

Dimensions of fatigue up to five years after radiotherapy in an international multicentre cohort study of non-metastatic prostate cancer patients

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Research for a Life without Cancer

Background

Prostate cancer (PCa) is the second most common cancer in men [1]. Cancer-related fatigue (CRF) is a common symptom experienced by cancer patients and survivors [2]. A substantial proportion of men with PCa experience CRF during treatment and years thereafter. Reported prevalences range from 13% to 90% [3].

Methods

1,760 men with non-metastatic PCa were enrolled before radiotherapy (RT) between 2014 and 2016 in 7 European countries and the USA [4]. Patients received curative intent external beam RT (EBRT) and/or brachytherapy (\pm hormone therapy, \pm prostatectomy). Demographic, lifestyle, disease, and treatment-related characteristics were prospectively collected. CRF was collected using the EORTC QLQ-C30 [5] and for some study centres additionally using the Multidimensional Fatigue Inventory (MFI) [6]. CRF was assessed at baseline before RT, at the end of RT and annually thereafter up to 7 years later. EORTC QLQ-C30 fatigue scores (0-100) were calculated and clinically important levels defined as scores ≥ 39 [7]. MFI scores (4-20) were calculated for the general, physical, and mental fatigue, reduced activity, and reduced motivation dimension and clinically important levels defined as scores $>75\%$ percentile in general German male population ≥ 60 years [8]. Higher values indicate higher fatigue levels. Clinically important CRF scores up to two years were analysed using multivariable logistic mixed effects models in patients who received EBRT only.

