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Validation of a modified FFQ for assessing food and nutrient intake in military personnel

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To enable a full investigation into usual dietary intake and nutrient profiles to be determined in UK military personnel, an FFQ was developed. The FFQ was based on the Aberdeen FFQ that was previously validated, its reproducibility tested[1,2], and extensively used in diet and bone health studies[3]. The modified FFQ included a number of key food items that are available within UK military training establishments. The aim of the present specific study was to investigate the relative validity of the FFQ by comparing nutrient intakes with 4 d food records in a group of civilian men and women (aged 19–35 years). The test–retest reliability of the FFQ was undertaken in parallel to this validation work on Royal Air Force phase-1 recruits based at RAF Halton[4].

A total of eighteen non-military men (*n* 10) and women (*n* 8) were recruited into this validation study and were asked to complete the EPIC 4 d estimated food diary[5] (including one weekend day). After an interval of 1 month participants then completed the modified FFQ. The food diaries were coded using the WinDiet dietary analysis programme (Version 4.2, 2009, The Robert Gordon University, Aberdeen, Scotland). The FFQ was computerised and coded using Microsoft Access. Both dietary and FFQ analyses were based on the McCance and Widdowson's Food Composition Tables[5].

	Energy (MJ)		CHO (g)		Fat (g)		Protein (g)		Vitamin C (mg)		Ca (mg)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
4 d food record	8.10	2.45	226	83.0	72.1	25.4	86.1	30.1	118	41.3	965	563
FFQ	8.02	3.2	208	87.2	73.2	35.0	88.2	29.2	116	67.2	1066	404

CHO, carbohydrate.

As shown in the Table, mean macro- and micronutrient intakes were comparable between the two methods, with no significant differences found for any of the nutrients studied (paired *t* tests). Data showed a wide-spread range of intakes that were comparable across both methods. Further analysis of the percentage of participants grossly misclassified and Bland and Altman comparisons are underway, but these preliminary data demonstrate good relative validity of a modified FFQ for assessing dietary intake in the age category 19–35 years.

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