Original article

Incorporating interventions for unhealthy exercise into eating disorders treatment

A survey of attitudes in those with lived experience of an eating disorder

Carolyn Nahman[1] and Josephine Holland[1,2]

[1] Child and Adolescent Psychiatry, Oxford Health NHS Foundation Trust, Nottingham, United Kingdom
[2] Institute of Mental Health, University of Nottingham, United Kingdom

Abstract: *Introduction:* There is little consensus on the treatment of unhealthy exercise in eating disorders. Many treatment programmes do not offer any interventions at all. This study explored the attitudes of those with lived experience towards incorporating treatments for unhealthy exercise in eating disorders. *Methods:* An online survey was created using onlinesurveys.ac.uk and distributed through social media. Analyses included calculation of descriptive statistics and inductive thematic analysis of free text responses. *Results:* One hundred and forty-six respondents completed the survey, over 50% identified as having lived experience of an eating disorder. Thematic analysis of free text responses from those with lived experience identified themes around the benefits of incorporating exercise into the treatment of eating disorders including the benefits of exercise on mental and physical health and the opportunity to develop a healthier relationship with exercise. The themes around the risks of incorporating exercise included slowing or limiting recovery and physical risks of exercising at low weight. The themes around the risks of not addressing exercise included leaving part of the disorder untreated and how this could affect recovery. *Conclusion:* Those with lived experience of eating disorders feel unhealthy exercise is an important part of the disorder to treat. There is recognition of the risks of doing so, but also benefits in helping people to learn a new healthy relationship with exercise.

Keywords: eating disorders treatment, lived experience, excessive exercise, compulsive exercise, unhealthy exercise

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Introduction

Unhealthy exercise is present in up to 80% of patients with a diagnosis of Anorexia Nervosa and 40% with Bulimia Nervosa [1]. Despite its recognition, there is still little consensus on how we define unhealthy exercise or what is the most appropriate terminology [2, 3]. Early studies focussed on "excessive" exercise, but over time, there has been more consideration of the quality of the relationship to exercise as well [3].

Unhealthy exercise in patients with Anorexia Nervosa has been linked to poorer outcomes [1], poorer quality of life [4], frequent relapses, higher suicidality [5], and it clusters with severity of eating disorder psychopathology [2].

Multiple theories exist about the causes (e.g. [6, 7]). There is even less consensus on how to manage unhealthy exercise within eating disorders treatment. There are concerns that allowing exercise or incorporating exercise into an eating disorder program might lead to poorer outcomes [8, 9] so many treatment programs bar exercise completely.

Studies exist on incorporating exercise into treatment (including yoga, resistance training, cardio-vascular training), some programs incorporate exercise in response to weight gain [9] or psychological progress [10]. There are also specific therapies designed to psychologically challenge compulsive exercise e.g. Loughborough Education Athlete program [11] and other manualised group programs [12]. More recent evidence suggests that incorporating exercise within treatment can have positive benefits both physically and psychologically [13, 14]. Initiatives such as the Safe Exercise at every stage [15] have been developed as consensus guidelines on how to incorporate exercise into a treatment program. Despite the research progress, there is often a discrepancy between research and clinical practice/treatment experience. The authors therefore wished to survey current attitudes around incorporation of exercise into eating disorder treatment from those with lived experience, carers, athletes and clinicians.

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Table 1. The self-reported identities of participants

Self-reported identity	Number of participants	Percentage
Prior lived experience of an eating disorder	81	55.5%
Athlete	16	11.0%
Carer for patient with an eating disorder	15	10.3%
Dietician	6	4.1%
Eating disorder psychiatrist	5	3.4%
Sport psychiatrist	2	1.3%
Coach	2	1.3%
SEM physician	2	1.3%
Other (trainees in psychiatry and other MH practitioners)	17	11.6%

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Methods

The survey

An online survey was developed (https.onlinesurveys.ac.uk), to which participants could anonymously respond. Respondents were asked to identify their relationship to eating disorders e.g. previous lived experience (see Electronic Supplementary Material ESM1). Some questions required participants to choose their answer from a list; others required participants to type their response into free text boxes.

