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Effect of Hatha Yoga in patients with eating disorders: a clinical study.

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1. Introduction

Eating Disorders (ED), such as anorexia, bulimia and binge eating, affect about 10% of young people (Treasure, 2020). They are characterized by a deviant relationship with food and body, resulting in pathological eating and weight control behaviors. Physiological and psycho-cognitive comorbidities are commonly associated with ED, including an interoceptive awareness (IA) deficit, high anxiety and depression level, sleep disorders and problematic exercise driven by deleterious motivations (Brown & al., 2017; Martinez-Sanchez et al., 2020).

Adapted physical activity, such as Yoga, can be integrated in the treatment of ED and induce health benefits. Yoga is a mind-body practice which demonstrated beneficial effects in ED main symptoms and comorbidities like anxiety, depression and weight recovery (Demartini et al., 2021; Martinez-Sanchez et al., 2021).

However, to our knowledge, the effect of yoga on interoceptive awareness (IA), sleep quality (SQ) and exercise motivations (EM) has not been studied in ED patients.

The aim of this study is to assess the effect of Yoga on IA, anxiety, depression, SQ, EM, and ED symptoms in a clinical sample.

2. METHOD

Patients were recruited at their admission in Paul-Brousse hospital inpatient settings. Before and after a 8-weeks therapeutic Hatha Yoga intervention (figure 1), volunteers completed general questions and five questionnaires:

Eating Attitude Test – 26 (EAT-26) – 26 items to assess ED main symptoms (high score = bad symptoms)

Multidimensional Assessment of Interoceptive Awareness (MAIA) – 32 items to assess IA (high score = good IA)

Hospital Anxiety and Depression Scale (HADS) – 14 items to assess anxiety and depression

Pittsburgh Sleep Quality Index (PSQI) – 20 items to assess sleep quality (high = bad sleep quality)

Exercise Motivation Inventory-2 (EMI-2) – 51 items to assess exercise motivation (high score = important motivation).

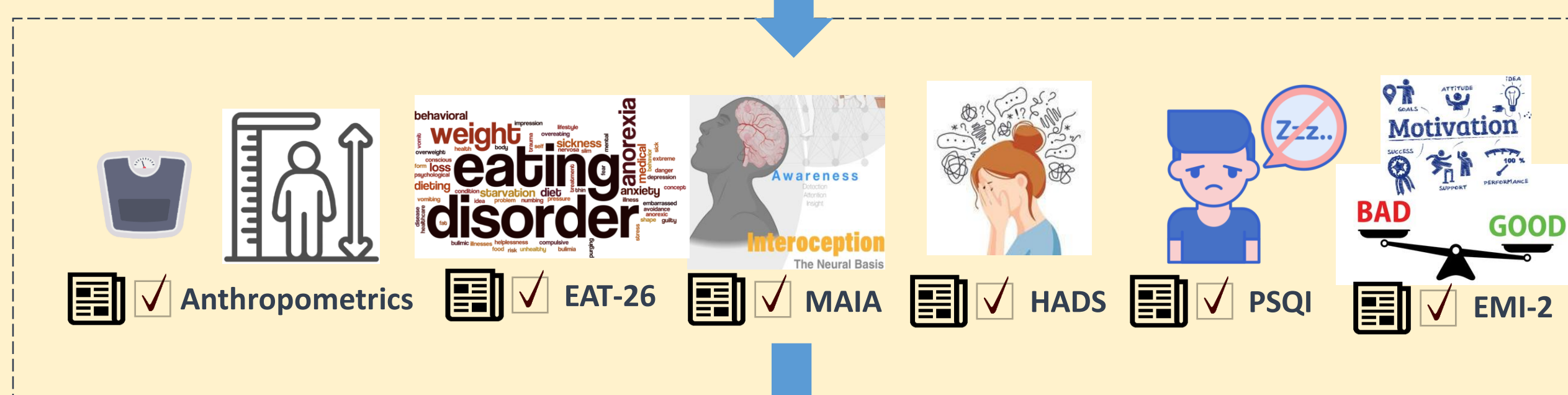
The Hatha Yoga intervention is included in the standard care in the ED unit of Paul-Brousse hospital. Sessions are given by a professional in adapted physical activities specialized in Hatha Yoga.

The pre/post comparison was done with T-test in JASP software.

