The Impact of Event Scale--Revised: evaluation of the subscales and correlations to psychophysiological startle response patterns in survivors of a life-threatening cardiac event: an analysis of 129 patients with an implanted cardioverter defibrillator.

BACKGROUND: The aim of the present study was to examine the reliability and validity of the Impact of Event Scale-Revised (IES-R) with special emphasis on the evaluation of the hyperarousal subscale against a standardized psychophysiological measurement. METHODS: A total of 129 survivors of a life-threatening cardiac event underwent a psychodiagnostic evaluation and a psychophysiological acoustic startle reflex (ASR) paradigm. The ASR assessed the magnitude and habituation of electromyogram (EMG) and skin conductance responses (SCR) in response to the delivery of 15 acoustic startle trials. Pearson correlation and factor analysis was used to measure reliability and construct validity. The hyperarousal subscale was validated against the ASR in terms of sensitivity and specificity mainly using receiver operating characteristic (ROC) curve analysis. RESULTS: A high reliability was found for the intrusion and avoidance subscale (alpha>0.8); however, the hyperarousal subscale showed a weaker reliability (alpha=0.66). No avoidance item, one intrusion item but four hyperarousal items revealed higher correlations to another than its assigned subscale. The hyperarousal subscale was not able to discriminate sufficiently between patients with and without
exaggerated startle reactions as indicated by ROC curves running near the diagonal line. LIMITATIONS: The scores in all three subscales are lower compared to subjects traumatized by non-cardiac events. CONCLUSIONS: Reliability and construct validity for the intrusion and avoidance subscale proved to be high but was only sufficient for the hyperarousal subscale. Moreover, the criterion validity of the hyperarousal subscale regarding psychophysiological measurements is arguable and indicates further investigations in this area.