

Co-occurrence of Evening Fatigue and Depression Profiles are Associated with Poorer Quality of Life (QOL) Outcomes in Outpatients with Cancer Receiving Chemotherapy

Carolyn S. Harris, BSN, RN, BMTCN, OCN; Christine Miaskowski, RN, PhD; Bruce A. Cooper, PhD; Steven M. Paul, PhD; Kord M. Kober
School of Nursing
University of California, San Francisco



Significance & Aims

Evening fatigue and depression are common symptoms in patients receiving chemotherapy. Little is known about the co-occurrence of these two symptoms.

Study purposes were to identify subgroups of patients with distinct evening fatigue and depression CO-OCCURRENCE profiles and determine differences in demographic and clinical characteristics and QOL outcomes.

Methods

Outpatients (n=1,334) who were ≥ 18 years of age, had a diagnosis of breast, gastrointestinal, gynecological, or lung cancer, had a received chemotherapy within the preceding four weeks, and were scheduled to receive at least two additional cycles of chemotherapy, were recruited for participation in this study.

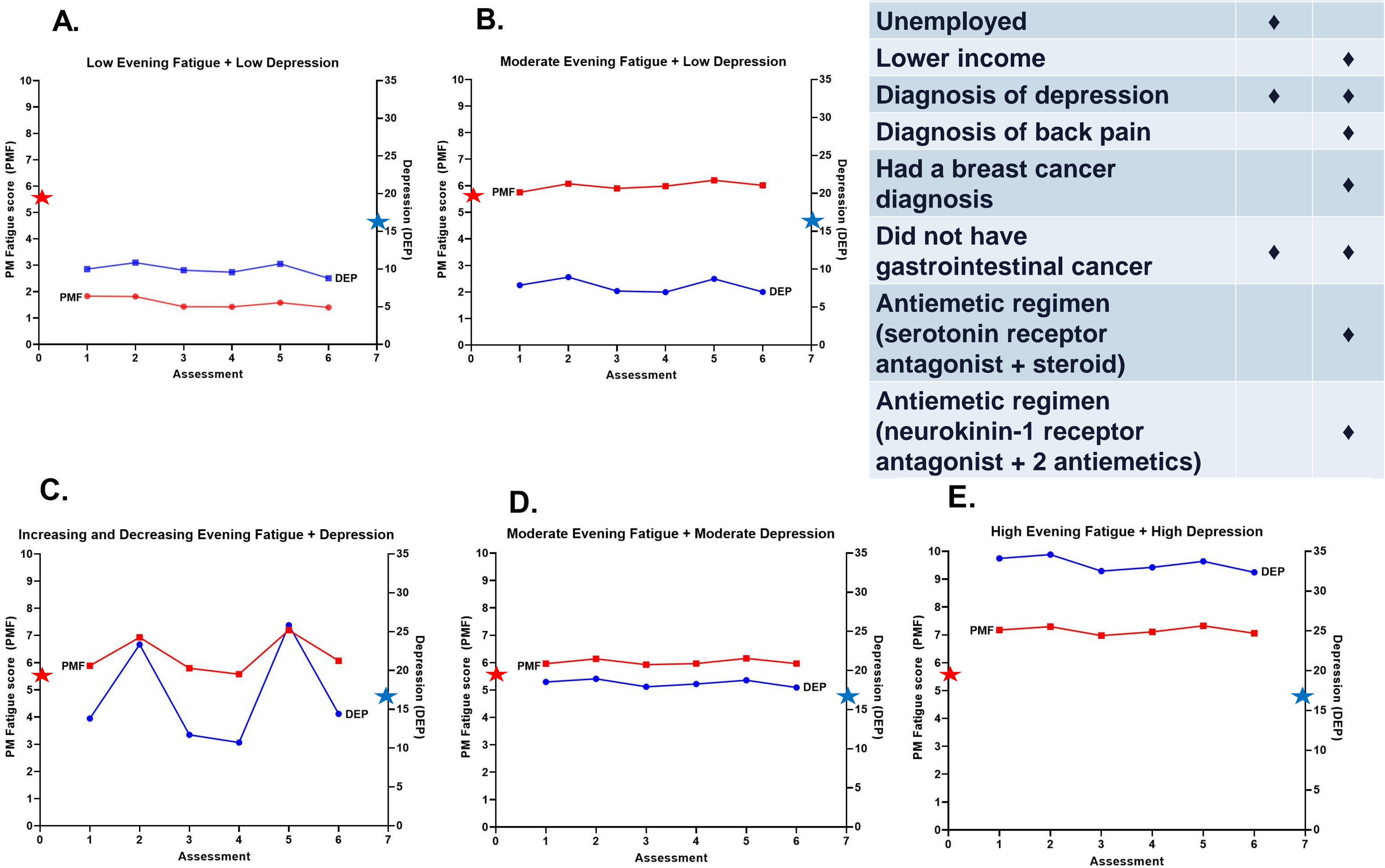
Evening fatigue was measured using the Lee Fatigue Scale. A score of ≥5.6 indicates a clinically meaningful level of evening fatigue.¹ Depression was measured using the Center for Epidemiological Studies-Depression scale. A score of ≥16 indicates significant depressive symptomatology.²