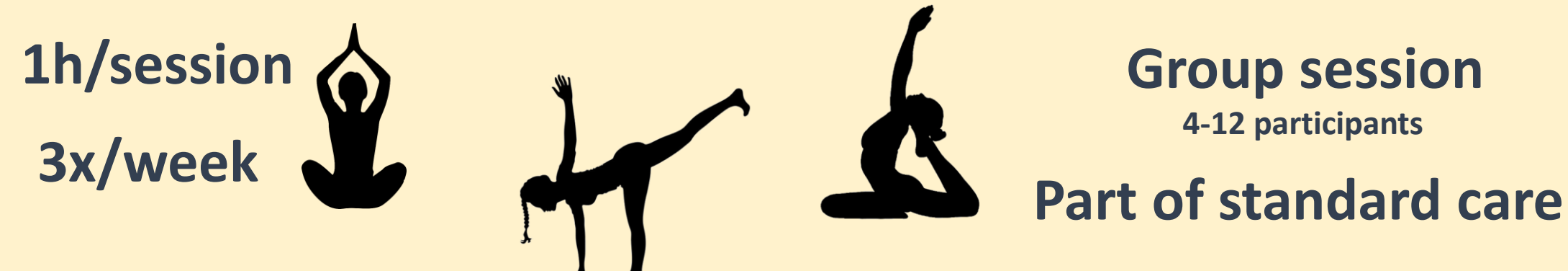
ED unit admission
Inpatient care

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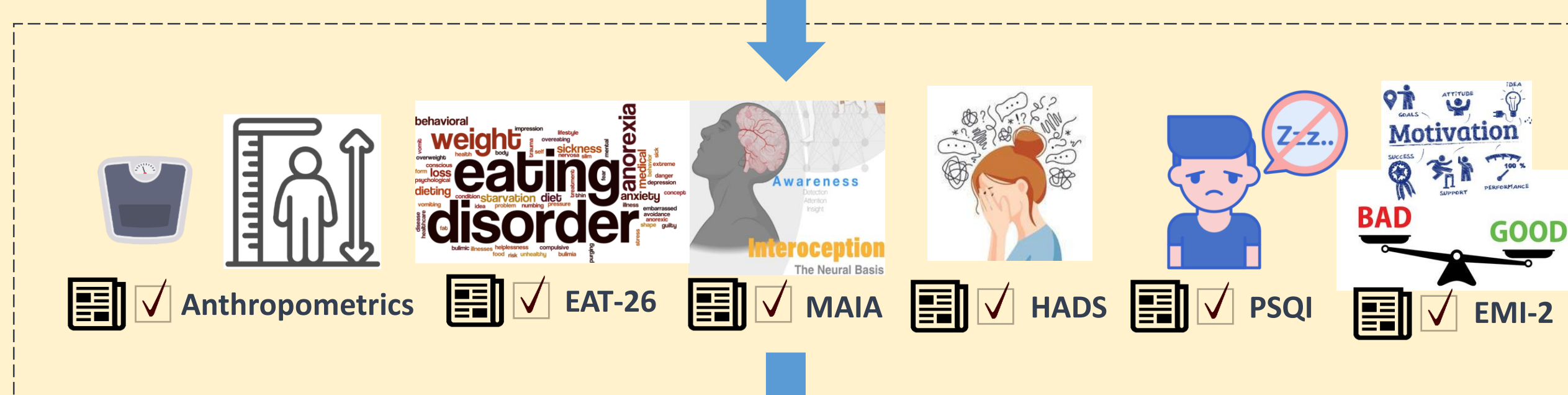
Recruitment
Pre-test (T1)



8 weeks of Hatha Yoga



Post-test (T2)



Analysis

T-test JASP Exploratory

Figure 1: Study design

3. Results

Sixteen participants have completed the protocol (still in process). The sample mean age was 25,06 ($\pm 10,55$) years, the mean body mass index was 19,22 ($\pm 1,48$) kg/m². All participants were adult females, fourteen were suffering of anorexia and two of bulimia.

A preliminary analysis showed that EAT-26 main score ($p=.035$) and dieting subscale ($p=.046$) were significantly lower after the program (figure 2).

