the National Cancer Institute, Westat, Marshfield Clinic, the Henry Ford Health System, and Kaiser Permanente Northern California, as well as the US Office of Management and Budget approved all study procedures and informed consent forms for this study.

Dietary Intake and Supplement Data

All eligible participants who provided written consent were asked to complete two 24-HRs, 4 to 6 weeks apart. Each participant was randomly assigned to one of four study groups. Group 1 completed two ASA24 self-administered recalls, group 2 completed two AMPM telephone-administered interviews, group 3 completed one ASA24 followed by one AMPM, and group 4 completed one AMPM followed by one ASA24. Study group assignment was balanced for sex, age, and race/ethnicity.¹⁰ All recalls were conducted without prior scheduling to avoid potential reactivity, which can arise when participants know at the time of eating that they will be reporting their consumption.

Because dietary patterns tend to vary between week and weekend days, participants were asked to complete recalls on a combination of these days. Approximately a third of participants completed recalls on 2 weekdays; another third completed recalls on 2 weekend days; and the final third reported their intakes for 1 weekday and 1 weekend day.

ASA24, which was developed by the National Cancer Institute under contract with Westat, a survey research company in Rockville, MD, is a freely available web-based tool for the collection of dietary intake data.⁹ ASA24 includes a progression of passes based on the interviewer-administered AMPM, developed by the US Department of Agriculture and used to collect 24-HR data in “What We Eat in America,” the dietary interview component of the NHANES. AMPM is a highly standardized multipass interviewer-administered 24-HR that captures detailed information about dietary intake by using multiple probes and reminders to enhance memory and recall of reported intakes.¹¹ Although ASA24 has adapted this multiple-pass approach, the primary distinction between it and AMPM is that the ASA24 user interface guides participants through self-completion of a recall.

In addition to foods and beverages, both AMPM and ASA24 allow for collection of dietary supplement intakes for the prior 24 hours. In both cases, reported dietary supplements were coded to the NHANES–Dietary Supplement Database 2007-08 (NHANES-DSD),¹² a comprehensive database with nutrient information for approximately 5,000 products reported by respondents to the NHANES since 1999.¹³

Within ASA24-2011 recalls, supplements were reported by means of browsing through categories (eg, calcium-containing) or searching for user-entered supplement names (eg, calcium). Included in the supplement descriptions are brand names and doses. Respondents were prompted to select the exact or closest match to the supplement actually taken and to report the quantity taken on the reporting day. When a respondent could not find a supplement that he or she consumed, a text box for “unfound supplements” was available, allowing the person to type in the name or type of the supplement, as well as details such as the brand name and amount taken.

Download English Version:

<https://daneshyari.com/en/article/8571599>

Download Persian Version:

<https://daneshyari.com/article/8571599>

[Daneshyari.com](https://daneshyari.com)