Symptom Clusters in Patients With Brain Tumors Undergoing Proton Beam Therapy

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OBJECTIVES: To explore symptom clusters during proton beam therapy in patients with primary brain tumors and investigate associations among symptom clusters, demographic variables, and comorbidity in this patient population.

SAMPLE & SETTING: Data were collected from 187 adult patients with primary brain tumors during their treatment periods in the Skandion Clinic in Uppsala, Sweden. Symptoms were assessed with the Radiotherapy-Related Symptoms Assessment Scale, and comorbidity was evaluated with the Self-Administered Comorbidity Questionnaire.

METHODS & VARIABLES: The study used a quantitative and longitudinal design. Exploratory factor analysis was used to determine the underlying structure of symptom clusters.

RESULTS: Three clusters were identified: mood, reduced appetite, and reduced energy. The mood cluster had the highest factor loadings (0.71–0.86). In addition, demographic and comorbidity characteristics were associated with symptom clusters in this group of patients.

IMPLICATIONS FOR NURSING: Building knowledge about how these symptoms interact and are clustered will support healthcare professionals to more efficiently relieve symptom clusters during proton beam therapy.

KEYWORDS: brain tumor; radiation therapy; proton beam therapy; symptom clusters

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