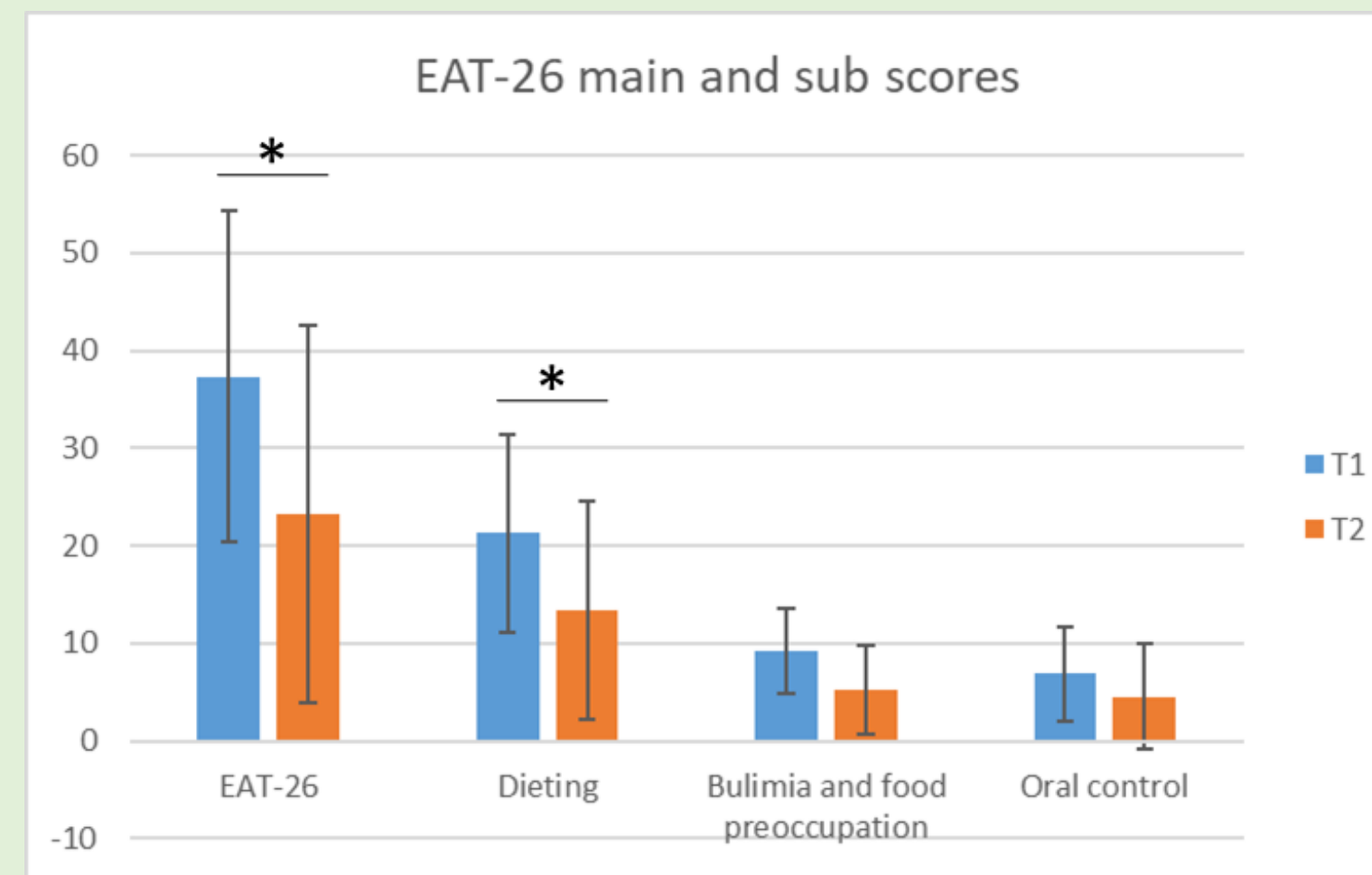


Figure 2: Main symptoms before (T1) and after (T2) Yoga program

Interoceptive awareness sub scores in emotional awareness ($p=.037$), self-regulation ($p=.039$) and trusting ($p=.035$) significantly improved after the 8 weeks of Hatha Yoga (figure 4).

