

Validation of the European Prospective Investigation into Cancer (EPIC) Food Frequency Questionnaire for use among Adults in Lebanon



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Background:

Validated and robust dietary tools are needed to assess the relationship between diet & health outcomes in Lebanon.

Objective: To validate the EPIC FFQ in Lebanon.



Methods:

Validation was done against three 24-hour dietary recalls through different statistical tests:

- I. Unadjusted & energy adjusted correlations.
- II. Weighed kappa statistics.
- III. Bland Altman plots.

Results:

All statistical tests showed agreement between the two methods, which ranged from slight/fair (*weighed-kappa statistics*) to good agreement (*correlation coefficients/ participants' quartile cross-classification*).

✓ Good correlations were found between data from both methods- Unadjusted and energy-adjusted correlation coefficients ranged from **-0.002 (vitamin A)** to **0.337 (carbohydrates)** and were all *statistically significant* except for vitamin D, vitamin E, vitamin A, selenium, and niacin.

✓ Slight/fair agreement was reported- Weighed kappa estimates for *unadjusted data* ranged from **-0.05 (vitamin C)** to **0.248 (magnesium)** and for *energy-adjusted data* from **-0.034 (vitamin A)** to **0.203 (phosphorus)**.

✓ Good agreement: Individuals were categorised into exact and adjacent quartiles with an average of **78%** for unadjusted data and **70%** for energy-adjusted data.

✓ Overestimation revealed by Bland Altman plots (*Figure 1*).

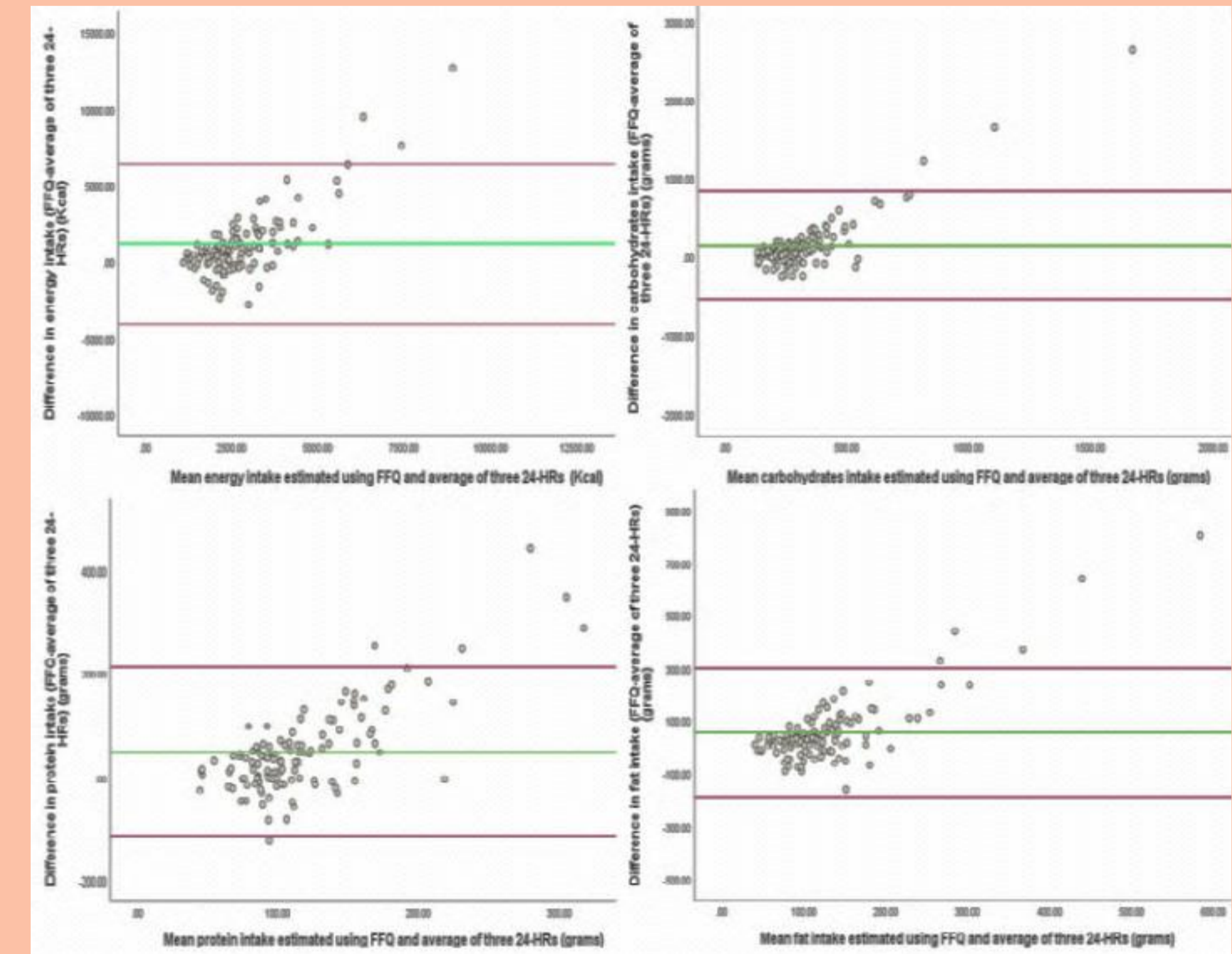


Figure 1. Bland Altman plots for energy, carbohydrates, protein, and fat intakes.

Conclusion:

- Overall, when all tests were taken into consideration, this study demonstrated an acceptable agreement with the 24-hour dietary recall method and significantly good correlations between dietary intakes.
- The EPIC FFQ can be considered a valid tool for assessing diet in epidemiological studies among Lebanese adults.