



Effectiveness of yoga in eating disorders – A case report

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ABSTRACT

Eating disorders are among the most common psychosomatic diseases and are often associated with negative health consequences. The use of yoga as a treatment method in eating disorders is controversially discussed. The interviewee was a 38 year old female patient suffering from anorexia nervosa and various psychosomatic-psychiatric diagnoses in her medical history. The patient reported that yoga recovered the soul contact which she lost and she had learned to perceive and feel herself again. She stated that yoga helped her to find access to her body and its needs and to cope with her traumatic experiences. She also reported that attitudes have changed in relation to her stomach in the treatment of her anorexia. The case report confirmed the positive effect of yoga on eating disorders. Research should pay particular attention to taking into account the influence of individual's comorbidities, as eating disorders usually occur in association with co-morbidities.

1. Background

Eating disorders are among the most common psychosomatic diseases in Western developed countries.¹ Due to its high prevalence, as well as several serious health consequences, they represent a serious social problem. Diverse research efforts aim to address this issue with regard to the investigation of effective low-threshold forms of therapy for the treatment of eating disorders.

Yoga has gaining increased acceptance and wide acclaim by the company as a possible treatment approach, and meets the requirements of a low-threshold treatment due to its low costs, accessibility and popularity.² Yoga derives from traditional Indian spiritual, self-care, and medical practice,^{3,4} and has now become a popular practice to promote physical and mental well-being worldwide.^{3–5} While modern yoga mainly comprises physical postures (asanas), breathing techniques (pranayama), and meditation (dyana),³ traditional yoga also includes advice to achieve an ethical and healthy lifestyle such as consciously making healthy and ethical food choices.^{3,4,6} However, experts in the field of eating disorders have therefore expressed concerns about yoga use amongst eating disorders patients to suppress hunger suggesting this may result in their illness going undetected by health professionals; leaving doubts on whether yoga has a positive or detrimental effect in those with eating disorders.⁷ Accordingly, pilot studies suggest a considerable high prevalence of orthorexia nervosa (i.e., fixation on righteous eating), and trends for using unhealthy (i.e. skipping meals or

using food substitutes) or extreme weight control behaviors (i.e. medication use or purging to lose weight) among yoga practitioners.^{8,9} Epidemiological studies in contrast have shown that regular yoga use is associated with a decreased risk of developing eating disorders^{10,11} and that yoga users are more satisfied with their body weight and shape than non-yoga users.¹²

Preliminary clinical trials have demonstrated a positive influence of yoga interventions on symptoms of eating disorders, including reduced symptoms of eating disorders and increased body satisfaction.^{13–19} An early systematic review reported decreased risk for eating disorders and related symptoms after yoga interventions.¹⁰ This was corroborated by a recent meta-analysis that demonstrated reduced drive for thinness as well as body dissatisfaction in patients with eating disorders after yoga interventions.²⁰

The present work investigates the subjective experiences of yoga use in eating disorders from a personal perspective.

Due to the scarcity of the study landscape of qualitative research to the examining of individual cases with regard to the topic of eating disorders a patient with long-standing eating disorder, namely of anorexia nervosa, and experience with a yoga-based therapy was interviewed.

Anorexia nervosa, known popularly as 'Anorexia', is characterized by the refusal, to maintain a size- and age-adequate body weight or the fear of weight gain, a significant body perception disturbance and the absence of menstruation for more than three cycles. The weight loss is

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achieved through disordered eating behavior, such as restricting the amount of food or a selective food choices and increased physical activity and purging behavior.

2. Material and methods

The interview with the patient took place in June 2015 in a specialist clinic for Psychosomatic Medicine and psychotherapy. In advance an interview guide had been designed and developed, based on the 'CARE Guidelines' by Gagnier et al.,²¹ after consultation with the treating physician. The consensus-based CARE guidelines provide structuring and organization tools for the systematic documentation of a case report regarding the collection and structuring of relevant information.

The focus of interest of the interview was to gain an insight into the subjective perception and experience of yoga as a treatment for eating disorders. The questions addressed to the patient included the topics of the drive for thinness and a dissatisfaction with the own body. After obtaining informed consent, files, as well as medical documentation of the various hospital stays of the patient were investigated after the interview and taken into consideration during the evaluation of the consideration. The bottom line of the interview is presented below.

3. Case

The interviewee was a 38 year old female patient with various psychosomatic-psychiatric diagnoses in the medical history, among others: Anorexia nervosa since the eighth year of life, post-traumatic stress disorder due to repeated sexual abuse in childhood and youth, abuse of diuretics and thyroid hormone, and hypokalemia.