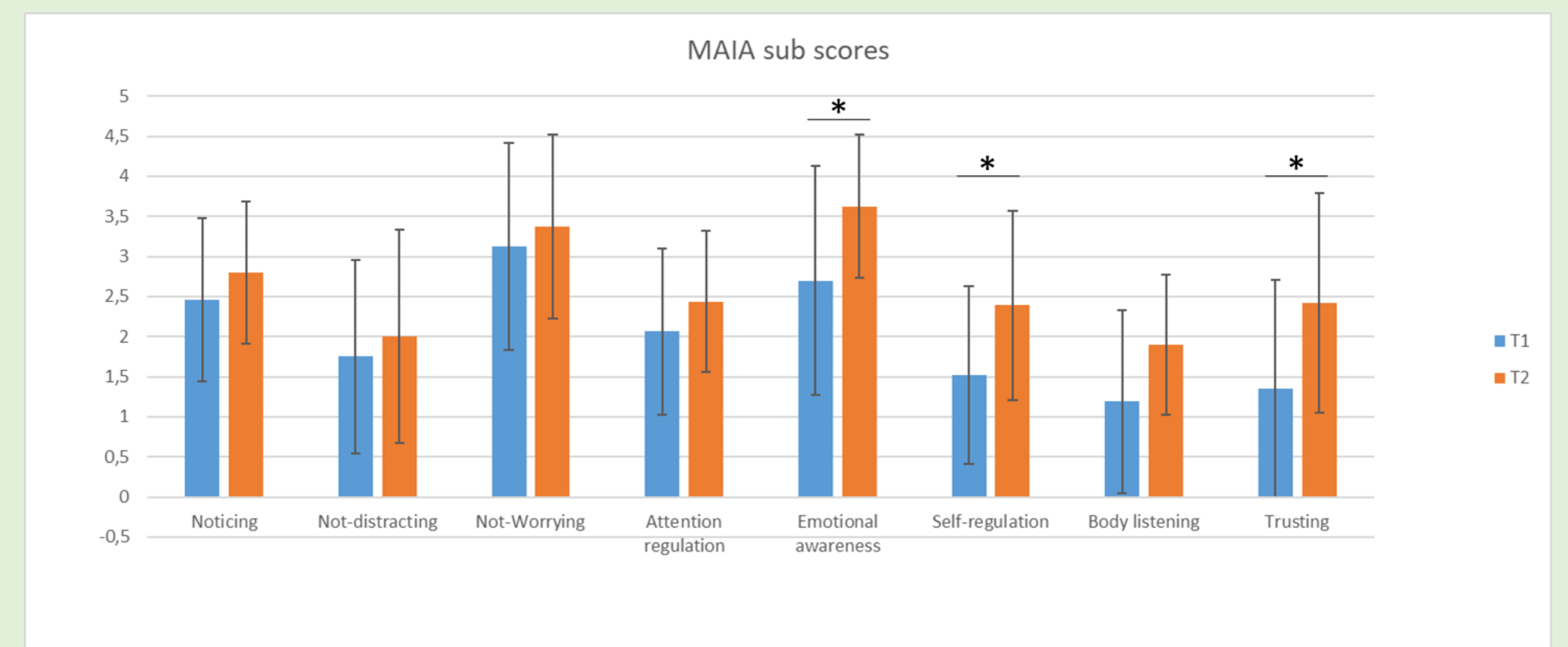


Figure 4: Specific components of interoceptive awareness before (T1) and after (T2) Yoga program

No significant differences were observed in other scales.

4. Discussion

The EAT-26 decrease is in accordance with the literature and should reveal an improvement of ED symptoms after yoga therapeutic intervention (Borden & Cook-Cottone, 2020). The specific decrease in the dieting subscale could be due to the important proportion of anorexic patients in our sample, which is a major component of this disease compared to other ED.

The MAIA score increase should demonstrate a positive effect of yoga on IA. Moreover, after the program, the emotional awareness, self-regulation and trusting subscales showed higher means and lower standard deviation (3.62 ± 0.89 , 2.39 ± 1.18 and 2.41 ± 1.36) compared to other adult ED sample in the literature (2.96 ± 1.23 , 2.08 ± 1.37 and 1.50 ± 1.43) (Brown & al., 2017). These strong improvements in emotional seems to indicate that yoga can specifically target these IA dimensions.

No deleterious effect was observed in other scales. However, each score changed in the positive way of recovery. These mental processes could need a longer intervention to sufficiently improve and reveal a significant difference.

The sample size is still small and additional data are needed for definitive inferential analysis. Moreover, a control group could allow to assess the real contribution of Yoga to these results compared to the inpatient care without Yoga.

In conclusion, this preliminary analysis suggest a positive effect of Yoga on ED main symptoms and IA for ED patients, which is an encouraging starting point.

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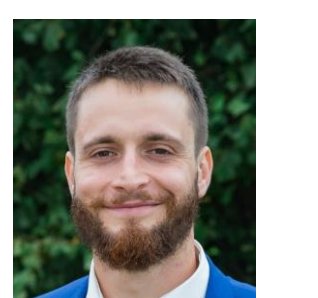
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