

## Profiles of underreporting in healthy adults and adults with Type II diabetes mellitus participating in a dietary intervention trial

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Underreporting of both energy (EI) and fat intakes has been found in studies using diet history (DH) interviews in the past (1). It is important to acknowledge the presence of underreporting of intakes as it affects the accuracy of dietary data, especially in studies where diet is an important variable. This research aimed to assess underreporting of EI and fat intakes in a group of healthy adults (2) and a group of adults with Type II Diabetes Mellitus (T2DM), both of which were participating in dietary trials aimed at manipulating dietary fat intake.

Fifty-four men and women diagnosed with, and being treated for, T2DM and 35 healthy men and women took part in two dietary interventions to increase monounsaturated fat intake. Dietary data were collected by DHs and three-day food records (FR) at four time points during each trial. The Goldberg cut-off limits were used to detect the presence of underreporting of EI (3). McNemar's test for correlated proportions determined differences in degree of underreporting between DH and FR. A logistic regression model determined the effect of group, age, sex and BMI on underreporting of EI in the sample. Bias (DH-FR) was examined at all time points in both trials and compared between the two groups of adults.

Underreporting of EI was greater with the DH than with the FR in both groups at baseline. Underreporting of EI was also significantly greater in the group with T2DM when compared to healthy subjects ( $P < 0.01$ ). Age and BMI, but not sex, were significant predictors of underreporting of EI with the FR. T2DM subjects with BMIs greater than the median BMI of 30 kg/m<sup>2</sup> underreported more than those who fell below the median BMI. This was evident throughout the trial in the T2DM group. Most people with T2DM who underreported EI did so with both methods. Both groups underestimated their fat intake with the DH. Saturated fat (SFA) intake was underestimated by those with BMIs above the healthy weight range.

Our results show that the degree of underreporting of EI was greater using the DH compared to the FR for both healthy and T2DM groups of adults. However, underreporting of EI was still evident using a FR and was negatively correlated with BMI in the T2DM group. This negative relationship persisted throughout the trial. While underreporting of EI was more prevalent in people with T2DM, it occurred within the same individuals across both methods. These findings may indicate reporting of intakes, which were in line with dietary prescriptions given during their treatment at the diabetes clinic.

### References

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