The patient reported repeated and diverse stays in acute hospitals and rehabilitation facilities focusing on eating disorders in adolescents and adults, obesity in adults, psychotraumatology and acute-psychosomatic treatment. The first hospital stay of the patient had been in 2003, the patient reported that this was followed by several more hospitalizations. In 2016 a yoga-based therapy as additional treatment had been implemented at the treating hospital, in which the patient regularly took part during the following stays.

Yoga treatment based on the style of the Hatha-yoga took place once a week in a group of 8 women. Considering her medical history the therapy was patient specific consisting of Yoga postures (Asanas) combined with breathing techniques (Pranayama). One session exemplarily included

- 1 Sitting meditation (Dhyana): 5–10 minutes: relaxed breath awareness with focused concentration (Dharana) on the present moment and non-judging acceptance especially of the body perception (Santosha) and sense withdrawal (Pratyahara)
- 2 Cross-legged seated position, breath coordinated with arm movements, sidebend
- 3 Cat and cow pose (Marjaryasana – Bitilasana), coordinated with breath rhythm
- 4 Sidestep
- 5 Standing forward bend (Uttanasana), movement to mountain pose (Tadasana)
- 6 Mountain pose (Tadasana)
- 7 Banana pose (Bananasana)
- 8 Tree pose (Vrksasana)
- 9 Sitting meditation (Dhyana): 15–20 minutes (see above)

Both, the patient and her group were guided closely by an experienced yoga therapist working on various aspects of her psycho-social-physical constraints. Initially, the primary therapeutic goal of the patient was the treatment of anorexia. However, in the further course of therapy coping with traumatic memories from childhood and early youth had come to the fore. The memory of and the work with the

traumatic experiences, so the patient described, had been possible only through the practice of yoga in the treatment. Thus, in the course of treatment, if consent with the patient was given, lying meditation positions instead of sitting meditation was practiced, with no occurrence of flashbacks.

With regard to the symptoms of anorexia, the patient reported to eat little to nothing and to exercise excessively during phases. She had run up to 60 km daily. In addition, she has taken thyroid hormones as well as diuretics to reduce her weight. Through this behavior she wanted to stifle and avoid all feelings evoked by the trauma in order to stop feeling her body.

She reported that she perceived weighing little as a protection against her traumatic memories. She referred to the eating disorder as her survival strategy to deal with the traumatic experiences and to live on. In addition, the patient reported to suffer from disordered body-schema. Being confronted with her appearance, for example during mirror therapy at her hospital stays was perceived as a serious challenge.

In the course of the integration of a yoga-based treatment into the therapy concept, the patient has noted some personal developments. She reported that yoga helped her "to come down again". Through the practice of yoga, she had recovered the soul contact which she lost both at a physical and at a mental level and she had learned to perceive and feel herself again. Previously she "did everything to not perceive her body" by her dysfunctional movement and eating behavior. The patient asserted that she could not "run away from herself" during the Yoga units, but had to work with herself and her feelings. As a result she felt an inner peace, as well as a decrease of the motion urge, without perceiving the need to counteract this. Participating in the Yoga Group had given her a sense of security and certainty, as if nothing could happen to her even if she would let this calmness happen. Through this, as well as through the yoga-mediated access to her own body, for the first time she realized her traumatic memories, which she had experienced since her early childhood. Through the practice of yoga, she had become able to uncover her traumas and to work with them. The patient reported that there still were days when she felt forced to counteract the emerging memories by running for miles, despite of years of treatment. However, also in those moments, yoga represented a resource to listen to herself and to feel and perceive her body. The patient reported having gained body awareness and later a degree of acceptance of the body through yoga. She was able to perceive herself and her own body, without the urge to having to counteract this sensing and perceiving. This was also reflected in the gain of body weight during her hospital stay. Starting with a weight of 43.4 kg which at a given height of 1.66 m was equivalent to a Body Mass Index (BMI) of 15.75 her weight increased over the course of time and finally went up to 46.4 kg (BMI: 16.91). At the time of the interview half a year later she had a weight of 55.6 yielding to a normal BMI of 20.2. The detailed time series of weight increment together with expected set points is shown in Fig. 1.

In addition it had been possible for the patient to allow feelings and to perceive herself through yoga. Although the initial perceptions often were trauma-related emotions, the patient described the mere ability of perceiving as positive, because she otherwise was unable to feel herself at all. Through yoga she became able to pay attention to her body and its signals and limits. She could better respond to her physical needs, such as hunger, and satisfy them. Also with regard to her disordered body-schema the patient reported positive effects yoga. She now was able to face situations such as a confrontation with her appearance rather than completely avoiding them as before. The patient described the effect of yoga as: "You have a different approach to yourself, and you can track and perceive yourself on another level, without this being negative as it was before."

