DIFFERENCES IN DEPRESSIVE AND PSYCHOSOMATIC SYMPTOMS AND BONE HEALTH BETWEEN ACTIVE AND INACTIVE DEPRESSED PATIENTS

Sanne Houtenbos[1,2], Yangyang He[1,2], and Pia-Maria Wippert[1,2]

[1]Medical Sociology and Psychobiology, Department of Health and Physical Activity, University of Potsdam, 14469 Potsdam, Germany.
[2]Faculty of Health Sciences Brandenburg, Joint faculty of the University of Potsdam, the Brandenburg, Medical School Theodor Fontane and the Brandenburg University of Technology Cottbus — Senftenberg, 14469 Potsdam, Germany.

INTRODUCTION

- Depression negatively affects bone health and constitutes a risk factor for osteoporosis (OP).[1]
- Previous research has shown that physical activity (PA) can positively influence bone health as well as depressive symptoms, separately.[2,3]
- Limited research is available on the influence of PA on mental health and bone health simultaneously, especially among a population with stress-related mental health issues.

OBJECTIVE

- **Investigate whether physically active depressed patients show lower depressive- and psychosomatic symptomology and changed bone health compared to inactive depressed patients.**

METHODS

- Baseline data out of a total sample from n = 208 depressed patients (18-65 y) were obtained from a previous longitudinal study (DEPREHA; 18 months).
- Questionnaire data regarding depressive symptoms (BDI-II) and psychosomatics (SCL-90) were collected.
- Bone markers procollagen-type-1-N-propeptide (P1NP), osteocalcin (OC), and crosslaps (CTx) levels were extracted from blood serum

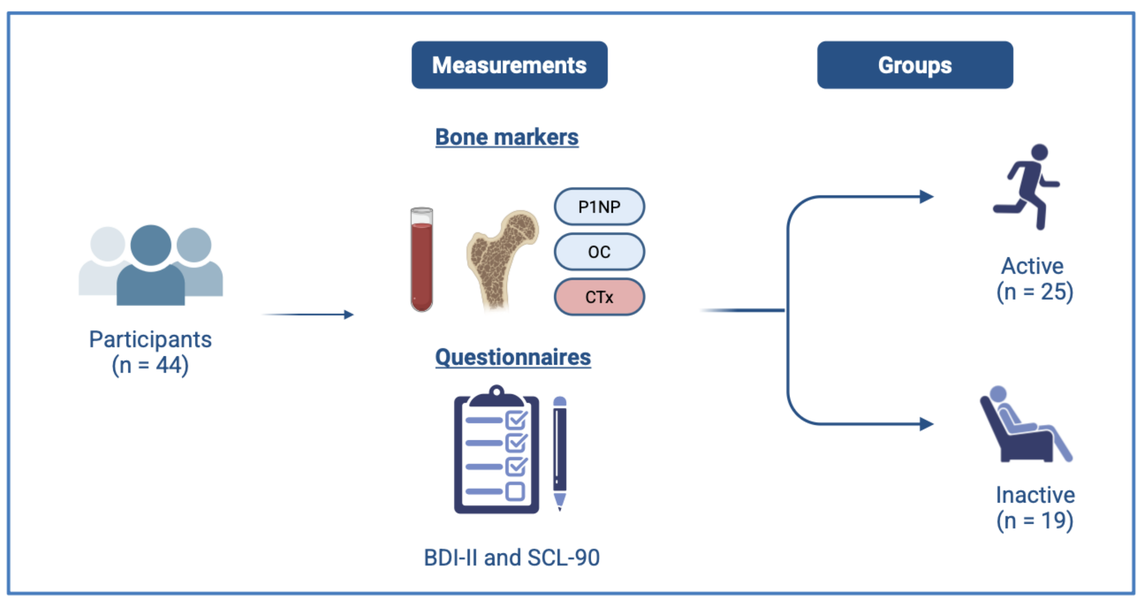

Figure 1: Graphic description of measurements and groups. Created with BioRender.

- Differences between groups for BDI-II and SCL-90 and bone markers were tested using Mann-Whitney U tests in IBM SPSS Statistics.
- Significance was set at $p < 0.05$.

