

A practical approach to estimate resting energy expenditure in frail elderly people

Submitted by Emmanuel Lemoine on Wed, 12/11/2013 - 17:08

Titre	A practical approach to estimate resting energy expenditure in frail elderly people
Type de publication	Article de revue
Auteur	Gaillard, Cathy [1], Alix, E. [2], Sall�, Agn�s [3], Berrut, Gilles [4], Ritz, Patrick [5]
Type	Article scientifique dans une revue � comit� de lecture
Ann�e	2008
Langue	Anglais
Date	2008/04/01
Num�ro	4
Pagination	277 - 280
Volume	12
Titre de la revue	The Journal of Nutrition Health and Aging
ISSN	1279-7707, 1760-4788
Mots-cl�s	Aging [6], Elderly [7], Equation [8], frailty [9], Geriatrics/Gerontology [10], Neurosciences [11], Nutrition [12], Nutritional [13], Primary [14], Quality [15], resting [16]
R�sum� en anglais	<p>Objectives: Some prediction equations of resting energy expenditure (REE) are available and can be used in clinical wards to determine energy requirements of patients. The aim of the present study was to assess the accuracy of those equations in sick elderly patients, using the Bland & Altman methods with our database of 187 REE measurements. Design: The 3 equations tested were Harris & Benedict equation of 1919, WHO/FAO/UNU equation of 1985 and Fredrix et al. equation of 1990. In addition, three models developed from the present data were tested. Results: The present study shows that the Fredrix et al equation gave an accurate prediction of REE without significant bias along the whole range of REE. It also shows that under-weight sick elderly patients ($BMI \leq 21 \text{ kg/m}^2$) had a greater weight-adjusted REE than their normal weight counterparts. Conclusion: A simple formula using a factor multiplying body weight, i.e. 22 kcal/kg/d in under-weight and 19 kcal/kg/d in normal weight sick elderly was accurate to predicting REE and bias was not influenced by the level of REE. This model included half of the group in the range of $\pm 10\%$ of the difference between predicted REE and measured REE, but the confidence interval of the bias was $\pm 400 \text{ kcal/d}$. Conversely, the Harris & Benedict and WHO formulae did accurately predict REE.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua278 [17]
DOI	10.1007/BF02982634 [18]
Lien vers le document	http://dx.doi.org/10.1007/BF02982634 [18]

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