The survey link was tweeted by the Royal College of Psychiatrists Faculty of Eating Disorders official twitter account several times during 2019, as well as being emailed to their email list. The survey was re-tweeted by others. The survey link was also shared at an eating disorders conference and a sport psychiatry conference to encourage clinician participation.

Analysis

Where questions asked respondents to choose a response, percentages of each response were calculated through Microsoft Excel. The qualitative data was analysed using a Braun and Clarke inductive thematic analysis [16]. The two researchers (JH & CN) each read through the qualitative data at least three times for familiarisation. Each author then independently coded the content of the responses and gathered them into initial themes. The authors then met to discuss their codes and initial themes and then reviewed and named the themes together. All responses are represented in the presented themes.

Results

Participants

The survey was completed by 146 participants who identified their relationship with eating disorders as shown in Table 1.

Table 2. Respondents preferred terms for unhealthy exercise

Terminology	% of respondents	Number
Compulsive exercise	33.3%	27
Excessive exercise	17.3%	14
Exercise addiction	16.0%	13
Exercise dependence	16.0%	13
Compensatory behaviour	9.8%	8
Obligatory exercise	3.7%	3
Other	3.7%	3

Age, sex and nationality data were not collected. The "lived experience" participants, data was not collected about type of eating disorder or stage of recovery. Since the majority of respondents identified as having lived experience of an eating disorder (55.5%), it was felt that analysis should focus on this cohort alone since the representation of professionals was very low and would be unlikely to be representative of the views of the professions overall.

Quantitative data

Data that follows below is only from those with lived experience of an eating disorder. Participants were asked what their preferred terminology for unhealthy exercise was. The most selected answer was compulsive exercise with 33.3% of respondents selecting this, however responses were quite divided as shown in Table 2.

When asked what percentage of those with eating disorders also have a problem with unhealthy exercise most felt it was >50% as shown in Table 3.

Participants could choose up to 3 definitions of unhealthy exercise. Most selected answers addressing the cognitions and emotions around exercise rather than around the amount of exercise as shown in Table 4.

When asked about the reasons for unhealthy exercise the average number of responses was 3.7, showing the complex and multifactorial nature of this relationship. The most selected answers had a clear eating disorders theme,

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Table 3. Participants were asked their opinion of the scale of the problem of unhealthy exercise in those with lived experience of an eating disorder

Scale of unhealthy exercise in those with an eating disorder	% of response	Number of participants
<25%	7.4%	6
>25%–50%	19.7%	16
>50%–75%	54.0%	44
>75%–100%	19.7%	16

Table 4. How participants would define unhealthy exercise

Responses chosen from drop down menu – up to three responses per participant were allowed	No. of responses	% of responses	% of participants
Exercise the individual feels compelled to participate in with distress if unable to do so	70	35.0%	86.4%
Rigid exercise routines that continue despite illness and injury	68	34.5%	84.0%
Leg shaking, inability to relax	27	13.7%	33.3%
Exercise detrimental to athletic performance	19	9.6%	23.4%
Training in addition to competitive training program	8	4.0%	9.9%
Exercise for longer than 1 hour/day	5	2.5%	6.1%

Table 5. Reasons for unhealthy exercise- average number of responses selected per individual was 3.7 indicating multiple reasons for unhealthy exercise

Reasons for unhealthy exercise- participants were allowed to choose several responses from a drop-down menu	No. Responses	% of participants
To burn calories and lose weight	71	87.0%
To alter shape and appearance	49	60.0%
To manage trauma and difficult feelings	48	59.0%
Addiction	47	58.0%
Habit	47	57.0%
To improve mood and anxiety	45	55.0%
Physiological restlessness associated with malnutrition	20	24.7%

however, many also referred to the role of exercise in managing emotions and mood as well as the addictive and habitual nature of it, as shown in Table 5.

