Eat Weight Disord (2016) 21:549–551
DOI 10.1007/s40519-016-0310-8

EDITORIAL

Orthorexia nervosa by proxy?

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Received: 27 July 2016 / Accepted: 30 July 2016 / Published online: 6 August 2016

In 1997 the US physician Steven Bratman called "health food junkies" some individuals led to consequences detrimental to health by dietary rules intended to promote health and introduced the term "orthorexia". Three passages of Bratman's article may be significant and expressive: "As often happens, my sensitivity to the problem of orthorexia comes through personal experience. I myself passed through a phase of extreme dietary purity (…) too often patient and alternative practitioner work together to create an exaggerated focus on food (…) a novel eating disorder, for which (I) have coined the name orthorexia nervosa"[1].

Orthorexia is a neologism coined from the Greek (ὀρθός, right and ὄρεξις, appetite). The term literally means 'correct appetite' but it is used to indicate 'healthy eating'. *Orthorexia nervosa* (ON) is an expression modeled on anorexia nervosa to indicate a possible new eating disorder [2].

A growing number of PubMed articles contain the word orthorexia in the title (Fig. 1).

However, at the present time ON is not recognized as an official psychiatric diagnosis and is not mentioned in DSM-5 as an autonomous eating disorder [3]. As regards psychometric instruments the Bratman Orthorexia Test (BOT) [2] and the ORTO-15 [4] were the first tools aimed to identify orthorectic attitudes. Both revealed some flaws [5, 6] and a revision of ORTO-15 is in progress.

Point prevalence rates of ON are especially variable which is mainly due to the above-mentioned absence of detailed diagnostic criteria shared by the scientific community.

In 2016 Dunn and Bratman proposed two main diagnostic criteria for ON [7] that are summarized in Table 1. The proposal is a constructive first step, but at present we do not have robust evidence of its reliability and validity.

A noteworthy fact is that body image disturbance and body weight concerns are not required for this diagnosis. However, the following features are often associated with orthorectic attitudes in the literature and in the clinical practice: sense of physical impurity due to incorrect food choice; persistent belief that dietary practices are health-promoting despite significant medical complications and evidence of malnutrition. Assuming that ON is an autonomous syndrome, should these features be included among the diagnostic criteria? Should the insight (good, poor, absent) be specified? Should the possible presence of medical complications and/or malnutrition be used to specify different severity levels? Further work is needed to define reliable and valid diagnostic criteria and psychometric tools for ON.

In 1998 Gerald Russell et al. [8] described some mothers with anorexia nervosa who underfed their children but the authors did not use the expression anorexia nervosa (AN) by proxy that had been introduced 13 years before. After the 1985 article [9] some other scientific papers have depicted cases or discussed the concept of AN by proxy [10–15]. On the contrary, till now no scientific study has been devoted to a condition that could be called orthorexia nervosa by proxy: i.e., a person with ON who is obsessed

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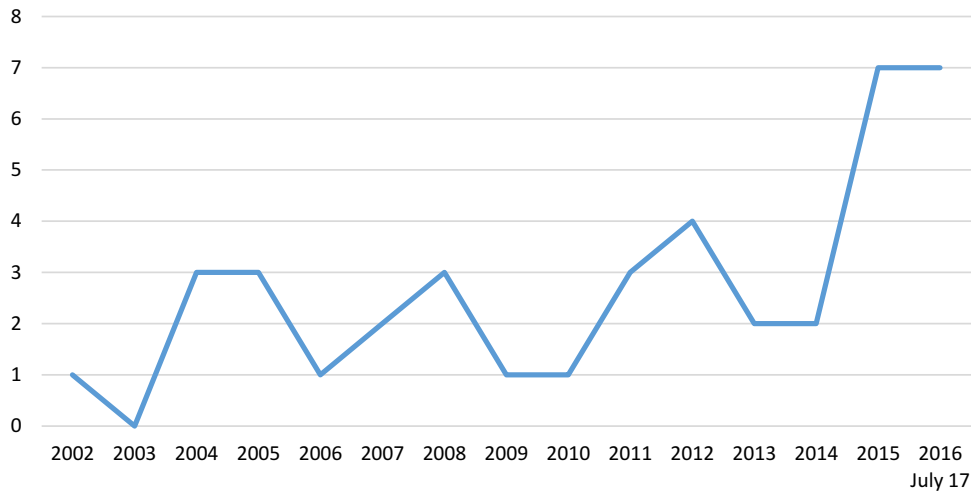

Fig. 1 PubMed articles with the term orthorexia in the title

Table 1 Proposed diagnostic criteria for orthorexia nervosa [7]

Obsessive focus on dietary practices believed to promote optimum health (healthy eating)	E.g., inflexible dietary rules, recurrent and persistent preoccupations related to food, compulsive behaviors
Consequent clinically significant impairment	E.g., consequent medical complications, significant distress, and/or impairment in important areas of functioning

with imposing inflexible and unhealthy eating habits on someone else.

Does ON by proxy exist?

The question arises from a recent episode described by the Italian press [16]. In July 2016 a 13-month-old child in danger of death was hospitalized in Milan against his parents' will. The physicians found that the infant's weight was 5.2 kg, the growth was below the 3rd percentile with serious hypotonia and psychomotor impairment. Lab values were alarming and consistent with extreme undernutrition. An inflexible vegan diet imposed by the parents was reported as the main cause of the problem.

It is well known that veganism in adults requires a well-balanced diet including supplements or fortified products [17]. As regards infants and toddlers uncontrolled vegan diets may be particularly dangerous. Composition of breast milk from vegan women, appropriate breast milk substitutes, supplements (e.g., vitamin B-12, vitamin-D, iron, zinc, calcium) and type and amount of dietary fat should be evaluated on a regular basis [18].

In the last few years newspapers reported several stories similar to the previously examined case. Is the expression orthorexia nervosa by proxy suitable to describe such episodes?

We do not have first-hand medical and psychological data to answer with reasonable arguments. Furthermore, as we said above, a commonly established definition of ON is still missing. Finally, a new name does not add significant knowledge per se and the current psychiatric diagnostic fad is not in urgent need of 'new syndromes'.

However, the problem in itself requires attention and it may be useful to know that, as Steven Bratman frankly acknowledged [1], "orthorexia begins innocently enough" and it is entirely possible that a wholehearted, fanatical advocate of healing through food develops a true obsession and imposes inflexible and dangerous eating habits on someone else, for example on a child.

Compliance with ethical standards

Conflict of interest On behalf of all authors, the corresponding author states that there are no conflicts of interest. The authors contributed equally to this work.

Ethical approval This article does not contain any studies with human participants performed by any of the authors.

Informed consent For this type of study formal consent is not required.

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