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題目 (Title):

癌症兒童與同時住院的同學使用Actiheart活動記錄儀之可行性與效度：一個RESPECT研究

Feasibility and Validity of the Actiheart Activity Monitor in Children Who Were Hospitalized With Cancer Coadmitted With Classmates: A RESPECT Study.

摘要中文翻譯**目的：**

我們探討以Actiheart活動記錄儀評估每日總消耗能量的可行性，以及使用Actiheart踏步測試作為準確估計最高攝氧量的效度。

方法：

使用Actiheart踏步測試估算最大攝氧量，並與心肺運動測試的結果比較。使用Actiheart活動記錄儀來測量有與沒有同學同時住院時的每日總消耗能量。

結果：

在26個合格測量的時段(15位兒童)，89%有與91%可以有安全的參與，然而35%符合有效監測的要求。沒有完成監測時段的兒童比例為10%，同學來訪時都能出席的比例為84%。測量時段的48%有收集到資料，但只有27%是校正過的資料，Actiheart踏步測試的最大攝氧量顯著高於以心肺運動測試得到的結果。

結論：

使用Actiheart測量每日總消耗能量的可行性不佳，也不適合用於癌症兒童。再者，Actiheart踏步測試也不是評估癌症兒童最大攝氧量的有效測試。

Original Abstract

PURPOSE:

We investigated the feasibility of the Actiheart monitor to determine total daily energy expenditure and the validity of the Actiheart step test as an accurate estimate of peak oxygen uptake.

METHODS:

V O₂ peak was estimated with the Actiheart step test and compared with a cardiopulmonary exercise test. Total daily energy expenditure was measured using the Actiheart monitor on days with and without classmate coadmission.

RESULTS:

Of 26 eligible measurement periods (15 children), 89% participated and 91% could participate safely; however, 35% fulfilled demands for valid monitoring. The percentage of children not completing the monitoring period was 10% (attrition) and adherence to classmate visits was 84%. Forty-eight percent of the measurement periods provided data, and only 27% was calibrated data. Actiheart step test significantly overestimated O₂ peak compared with the Cardio Pulmonary Exercise Test.

CONCLUSION:

Measuring total daily energy expenditure using Actiheart is not feasible, nor implementable in children with cancer. Furthermore, the Actiheart step test is not a valid test to estimate O₂ peak in children with cancer.

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