

Assessment of physical activity in out-of-hospital cardiac arrest survivors: A sub-study of the Targeted hypothermia versus targeted normothermia after out-of-hospital cardiac arrest (TTM2) trial.

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Background: One risk factor for out-of-hospital cardiac arrest (OHCA) is physical inactivity, and physical activity and physical training are a part of secondary prevention for the survivors. Level of physical activity could be assessed by both self-reports and objective accelerometer data.

Aim: To investigate the relationship between self-reported and objectively measured physical activity among OHCA survivors.

Method: Cross-sectional study including OHCA-survivors in Sweden, Denmark and the United Kingdom. As a self-report two questions of physical activity and physical training during the last week were used, and as an objective measure the OHCA survivors wore an accelerometer (ActiGraph) for seven days. ActiGraph data was analysed by Sasaki counts per minute (cpm) cut points to identify physical activity.

Results: 50 of 106 included OHCA survivors had seven valid ActiGraph days and were included in the analyses. According to self-reports, OHCA-survivors were in median physically active 5 days (Q1:3, Q3:7) and engaged in physical training 1 day (Q1:0, Q3:3) during the week wearing the accelerometer. The accelerometer data showed that they were in median physically active 3 days (Q1:1, Q3:5) and none of the OHCA survivors reached the cpm cut points for physical training. Correlations between self-reported and objectively measured physical activity and physical training were sufficient ($r_s=.336$, $p=0.018$ and $r_s=.375$, $p=0.008$) and agreements were fair ($k=0.269$, $p=0.001$) and slight ($k=0.148$, $p=0.015$).

Conclusion: Self-reported and objectively measured physical activity correlates but the agreements are only slight to fair indicating that researcher need to exert caution when interpreting results from physical activity questionnaires.

Figure: Bland–Altman plot: The line in the middle corresponds to the mean difference between self-reported and objectively measured physical activity among 50 OHCA survivors. The dashed lines correspond to the 95% limits of agreement given by the mean difference plus or minus twice the standard deviation of the differences.

