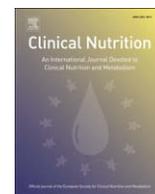




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Reply

Estimating total versus resting energy expenditure. Methodological considerations

We thank Drs Avesani and Carrero for sharing their experience on the use of Sense Wear Armband (SWA).

The main reason why we performed our study was that we were surprised that an instrument designed to estimate activity energy expenditure (AEE) was reportedly able to predict resting energy expenditure (REE).

However, we expected some association between indirect calorimetry (IC) and SWA because the predictors employed by this latter include anthropometric measurements. We tested whether this association was enough strong to be useful in clinical practice, i.e. at the individual level, and the answer was clearly not.

As pointed out by Drs Avesani and Carrero, AEE is a better outcome measure for SWA because most of the predictors employed by this latter are meant to reflect physical activity.

In the only high-quality study performed so far, St-Onge et al.¹ calculated AEE as the difference between total energy expenditure (TEE) measured by doubly labeled water, resting energy expenditure measured by IC, and the thermic effect of food (TEF), estimated as 10% of TEE:

$$AEE = TEE - (REE + TEF)$$

They found a reasonably good agreement between AEE calculated as above and AEE estimated by SWA. These results are encouraging but, as pointed out by Drs Avesani and Carrero, further research is needed on this topic.

Incidentally, the above equation also suggests that SWA should not be used to estimate TEE unless one has available an estimate of REE (which, according to our study, SWA does not provide).

Conflict of interest

The authors have no conflict of interest.

Reference

1. St-Onge M, Mignault D, Allison DB, Rabasa-Lhoret R. Evaluation of a portable device to measure daily energy expenditure in free-living adults. *Am J Clin Nutr* 2007 Mar; **85**(3):742–9.

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