Qualitative analysis

Three questions allowed those with lived experience to give free text responses. The first question asked, "What might be the *benefits* of incorporating exercise into an eating disorder treatment program?" 72 out of 81 of the participants submitted a free text reply to this question. Identified themes included:

1. *Helps the individual develop a healthier relationship with exercise and find strategies to manage unhealthy exercise.* Participants discussed learning to exercise in a different way and developing tools to recognize when exercise might be unhealthy and managing this. This theme included responses around learning to enjoy exercise and avoid using exercise as an alternative unhealthy means of control. Quotations included: "help sufferers understand the signs when they are engaging in compulsive exercise as they may not know triggers or warning signs" and "learning to incorporate exercise healthfully and have a healthy relationship with it." Participants also discussed the importance of "supervised exploration of their relationship to exercise".
2. *Mental and physical health benefits of exercise.* Participants discussed some of the known physical and mental health benefits of exercise as well as how it benefitted them. Physical health benefits included "bone health", "increases BMI" and "helps build core strength after severe muscle wastage". The mental health benefits included "endorphins and feel-good factor", "anxiety reduction" and "it helped me escape an episode of crippling depression".
3. *Prevention of relapse.* Participants discussed how by learning to manage exercise, they were less likely to relapse. Quotations included: "If an individual can learn to manage exercise it may greatly strengthen recovery and prevent future relapse" and "prevent unhealthy use of exercise as a relapse".

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4. *Different relationship with the body*. Participants described seeing their body in a different way; appreciating their body for what it could do rather than how it looked. Participants also discussed more awareness of their bodies and sensory regulation including: "understanding your mind-body connection and using therapeutic skills to understand what your body needs in a supportive environment", "positive awareness of the body as strong and valuable" and "encouraging the focus away from aesthetics and towards what a healthier body can do".
5. *Eating disorder reasons*. The responses which were grouped here included those discussing how exercise reduced the guilt of having to eat or gain weight and needing to exercise to manage eating. Some of these included "reduces rapid weight gain after treatment which I experienced" and "reduced anxiety associated with food" and "helped me feel more comfortable around weight gain".
6. *Part of person-centred treatment and helps with engagement and motivation*. Responses in this theme explored how individualized care was and how this contributed further to their motivation to engage in treatment and recovery including "feeling the sufferer is being listened to and preferences heard", "increased compliance with psychotherapy" and "supports the patient to engage more in their treatment".

The second free text question asked, "What might be the *risks* of incorporating exercise into eating disorder treatment?" 69 out of 81 participants submitted a free-text reply to this question.

Identified themes included:

1. *Slower and incomplete recovery*. Responses were wide-ranging but addressed slower recovery and that exercise could slow down treatment progress including: "slower weight gain", "compromise treatment progress" and "Anorexia Nervosa is a mental illness that takes a long time to recover from, adding exercise when gaining weight might not help."
2. *Colluding with the eating disorder and allowing exercise as a compensation for eating more and not learning a healthier relationship with exercise*. Responses in this theme described how exercise could become a compensation for eating more and that exercise could be used to burn additional calories or keep body fat low to help cope with weight gain. Participants described how introducing exercise too early might result in the unhealthy exercise never being addressed and therefore continuing. They also described the need for therapeutic exploration of exercise to try and change this relationship including "compensating for additional food by exercising to burn it off", "the individual could move from food as a means to control to exercise" and "If introduced too early the individual might not have had time to come to terms with their eating disorder or learning healthy exercise".
3. *Physical health risks*. Respondents raised cardiovascular risks, injury risks and risks to bone health if exercise was incorporated into treatment. Some responses included: "unexpected medical complications", "injury", "fractures" and "heart problems or fainting".
4. *Triggers competitiveness between patients*. Respondents discussed the competitiveness that occurs in treatment between patients and how exercise can become part of this competition and "could encourage non-exercising patients to exercise" and "individuals have varying exercise capacity leading to unhelpful comparisons".
5. *Distress if not able to exercise and prevents learning healthier coping strategies*. Participants described the distress that can happen if not being able to exercise – for example if they were being treated alongside other patients who could exercise but for physical health reasons were not able to. Quotations included "not developing alternative coping strategies and distress if not able to exercise" and "using exercise as a crutch can mask how an individual is coping".
6. *Exposure to unhelpful fitness environment*. Participants described how the current fitness industry and culture can be a triggering environment for those struggling with an eating disorder; exposure to this may affect recovery. Quotations included: "hard to avoid calories in a fitness environment – every piece of machinery tells you how many you've burned" and "plays into the belief I must change my shape get abs, burn calories and spend hours in the gym".

