

From: Subar, Amy (NIH/NCI) [E]
To: Reefhuis, Jennita (CDC/CCHP/NCBDDD)
Sent: Mon Feb 23 09:39:57 2009
Subject: National Birth Defects Prevention Study: Collection of dietary information
Dear Jennita,

The purpose of this note is to support the current dietary data collection methods in the National Birth Defects Prevention Study (NBDPS). As part of the "NBDPS Future Directions Workshop" in October, 2008, I was asked to review the questionnaire for NBDPS and determine whether the collection of dietary information could be improved. At that time, I recommended that you not make changes in your dietary data collection instrument.

There are, in fact, other more valid dietary assessment methods such as 24-hour dietary recalls, food records or biological specimens, but they only reflect current intake. In this study it is not possible to use them because of interest in collecting retrospective data before and during pregnancy. For this, recalls, records or specimens would likely not reflect food patterns during the period of interest (Olson et al., 2005; George et al., 2005). Given that this is a study of a rare condition, i.e., birth defects, NBDPS researchers, understandably used a case-control design to collect retrospective data on dietary exposures during crucial periods of embryonic development before and during pregnancy. The only dietary assessment instrument that can be used in a case-control design is a food frequency questionnaire (FFQ). The FFQ used to collect most of the dietary information in NBDPS is a shortened modified Harvard FFQ. Though all FFQs are thought to contain a fair amount of measurement error, the FFQ used in this research has been shown to be as valid as other FFQs in comparison with other self-report methods such as 24 hour dietary recalls and diet records (Maruti et al., 2006; Willett and Lenart, 1998; Fawzi et al., 2004; Subar et al., 2001). The validity of shorter FFQs for ranking individuals according to their nutrient intake also compares well with other methods and is less burdensome for the participant (Willett et al., 1985; Rifas-Shiman et al., 2001). In NBDPS, due to interest in specific nutrients such as folate, additional detailed data is collected on consumption of fortified foods including cereals and beverages. There are other widely used FFQs available for use, but after energy adjustment no one food frequency questionnaire is remarkably better than another for assessment of nutrient intakes (Subar et al., 2001).

As I said at the Workshop, it is my belief that the dietary assessment questionnaire used in NBDPS is one of high quality and comparable to other FFQs in use. Given the overall length of the entire NBDPS questionnaire, the FFQ used is of reasonable length – it collects enough pertinent data without overburdening the subject. In addition, at this point in time, switching methods would eliminate the comparability of data across time. For rare birth defects, switching methods would translate into reduced statistical power to study dietary exposures.

If you have any further questions, please email me at subara@mail.nih.gov or contact me at 301-594-0831.

Sincerely,

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