Symptoms were measured at six time points over two cycles of chemotherapy. Subgroups with distinct evening fatigue AND depression profiles were identified using combined latent profile analysis. QOL was measured using the Multidimensional QOL Scale-Cancer.

Results

Five distinct co-occurrence profiles were identified:

- Low Evening Fatigue and Low Depression (LFD) 20.0%
- Moderate Evening Fatigue and Low Depression (MFLD) 39.3%
- Increasing and Decreasing Evening Fatigue and Depression (IDFD) 5.3%
- Moderate Evening Fatigue and Moderate Depression (MFD) 27.6%
- High Evening Fatigue and High Depression (HFD) 7.8%



Characteristics (Compared to LFD)	MFD	HFD
Younger age	♦	♦
Lower Karnofsky Performance Status score	♦	♦
Higher number of comorbidities	♦	♦
Female gender	♦	♦
Unmarried/partnered	♦	♦
Lives alone	♦	♦
Unemployed	♦	
Lower income		♦
Diagnosis of depression	♦	♦
Diagnosis of back pain		♦
Had a breast cancer diagnosis		♦
Did not have gastrointestinal cancer	♦	♦
Antiemetic regimen (serotonin receptor antagonist + steroid)		♦
Antiemetic regimen (neurokinin-1 receptor antagonist + 2 antiemetics)		♦

Demographic and Clinical Characteristics

Compared to the LFD class, patients in the MFD and HFD classes were more likely to be younger, female, live alone, and have a diagnosis of depression. Compared to the LFD class, patients in the HFD class were more likely to have a lower income and have diagnoses of back pain and breast cancer.

Of note, scores for evening fatigue and depression among >35% of our sample (i.e., patients in both the MFD and HFD classes) were above the clinically meaningful cutoffs for both scales, indicating clinically meaningful levels of evening fatigue and depression.

QOL Outcomes

Scores for total QOL, psychological and social well-being differed significantly among the classes (i.e., LFD > MFLD > IDFD > MFD > High).

Conclusions & Implications

- This study is the first to identify distinct co-occurrence profiles of evening fatigue and depression in patients with cancer using combined latent profile analysis.
- The co-occurrence of evening fatigue and depression results in significant decrements in QOL.
- This study identified multiple risk factors associated with the co-occurrence of more severe evening fatigue and depression.
- These risk factors can be used by clinicians to identify patients at greater risk for worse symptom and QOL outcomes.

References

- Fletcher, B. et al. (2008.) doi.org/10.1200/JCO.2007.12.2838
- Radloff, L. S.(1977). doi.org/10.1177/014662167700100306

Funding sources: National Cancer Institute (CA134900), National Institute for Nursing Research (T32NR016920) and the American Cancer Society.