### Recruitment

**Reference group**
- Men aged 30-65 yrs old, healthy, without OSA and insomnia
- Target number 150

**Sleep disorders group**
- Men aged 30-65 yrs old, with OSA or insomnia
- Target number 180

### Meet the inclusion criteria

Recruitment ongoing
- Target number 150

#### n=101
- Apnea n=35 (BMI>25)
- Insomnia n=66 (BMI<25 n=16, BMI>25 n=50)

### Baseline measurements

Health, sleep and lifestyle questionnaires
- Body composition
- Food diary
- Physical activity
- Fitness tests
- Objective sleep measurements at home
- Blood sample tests
- Fecal sample tests
- Adipose tissue sample tests

### Outcomes of objective 1 & 2

### Randomization

#### Exercise
- Apnea n=11
- Insomnia n=22
- Total 33

#### Diet
- Apnea n=12
- Insomnia n=23
- Total 35

#### Control
- Apnea n=12
- Insomnia n=21
- Total 33

#### Healthy reference subgroup
- Target n=12

### Baseline measurements

Individualized progressive aerobic-type exercise controlled by heart rate monitor and exercise supervisor

Individualized diet counseling by nutritionist with adjusted energy intake composition

Continue with their lifestyle as before enter to study

### 3-month intermediate measurements

### 6-month measurements

(same as in the baseline measurements)

Completed n=29  
Completed n=31  
Completed n=30  
Target n=12

### Outcomes of objectives 3-5