With regard to the symptoms of her eating disorder, the patient reported that attitudes have changed in relation to her stomach in the treatment of her anorexia. She could now respect this part of her body. Body regions like pelvic, hip and leg however still were areas that she

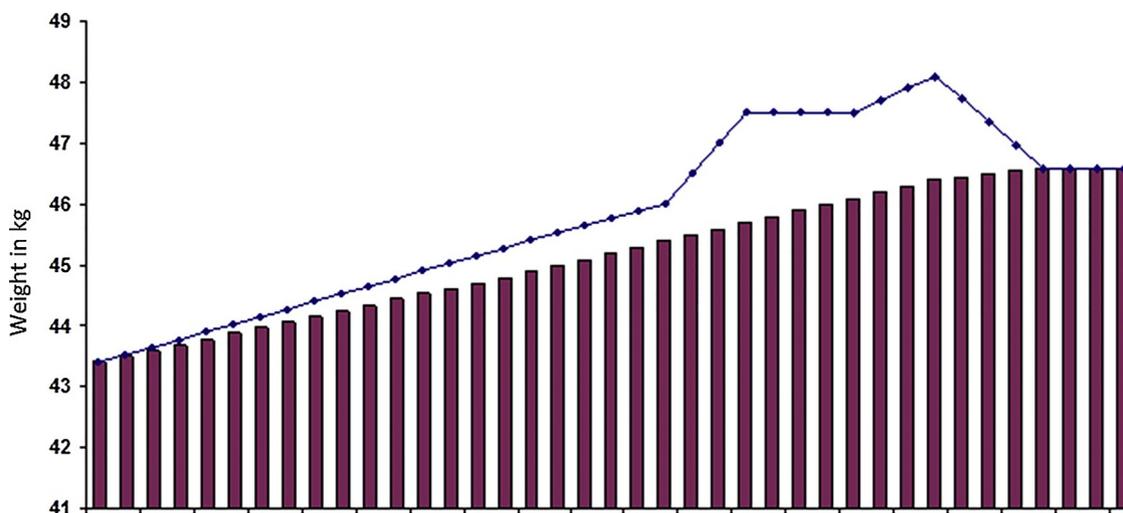


Fig. 1. Detailed time series of weight increment (blue line) together with expected set points (red bars). Measurements were recorded with an interval of two days. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article).

clearly rejects. She could not confirm a change of their attitude through yoga towards the mentioned areas of her body because these areas were linked too close to her traumatic memories. In terms of the drive for thinness, the patient reported that she previously did not explicitly think about food or diet plans, rather she was not thinking about food or eating at all. The awareness of vital bodily needs had only emerged in her in the course of her yoga practice.

During her inpatient treatment she learned various forms of physical therapy, such as Pilates, progressive muscle relaxation or autogenic training, in addition to the Yoga therapy. In comparison to yoga none of mentioned forms of therapy showed a similar positive effect on body awareness, inner peace and relaxation with her. As an example, the patient explained that Pilates affected her pelvic floor, an area of the body she did not want to feel at all due to the trauma. Therefore she could not profitably use this method for herself. On the other hand, the patient experienced yoga as positive, because there always was at least one aspect in the practice on which she could focus. Also within the framework of yoga treatment there sometimes were exercises with which she was unable to cope due to the trauma. However, in these situations she still could focus on the breathing techniques, helping her to perceive and become calm. She appreciates in Yoga that there always are elements that could help her “to pull out again” from difficult moments. It was important for the patient to practice yoga in a protected and small group of women. The meditative form of yoga applied in the clinic was very profitable for her. She also tried more exercise-based forms of yoga, however these forms triggered the well-known urge to move and admitted any relaxation. Since then she practiced yoga at home for herself.

4. Discussion

In conclusion, the patient reported that yoga initially helped her to find an access to her body and its needs regardless of her anorexia. It helped her to remember her traumatic experiences and to cope with them and contrary to the memories to come back again and again in the ‘here and now’ and not to give up in dealing with their fate.