Figure 1

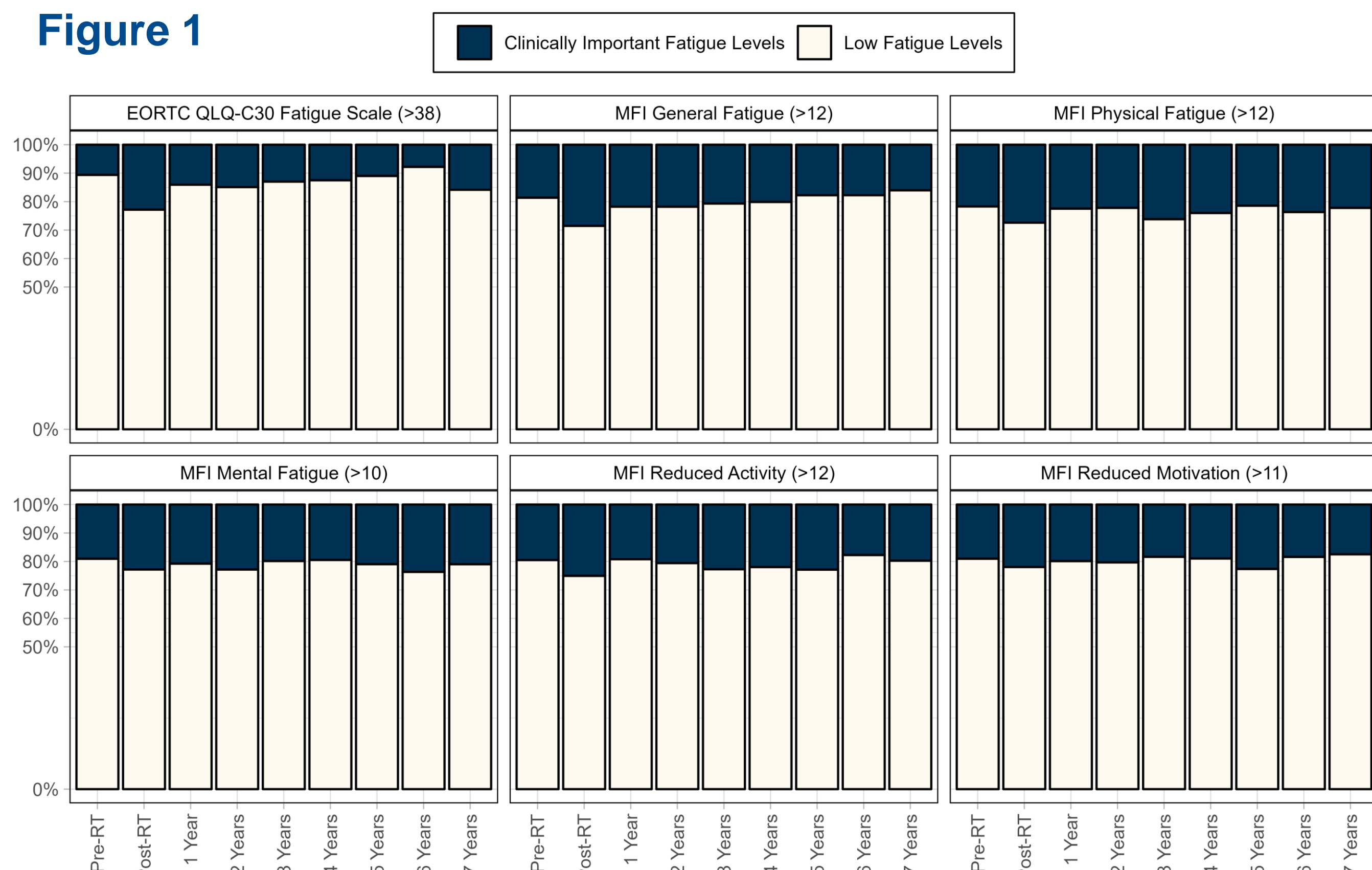


Figure 2

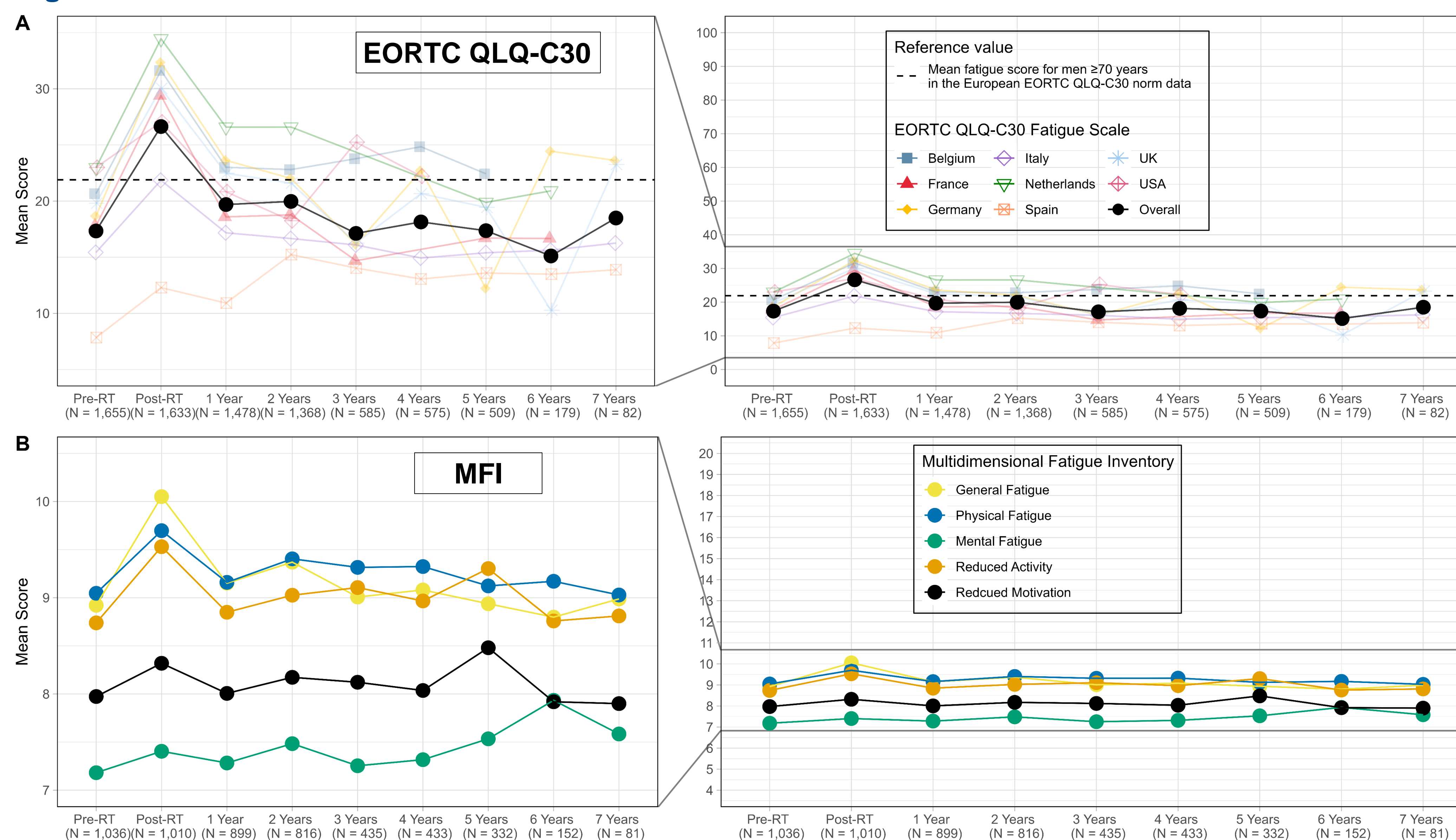


Figure 1

Proportion of patient-reported clinically important fatigue levels (≥ 39) in EORTC QLQ-C30 and MFI of the RT prostate cancer patient cohort in REQUITE.

Figure 2

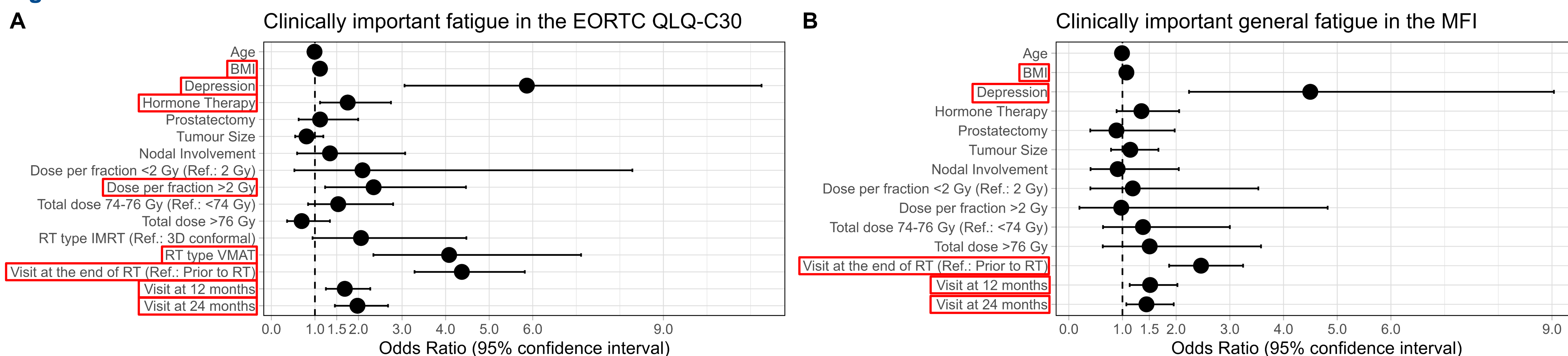
A. Mean fatigue dimension scores in the EORTC QLQ-C30 by follow-up time points of the RT prostate cancer patient cohort in REQUITE.

B. Mean fatigue dimension scores in the MFI by follow-up time points of the RT prostate cancer patient cohort in REQUITE.

Figure 3

Odds ratios (95% confidence intervals) for selected demographic, clinical, and treatment parameters with clinically important A. CRF in the EORTC QLQ-C30 and B. general fatigue in the MFI up to two years after EBRT as outcomes using logistic mixed effects models with nested random effects in the RT prostate cancer patient cohort in REQUITE.

Figure 3



Conclusion

More than 1 in 4 men with PCa reported clinically important fatigue levels at the end of RT (Figure 1, Figure 2). Fatigue up to 2 years after EBRT was associated with higher BMI, (self-reported) depression, receipt of hormone therapy, dose per fraction >2 Gy, and RT type (Figure 3).