The final question asked, "What are the potential *risks of not addressing exercise* within eating disorder treatment?" 71 out of 81 participants submitted a free-text reply to this question.

The following themes were identified:

1. *Part of the eating disorder is untreated*. Respondents identified unhealthy exercise as a symptom of an eating disorder and felt that, if ignored, this part of the eating disorder remained untreated including "patient treatment is not complete if unhealthy exercise is ignored" and "you ignore a significant behavioural component of an eating disorder". One response on this theme which stood out "I don't think you can treat one without the other – for me – it seemed like half of my problems were treated and the other half ignored".
2. *The unhealthy exercise may continue or even worsen*. Respondents described that exercise might continue or even worsen if this symptom is not treated. This was described both in amount of exercise as well as

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the relationship with exercise including "you swap one unhealthy exercise, say running, with another, say swimming," "the compulsive exercise may persist or worsen post-treatment", and "encourages excess exercise as a compensatory behaviour".

3. *Slower or incomplete recovery and maintenance of the eating disorder*. The respondents described slower weight gain and prolonged low weight continuing resulting in poor treatment progress. Quotations included "maintaining the eating disorder and not being able to successfully treat it because exercise counteracts any progress", and "increasing exercise to lose or not gain weight and outsmart the doctors and the treatment plan". The risk of relapse was also highlighted: "highly likely to relapse even once treatment is complete". One respondent commented "I stopped exercising altogether and gained a lot of weight and subsequently my eating disorder relapsed."
4. *Physical health risks and injury risks*. Respondents commented on a range of health impacts associated with ongoing unhealthy exercise from cardiovascular risks to bone health risks and sporting injuries including "always stress about injuries and illness", "delayed growth in adolescents" and "compounds the physical effects of an eating disorder".
5. *Not being able to learn other coping strategies*. Responses in this theme addressed the fact that ongoing unhealthy exercise can block a patients ability to develop new coping strategies: "dependent on exercise to be able to eat", "underlying psychological issues are not addressed because they are masked by exercise" as well as "not finding other ways to manage difficult emotions". One response discussed "you miss the opportunity to help someone develop ways of listening to their body".
6. *Never having rest*. Several respondents discussed continually feeling exhausted, never having an opportunity to rest. Responses included "from personal experience you spend most of your day in the gym for hours and hours, constantly on the go even when you physically can't do anymore you push yourself to and you miss out on time with family and friends" and "if unhealthy exercise is not addressed – for athletes this could become very grey since adherence to training cycles with rest days and recovery might not classify but they can fail to adhere to rest days."

Discussion

At present, incorporating exercise into treatment remains a controversial topic within eating disorders services – in part due to evidence identifying exercise as a symptom that has a significant impact on prognosis [1, 2, 3, 4, 5].

This survey was originally aimed at professionals and distributed through professional bodies, however, very few clinicians completed the survey. Instead, the survey was completed by 81 people with lived experience of an eating disorder thus this paper has presented their responses.

