Iodine deficiency in UK schoolgirls

Dear Editor

We congratulate Vanderpump and colleagues on producing the first sizeable study to demonstrate the re-emergence of iodine deficiency in the UK.¹ It corroborates the findings of our own smaller studies in women of childbearing age^{2,3} and pregnant women.⁴

However, we are concerned about the validity of some of the conclusions reached from the diet questionnaire. Although the authors state that the questionnaire was validated, the only properly formulated question, with defined quantities, was for milk consumption. The authors concluded that low levels of milk intake were associated with lower iodine status and we concur with those findings. However, the predefined responses for five of the seven questions were both unquantified and ambiguous, allowing flawed conclusions to be drawn e.g.

1. I don't eat eggs
2. I eat eggs at least once per week
3. I eat eggs more than once per week

Response 2, with the phrase "at least", is non-specific and could range from "once" to "an infinite number of times" a week. Either response 2 or 3 could be given in a number of circumstances, demonstrating that the question was not sensitive. Hence we urge caution over the conclusion that iodine intake is inversely related to egg consumption, particularly when other studies with more rigorous dietary methodology have shown the converse.⁵

As eggs are an excellent source of a number of important nutrients, the inverse association between egg consumption and iodine status should not be promulgated on the basis of a flawed food frequency questionnaire.

Yours faithfully

Sarah Bath (BSc, RD)

Margaret P Rayman [BSc, DPhil (Oxon)]

Nutritional Sciences Division, Faculty of Health and Medical Sciences, University of Surrey,
Guildford GU2 7XH, UK

Corresponding author: m.rayman@surrey.ac.uk

1. Vanderpump MP, Lazarus JH, Smyth PP, et al. Iodine status of UK schoolgirls: a cross-sectional survey. *Lancet*. 2011; **377** (9782): 2007–12.
2. Bath S, Walter A, Taylor A, Rayman MP. Iodine status of UK women of childbearing age. *J Hum Nutr Diet*. 2008; **21**: 379–80.
3. Rayman MP, Sleeth M, Walter A, Taylor A. Iodine deficiency in UK women of childbearing age. *Proc Nutr Soc*. 2008; **67**: E399.
4. Bath S, Wright J, Taylor A, Walter A, Rayman MP. Iodine deficiency in pregnant women living in the South-East of the UK. *Proc Nutr Soc*. 2010; **69**: OC E6, E483.
5. Remer T, Fonteyn N, Alexy U & Berkemeyer S. Longitudinal examination of 24-h urinary iodine excretion in schoolchildren as a sensitive, hydration status-independent research tool for studying iodine status. *Am J Clin Nutr* 2006; **83**:639–46;