

powered by



GERMAN
CANCER RESEARCH CENTER
IN THE HELMHOLTZ ASSOCIATION

Contribution ID: 94

Type: 3 - Talk

Improving sleep quality of patients with metastatic breast cancer through supervised exercise: results from the PREFERABLE-EFFECT trial

Thursday 23 July 2026 10:30 (15 minutes)

Background: Impaired sleep quality is a common burden in patients with breast cancer, yet the effects of exercise on sleep quality, particularly in patients with metastatic disease (mBC), remain understudied. Therefore, the effects of supervised exercise on sleep quality in patients with mBC were investigated in the multinational randomized controlled PREFERABLE-EFFECT study.

Methods: Patients with mBC (ECOG ≤ 2 , survival prognosis > 6 months) were 1:1 randomized to a 9-month supervised resistance, aerobic, and balance training intervention (2x/week) or usual care. Sleep quality (secondary outcome) was assessed at baseline, 3, 6 (primary timepoint) and 9 months using the Pittsburgh Sleep Quality Index (PSQI). To quantify cancer-related sleep impairments at baseline, individual PSQI scores (global score and seven component scores) were compared to sex-specific reference values from the general population [1]. Linear mixed models for repeated measures were calculated to assess potential intervention effects.

Results: Among the 357 included patients (355 female; mean age 55.4 ± 11.1 years), 74.2% reported worse overall sleep quality (global score) at baseline compared to the general population. With respect to the component scores, impairments were observed for the majority of patients for sleep disturbance (98.9%), sleep efficiency (73.9%) and daytime dysfunction (70.6%). Compared to usual care, exercise significantly improved sleep disturbances (6-month between-group difference (BGD6) = -0.13, 95% CI [-0.24, -0.01], effect size (ES) = 0.23; 9-month BGD9 = -0.14 [-0.26, -0.03], ES=0.26), reduced sleep medication use (BGD6 = -0.16 [-0.32, -0.00], ES=0.14), and improved daytime dysfunction (BGD6 = -0.16 [-0.30, -0.01], ES=0.21). Small and non-significant effects were observed on PSQI global score (BGD6 = -0.59 [-1.20, 0.01], ES=0.17).

Discussion: Poor sleep quality is highly prevalent among patients with mBC. Health-care professionals should encourage patients to engage in supervised exercise, as it has a variety of well-established beneficial effects and may also contribute to improved sleep quality.

[1] Hinz et al. (2017) Sleep Med 30 DOI: 10.1016/j.sleep.2016.03.008

Keywords

metastatic breast cancer; sleep quality; supervised resistance and aerobic exercise; randomized controlled trial

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

Authors: SCHERER-TRAME, Sophie (Exercise Oncology Research Group, Department of Medical Oncology, Heidelberg University Hospital, Medical Faculty Heidelberg, Heidelberg University, National Center for Tumor Diseases Heidelberg, a partnership between DKFZ and Heidelberg University Hospital, Heidelberg, Germany); MÜLLER, Jana (Exercise Oncology Research Group, Department of Medical Oncology, Heidelberg University Hospital, Medical Faculty Heidelberg, Heidelberg University, National Center for Tumor Diseases Heidelberg, a partnership between DKFZ and Heidelberg University Hospital, Heidelberg, Germany)

Co-authors: HIENSCH, Anouk (Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht University, Utrecht, The Netherlands); DEPENBUSCH, Johanna (Division of Physical Activity, Cancer Prevention and Survivorship, German Cancer Research Center (DKFZ) and National Center for Tumor Diseases (NCT) Heidelberg (a Partnership Between DKFZ and University Medical Center Heidelberg), Heidelberg, Germany); SCHMIDT, Martina E. (Division of Physical Activity, Cancer Prevention and Survivorship, German Cancer Research Center (DKFZ) and National Center for Tumor Diseases (NCT) Heidelberg (a Partnership Between DKFZ and University Medical Center Heidelberg), Heidelberg, Germany); MONNINKHOF, Evelyn M. (Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht University, Utrecht, the Netherlands); PELAEZ, Mireia ([a] Gipuzkoa Cancer Unit, OSID- Onkologikoa, BioGipuzkoa, Osakidetza, San Sebastian, Spain, [b] Faculty of Health Sciences, Universidad Europea del Atlántico, Santander, Spain); BELLOSO, Jon (Gipuzkoa Cancer Unit, OSID-Onkologikoa, Biogipuzkoa, Osakidetza, San Sebastián, Spain); CLAUSS, Dorothea (Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht University, Utrecht, the Netherlands); GUNASEKARA, Nadira (German Sport University Cologne, Cologne, Germany); TREVASKIS, Mark ([a] Department of Medical Oncology, Cabrini Health, Malvern, Victoria, Australia, [b] Mary MacKillop Institute for Health Research, Australian Catholic University, Melbourne, Australia); RUNDQVIST, Helene (Karolinska Institutet, Stockholm, Sweden); VAN DER WALL, Elsken (Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht University, Utrecht, the Netherlands); AARONSON, Neil (Netherlands Cancer Institute, Amsterdam, the Netherlands); LACHOWICZ, Milena (Medical University of Gdańsk, Gdańsk, Poland); URRUTICOECHEA, Ander (Gipuzkoa Cancer Unit, OSID- Onkologikoa, BioGipuzkoa, Osakidetza, San Sebastian, Spain); ZOPF, Eva ([a] Department of Medical Oncology, Cabrini Health, Malvern, Victoria, Australia, [b] Mary MacKillop Institute for Health Research, Australian Catholic University, Melbourne, Australia); BLOCH, Wilhelm (German Sport University Cologne, Cologne, Germany); STUIVER, Martijn (Netherlands Cancer Institute, Amsterdam, the Netherlands); WENGSTRÖM, Yvonne (Karolinska Institutet, Stockholm, Sweden); WISKEMANN, Joachim (Exercise Oncology Research Group, Department of Medical Oncology, Heidelberg University Hospital, Medical Faculty Heidelberg, Heidelberg University, National Center for Tumor Diseases Heidelberg, a partnership between DKFZ and Heidelberg University Hospital, Heidelberg, Germany, Heidelberg, Deutschland); MAY, Anne ([a] Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht University, Utrecht, the Netherlands, [b] Netherlands Cancer Institute, Amsterdam, the Netherlands); STEINDORF, Karen (Division of Physical Activity, Cancer Prevention and Survivorship, German Cancer Research Center (DKFZ) and National Center for Tumor Diseases (NCT) Heidelberg (a Partnership Between DKFZ and University Medical Center Heidelberg), Heidelberg, Germany)

Presenter: MÜLLER, Jana (Exercise Oncology Research Group, Department of Medical Oncology, Heidelberg University Hospital, Medical Faculty Heidelberg, Heidelberg University, National Center for Tumor Diseases Heidelberg, a partnership between DKFZ and Heidelberg University Hospital, Heidelberg, Germany)

Session Classification: Oral Session