Thus, the consideration of the case confirms a predominantly positive picture of yoga and its effectiveness on the symptoms of an eating disorder. The patient confirmed to have access to her body and to gain body awareness and ultimately body acceptance, because of practicing yoga. According to reports of the patient, yoga can make a contribution to the remission of eating disorder-related symptoms. Nevertheless, the patient reported discrepant results with regard to her body satisfaction. She could better accept selected areas of the body like her belly now,

but she does not speak of satisfaction in the context. She still rejects parts of the body such as the pelvic, buttocks or legs, because they are linked too closely to the experienced trauma.

The report of the patient thus highlights limitations of research on assessing the efficacy of yoga in eating disorders. Eating disorders usually not occur isolated but frequently in association with one or more co-morbidities. According to the current study literature, frequent co-morbidities of eating disorders are anxiety disorders,²² substance abuse,²³ mood disorders,²⁴ attention - deficit hyperactivity disorders,²⁵ personality disorders²⁶ and post-traumatic stress disorder.²⁷ It is often difficult to determine which of the diseases is the main disorder and which is the concomitant one. With regard to the clinical picture of post-traumatic stress disorder, which was diagnosed with the present patient, Mitchel et al.²⁷ showed that the experience of trauma, in particular sexual trauma has a direct influence on the body image of the person and can strongly foster the development of an eating disorder. Their study demonstrated that between 21% and 36.9% of the individuals with an eating disorder additionally meet the criteria of a post-traumatic stress disorder. According to Swanson et al.²⁸ the lifetime-prevalence developing at least one further concomitant disease in individuals with anorexia nervosa, Bing-eating disorder, and Bulimia nervosa was 55.2%, 88.0% and 83.5%, respectively. These concomitant diseases can also influence the effectiveness of therapeutic measures and confound the resulting effects. If an eating disorder develops in order to cope with a severe trauma, such as in the presented case, it becomes more difficult to make conclusions about the effectiveness of therapeutic intervention for the treatment of eating disorders. Occurring effects as well as lack of effects can thus be referred to the effectiveness of the treatment as well as to co-existing co-morbidities, their symptoms and effects.

In this respect the presented case report can confirm the positive effect of yoga. Prior clinical trials have shown that yoga can reduce drive for thinness, body dissatisfaction and symptoms of eating disorders and increase body satisfaction.^{10,13–20} This is in line with trials on other mind-body medical intervention such as mindfulness that also can positively influence eating disorders.^{29–32} At the same time more effects of yoga on the symptoms of eating disorders are revealed, including reduced of the excessive movement urge or the development of the ability to perceive and allow emotions. It is clear that the isolated investigation and treatment of eating disorders can fail to take the patient’s reality into account, because other diseases with their own symptoms and dynamics can co-exist, which should not be disregarded in the framework of the evaluation of a therapeutic intervention. Based on the preceding consideration, it is relevant for research purposes to

clarify all co-morbidities of the respective patient in order to control for potentially confounding variables and to be able to clearly interpret the effects of an intervention.

Yoga might influence weight control behaviors and eating disorders by multiple mechanisms aiming at unifying mind, body, and spirit,⁴ making use of increased body awareness and body reactivity reactivity.³³ In female yoga users, greater body awareness is associated with intuitive eating and a healthier relationship to food.³⁴ Yoga increased moment-to-moment awareness, body satisfaction and self-acceptance in women with disordered eating,¹³ which has been associated with fewer symptoms of eating disorders.³⁴ In particular, female yoga users have also been shown to be less self-objectified, i.e. pay fewer attention at how they may be viewed by others at the expense of their inner feelings.³³ This is of utmost importance, because self-objectification has been associated with disordered eating.³⁵

This case report has a number of limitations. Evidence from case report always is narrative and anecdotal and cannot be generalized to other patients with eating disorders. Case series would show whether the individual experiences also take place for other patients, while clinical trials are needed to assess the effectiveness of yoga in eating disorders. Additional measureable data such as eating disorder inventories would have been beneficial to underpin the described personal perspective in this single case.³⁰

5. Conclusions

By getting in touch with her body without the consequent aversion, the interviewee was able to deal with uprising emotions, easing out stress and eating disorder symptoms. It can be hypothesized that if she continues her yoga practice, this positive effect can be preserved. This should be assessed in a longer-term follow-up. Further research efforts should pay particular attention to identifying and taking into account the influence of the investigated individual's co-morbidities on the eating disorder, as well as on the effectiveness of the Yoga intervention. Nevertheless, according to the reports of the current patient, yoga can support the remission of symptoms related to eating disorders.

Authors

CS collected the clinical data and opened the way for interviewing the patient. HV conducted the interview. TO and HC wrote the first draft of the manuscript. All authors contributed in the writing of the final manuscript and consented the final form of the manuscript.

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