# METASTATIC BREAST CANCER PATIENTS' PREFERENCES FOR EXERCISE PROGRAMS: A LATENT CLASS ANALYSIS USING DATA FROM A SURVEY IN FIVE EUROPEAN COUNTRIES.

Maike G Sweegers<sup>1,2</sup>, Johanna Depenbusch<sup>3</sup>, Neil K Aaronson<sup>2</sup>, Anouk E Hiensch<sup>4</sup>, Yvonne Wengström<sup>5</sup>, Malin Backman<sup>5</sup>, Nadira Gunasekara<sup>6</sup>, Dorothea Clauss<sup>6</sup>, Jon Belloso <sup>7</sup>, Milena Lachowicz<sup>8</sup>, Anne M May<sup>4</sup>, Karen Steindorf<sup>3</sup>, Martijn M Stuiver<sup>1,2</sup>

<sup>1</sup>Center for Quality of Life, Netherlands Cancer Institute/Antoni van Leeuwenhoek Hospital, Amsterdam, The Netherlands C (DKFZ) and National Center for Tumor Diseases (NCT), Heidelberg, Germany, <sup>4</sup> Julius Center for Health Sciences and Primary Care, University, Utrecht, The Netherlands, <sup>5</sup> Division of Nursing, Department of Neurobiology, Care Sciences, and Society, Karolinska Institute, and Karolinska Comprehensive Cancer Center, Karolinska University Hospital Stockholm, Sweden, Department for Molecular and Cellular Sports Medicine, German Sport University Cologne, Cologne,

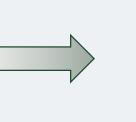
#### **INTRODUCTION**

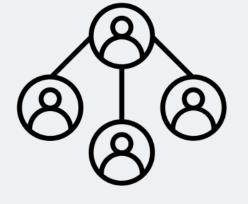
- Exercise for people with metastatic breast cancer is safe and effective in reducing fatigue and quality of life.
- Insight into patients' perspectives on exercise programs will facilitate implementation.

### **METHOD**



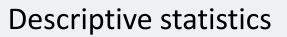
Cross sectional survey





**Latent Class Analysis** 





### **RESULTS**

#### **LEGEND**

<b>F</b> requency	Intensity	<b>T</b> ype	<b>D</b> uration	<b>C</b> ompany	<b>S</b> upervision
≤1x/wk	Light	Walking	≤ 30 min	No one	None
2x/wk	Moderate	Other aerobic	>30-45 min	Cancer patients	Supervision within health care
≥3x/wk	Vigorous	Resistance	>45 min	General public	Supervision outside health care
No preference	No preference	Relaxation	No preference	Family or friends	No preference
		Team sport		No preference	
		Other			

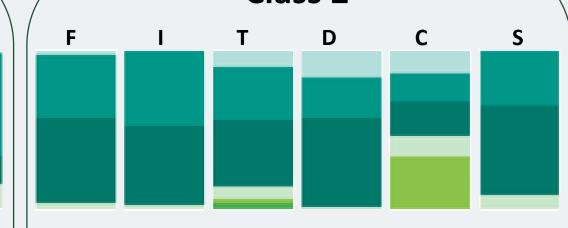


### **Moderate exercise**

47.2%

Average age and BMI, mostly from Germany and The Netherlands and more likely to have bone metastases.

## Class 2

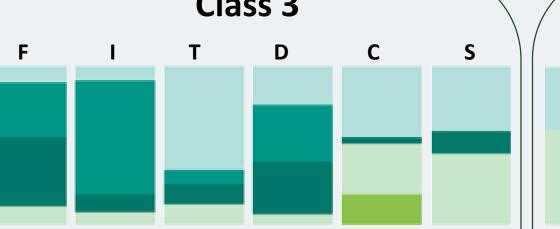


# Vigorous exercise

29.6%

Lower age and lower BMI, mostly from Germany and Sweden, more likely to have an academic education and be employed.

### Class 3

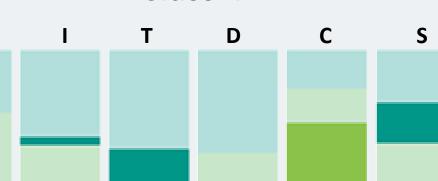


# **Active walking**

13.2%

Average age and BMI, mostly from Spain and less likely to have bone mestastases or comorbidities.

### Class 4



# Recreational walking

10.0%

Higher age and BMI, not from Sweden, less likely to be living in an urban area and less likely to have an academic carrier or be employed.

#### **DISCUSSION**

- We identified four classes of patients with varying preferences for exercise programs.
- Exercise preferences generally meet the current guideline recommendations.
- Targeted education will benefit implementation of exercise programs, in particular to align patients' preferences and behaviour with the amount of exercise that is necessary to gain health benefits.
- Specific attention should be given to patients' limited preference and skills regarding resistance exercise.

### Dr. Maike Sweegers (m.sweegers@nki.nl)





The study is funded by the European Commission Research & Innovation Horizon 2020 program under grant agreement No. 825677.

The authors declare no conflict of interest.



