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The role of yoga in the treatment of Anorexia Nervosa

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INTRODUCTION

Anorexia Nervosa (AN) is an Eating Disorder (ED) characterized by an excessive weight loss, an intense fear of gaining weight and a disturbance in self perceived weight or shape, which concerns 0,4% to 1% women between 15 to 24 years. This psychological illness has devastating physical and psychological consequences, such as body image dissatisfaction, poor self-esteem, anxio-depressive symptoms, anaemia and osteoporosis, fatigue and weakness. Some authors suggest that regular practice of yoga could be a complementary therapeutic mediation to improve physical and mental health of anorexic women (Krantz, 1999). According to Beumont et al. (1994), yoga and tai-chi appear to be the best physical activities for treating anorexia nervosa disorders. However, to our knowledge, only four studies have investigated effects of a yoga intervention program on anorexia nervosa disorders. In this communication, we propose to present and discuss the results of these interventional studies.

METHOD

In general, we note that small samples are studied, including adolescent and young adults. Subjects are either anorexic or bulimic, or suffer from Eating Disorder Not Otherwise Specified (EDNOS). The protocol is usually integrated in a standard clinical therapy over a period of 1 to 8 weeks of yoga. Only one protocol's study proposes sessions of mixed activities (yoga, meditation, mind reflexion and relaxation) (Cook-Cottone & Beck, 2008).

The variables studied mainly concern ED, body composition, body image and affects (i.e. anxiety, mood) and are evaluated during pre- and post-program sessions using specific questionnaires. Only one study assess physiological parameters (Hall & al., 2016). All information related to the methodology is reported in Table 1

RESULTS

Main results show an improvement of body image, with a decrease of weight and body shape preoccupations and of body dissatisfaction in post-program (Carei & al., 2010 ; Hall & al., 2016 ; Cook-Cottone & Beck, 2008).

Authors also found that the yoga group reported greater mental health than the control group, with a decrease of anxiety and depression (Hall & al., 2016) and of negative affects (Pacanowski & al., 2016) after intervention.

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Authors	Participants	Protocol	Assessments	Results
Pacanowski & al. (2016)	Yoga n=20 (age = 26,8); Control n=18 (age = 26,8)	5 days (1h of yoga/day) just before meal time. Pre-test & post-test	BMI; Pre-meal negative affects; Post-meal negative affects; EAQ; EDE-Q; 10 items assessing negative mood from the PANAS; HAS	Diminution of negative affects before diner for the yoga group.
Carei & al. (2010)	Yoga n=24; Control n=26; Age 10 to 21	8 consecutive weeks (1h of yoga twice/week). Pre-test, post-test, 1 month post-test	BMI; EDE; BDI 2; STAI	Decrease of the EDE score (weight and shape Concern subscales). Control group EDE score diminution but get back to baseline after 12 weeks
Cook-Cottone & Beck (2008)	Yoga n=24 (age =20); No control group	6-8 weeks – 50min of yoga in a 2h mixed session. Pre-test & post-test.	BMI; Ethnic origin; parents' education/study level; parts of EDI-2 : Drive for Thinness - Body Dissatisfaction - Bulimia	Improvement of drive of thinness and body dissatisfaction subscales.
Hall & al. (2016)	Yoga n=11 (age = 15,9±1,8); No control group	Free access to a fitness gym for 12 yoga sessions of 60-90min. Baseline pre-test, mid-test and post-test assessment.	BMI; Heart rate; Blood pressure; Respiratory rate; State of Mind Questionnaire; STAI; EAT-26; EDE-Q	Decrease of anxiety, depression, weight and body shape preoccupations.

BMI, *Body Mass Index* ; EAQ, *Emotional Avoidance Questionnaire* ; EDE-Q, *Eating Disorder Examination-Questionnaire* ; PANAS, *Positive and Negative Affect Schedule* ; HAS, *Hamilton Anxiety Scale*; EDE, *Eating Disorder Examination* ; BDI, *Beck Depression Inventory* ; STAI, *State-Trait Anxiety Inventory* ; EDI, *Eating Disorder Inventory* ; EAT, *Eating Attitudes Test*

Table 1 : Methodology and results of studies investigating effects of yoga on AN

DISCUSSION

Findings from these studies reveal that yoga may be an effective adjunct treatment for reducing symptoms of anxiety, depression, and body image concerns in anorexic patients. Overall, one can suggest that yoga can provide an opportunity for safe engagement in physical activity without the risk of weight loss or medical decompensation.

However, there are some methodological limitations to these studies : (i) only one study has a control group ; (ii) the modalities of physical practice are heterogeneous ; (iii) no study has investigated the effects of yoga practice on the physical well-being of patients, such as improving endurance, muscular flexibility and strength. More investigations are needed in this field for further understanding impact of yoga on anorexia nervosa.