

Fatigue and recovery after myocardial infarction

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ABSTRACT

Fast and efficient acute medical treatment of myocardial infarction (MI) has developed during recent years and has resulted in a reduced number of days spent in hospital and increased survival. To optimize persons' recovery, secondary preventive strategies are important. Fatigue has been reported to be the most bothersome symptom in 50% of persons treated for MI and was described as incomprehensible due to its unpredictable occurrence and unknown cause. Today, in cardiac rehabilitation programs there are typically few or no recommendations at all concerning strategies for dealing with fatigue after MI.

The main focus was to explore how self-reported fatigue after MI could be measured in a psychometrically valid manner and to describe the symptom of fatigue in relation to other concurrent symptoms, how the heart attack was handled and its consequences in everyday life two months after MI.

With a view to creating opportunities to identify and measure fatigue post-MI, the first specific aim was to validate the usefulness of the questionnaire Multidimensional Fatigue Inventory-20 (MFI-20). A psychometric method called Rasch analysis was used. The results showed that the MFI-20 can be used to obtain a global score reflecting an underlying unidimensional trait of fatigue; and transformation of the summarized raw scale scores into interval scale scores was possible. Also, four of the five original dimensions separately fitted the Rasch model and could be used to identify general fatigue, physical fatigue, mental fatigue and reduced activity. One of the specific aims was to examine persons' experiences of fatigue consequences and strategies used to manage fatigue two months after the heart attack. Interviews were conducted ($n=18$) and analyzed using constructivist grounded theory methodology. Grounded in the data, the main consequence of fatigue, as illustrated in the core category was *I've lost the person I used to be*. It indicates a sense of reduced ability to manage daily life due to experiences of fatigue. The core category was developed from the four categories: *involuntary thoughts*, *certainties replaced with question marks*, *driving with the handbrake on* and *just being is enough*. Another specific aim was to explore fatigue levels two months after myocardial infarction (MI) and examine associations with other concurrent symptoms, sleep quality and the coping strategies used to handle the MI. The results showed that a global fatigue score two months post-MI was associated with concurrent symptoms, such as breathlessness and stress, and coping strategies, such as change of values, intrusion, and isolation. In comparisons of present fatigue dimension levels (general fatigue, physical fatigue, reduced activity and mental fatigue) two months post-MI and baseline measurements (first week in hospital), the results showed that levels of fatigue dimensions had decreased. In comparisons with levels of fatigue four months post-MI in a reference group, we found lower levels of fatigue two months post-MI. In the final study, the aim was to validate a single-item measure of stress symptoms and to explore its association with fatigue in a sample of persons treated for MI. The results confirmed the convergent validity of the single-item measure of stress symptoms. In analyses of relations between stress and fatigue, it was found that the single-item stress measure was strongly associated with both the global fatigue score and all four fatigue dimension scores (general, physical and mental fatigue as well as reduced activity).

In conclusion, fatigue two months post-MI had significant consequences because it restricted informants' potential to function in daily life as they had done previously. The present thesis showed that post-MI fatigue could be identified both globally and multidimensionally. The results could serve as the basis for a future recovery intervention aimed at preventing and relieving post-MI fatigue and based on managing daily life in relation to personal experiences. By facilitating identification of fatigued persons using quantitative measurements and personal narratives about the consequences of fatigue, such an intervention would enable health-care professionals to tailor fatigue relief support during the recovery period. Elaboration of this intervention is a question for further research.

Keywords: Coping strategies, fatigue, grounded theory, myocardial infarction, nursing, person-centeredness, psychometric evaluation, Rasch analysis, stress, symptom assessment, symptom experience, symptom research, The Multidimensional Fatigue Inventory-20 (MFI-20).

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- I Fredriksson-Larsson, U., Brink, E., Alsen, P., Falk, K., & Lundgren-Nilsson, Å. (2015). Psychometric analysis of the Multidimensional Fatigue Inventory (MFI-20) in a sample of persons treated for myocardial infarction. *Journal of Nursing Measurement* (In press in Volume 23, Number1 in April 2015).
- II Fredriksson-Larsson, U., Alsen, P., & Brink, E. (2013). I've lost the person I used to be - Experiences of the consequences of fatigue following myocardial infarction. *International Journal of Qualitative Studies on Health and Well-being*, 8. doi:10.3402/qhw.v8i0.20836.
- III Fredriksson-Larsson, U., Alsen, P., & Brink, E. Fatigue two months after MI and its relationships with other concurrent symptoms, sleep quality and coping strategies. *Submitted*
- IV Fredriksson-Larsson, U., Brink, E., Jonsdottir, I.H., Grankvist, G., & Alsen, P. The single-item measure of stress symptoms after myocardial infarction and its association with fatigue. *Submitted*

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