A method for Effect Modifier Assessment in ergonomic intervention research – The EMA method

Purpose: Intervention research includes studies in which researchers arrange (or follow) changes in working conditions to determine the effects on risk factor, health and/or performance. Often this research takes place at workplaces and not in a controlled laboratory environment. Effects may thus be due to other factors in addition to the intervention – i.e. effect modifiers. These need to be identified and assessed in terms of potential impact on studied outcomes before proper inference can be drawn. We present a method to estimate potential effects of modifiers in intervention research.

Methodology: The EMA method is a type of group interview including 3-6 employees representing the occupational groups in the investigated organization. With reference to the investigated period they are asked to recall important changes/events in and around the organization; 1) in general, 2) in work processes and equipment and 3) regarding their work environment. In each step the participants write their individual answers on post-it notes which are then discussed in plenum, one at a time, and placed on a timeline. All identified events are assessed as due to the investigated intervention(s) or other causes (“effect modifiers”). Their impact on the outcomes is estimated by triangulation.

Following the workshop, events are entered into a database and analyzed. Results: Preliminary evaluations of the method suggest that it offers a relevant overview of potential effect modifiers. Limitations: Further validation is needed. Implications: Using the EMA-method seems to facilitate proper inference regarding the impact of a workplace intervention. Originality: The EMA-method is a novel and systematic approach to estimate potential effect modifiers.

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