Firstly, their preferred terms for unhealthy exercise were explored. At present, unhealthy exercise is defined in many ways which includes "primary or secondary exercise addiction", "compulsive exercise" and other terminology [1, 2]. Noetel et al. [3] undertook a Delphi study with experienced professionals, looking at preferred terminology and suggested "compulsive exercise" as the preferred term for dysfunctional exercise. Within this study, those with lived experience chose responses that focus on emotions and cognitions around exercise which fits with compulsive exercise as a preferred term. The multiple reasons for compulsive exercise identified by respondents with lived experience fits with current existing conceptual models which identify exercise providing both positive and negative reinforcement schedules which produce both pleasure but avoid distress and negative affect [1, 2, 20].

The participants identified benefits of addressing dysfunctional exercise and specifically discussed both changing attitudes to and relationship with exercise but also developing other coping strategies. Sensory regulation, and the psychological benefits to exercise alongside treatment was also discussed by many participants. Some of the reasons for exercise are what clinicians might consider "eating disorder driven" which include less guilt around weight gain and greater acceptability of treatment. However, given the high dropout rate from treatment and the importance of engagement, one could speculate that even if the reasons might be a concern, perhaps the benefits of feeling listened to and understood improve outcomes. Research evidence also exists showing benefits for supervised programs [10, 11, 12, 13, 14]. However, this is rarely seen within routine clinical practice, where bed rest and abstinence are still common practice [17]. Quesnel et al. discuss that although there is an awareness that monitored and nutritionally supported exercise can improve prognosis, there is a historically founded perception that exercise is detrimental to eating disorder treatment and that patients should abstain [17].

Participants were also able to identify risks of incorporating exercise. Some had consequences for the individual such as damage to the cardiovascular system. However, others may also have consequences for a service for example slower or incomplete recovery and how difficult it would be to monitor treatment. It may be that these risks

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are what prevent treatments for unhealthy exercise being more routinely incorporated. Since services for eating disorders are already stretched very thinly, the incorporation of treatments which may slow patient journeys or increase staff workload may put those who design the services off.

The respondents were also able to identify risks of not addressing unhealthy exercise. Participants strongly felt that not addressing the unhealthy exercise left treatment incomplete and the patient vulnerable to relapse – which fits with literature showing poorer outcomes if dysfunctional exercise is unaddressed [17, 18, 19].

The responses captured by this survey show that addressing unhealthy exercise in treatment is important to those with lived experience and something we need to make sure we notice, enquire about and learn to address as part of treatment. However, presence of some responses which could be interpreted as disordered within this survey is also important. They show the ongoing battle of those with lived experience and highlight the risks of this area of treatment.

Limitations

Distributing the survey through social media may have drawn participants who might not reflect the wider population of patients with eating disorders. Further limitations include the lack of demographic data to check representation and the lack (in the "lived experience" participants) of diagnostic information about type of eating disorders.

Implications for clinical practice

This paper evidences that those with lived experience feel that carefully monitored and supervised treatments for unhealthy exercise should be routinely incorporated into eating disorders care. By not treating unhealthy exercise, services are failing to treat a significant part of a person's eating disorder.

Future research

Future research is needed to explore the reasons for the gap between lived experience views as discussed in this paper, research evidence and routine clinical practice. This needs to target commissioners and clinicians responsible for the funding and delivery of eating disorder services to understand obstacles to more routine availability of these treatments.

Conclusions

The views of those with lived experience align with the research literature, that the inclusion of carefully monitored programmes to tackle unhealthy exercise can improve outcomes. However, there is still a gap between this stance and routine clinical practice.

Electronic Supplementary Materials (ESM)

The electronic supplementary material is available with the online version of the article at https://doi.org/10.1024/2674-0052/a000020.

ESM 1. Questionnaire of the exercise and eating disorders survey.

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Dr Carolyn Nahman, MbChB, PhD
Child and Adolescent Psychiatry
Oxford Health NHS Foundation Trust
42 Lucknow Drive
Nottingham NG3 5EU
United Kingdom
caz.nahman@oxfordhealth.nhs.uk

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