RESULTS

- Data of n = 44 participants (M = 47.57 ± 9.18 y; 86% female): 25 physically active (M = 47.80 ± 10.24 y) and 19 physically inactive participants (M = 47.26 ± 7.84 y) were analysed (Figure 1).
- Active participants showed non-significant lower depressive (BDI-II: 23.04 ± 9.79 vs. 27.68 ± 10.52, p = 0.147) and psychosomatic (SCL-90: 88.68 ± 48.00. vs. 113.00 ± 39.82, p = 0.094) symptoms compared to inactive participants.
- Active participants further showed increased bone marker values: P1NP 50.50 ± 18.96 vs. 48.85 ± 19.24 ng/mL, p = 0.819), OC (17.26 ± 5.39 vs. 15.10 ± 10.52 ng/mL, p = 0.396) and CTx (0.31 ± 0.10 vs. 0.30 ± 0.12 ng/mL, p = 0.411) compared to inactive participants.

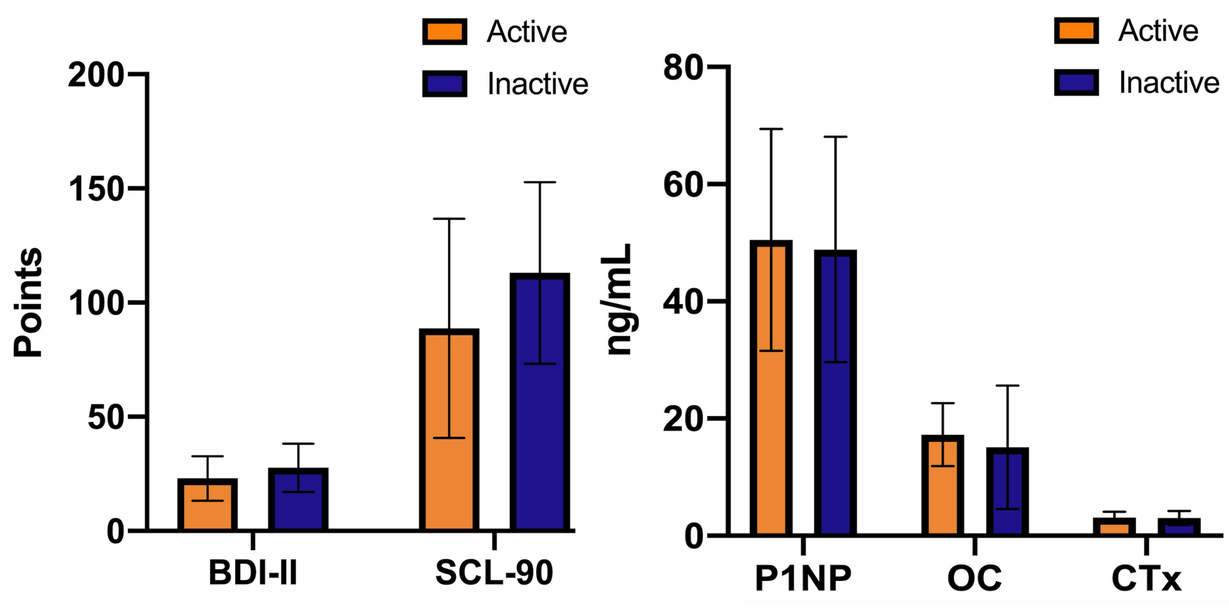

Figure 2: Bar graphs representing the average values regarding depressive and psychosomatic symptoms, and bone marker concentrations with standard deviation (SD). The values for CTx were multiplied by 10 for visualization purposes.

DISCUSSION

- A tendency of lower depressive and psychosomatic symptoms, and marginally increased bone marker levels were visible among the active depressed patients.
- However, results are small and statistically non-significant.
- Additional studies with a bigger sample size and a more in-depth analysis of PA (type, intensity, frequency) data should be conducted to give a better insight in the complex relationships between depression, bone health and physical activity.

LITERATURE

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Universität Potsdam, Humanwissenschaftliche Fakultät, Professur für Medizinische Soziologie und Psychobiologie
E-Mail: sanne.houtenbos@uni-potsdam.de; Telephone: (0331) 977-153039